MoHPC *The Museum of HP Calculators*

HP Memories Forum

[New Memory | Search / Personalize | Mark All Read | Login / Register]
[HP Forum | Forum Daily View | Archives | Articles | Memories | Biographies | Classified Ads | Ads without Auctions]

Welcome back!
Your last visit began on 30 Oct 2014, 12:55 p.m.
Since then, no new memories have been posted.

This forum is intended to post memories related to HP calculators. Please **don't** post questions or advertisements here - there are other places on this web site for those and this forum does not allow replies. For comprehensive articles, see the Articles Forum. If you want to refer to one of these articles in the general forum, please refer to it by name or article number

Please use the HP Calculator Ads section for "for sale" and "wanted" ads. Please review the Terms of Use for more complete information.

It's possible to use some advanced formatting techniques in this forum if you wish.

Memory Index

Memories Posted or Modified Within the Last Archive

175 of 175 Memories Displayed
(Reversed Threaded Listing)

[**Return to the Message Index**]

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The Museum of HP Calculators

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

The Main Exhibit Hall

Before HP Calculators (1614-1968)

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

The First HP Calculators (1968)

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

High End Desktop Series (1971)

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

The Classics (1972)

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

Classic Printing Desktop Calculators (1973)

Navigation

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

Discussion & Guest Areas

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

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

Collecting & Using

- Classified Ads

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

Second Generation Handheld Calculators (1975)

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

Second Generation Desktop Calculators (1976)

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

Second Generation Mag Card Programmables (1976)

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

In A Class By Itself (1977)

- HP-01 The Hewlett-Packard Calculator Watch

Third Generation of HP Calculators (1978)

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

Small Computers and Computer-like Calculators (1979)

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

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

- HP-10C Basic Scientific Programmable Calculator

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

Software Libraries

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

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

History & Technology

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

For Sale and Wanted

- Items Wanted
- Classified Ads

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

The RPL Family (1986)

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

Some Interesting Later Models (1986)

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

Other Resources

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

Contact David Hicks

New Memory in Old Forum

Please note that this is an old forum. Please start new threads on the the NEW HP Forum

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[**Return to the Message Index**]

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HP Memories Forum

Message Index Display Configuration

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

List messages [By Threads, Reversed]

(A chronological display will put the newest messages at the top of the list. A standard threaded display will put the newest messages at the bottom. A reversed threaded display will show messages in a mixed order: 'First' messages will be arranged with the newest at the top, but responses will be arranged with the newest at the bottom. Though awkward, this is the default index style of many Web-based bulletin boards, and is the style with which many users are most familiar. A compressed listing will show on the main index page only the first message of each thread.)

List only those messages:

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

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

- ( ) Posted between [Jan] [2004] and [Dec] [2004]

List:

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

[ ]

- ( ) Only messages posted by:

[ ]

[View Message Index]

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Memory Index

Memories Posted or Modified Within the Last Archive

175 of 175 Memories Displayed
(Reversed Threaded Listing)

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Account Management / Login

Accounts are currently **Required.** You must have an account to post.

Name:

Password:

Login

Login works by setting a cookie. Please make sure your cookies are enabled. If your cookies are disabled, You will need to enter your name and password on each post.

Create an Account
I forgot my Password
I didn't receive my Activation Email

Accounts Users Guide

[**Account Management / Login**]

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OLD HP Forum

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Message Index

Messages Posted or Modified Within the Last Several Eons

(Compressed "Threads Only" Listing)

Last call for 41Z/SandMath Overlays... plus new ones, Ángel Martin - *12 Dec 2013, 10:27 a.m.* **0 responses**
OT: National Semiconductors NSB-3881, Ignazio Cara (Italy) - *12 Dec 2013, 8:31 a.m.* **2 responses**
HP Prime: Baker's Game, Mark Power - *11 Dec 2013, 6:25 p.m.* **0 responses**
Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Eelco Rouw - *11 Dec 2013, 3:15 p.m.* **10 responses**
How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *11 Dec 2013, 12:37 p.m.* **23 responses**
[HP-PIRME] ^ OPERTOR // => SUPER BUG, CompSystems - *11 Dec 2013, 12:23 p.m.* **9 responses**
The new HP forums, Dave Hicks - *11 Dec 2013, 12:12 p.m.* **54 responses**
HP Prime: CAS taylor, Alberto Candel - *10 Dec 2013, 7:16 p.m.* **5 responses**
HP50g: Writing a function that returns a function, Chris de Castro - *10 Dec 2013, 6:18 p.m.* **2 responses**
Broken keys on HP Prime?, Tarcisi C - *10 Dec 2013, 5:59 p.m.* **0 responses**
HP Prime - usbtool.exe, bluesun08 - *10 Dec 2013, 10:47 a.m.* **21 responses**
42S with nonvolatile RAM, Lyuka - *10 Dec 2013, 9:56 a.m.* **5 responses**
Re: HP Prime: Quite Happy, Eddie W. Shore - *10 Dec 2013, 8:19 a.m.* **0 responses**
Re: F1227A as HP48 case: yes!, Paul Dale - *10 Dec 2013, 1:01 a.m.* **3 responses**
MINESWEEPER for the HP PRIME, Tony Gallo - *10 Dec 2013, 12:26 a.m.* **15 responses**
HP Prime Manual Revisions?, Craig Thomas - *9 Dec 2013, 11:08 p.m.* **0 responses**
Anyone here tinker with Arduino/Printbots/etc ?, Chris Pem10 - *9 Dec 2013, 8:59 p.m.* **3 responses**
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Garth Wilson - *9 Dec 2013, 8:53 p.m.* **1 response**
HP Prime finally updated!, Les Koller - *9 Dec 2013, 8:08 p.m.* **8 responses**
makemat on HP Prime, Jeff Nye - *9 Dec 2013, 7:04 p.m.* **9 responses**
OT--Nat'l Semiconductor NS-7100 pics anywhere?, Matt Agajanian - *9 Dec 2013, 6:44 p.m.* **25 responses**
HP Prime Matrices curiosity, bluesun08 - *9 Dec 2013, 6:44 p.m.* **0 responses**
HP Prime CAS curiosity, bluesun08 - *9 Dec 2013, 5:48 p.m.* **11 responses**
Silly me... I also bought a 12C and 15C, Eelco Rouw - *9 Dec 2013, 2:53 p.m.* **3 responses**
Need help understanding math...., cyrille de Brébisson - *9 Dec 2013, 1:40 p.m.* **9 responses**
Re: The Lucky WP34S Cable, eri - *9 Dec 2013, 1:40 p.m.* **4 responses**
Is Linux common among us RPN types?, db (martinez, ca.) - *9 Dec 2013, 1:26 p.m.* **46 responses**
WP-34S (Emulator Program Load/Save), Barry Mead - *9 Dec 2013, 12:50 p.m.* **1 response**
HP 50g : More on best rechargeable batteries , Miguel Toro - *9 Dec 2013, 12:38 p.m.* **1 response**
Google honors Grace Hopper today, Don Shepherd - *9 Dec 2013, 10:28 a.m.* **19 responses**
hp-prime solver and variable name, fabrice48 - *9 Dec 2013, 4:47 a.m.* **22 responses**
Sending little images to the Prime (...and Program name bug?), Erwin Ried - *9 Dec 2013, 3:06 a.m.* **19 responses**
hp-67 card reader problem., Marcel Samek - *9 Dec 2013, 2:36 a.m.* **5 responses**
rolinychupetin hp50, lbintz4 - *9 Dec 2013, 12:48 a.m.* **3 responses**
HP35s Calculator Max Rope Tension Program , Jean-Marc Biram (Australia) - *8 Dec 2013, 9:40 p.m.* **10 responses**
[WP-34S] Unfortunate key damage with update to V3 :(, svisvanatha - *8 Dec 2013, 8:35 p.m.* **5 responses**
HP-48GX & 50G Question, Matt Agajanian - *8 Dec 2013, 7:59 p.m.* **2 responses**
Usefulness of Woodstock Cs without their C, Matt Agajanian - *8 Dec 2013, 6:39 p.m.* **5 responses**
Re: Use 82240B as computer printer, R. Pienne - *8 Dec 2013, 6:31 p.m.* **1 response**
Re: A prime failure, Jan - *8 Dec 2013, 5:16 p.m.* **0 responses**
HP67 eBay auction, Cristian Arezzini - *8 Dec 2013, 3:24 p.m.* **3 responses**
Re: Updating Prime, aurelio - *8 Dec 2013, 2:44 p.m.* **0 responses**
Re: HP Prime Tutorial #6 and #7: Drawing , Giancarlo - *8 Dec 2013, 1:42 p.m.* **1 response**
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, DeboT - *8 Dec 2013, 1:10 p.m.* **2 responses**
Re: Updating Prime, JavierLopez - *8 Dec 2013, 12:10 p.m.* **0 responses**
Re: F1227A as HP48 case: yes!, Harold A Climer - *8 Dec 2013, 11:08 a.m.* **0 responses**
Re: F1227A as HP48 case: yes!, megarat - *8 Dec 2013, 7:49 a.m.* **2 responses**
Re: HP Prime: Quite Happy, Joe Horn - *8 Dec 2013, 7:26 a.m.* **1 response**
Re: Bought a 16C to compensate a little, Nick_S - *8 Dec 2013, 6:02 a.m.* **2 responses**
Re: Improvements for productivity for the Prime, Stefan Dröge (Germany) - *8 Dec 2013, 5:11 a.m.* **0**

responses
Prime still frozen, Les Koller - *8 Dec 2013, 4:01 a.m.* **4 responses**
Re: Bought a 16C to compensate a little, Didier Lachieze - *8 Dec 2013, 2:20 a.m.* **1 response**
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Walter B - *8 Dec 2013, 1:47 a.m.* **8 responses**
OT: 3D Calculator Remakes, hugh steers - *28 Jan 2013, 8:54 a.m.* **0 responses**
Re: Sourceforge, Namir - *2 Feb 2012, 12:51 a.m.* **0 responses**
Odd looking 41cx, Chris Woodhouse - *10 Jan 2012, 12:31 p.m.* **0 responses**
Re: HP-15C - useless today?, Dave Mabry - *11 Dec 2011, 7:45 p.m.* **0 responses**
HP-15c LE Bad Keys, Gerry Schultz - *23 Sept 2011, 12:54 p.m.* **0 responses**
Re: 97 printer paper not advancing, Keith Beyer - *5 July 2010, 5:54 p.m.* **0 responses**

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OLD HP Forum (daily view)

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Message Index

Daily view for frequent visitors.

Messages Posted or Modified Within the Last Two Days

(Compressed "Threads Only" Listing)

No messages matched your search criteria! Please try again....

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HP Forum Archives

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- Forum Archive 20: January 2011 - March 2012
- Forum Archive 19: February 2009 - January 2011
- Forum Archive 18: November 2007 - February 2009
- Forum Archive 17: March 2007 - November 2007
- Forum Archive 16: March 2006 - March 2007
- Forum Archive 15: April 2005 - March 2006
- Forum Archive 14: Dec 2003 - April 2005
- Forum Archive 13: May 2003 - Dec 2003
- Forum Archive 12: April 2003 - May 2003
- Forum Archive 11: February 2003 - April 2003
- Forum Archive 10: January 2003 - February 2003
- Forum Archive 9: September 2002 - January 2003
- Forum Archive 8: April 2002 - September 2002
- Forum Archive 7: December 2001 - April 2002
- Forum Archive 6: May - December 2001
- Forum Archive 5: February 2001 - May 2001
- Forum Archive 4: October 2000 - February 2001
- Forum Archive 3: July 2000 - October 2000
- Forum Archive 2: December 1999 - July 2000
- Forum Archive 1: March 1999 - December 1999

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GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Articles Forum

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This forum is intended to allow users to contribute more comprehensive articles than those that are typically found in the general forums. This could include information such as advanced programming and repair instructions as well thoughts about specific calculators or HP calculators in general. Please choose your titles carefully so your information can be easily found.

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Article Index

Articles Posted or Modified Within the Last Archive

210 of 210 Articles Displayed
(Reversed Threaded Listing)

1152: HP 17BII+ TVM Solver Solution expressing the Balloon Payment as a Percentage with Begin and End mode [and Down Payment as a percentage], bjmaskell - *3 Mar 2012, 12:36 a.m.*
1150: Resurrecting a shattered HP 19B, Neil Hamilton (Ottawa) - *30 Jan 2012, 2:14 p.m.*
1149: HP41 Trip Computer, Christopher Johnson - *29 Jan 2012, 9:36 p.m.*
1133: [WP34s] The ultimate Polynomial RootSolver for the WP34s, fhub - *3 Jan 2012, 7:23 a.m.*
1131: RPN Sunrise / Sunset programs for HP41C/HP42S/HP33S/HP35S, M. Joury - *14 Dec 2011, 9:25 a.m.*
1129: Incomplete Gamma Function for wp34s, Les Wright - *5 Dec 2011, 2:40 a.m.*
1126: Romberg Integration on the wp34s, Les Wright - *4 Dec 2011, 7:43 p.m.*
1118: WP 34S: Polynomial root finder adapted from Valentin Albillo's HP 41 program, Miguel Toro - *23 Nov 2011, 7:32 p.m.*
1117: WP 34S: financial routines IRR, NPV, Amortization, Interest rate conversion (updated 2013-04-28), Miguel Toro - *12 Nov 2011, 2:20 p.m.*
1113: Inside Saturn Emulator Timing, Christoph Giesselink - *20 Oct 2011, 4:56 p.m.*
1107: HP 15 LE: Errata list for Owner's Handbook, Felix Gross - *10 Oct 2011, 3:03 a.m.*
1104: WP 34S: Integration wrapper, Miguel Toro - *9 Oct 2011, 10:26 p.m.*
1102: WP 34S: MIO matrix helper * edited*, Miguel Toro - *8 Oct 2011, 8:53 p.m.*
1096: HP35s date functions: DOW, DDate, Date+, Gregorian to Julian conversions, David Persinger (US) - *16 Sept 2011, 2:21 p.m.*
1089: HP-15C LE (Limted Edition) Bug Reports, Katie Wasserman - *16 Sept 2011, 11:22 a.m.*
1088: Simple TVM Routines for HP-15C, Chris McCormack - *16 Sept 2011, 8:46 a.m.*
1072: Creating ROM image files of an HP-41 module, Juergen Keller - *9 Aug 2011, 4:55 p.m.*
1062: Thank You HP Users, LouisD - *9 Aug 2011, 3:21 p.m.*
1048: EE calculations, some not obvious (reformatted), Thomas Klemm - *26 May 2011, 5:14 p.m.*
1038: Multiple Period Percentage Change Program for the 30b, Mark Harman - *25 May 2011, 12:13 a.m.*
1037: HP 30b programs for interest rate conversions with negative or fractional periods per year, gene wright - *3 May 2011, 2:30 p.m.*
1035: Game for HP-35s, Paul Dale - *16 Mar 2011, 5:46 a.m.*
1025: N-queens benchmark and the HP-17BII, Thomas Klemm - *7 Feb 2011, 5:48 a.m.*
1024: Sum of Digits Divisibility Challenge - an unusual solution, David Hayden - *16 Jan 2011, 9:39 p.m.*
1021: How to use a formula in a post, Thomas Klemm - *8 Nov 2010, 4:11 p.m.*
1014: Sunrise and Sunset, Thomas Klemm - *28 Oct 2010, 12:05 p.m.*
1003: HP 35s. Quadratic Equation Solver (with complex solutions support), Pablo P (Spain) - *2 July 2010, 3:53 p.m.*
1002: Calculator Benchmark: Loops of addition, gene wright - *2 June 2010, 2:51 p.m.*
1001: The Caves - Reloaded, Frido Bohn - *6 May 2010, 5:03 a.m.*
991: Table of HP48 serial numbers and ROM versions, megarat - *13 Apr 2010, 12:22 p.m.*
990: HP 82490A Translator Pac Overlay, Allen - *8 Feb 2010, 11:32 a.m.*
989: R->P and P->R for the 35s, Reloaded, Frido Bohn - *26 Jan 2010, 4:06 a.m.*
986: Psychrometric calculations on the HP 35s (and 50g), Maarten Ambaum (Reading, UK) - *22 Jan 2010, 11:14 a.m.*
983: R->P & P->R for the 35s, Paul Dale - *21 Jan 2010, 5:22 a.m.*
982: nCr and nPr - a 41-MCODE implementation, Ángel Martin - *27 Nov 2009, 10:46 a.m.*
980: Fast DiGamma Function for Positive and Negative Real Arguments, Steven Thomas Smith - *26 Sept 2009, 6:06 a.m.*
978: Fast Incomplete Gamma/Exponential Integral/Error Functions With Lentz's Method, Steven Thomas Smith - *23 Sept 2009, 1:28 p.m.*
944: EIGEN: Characteristic equation+eigenvalues for order 2,3,4,5, Steven Thomas Smith - *1 Sept 2009, 12:39 p.m.*
941: GAMMA and GAMMLN: Fast, Accurate Lanczos Approximation for Gamma Functions, Steven Thomas Smith - *1 Sept 2009, 12:49 p.m.*
937: Enhance your HP-97 -- Add a Clock and More, Katie Wasserman - *1 Sept 2009, 6:53 p.m.*
928: HP41 Prime Factorization Revisited, Ángel Martin - *27 July 2009, 3:58 a.m.*
926: Mental juggling: Calculating the day of week, Thomas Klemm - *7 July 2009, 1:36 p.m.*
925: A non destructive (easy) method for opening a spice calculator., Geoff Quickfall - *27 May 2009, 1:47*

p.m.
923: HP 41 Battery posts, another repair, Geoff Quickfall - *20 Apr 2009, 2:58 p.m.*
910: Power for HP82162A Printer and HP9114 Disc Drive, Philip Isaac (Canada) - *3 Mar 2009, 12:02 p.m.*
909: INIT-Module for ERAMCO RSU-2 Rambox, PeterP - *18 Feb 2009, 6:37 p.m.*
908: HP-71B Math RAM, Marcus von Cube, Germany - *16 Feb 2009, 8:06 a.m.*
903: HP41 - How to mix and match UCODE and MCODE in a module, PeterP - *13 Feb 2009, 7:37 p.m.*
902: cheaper batteries for the HP41CX, Michael Harwood - *30 Jan 2009, 9:32 p.m.*
901: HP9815 - repairing the paper advance mechanism, Mark Edmonds - *19 Oct 2008, 8:29 a.m.*
899: Many Digits of Pi (HP32sii, HP-16c, HP-12c, HP-12cp, HP-19c, HP-30b, HP-15c), Katie Wasserman - *17 Oct 2008, 11:56 p.m.*
897: HP67/97 Navigation Pac I - Star Sight Planner Data Card Update for 2008, MikeO - *11 Aug 2008, 3:45 p.m.*
896: HP-35S Multiple cashflow / NPV / IRR / NFV / NUS program, Caspar L - *1 Aug 2008, 2:18 p.m.*
893: HP-35S Triangle solve program, Caspar L - *24 July 2008, 4:36 p.m.*
887: A Third Order Linear Equation Solver for the HP-35S, Palmer O. Hanson, Jr. - *20 May 2008, 11:24 p.m.*
886: An Extension for Stefan's Matrix Multi-Tool Program, Palmer O. Hanson, Jr. - *4 May 2008, 9:24 a.m.*
881: A "Cadillac " Quadratic Solver for the hp 33s and HP35s, Palmer O. Hanson, Jr. - *29 Apr 2008, 11:40 a.m.*
876: The MoHPC 9114 Repair Manual, PeterP - *26 Apr 2008, 8:37 p.m.*
867: HP Calculator Simulators - with downloads, Mike T. - *5 Apr 2008, 5:08 p.m.*
866: Effective Computer-aided Calculator Programming - Part 1 - Voyager, Egan Ford - *2 Apr 2008, 12:47 a.m.*
836: Eramco Systems RSU-2 Soft Select (128K) for HP-41, Diego Diaz - *1 Apr 2008, 12:41 a.m.*
826: Making sense of all the 41c Service ROM versions: 1A 1C 1D 2A 2B, Allen - *10 Mar 2008, 12:04 a.m.*
802: 41C to 50g Migration, Egan Ford - *1 Mar 2008, 4:48 a.m.*
780: HP-41C RECURSION SOLVES IT, designnut - *25 Feb 2008, 3:54 p.m.*
763: Control the World with HP-IL/RS-232/41CX + X10, Egan Ford - *8 Sept 2007, 4:04 p.m.*
746: Explore the World with HP-IL/RS-232/71B + GPS, Egan Ford - *8 Sept 2007, 3:32 p.m.*
735: HP-35s bug list, Paul Dale - *22 Aug 2007, 6:22 p.m.*
731: UserRPL stack commands, James M. Prange (Michigan) - *8 July 2007, 3:51 a.m.*
722: A Third Order Complex Linear Equation Solver for the hp 33s, Palmer O. Hanson, Jr. - *20 June 2007, 10:27 p.m.*
716: Making replacements for 82001 Classic Battery, Don Shaffer - *20 Apr 2007, 6:01 p.m.*
712: programming using the HP 17bii+ solver, Don Shepherd - *14 Apr 2007, 2:48 p.m.*
709: HP Calculator Software- Literature Survey, Charles - *31 Mar 2007, 4:38 p.m.*
701: EE calculations, some not obvious, Sam Levy - *28 Mar 2007, 10:17 p.m.*
700: Calculator Benchmark, Xerxes - *12 Feb 2007, 7:35 a.m.*
697: HP-9845 used to produce footage for "Wargames" the movie, John - *6 Feb 2007, 7:16 a.m.*
695: Fast and Accurate Trigonometric Functions on the HP-17BII, Gerson W. Barbosa - *12 Jan 2007, 5:17 p.m.*
678: Eighth Order Linear Equation Solver for the hp 33s, Palmer O. Hanson, Jr. - *6 Oct 2006, 12:24 a.m.*
676: Sixth Order Linear Equation Solver for the hp 33s, Palmer O. Hanson, Jr. - *16 Sept 2006, 10:37 p.m.*
654: Fast and Accurate Trigonometric Functions on the HP-12C Platinum, Gerson W. Barbosa - *6 Aug 2006, 3:10 p.m.*
601: EMU41 Update 2006, Christoph Klug - *15 June 2006, 4:44 p.m.*
599: A Label Saving Simultaneous Equation Solution for the 33s, Palmer O. Hanson, Jr. - *29 May 2006, 10:19 a.m.*
583: HP41CY - Replacing the internal +3v lithium cell, Christoph Klug - *27 Feb 2006, 4:09 a.m.*
582: Some thoughts about possibilities uploading High-End Pioneer and Clamshell ROM images, Christoph Giesselink - *20 Feb 2006, 3:27 p.m.*
580: Replacing the HP-9100 decimal select switch, David Smith - *6 Feb 2006, 7:07 p.m.*
578: Repairing 9120 (and possibly other) printer platens, David Smith - *24 Jan 2006, 7:58 p.m.*
577: Woodstock RAM chips, Eric Smith - *18 Jan 2006, 5:27 p.m.*

286: True Type Fonts® for the HP41, Voyagers and 82143A, Vieira, Luiz C. (Brazil) - *25 Aug 2002, 4:16 p.m.*
281: 99 Digits of PI on an HP 32SII, Katie Wasserman - *19 June 2002, 11:08 p.m.*
275: HP28S: Hardware I/O basics, Christoph Giesselink - *19 June 2002, 12:23 p.m.*
269: HP-19C printer overhaul discoveries, Michael Meyer - *27 May 2002, 12:11 a.m.*
268: Calculator Fiction -- The Mutant HP, Paul Brogger - *24 May 2002, 11:47 a.m.*
267: A Common Woodstock Problem and Repair Suggestions, katie - *16 Apr 2002, 10:14 p.m.*
266: HP-42S: New Facts, J-F Garnier (France) - *10 Apr 2002, 4:32 p.m.*
262: hp-67 / hp-97 card reader repair hints (wheel & clutch), Bernd Schmeling - *3 Apr 2002, 5:47 p.m.*
260: liffile - HP9114 LIF disk image file, Tony Duell - *20 Mar 2002, 11:55 p.m.*
247: HP 49g...dedication necessary., Josh (USA) - *25 Feb 2002, 1:59 p.m.*
241: Repairing the HP-67, Mark Hoskins - *30 Jan 2002, 1:49 p.m.*
239: HP 41C Card Reader Repair, The Short Fix Approach, Mark Hoskins - *30 Jan 2002, 1:48 p.m.*
236: HP 41 display reset., m robinso - *30 Dec 2001, 2:02 a.m.*
234: Financial-Management (and Modified) Internal Rate-of-Return for the HP-17BII and HP-19BII, W. Bruce Maguire II - *29 Nov 2001, 4:49 p.m.*
225: HP-12C Trigonometric Functions, Viktor Toth - *21 Oct 2001, 9:52 p.m.*
222: Improved TRIG. and INVERSE TRIG. functions for the HP-17BII, W. B. Maguire II - *26 Sept 2001, 12:40 p.m.*
210: HP-17BII precision: Epsilon, W. B. Maguire II - *24 Sept 2001, 4:33 p.m.*
200: Better trig functions on HP17BII using Maclaurin series, Michael Blankenship - *10 Sept 2001, 11:35 a.m.*
199: Increasing HP-42s Memory to 32K, Paul Brogger - *6 Sept 2001, 7:03 p.m.*
196: HP-97 printer ribbon repair, Erik Wahlin - *6 Sept 2001, 1:07 a.m.*
192: Interfacing IL2000 System to Analogue World, Klug Christoph - *13 Aug 2001, 2:17 p.m.*
187: TRIG and inverse TRIG functions on the HP-17bII, W. Bruce Maguire II - *31 July 2001, 7:13 p.m.*
184: UPDATE: New batteries in old HPs, W. Bruce Maguire II - *31 July 2001, 3:34 p.m.*
181: New batteries in old HPs, W. Bruce Maguire II - *27 July 2001, 4:24 p.m.*
180: HP-97 Card Reader Repair, Mike Davis - *17 July 2001, 6:03 p.m.*
179: HP-67 Card Reader Repair, Mike Davis - *17 July 2001, 6:02 p.m.*
170: Golden Ratio and HP-1xC series , John Ioannidis - *4 July 2001, 12:22 p.m.*
154: HP 9810/9820 Card Reader Drive Wheel Repair, Katie Wasserman - *6 Apr 2001, 4:29 p.m.*
149: Reseting an HP41, Steve (Australia) - *24 Mar 2001, 6:47 a.m.*
146: Batt. Pack for HP 80 & HP 67, Thomas G. Magee - *9 Mar 2001, 4:17 p.m.*
144: Impressions on the HP-49G, Ernie Malaga - *2 Mar 2001, 9:12 a.m.*
139: HP-41 Fonts, Ernie Malaga - *27 Feb 2001, 6:09 p.m.*
138: HP46 Printer Repair Tip, Alex Knight - *26 Feb 2001, 3:43 p.m.*
128: Opening the HP48: Addendum, David Fenyes - *20 Feb 2001, 8:31 p.m.*
125: HP48 Disassembly (from the back), David Fenyes - *18 Feb 2001, 3:00 p.m.*
118: Serial port downloads from (Linux) PC to HP-41, Tony Duell - *10 Feb 2001, 2:59 p.m.*
111: HP 65 card reader tips: reinforcing the worm gear clutch, Rafa, Spain - *28 Jan 2001, 3:55 p.m.*
108: The (not so) Big List of HP Part Numbers, John Kono - *5 Jan 2001, 4:27 a.m.*
86: HP Calculator Opcode Map, George Weigt - *14 Dec 2000, 5:48 p.m.*
84: HP-97 Printer Gear Replacement, Katie Wasserman - *15 Nov 2000, 2:07 a.m.*
79: HP-67 automatic documenting program for Excel, John H. Meyer - *10 Sept 2000, 4:54 p.m.*
78: HP9114 repairs (not for the faint hearted), Steve (Australia) - *9 Sept 2000, 12:40 p.m.*
74: IR Printer information, Steve (Australia) - *31 July 2000, 11:00 a.m.*
71: Some information on the CCD-Rom -W&W CCD A or -W&W CCD B, Reinhard Breuer - *24 July 2000, 11:10 p.m.*
63: Repairing pre-recorded cards for HP-65, 67, 97, Erik Wahlin - *20 July 2000, 8:50 a.m.*
62: How to un-private an HP-41 program, Steve (Australia) - *22 June 2000, 6:05 a.m.*
60: Recovering shorted battery packs, Steve (Australia) - *19 June 2000, 2:40 a.m.*
57: Repairing the hp 82104A Card Reader , Dave the "lostrabbit" - *25 May 2000, 12:05 p.m.*
54: HP-41/PC User-Code Transfers, Leo Duran - *24 May 2000, 12:16 p.m.*

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HP Biographies

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This is a place where you can enter your biography and contact data. Feel free to put as much or as little information here as you like.

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Corrado, Larry (Wisconsin, USA) *21 Feb 2003, 9:41 a.m.*
Crawford, Peter D. (Chicago) *11 Dec 2008, 4:56 p.m.*
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(FS)	For Sale at fixed price	(TRADE)	For Trade (only)
(FSBO)	For Sale at Best Offer	(FSOT)	For Sale Or Trade
(MFSBO)	May be For Sale at Best Offer	(SW)	Service Wanted
(FSOBO)	For Sale at fixed price Or Best Offer	(SO)	Service Offered
(FREE)	Free item(s)		

HP advertisement Index

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HP 18C / HP 28C / HP 28S / HP 32S II (AUCTION)

The next calculators of my collection are for sale | HP 18C | http://www.ebay.de/itm/251398932837?ssPageName=STRK:MESELX:IT&_trksid=p3984.m1558.l2649 | HP 28C | http://www.ebay.de/itm/251398931612?ssPageName=STRK:MESELX:IT&_trksid=p3984.m1558.l2649 | HP 28S | http://www.ebay.de/itm/251398930228?ssPageName=STRK:MESELX:IT&_trksid=p3984.m1558.l2649 | HP 32S II | http://www.ebay.de/itm/251398928836?ssPageName=STRK:MESELX:IT&_trksid=p3984.m1558.l2649
[Contact Daniel A. | View complete ad] Posted 14 Dec 2013

HP 9820A (FSBO)

I've for sale a HP 9820A with working printer and card reader. | Calculator is in nice condition fully working with 2 rom cardridges. | Item is located in the Netherlands, will be shipped worldwide. | I'm open for offers..
[Contact Rik Bos | View complete ad] Posted 10 Dec 2013

HP 16C for sale (AUCTION)
Selling my HP16C on ebay, item 231111969624 | Auction and buy it now.
[Contact Morten Nygaard Åsnes | View complete ad] Posted 9 Dec 2013

48sx Overlays (P/N 82220a and 82210a) (WTB)
Looking for the generic 82220a overlay kit for the 48sx and the 41CV Emulator Card Overlay (82210a). Thanks!
[Contact svisvanatha | View complete ad] Posted 8 Dec 2013

HP 85B wiht QIC40 modified tape drive (AUCTION)
I've placed a HP 85B (32kB + Mass storage rom inside) on ebay. | Item 370957485834. | Also on ebay a lot of other HP calculator computer related stuff.
[Contact Rik Bos | View complete ad] Posted 4 Dec 2013

HP20b/HP30b Programming Cable (WTB)
I'm looking for an HP20b/HP30b programming cable. I'm hoping that someone has one they don't need anymore. Thanks.
[Contact Stephen Rose | View complete ad] Posted 3 Dec 2013

Rare HP Xpander Prototype (AUCTION)
Selling one of my Xpanders from my collection. See ebay item: 231108514788
[Contact Keith Midson | View complete ad] Posted 3 Dec 2013

HP 11C BOXED COMPLETE (AUCTION)
Selling my boxed HP 11C on ebay - in excellent condition. See ebay item 331079302382
[Contact Keith Midson | View complete ad] Posted 3 Dec 2013

HP95LX F1001A Connectivity Pack (AUCTION)
Selling my HP F1001A connectivity pack for HP95LX pocket computer (HP95LX not included). Fully complete with cable, floppy discs, user manual, etc. Ebay item 331076200410
[Contact Keith Midson | View complete ad] Posted 28 Nov 2013

HP41CX Opt001 Blanknut (AUCTION)
Selling my rare Blanknut HP-41CX calculator on ebay. In perfect condition, fully functional with overlay. Item number: 231105410392
[Contact Keith Midson | View complete ad] Posted 28 Nov 2013

HP Portable Plus accessories (WTB)
Recently I required an almost "naked" Portable Plus, and now I am looking for printed (original) documentation and software rom modules, particularly programming languages, or other accessories. | Also if you want to sell a complete Portable Plus system, please make an offer.
[Contact Michael Fehlhammer | View complete ad] Posted 27 Nov 2013

2014 pocket computer calendar (FS)
Following the success of my 2014 HP calendar, I have also made a 2014 pocket computer calendar. It showcases HP along with other brands such as Sharp, Casio, Elektronika, Panasonic, etc. You can view and/or purchase here: http://www.redbubble.com/people/kmidson/calendars/11094561-vintage-pocket-computers
[Contact Keith Midson | View complete ad] Posted 26 Nov 2013

Sparcom Modules & Other HP Books hard to find (AUCTION)
Just listed on ebay 48GX/SX Sparcom modules for Mathematics, Chemistry, Mechanical Engineering, Electrical Engineering and Physics along with a bunch of HP Application books and manuals. I will be adding numerous items next week, including HP Calculators, Manuals and Accessories. These auctions close Nov 30 and Dec 1. | Some items added this week include mint versions of HP21S, HP48GX and manuals, HP 71B, HP10B sealed, New in box HP 20S, HP 15C LE Sealed, HP19BII with burgundy leather case & manual, 8 book calculator collector set, misc. HP items. | Opening bids are set reasonable for . . .
[Contact Frank Knight | View complete ad] Posted 23 Nov 2013

HP Streamsmart 400 with two probes (AUCTION)
Ends Saturday November 30. | Ebay item: 301025115344
[Contact gene wright | View complete ad] Posted 23 Nov 2013

Bringslid BAS Calculus Mathematics 1 Expansion Card for HP48 (FSBO)
Expansion card for HP48 series with manual. | BAS Calculus New Mathematics 1 VER 3.0 | Produced by Odd Bringslid ISV Spenningsgate 11 3601 Kongsberg Norway | From the table of contents: | Integration | Algebra | Functions | Liner Equations | 2D Curves | Series | Complex Numbers | Functions of Several Variables | Diffequations | Numerical Methods | Solved Problems | 172 pages spiral bound manual and expansion card.
[Contact Chris Pem10 | View complete ad] Posted 20 Nov 2013

Xpander Prototype (FS)
I am selling one of my HP Xpander prototypes. It is in mint condition and Comes with power cord, stylus, hard cover, CD manual (copy, not original), and computer connection cord. It does not come with the original box or user manual sorry. I can send you photos if you like - I have some on my Flickr collection site http://www.flickr.com/photos/60529780@N02/7854887210/in/set-72157626354800664 | If it doesn't sell here within a week or so then I will list on ebay. Asking US$350 which includes postage to anywhere in the world (i'm located in Australia). Payment by PayPal or wire transfer. | T. . .
[Contact Keith Midson | View complete ad] Posted 17 Nov 2013

Sparcom Spice48 expansion card for HP 48 (FSOT)
Hello, | I have a Sparcom/DaVinci Spice48 card that is looking for a new home (alas, without manual). Ideally I would do a trade, as I'm looking for either a Sparcom General Chemistry Reference Pac (with manual), or the original Educalc "leather desk" case for the HP 48-series calculators, or perhaps a Math Pro Pac. That said, if I can't find an appropriate trade, I'll be happy to sell it. | Please message me if you're interested.
[Contact megarat | View complete ad] Posted 13 Nov 2013

2014 HP calendar (FS)
Hi all, i've made a 2014 calendar from various photos from my collection. | It can be viewed and purchased from Redbubble - http://www.redbubble.com/people/kmidson/calendars/11094118-hewlett-packard-calendar | Hope you enjoy - it was hard to decide what photos were 'in' and 'out' with only 12 months. I may do another that includes vintage pocket computers. Let me know if there are any that you would like to see included. Cheers, Keith
[Contact Keith Midson | View complete ad] Posted 13 Nov 2013

HP-41 Flex-PCB replacement (FS)
Hi all, | A new batch of Flex-PCB replacements is available at 22Euro/unit. | This time I've placed a 'Buy It Now' ad at eBay; item# 111210794951. | Cheers from Caribbean. | Diego Diaz. | (www.clonix41.org)
[Contact Diego Diaz | View complete ad] Posted 8 Nov 2013

HP 10C + explanatory booklet for HP 10 series (AUCTION)
Selling my HP 10C with some signs of usage and scratches on the backside. | http://www.ebay.de/itm/251372150942?ssPageName=STRK:MESELX:IT&_trksid=p3984.m1558.l2649 | And I´m also selling an explanatory booklet for HP 10 series calculators in German. | http://www.ebay.de/itm/251372155199?ssPageName=STRK:MESELX:IT&_trksid=p3984.m1558.l2649 | More detailed information inside the auctions.
[Contact Daniel A. | View complete ad] Posted 5 Nov 2013

Sharp PC-1280 (WTB)
Mint or new preferred. Please make an offer with pictures and full description.
[Contact From Hong Kong | View complete ad] Posted 1 Nov 2013

Selling several calculator from HP 48/49 series (AUCTION)
I want to sell my whole collection of HP calculators and started with some HP 48 and HP 49. Maybe there´s something interesting for you in it. All of them are in good condition but see the auction details for more information. | HP 33 S | http://www.ebay.de/itm/HP-33-S-RPN-wissenschaftlicher-Taschenrechner-scientific-calculator-/251366671989?pt=DE_Technik_B%C3%BCrotechnik_Taschen_Tischrechner&hash=item3a869f0675 | HP 48 gII |

http://www.ebay.de/itm/HP-48-gII-RPN-wissenschaftlicher-Taschenrechner-scientific-calculator-/251366674559?pt=DE_Technik_B%C3%BCrotechnik_Taschen_Tischrechner. . .
[Contact Daniel A. | View complete ad] Posted 28 Oct 2013

HP50g mint condition UK (FS)
HP50G for sale due to recent underuse. | Comes with USB cable, 1Gb SD card, fresh batteries and soft case. Perfect condition. Current OS release. | Will accept £45 for collection from London (TW7 postcode) or £50 for delivery anywhere in the UK. | Available with two full sets of awesome Sanyo Eneloop rechargeable low self-discharge AAA batteries and a slow charger for an additional £15.
[Contact Chris Smith | View complete ad] Posted 25 Oct 2013

HP 9807a ROM wanted to buy or loan (WTB)
My HP integral powers up but does not boot. Can anyone sell or loan me a HP-UX ROM, BASIC or service ROM, so that I can test. Thanks.
[Contact dbintley | View complete ad] Posted 22 Oct 2013

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(FSOBO)	For Sale at fixed price Or Best Offer	(SO)	Service Offered
(FREE)	Free item(s)		

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2014 pocket computer calendar (FS)

Following the success of my 2014 HP calendar, I have also made a 2014 pocket computer calendar. It showcases HP along with other brands such as Sharp, Casio, Elektronika, Panasonic, etc. You can view and/or purchase here: http://www.redbubble.com/people/kmidson/calendars/11094561-vintage-pocket-computers
[Contact Keith Midson | View complete ad] Posted 26 Nov 2013

Bringslid BAS Calculus Mathematics 1 Expansion Card for HP48 (FSBO)

Expansion card for HP48 series with manual. | BAS Calculus New Mathematics 1 VER 3.0 | Produced by Odd Bringslid ISV Spenningsgate 11 3601 Kongsberg Norway | From the table of contents: | Integration | Algebra | Functions | Liner Equations | 2D Curves | Series | Complex Numbers | Functions of Several Variables | Diffequations | Numerical Methods | Solved Problems | 172 pages spiral bound manual and expansion card.
[Contact Chris Pem10 | View complete ad] Posted 20 Nov 2013

Xpander Prototype (FS)

I am selling one of my HP Xpander prototypes. It is in mint condition and Comes with power cord, stylus, hard cover, CD manual (copy, not original), and computer connection cord. It does not come with the original box or user manual sorry. I can send you photos if you like - I have some on my Flickr collection site http://www.flickr.com/photos/60529780@N02/7854887210/in/set-72157626354800664 | If it doesn't sell here within a week or so then I will list on ebay. Asking US$350 which includes postage to anywhere in the world (i'm located in Australia). Payment by PayPal or wire transfer. | T. . .
[Contact Keith Midson | View complete ad] Posted 17 Nov 2013

Sparcom Spice48 expansion card for HP 48 (FSOT)

Hello, | I have a Sparcom/DaVinci Spice48 card that is looking for a new home (alas, without manual). Ideally I would do a trade, as I'm looking for either a Sparcom General Chemistry Reference Pac (with manual), or the original Educalc "leather desk" case for the HP 48-series calculators, or perhaps a Math Pro Pac. That said, if I can't find an appropriate trade, I'll be happy to sell it. | Please message me if you're interested.
[Contact megarat | View complete ad] Posted 13 Nov 2013

2014 HP calendar (FS)

Hi all, i've made a 2014 calendar from various photos from my collection. | It can be viewed and purchased from Redbubble - http://www.redbubble.com/people/kmidson/calendars/11094118-hewlett-packard-calendar | Hope you enjoy - it was hard to decide what photos were 'in' and 'out' with only 12 months. I may do another that includes vintage pocket computers. Let me know if there are any that you would like to see included. Cheers, Keith
[Contact Keith Midson | View complete ad] Posted 13 Nov 2013

HP-41 Flex-PCB replacement (FS)

Hi all, | A new batch of Flex-PCB replacements is available at 22Euro/unit. | This time I've placed a 'Buy It Now' ad at eBay; item# 111210794951. | Cheers from Caribbean. | Diego Diaz. | (www.clonix41.org)
[Contact Diego Diaz | View complete ad] Posted 8 Nov 2013

Sharp PC-1280 (WTB)

Mint or new preferred. Please make an offer with pictures and full description.
[Contact From Hong Kong | View complete ad] Posted 1 Nov 2013

HP50g mint condition UK (FS)

HP50G for sale due to recent underuse. | Comes with USB cable, 1Gb SD card, fresh batteries and soft case. Perfect condition. Current OS release. | Will accept £45 for collection from London (TW7 postcode) or £50 for delivery anywhere in the UK. | Available with two full sets of awesome Sanyo Eneloop rechargeable low self-discharge AAA

batteries and a slow charger for an additional £15.
[Contact Chris Smith | View complete ad] Posted 25 Oct 2013

HP 9807a ROM wanted to buy or loan (WTB)
My HP integral powers up but does not boot. Can anyone sell or loan me a HP-UX ROM, BASIC or service ROM, so that I can test. Thanks.
[Contact dbintley | View complete ad] Posted 22 Oct 2013

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MoHPC *The Museum of HP Calculators*

The Museum of HP Calculators
Terms Of Use (Rules)

Last Updated June 5, 2002

Contents:

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1. Thou shalt remember that the vast majority of the posters on this forum are not employees or in any way related to MoHPC or Hewlett Packard, but are unpaid volunteers who donate hours of their time to provide information and assistance out of the goodness of their hearts, and without recompense.
2. Thou shalt not abuse, insult, harangue, blame, or take your anger out on same when you are experiencing problems, or we don't know the answer to your question.
3. Thou shalt remember that polite queries will elicit polite and helpful responses, likewise, that ranting and raving, bashing, and insults will prompt commensurate responses. Ye shall reap what ye sow.
4. Thou shalt remember that MoHPC provides this as a free service and its agents are not required to take bad behavior or insults by virtue of their position.
5. Thou shalt remember that we love to help out, so please don't be shy and feel free to ask any question regardless

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The classified ads section is primarily intended to allow HP owners, users, and collectors to contact each other in a low pressure environment that is free of charges or fees. This implies certain differences from commercial dealer sites and auction sites. Dealers (or other higher volume sellers) are welcome but must take care not to offend others by over-advertising. If others are offended by repeated dealer advertisements, these ads may be deleted, edited and/or the seller may be asked to reduce the frequency of postings. Any user who feels that a posted message is objectionable, off-topic, or has been repeated too frequently is encouraged to contact us immediately by email.

The final judgment as to what constitutes overuse of the classifieds is the sole judgment of MoHPC. There is no appeals process. Belligerent, insulting, and/or demanding emails or postings will be counter-productive. MoHPC will take whatever steps it feels necessary to keep the Classified Ads section a friendly place were buyers and sellers are on equal footing.

If you have an ad for a service or a product that doesn't immediately sell, post an ad no more frequently than once per week. Please proofread, and spellcheck before posting, and use the preview button to check your formatting as the current software does not allow editing after posting. To be clear, particular *items* should not be advertised more than once a week, regardless of whether those items are advertised individually or as part of a larger ad.

Do not advertise replica/reproduction items that replicate a trademark unless you have written permission. Any other replica/fake materials must be clearly indicated.

Be careful to use the correct heading for your ad. For example do not use (FS) if you are selling by auction or For Sale Best Offer.

Advertisements are submitted by individuals who are likely to be strangers to the Museum curator. Treat advertisements here like advertisements anywhere else on the net and take precautions that you feel are appropriate.

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GTO

Formatting

It's easy to add formatting to posts in the HP forums (except for the classified ads). You simply type codes that look like [code]. Codes come in two types - single and paired. Paired codes have a code that turns them on like [bold] and one that turns them off like [/bold]. These codes are very similar to HTML.

Line Breaks and Program Listings

By default the forum software flows your text to match the boundaries of the browser. When you type two blank lines, you'll get a new paragraph with a blank line in between. To get a single line break without a blank line use [nl] which stands for "new line". To keep a block of text looking just like you entered it, surround it with [pre] and [/pre]

First[nl]Second produces:

First
Second

[pre]The first line
second line
third line
fourth line
etc.[/pre] produces:

```
The first line
second line
third line
fourth line
etc.
```

Links and Images

- [link:http://www.hpmuseum.org]Link to Museum[/link] produces Link to Museum.
- [url:http://www.hpmuseum.org] produces http://www.hpmuseum.org.
- [img:http://www.hpmuseum.org/gto.gif] produces 

You need a full URL/address immediately after the colon. The only difference between [link] and [url] is that [link] allows you to specify the text that the user sees.

Text Formatting

- [bold]bold text[/bold] produces **bold text**
- [italic]italic text[/italic] produces *italic text*
- [un]underlined text[/un] produces underlined text
- [super]text[/super] produces ^{text}
- [sub]text[/sub] produces $_{text}$
- [big]text[/big] produces text
- [small]text[/small] produces text

Quoting Someone

[quote]Some text you are quoting[/quote] Your response... produces:

> Quote:
> ---

> Some text you are quoting

Your response...

It's usually not necessary to quote but if you want to reply to just part of a long post, you can cut and paste the appropriate section(s) into your response and surround it(them) with [quote] ... [/quote].

Lists

[ol][li]an item[li]another item[/ol] produces:

1. an item
2. another item

[ul][li]an item
[li]another item[/ul] produces:

- an item
- another item

Note the the list is started with [ol] (ordered list) or [ul] (unordered list) and ended with the matching end code. Each list item is started with [li] and there is no end code.

Headings

[head]Headings[/head] produces the heading directly above.

Miscellaneous

- [center]centered text[/center] centers text on the page
- [hr] means horizontal rule and draws a line across the page

Leaving [ ]s alone

If I want to explain formatting in a post you can "escape" codes by preceding the brackets with backslashes. For example: \[pre\] will produce [pre]. In cases where you enter something in brackets that isn't a format code, the system will automatically escape the brackets for you. For example you will get the same effect entering \[u\] or just [u]. In both cases [u] will be displayed in your message.

Examples:

Input:	Results:
`[img:http://www.hpmuseum.org/gto.gif]`	
`[url:http://www.hpmuseum.org/hp65.htm]`	http://www.hpmuseum.org/hp65.htm
`[link:http://www.hpmuseum.org/hp65.htm] HP-65 Page[/link]`	HP-65 Page
`Next is an [head]Article Heading[/head]`	Next is an **Article Heading**

`for the next bunch of text`	for the next bunch of text
`Here are some lines separated by one newline[nl] line1[nl] line2[nl]line3[nl] line4`	Here are some lines separated by one newline line1 line2 line3 line4
`Note that text separated by one line break, like this, gets merged into a paragraph.`	Note that text separated by one line break, like this, gets merged into a paragraph.

`If you want to do a code listing:[pre]`
`preformatted text`
`line  2`
`line  3`
`line  4`
`line  5[/pre]`
	If you want to do a code listing:
	`preformatted text`
	`line  2`
	`line  3`
	`line  4`
	`line  5`

`Here's an ordered (numbered) list[ol]`
`[li]First element`
`[li]Second element`
`[/ol]`
	Here's an ordered (numbered) list
	1. First element
	2. Second element

`Here's an unordered (unnumbered) list[ul]` `[li]First element` `[li]Second element` `[/ul]`	Here's an unordered (unnumbered) list • First element • Second element
`Here's a [super]superscript[/super] and a [sub]subscript[/sub] and a [bold]bold [super]superscript[/super] and [sub]subscript[/sub][/bold]`	Here's a $^{\text{superscript}}$ and a $_{\text{subscript}}$ and a **bold $^{\text{superscript}}$ and $_{\text{subscript}}$**

You'll be able to see the results by pressing the **preview button** rather than the post button. If the results don't look right (for example if you see something like: [bold]bold text[/bald] in the preview screen, go back and correct the error and then preview again.

More Details

Always use a full URL such as http://www.hpmuseum.org/enter.jpg. Note that URLs can not contain any of the characters <, >,], ", ' and spaces.

If you enter a code incorrectly and post it, you can fix it by pressing the edit button on your post. You may need to remove backslashes when you edit. For example if you enter [bold]test[bold] and then edit, it will come back as \[bold\]test\[\bold\]. This is because the software can't tell whether you made a mistake entering [bold]text[/bold] or whether you really meant it to display like that to show someone how NOT to enter codes. In this case, delete the escapes and enter the slash on the bold end code so you have: [bold]test[/bold] and then press save. If you enter something like a[i] = b[k], it will look the same when you edit it because there are no codes [i] or [k] so there is no need to escape them.

If you don't have a place to host your images, then please log in and request a guest directory. Once the directory is

created, you will be able to upload your files. (This is actually preferred since I won't have to worry about the images moving or disappearing in the future and leaving broken links.)


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HP Memories Forum

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HP34C again!!!

*Posted by **Stephan Matthys** on **21 Aug 2013, 1:52 p.m.***

I recently came across the following memory HP-34C BETTER THAN S*X & I fully agree with Norm!
Imho the HP34C was one of the finest calculators ever designed & produced by HP. For sure, some years later it was kind of outclassed by the well-known & beloved HP15C (which I think really is the best calculator ever made!), & some may argue that the HP41C & the HP42s may be even better...

The HP34C was my first HP calculator, bought back in ~1980 during secondary school, replacing my original TI30. Some years ago I disposed of it as it didn't work any more... :-(

But after reading the post mentioned above I absolutely had to get an HP34C again. Fortunately I found one in reasonable condition & at a reasonable price on one of the known auction platforms.
It **IS** a great calculator! The keyboard layout (even though in portrait) is well done & the keys are perfect! The blinking of the LEDs during program execution is really nice: I love it! Everything is more or less self-explanatory, almost no hidden functions or features.
Great.
GREAT!

Some history:
After my original HP34C I had several HP calculators:
HP15C (bought during my studies ~1985; still working, in the meantime on the third set of batteries...)
HP48SX (bought during my studies ~1990, dead in the meantime due to display issues)
HP67 (dead in the meantime & disposed of... :-( )
HP49g+ (sh*tty keys, crazy colours, too many functions, too many soft menus...)
HP35s (nice calculator, but I still prefer the HP15C & the HP34C)
HP15C LE (OK, but even though faster than the original I prefer the old one; touch & feel are by far better there!)

& now an HP34C again (second series, soldered ICs)...
YESSS!!!

Edited: 22 Aug 2013, 2:25 a.m.

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Working up to the HP71B

*Posted by **Nick R** on **12 Dec 2010, 6:56 p.m.***

When I started high school in New Zealand in 1966 slide rules were prohibited in the mathematics class. We had to do all our calculations using log tables, which involved writing down laborious columns of numbers. Someone gave me an old K&E Mannheim slide rule which I began using surreptitiously under the desk to check my results, until I eventually got caught. (The maths classroom caught fire shortly afterwards, which had nothing to do with me but seemed to be divine retribution). By the following year things improved greatly, as the rule about slide rules was relaxed and I'd upgraded to a Hughes Owens Versalog which I could now use openly. Eventually I ended up in Canada and worked as a chainman for a land surveying company, where I got to use a mechanical calculator for the first time. Field computations back then were done with a Facit hand-crank machine and six figure trigonometric tables. The Facit was too heavy to pack along the survey line, so it stayed in the truck and we'd catch up on the calculation of coordinates at lunch time or at the end of the day. This would sometimes be a three man job - the other chainman would look up sines and cosines in the tables, I'd turn the crank on the Facit and the surveyor would write the results in the field book. The Facit was slow by modern standards, but it was a solidly built machine. We were forced to make an emergency stop one day and I watched with interest as the calculator went flying forwards and hit the steel dashboard hard enough to strike a spark. The impact didn't affect the Facit, but the surveyor complained that it would have been better if it had hit a chainman instead, as that would have avoided the dashboard damage. The next survey company I worked for had a Curta for use in the field, but none of the chainmen were allowed to touch it with their grubby fingers. At about that time the HP35 had become available, which finally put an end to looking up tables, at least until the batteries ran down. When that happened we'd revert to figuring out coordinates in the field using traverse tables. Battery life was one drawback of the HP35; the other being the difficulty of seeing the LED display on bright sunny days. This company also possessed a Compucorp Model 354 Surveyor, which was rarely allowed out in the field, probably due to a concern that it might get damaged if the man carrying it should fall off a cliff. At that time I thought I had a future in the survey business and went to technical college to learn more about it, and there I was introduced to a computer for the first time - an HP2115 running BASIC. This was a rack-mounted machine that impressed all of us with its flashing lights until we found how frustrating it was to have to load programs using punched paper tapes. I couldn't afford an electronic calculator so I bought an old Odhner pin wheel calculator for doing homework. Eventually the price of TI calculators came down to my level, and I finally owned a machine that had all the necessary functions built in. I can't remember which model it was, but I soon realized it was inferior to the HP calculators, and was able to replace it with an HP25C discovered in a pawn shop. After a couple of years I gave up surveying and went into forest fire control, selling the HP25C in the process, as I didn't think I'd have a need for it. No doubt I drank the proceeds while sitting in the pub on standby waiting for a fire call. As it turned out however I worked my way up the ladder and ended up using calculators in fire management planning. The first one was an HP10C purchased in the US and brought back across the border. (That was a great feature of the Voyager series - they could be easily concealed). It quickly became obvious that I needed a machine with more program steps, so I moved up to an HP41CX. For some reason this soon developed an intermittent problem with the PRGM/ALPHA switch so I returned it to the dealer, who took it back and sold me an HP71B in its place. This proved to be ideal for my purpose, as I was able to do fire weather and behaviour calculations while sitting on a stump on the fire line surrounded by smoke and blackflies, or sitting in the pub surrounded by smoke and bar flies. The HP71B was a great machine, and easily programmed by someone like me who was comfortable with BASIC and has never figured out RPL. Unfortunately when I left fire management this calculator stayed behind, together with an HP15C that eventually met

an untimely end down a drain. All I have is the box the HP71B came in, which I haven't yet thrown out as there's always the hope I might run across another one someday.

Edited: 13 Dec 2010, 12:19 a.m.

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The history of my calculators

*Posted by **SteveH** on **15 Oct 2010, 8:57 a.m.***

This is a version of a post I first made to my Tumblr some time ago. Since it was written I've picked up a HP-48G and a very battered HP-11C from eBay so the needs I describe are now pretty much met. As I mention below I don't really get on with my HP-28S and my HP-48G falls into that category too. They're not for sale but if any UK-based collector would be interested in them do feel free to get in touch (hamrun@gmail.com) as I would sell them to another collector as long as I get back what I paid for them.

I thought I would write down a brief history of how I came to own six Hewlett Packard calculators. This was really as much for my own interest as to provide any great insight into nerdery.

I still recall being awe struck when my father came home with a Rockwell Scientific Slide Rule he had bought to use at work. This was truly a thing of wonder - it had red LEDs and it could work out sums! My own first calculator was a Sinclair Cambridge which came in a case that resembled a Star Trek communicator and you could actually see the numbers flicker with the sheer effort needed to calculate a sine. It was a great toy and I still have it and it still works - something of an achievement for a Sinclair product.

I got my first HP calculator in the summer of 1982 after my first year of studying engineering at the University of Dundee in Scotland. My choice of calculator turned out to be prescient as I chose and HP-15C over the HP-11C and the next year's maths syllabus introduced me to matrix maths and the calculator was a God send. It didn't avoid having to do the calculations but it was useful to be able to check things. The 15C was equally useful all the way through university and the first couple of years of my working life.

At that point I made one of my strangest decisions ever and decided to sell the 15C because I had started working with digital designs and software and wanted to have base conversions available. This was not a particularly daft move but I chose to buy a TI calculator and really couldn't get used to it after years of using RPN. It probably wasn't a bad calculator but I needed to get back to the one true faith. At that point I bought an HP-42S which I have now used for years very happily.

I do think the 42S is a great calculator but there is something fantastic about the form factor of the Voyager series calculators. They are small, pocketable, well laid out and run forever on a set of batteries. I was very lucky and had sold my 15C to a friend and he was quite happy to give it back to me as it was gathering dust at the time. I did highlight to him the silly prices that were being paid on eBay for HP-15C at that time but he very generously returned it to me.

This brings me into the 'backup' phase of my collection when I realised that I can only really use HP calculators but don't like any of the modern models so decided to stock up on a few older models from eBay when something reasonably priced came up. So over the next few years I picked up an HP-41CX (classic design but haven't ever adapted to the layout of the algebra keys), an HP-16C (niche product) and an HP-28S (let's just say we don't get on).

The most recent phase is that I thought I should 'retire' the two that I use all the time, the 15C and the 42S and all the backups. Given the amounts of money these calculators are now selling for on eBay it seems a little crazy to be using

these things at work in an open plan office environment. At least at home I'm insured. The iPhone emulators for the 15C and the 42S are excellent and James Thomson's PCalc is an good all-round calculator with an RPN mode.

Still, it is nice to have a physical calculator in your desk. So I've just picked up an HP-48G off eBay!

Edited: 12 May 2011, 8:07 a.m.

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Enter > Equal

*Posted by **Steven F Johnson** on **11 Feb 2010, 7:34 p.m.***

I was an undergrad physics major in the early 1970s when the HP-35 came out. Ads in Scientific American and the Society of Physics Students magazine were very appealing, but it took quite an effort for our family to scrape together the cost. We finally traveled to the HP store in downtown Chicago one afternoon and, with a great deal of ceremony, bought the calculator.

Imagine my horror later that summer to find my calculator slumped and melted in my car, parked out in the hot Chicago summer sun. I couldn't face my parents after all they'd done to procure it, so I made a hasty call to the HP service bureau in suburban Skokie. They invited me to stop by, and 20 minutes later I was standing at the counter in the lobby, watching traffic whizz by on the Edens Expressway.

After some embarrassed explanation from me, a very kind HP technician replaced the case of the calculator, ran it through its paces, and handed it back to me, at no charge. Then, the magic words: "Want to come back here and see our Cesium Atomic Clock?" He gave me a great tour of the instruments, test equipment, etc. that they had in service, and cemented a life-long bond with HP instruments, data acquisition equipment, calculators, and desktop computers.

I've got an HP 35s at hand now, and a half-dozen HP calculators, all in great working condition, with the original HP 35 on display in a curio cabinet at home.

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HP-35: an Epiphany

*Posted by **Doug Winkeljohn** on **26 Jan 2010, 2:58 p.m.***

In 1972 or 1973, an HP rep came through our plant demonstrating the brand new HP-35 RPN calculator. At that time I was a young engineer just a few years out of school in a staff of around 1200.

I spent a lot of my time in those days doing parametric trade studies involving repeated lengthy series of calculations with many variables. My calculating choices were: My K&E slide rule, a company Friden desktop mechanical calculator (with square root extraction if I was lucky), scheduling time on one of the 2 or 3 Wang desktop calculators available, or writing, debugging and turning in a computer program for overnight running on the company IBM 7094 mainframe. This was boring and fairly mindless activity that still required care.

Seeing the demonstration of the HP-35 was a life changing experience. None of us had seen anything remotely like it. It was as if the rep had just shown us the meaning of the universe. It was fast! It was quiet! It kept track of the decimal point! It handled trig and log functions! And best of all, it could be mine!

$395 was far beyond anything I could afford or pay for. In fact, that was more than 10% of the price of my first new car. This was when you could buy a TI 4 function calculator for less than $50. But at lunch I went right to the credit union and set up a $5 per week deduction from my paycheck, realizing it would take over 1-1/2 years to get the money to buy one. I ended up cheating on that and ordering the HP-35 before a year was out. When it came with its beautiful construction and its genuine leather case I was as proud as a new father and I never looked back.

Almost all of the other engineers thought I was crazy for spending the money and most just did not get RPN. That sentiment persisted for many years, and a lot of the old timers never gave up on their slide rules.

I have owned and used several HP calculators since then, and I still do, but I have many fond memories of my HP-35 and its flashing red display.

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HP-67 saves my holidays

*Posted by **Klaus** on **8 Oct 2009, 4:49 a.m.***

My uncle is a retired surveyor, living in south america. I visit him regularly, and it must have been in 1999, when I was 18 years old, that I stayed there in winter (june or july) and it was raining nearly all the days.

We looked through his surveying equipment, and stumbled across his old HP-67, covered with red dust from the soil in that region. We powered it up on the AC adaptor (which I now know can damage the calc), and it worked. The battery pack was dead and one battery terminal was missing. Since it was raining outside, I cut a new battery contact from a silver sheet, disassembled the calc, and soldered it in.

Next task was to build a battery pack, so we took a gas soldering iron and fumbled 3 batteries together. I burnt the sleeve of my uncle's jacket in the process, but we had a really great time.

After reassembling the calc, it showed random patterns in the display. I disassembled it, and it worked when used without the case. After reassembling it with the case, it stopped working again. So after doing some more disassembling and assembling, I realized that I had removed some isolation tape in the calc, so I put a handkerchief where the tape had been, and the calc worked when assembled.

I read the manual in the rainy days, and learned to program it, I still have good memories to this holidays thanks to the HP-67.

Since then, my electronic skills have definitely improved, and I have a small collection of HPs I use regularly. But this HP-67 is my favorite machine with lots of memories. It always gives me a warm feeling when I use it.

This HP-67 has a HP-65 backlabel, as my uncle sent it to HP to repair the cardreader long after it had been discontinued, and it has a silver battery contact. I has some wear, and the display is scratched, but I wouldn't trade it for a mint one!

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HP-25 to the rescue and now, rescued!

*Posted by **Joe Buczek** on **28 Aug 2009, 10:57 p.m.***

I got my first electronic calculator, a four function TI-2500 *Datamath* unit with LED display in 1973 when I went off to college in Florida. I think it cost about $200 at the time. A few years went by, and a friend studying ocean engineering was the first HP-35 owner on our campus. I was so impressed by it, but studying computer science, and not having ~$400, I could only lust! Eventually, I earned a few bucks one summer, and in 1975 bought my HP-25 for, I think $200. It seemed to do all that my friend's 35 would do, *and* it was programmable!

By 1975, I was in the 3rd year of a 4 year degree and was taking a simulation class. The university *shared* a Univac mainframe with a sister school, and the end of semester crunch time was horrible. Interactive computer response time then was insufferable, and even batch jobs could take hours to get back. So trying to complete a simulation project at that time was nearly impossible... but not if you had an HP-25!!! I sequestered myself in the university library and wrote the queuing equations out for my simulation project, translated them into an HP-25 program, and ran the simulation on paper. I was able to complete my project in about 3 hours one afternoon while other students hoped to get "one run" of their project in before time ran out and projects were due. I was able to redesign my project twice in that time, solving a major problem with it, and got all the data I needed.

Fast forward to 2009. On one or two occasions, since moving to California in the mid 1980's, I took out my HP-25 and tried to get it to turn on. The battery pack was dead, so I put it back in the drawer. Mistake... the next time I looked the batteries had leaked. I took the pack out and, I think discarded it, vowing to open the calculator up and see if I could repair any damage. That project went undone for about 12 years until today.

Today, I opened up my HP-25 and carefully disassembled it. I cleaned the PC board with a sparing amount of flux cleaner and manually scraped the contact fingers connecting the keypad and logic boards and the display. I was amazed to find what looked like actual gold traces on the keypad PC board. Wow!

I put it all back together, and connected it to a bench supply. After a couple of minutes of trying to get a good connection, I flicked the power switch and the display came on!! I hadn't seen that display in about 22 years!! I am totally excited that the calculator still works. I now need to find a dead battery pack and build a replacement, but I now know that the calculator will work when I finally can do this.

So my HP-25 rescued me once and saved my good grade in my simulation class. Now it is my turn to rescue it. What fantastic product quality! They sure don't make them like this any more.

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HP-25 to the rescue and now, rescued!

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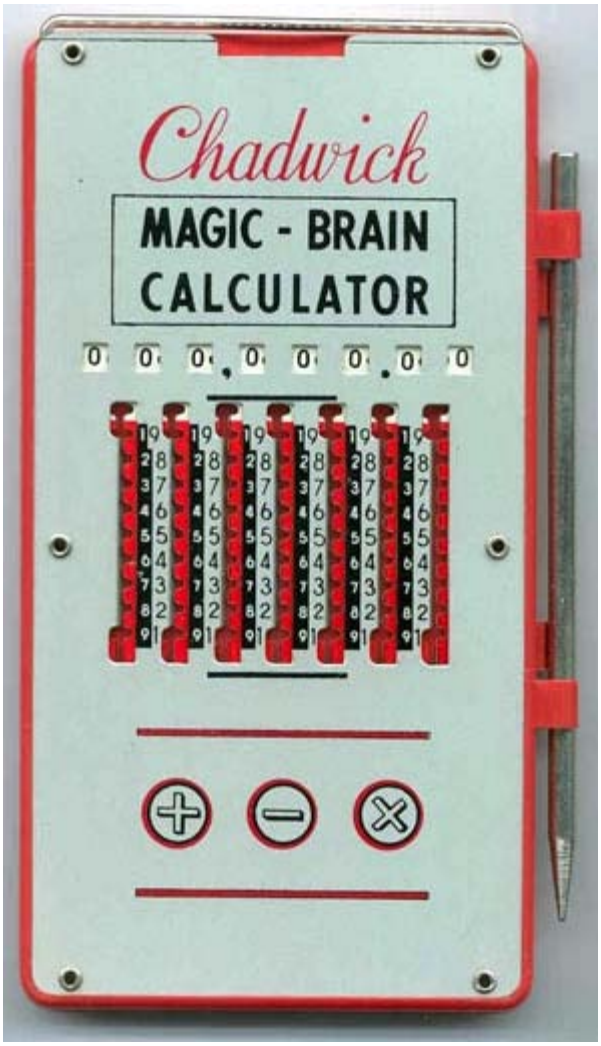
My personal history with calculators

Posted by ***hecube*** *on* ***9 Aug 2009, 1:12 a.m.***

I have moderate skills in mathematics. I briefly studied mathematics and then computer science at the university.

My involvement with calculators, as far as I can remember, goes back to this, a "magic-brain" mechanical calculator:

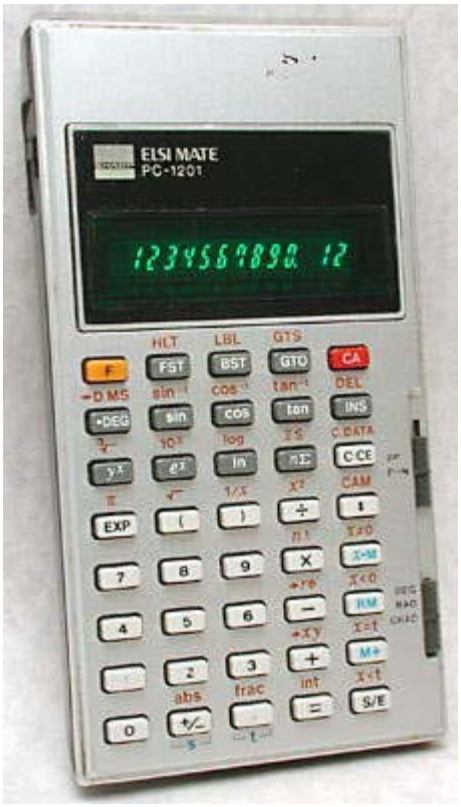


It belonged to my aunt and I briefly got to play with it. That was the very early seventies.

Then I remember going to an uncle (must have been around 1974). He had an electronic calculator (+ - * /) with glowing green numbers. I remember typing on the calculator and not knowing very much what to do with it except get hypnotized...

Speaking of hypnotized... I must have spent countless hours just looking closely at the bright green leds of early Radio Shack calculators behind their delicate screens. We had a couple of these in the house...

Then I got interested in computers in the late 70s and the only way to learn to program was with a programmable calculator. I got a Sharp PC-1201 for Christmas which had 128 steps available and a "mysterious" port in the battery compartment. That was a beautiful machine. I don't know what happened to it because it stayed in the family but we lost track of it.



The following Christmas I got a Radio-Shack TRS-80 Pocket Computer on which I invented circuit-bending (http://en.wikipedia.org/wiki/Circuit_bending) 25 years before such a thing even existed.

Then, reading french science magazine Science & Vie, I stumbled upon a series of article ("La calculette de l'astronome") related to solving astronomy problems with pocket programmable calculators. All Programs were either for TI or HP calculators. This is the source of my interests in HP calculators.

An article in Science & Vie pitted, if I remember correctly, a HP-41CV against a TI-59, a HP-67 and a Sharp PC-1211. The test was computing a certain number of decimals of Pi and the 41 was declared the winner, being the fastest.

From that moment, I had to have a 41. I saved all my money, which I gave to a neighbor who often went to the US and he brought me back the 41. That was in 1982. The box was so beautiful...

While at the University, not many colleagues had HP calculators but I remember seeing some 15, a 28S and possibly a 16. The 28S impressed me very much but I was pretty much broke at the time.

I finally got out of computer science and decided on a music education instead and got even more broke...

In the mid-90s, I found a HP-48SX in excellent condition for 20 dollars.

Up to a month ago, that was the extent of my collection. It seems however that I got hit by a bug recently because I acquired, in rapid succession, a HP-97, a HP-21, a HP-28S, a HP-25 and a HP-10bII and I'm constantly looking at auctions on eBay...

It should be noted that, even though I've become active on this website in the past few weeks only, I've been coming to the website for several years, possibly as early as 1996 (HP calculators must have been one of my earliest search topics when I got internet access for the first time).

One last thing. The HP-41CV is so deeply wired in my brain that, each time I read a book (any book), getting to page 319 holds some significance to me :-)

Edited: 9 Aug 2009, 1:24 a.m.

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36 years of HP ownership

*Posted by **Philip Wakeling** on **1 July 2009, 4:00 p.m.***

I recently stumbled across this forum and have enjoyed reading about peoples memories of their trusty HP calculators. I thought I would share mine.

I started engineering school at the University of Queensland in 1972 with a new Faber Castell slid rule (or Sly Drool, in Australian!) I am still amazed we managed to put men on the moon with these things. Anyhow, during that freshman year, word started to spread that there was a pocket calculator that could do everything a slide rule could do, plus keep track of the decimal point. A group of us got together to see if we could order a bunch of HP 35's directly from the distributor and get a break on the price.

So, in early 1973, out of the 200 or so students in my class, 100 ordered the HP's for AU$223.68 (about US$280.00 at the time). The other 100 classmates bought much cheaper TI 50's and within months were regretting their poor decissions. The HP 35 was much more reliable and with RPN, easier to use in engineering calculations. I graduated in 1976 with a BE in Metallurgical Engineering, in no small part thanks to my HP 35.

I moved to the USA in 1976 and my HP 35 served me well until the on/off switch finally quit in 1981. I replaced it with a programable HP 33E at that time and then bought an HP 41CV in 1986. My 41 died in 1994, so I replaced it with an HP 48g which just started acting up on a few buttons earlier this year. So, what to do? I imagine you have all guessed that it was replaced recently with an HP 50g, which I run in RPN mode. I am still struggling wiht the new location of the ENTER key - old habits are hard to break!

I love all these calculators and each new generation amazes me with the enormous computing power available at any time in such a small package. I have been able to run aluminum rolling mill models and planetry orbital simulations on things that fit in my pocket.

I still have my slide rules (3 diffferent types) and every HP I have ever owned. I feel I have the history of computing in my book case. My favorite is still the HP 35 - it has the funniest owners manual by far.

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a very strange hp-35

*Posted by **Dana Bingham** on **29 June 2009, 4:51 p.m.***

evidently, you must be very careful what you say on this forum or the message will not posted...

i quoted the hp forum history of the hp-35 and the message did not get posted.... not sure if i annoyed someone or just did not hit the enter button. i am sure open and truthful information is welcome on this forum

on the other hand, i have a very strange hp-35

it has the serial number between the feet and a raised dot on the "5" key, but does not have a red dot. the serial number falls in or very close to red dot serial numbers, and the serial number tag is pristine. if it is a fraud, i dare someone to prove it. but it is not a red dot

i am not trying to sell it, or to confuse anyone, or to say i have something special. it is special, of course, by all published information i can find, including that information provided by our fair and open minded hp curator.

personally, i think it is an "end of the run" red dot with a second generation "top plate" on it. just my opinion, of course. dana

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i invite you all to look at message #69

*Posted by **Dana Bingham** on **23 June 2009, 2:29 p.m.***

hi

or search on dana bingham in memories

well, i have filled out my collection with one drastic failure

i can not find an hp-70 for nothing

but i will dana

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Ahh... HP calculators

*Posted by **bbeamer** on **10 June 2009, 11:59 a.m.***

My father was an electrical engineer at HP and one day in the early ‘70’s, when I was about 6 or 7, he brought home an HP 35. I had used calculators before, but I had never seen the kind of buttons that this one had. “sin”, “cos”, “ln”, “xy”, that big “enter” key and no equal sign. Well, my imagination was fired.

Then in high school, I suffered through my first physics class with a TI, with all the problems they were known for. Things had to change. I scraped together the money that I earned at the fast food job I had and got the coolest calculator HP had then, the 15C. I loved that calculator! I wrote a program to solve the quadratic for real and imaginary roots that all my classmates were jealous of, even into college, where I studied physics and mathematics.

Then the 28C came out. All those buttons! And graphing. And the solver. I had to have it. But like an idiot, I sold my 15C. I loved the 28C almost as much, though. Then one day, the screen stopped working on the 28C. That was a bad day. My life had gone away from math and science, so I went for a long time without a “real” calculator.

Eventually, my life turned back toward math and science, and now I’m the proud owner of a 50G. It’s a very nice calculator. I do miss the big horizontal “enter” button, though. Thanks to some lessons learned in my “alternate” careers (and sniping on ebay), I have a 15C and a 28C back in my possession and my collection is growing. I still get a hit of nostalgia whenever I pull out the 15C and run the quadratic program (which I rewrote as soon as I got it).

Edited: 7 July 2009, 2:44 p.m.

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those were the days ...

*Posted by **Glenn Becker** on **29 May 2009, 8:54 a.m.***

Once my math brains had revved up back in high school, I found myself in Algebra II with a great (and eccentric) teacher who for some reason seemed obsessed with these ... calculator thingumbobs. So obsessed was he that he eventually had the back portion of his classroom sectioned off to act as a home for ... a computer of some kind!

What kind of a machine it was I cannot for the life of me recall (this would have been 1977 or thereabouts), but I remember there was paper tape involved. We learned some sort of assembler language on it. I don't recall doing terribly well in the class, unfortunately.

This shades into an "HP memory" because Mr. R had us all purchase some sort of calculator that was to an extent programmable to use in the course. I remember slavering over the HPs, but since they were pricy I wound up with a Novus (National Semiconductor) ... which may still exist in my parents' house somewhere, tucked into the old slipper case I kept it in.

If I could travel in time, of course, I'd go back and give my young self the cash to get the HP. Mr. R preferred them. They didn't have the "mushy keys" like the TI calculators he endlessly derided (I can still hear him saying "mushy keys") or the Novus I wound up with ...

Even today I find myself wishing I had the cash to be a true collector of these wonderful machines. Perhaps some wealthy me from the future will come a-calling soon ... ;^)

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My quest for the elusive HP 42S

*Posted by **Jeff Kearns** on **18 Dec 2008, 10:24 p.m.***

In 2003, an admin assistant in a company I worked for was handed a pristine 42s that was found in a men's washroom. She sent an email alerting staff of the find and asked the owner to come and retrieve it. No one did and I took first dibs on it if it was not claimed after several months. When it was clear that no one would claim the calculator I tried to get it but I was too late; she said her teenage son now had it even though he could not understand how to use it... I tried to persuade him (through her) to give it up for the latest and greatest TI but to no avail. What a waste! I had to settle for the excellent, but not at all the same, Free42 for my Palm Treo.

In 2008, I came across another user of a 42s who was willing to trade his excellent condition (but for one small blemish) machine including Owner's Manual for an RPN unit that could easily solve a 3x3 system of linear equations - which was all that he really needed it for nowadays. I offered him a brand new 35s in exchange and he accepted, knowing full well what the 42s was worth on online auction sites. He knew I was a user and would take good care of it so he let me have it. How lucky is that? Although I still consider myself a user rather than a collector, I have added it to the following modest collection: 21; 32E; 33E; 41C with QUAD mem, Advantage, Stat/Math, and Machine Design Pacs; 15C; 32sii; 33S; 35s; 48G; 49G+ with improved keyboard.

Although the display is rather poor compared to the 32sii and especially the 15C, I like the calculator a lot and am amazed at its 1988 era capabilities, despite the non-expandability. I now consider my collection complete - although that will likely change in due course. Now back to reading the Owner's Manual!

Flash forward 3 years... I acquired a spare 42s (along with 3 spares for the 15C) and have added a 35, 67, 34C, 12C, 19BII, 41CV with Nac Pac, Ext Fcns, Time module, 48SX, 48GX with TDS GOCO, and the new 15C LE to my collection.

Edited: 15 Dec 2011, 2:31 p.m.

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1981 to 2008 my HP journey

*Posted by **Ed Austin** on **20 Oct 2008, 11:06 p.m.***

I was at School and saw a guy with an HP 41C back in 1981. I thought it was amazing and vowed to purchase one, which I did in 1983 with my first paycheck!

Since then I have owned a HP48GX and briefly a HP12C.

I now own and use an HP34C which I purchased unseen. It had some corrosion on the (-) battery terminal due to battery leakage. I cleaned this up as much as possible and stuck in two AA Alkaline cells and it works great.

It is a 1979 manufactured "solderless" design. Heavy and I think well made. Keys are harder to press than the 41C although later versions I believe corrected that problem.

I can't live without RPN... using an algebraic logic calculator was an incredibly frustrating experience as I kept looking for the ENTER key!

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What a shock .. what a relief

*Posted by **peter a walker (papwalker)** on **18 Aug 2008, 11:58 a.m.***

Born 1960 Pulling phones apart by 10. I went mad for calculators in the '70s, but I was poor and they were expensive.

I dabbled in electronics and communications where a decent scientific calc was really required, but soon switched streams to programming. Not much need there (except maybe the HP-16C) Been programming IBM PC/clones for nearly two decades.

The other day **I thought I'd lost my 32S**. I was devastated ... and surprised how much sentimental value it carried. I was so relieved to find it (sans plastic pouch - still looking). I even rummaged through several boxes of 15 year old crud to find the manual. (Arrh Safe and sound. Safely tucked away now, I hope I'll find the pouch here somewhere (annoyed). The whole episode re-awakened my interest in calcs - especially HP. So I splashed out and grabbed two near mint 32S off eBay, calcs, pouches, manuals, packing and boxes (one was the 50th anniversary) The went up the road and bought a 50G and TI Nspire CAS. The TI is exceptional and I can't wait for HP to catch up but the HP still has stuff the TI doesn't and there are some thing the 32S can do easier then either the TI or the HP. But I love them all (how weird is that..)
First calc - Elsi Mate EL-120 1973/4
Some Panasonic or other
Qualitron 1421 RPN 1975
Sinclair Cambridge RPN. 1981
Radio Shack PC-1 1983
HP32S 1988
HP50G 2008
TI Nspire CAS 2008 eek! how did you get in here<g>

(new edit)
Oh Nooooooooo
The bug has been caught.
Adorning the shelf are new acquisitions.
2 x HP16C. One scratched up for daily use. One mint for deity use.
1 x mint HP11C
1 x average HP15C
1 x near mintHP-71B
1 x very average HP-75D and pod.
2 x good HP82162 printers.
1 x good boxed HP82240A printer
1 x new boxed HP20S
1 x new boxed HP48G
1 x average boxed HP28S
someone stop me please.

Edited: 2 Sept 2009, 9:10 a.m.

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HP-97 My First Computer

*Posted by **MikeO** on **21 June 2008, 6:50 p.m.***

My Dad brought one of these home back in 1976. At the time, I was 13 years old. He used it to work out satellite fixes and general surveying stuff related to the communications field.

I was struck by this little computer, and asked my Dad if I could borrow it for awhile. Typical of him, he said, "fine, just put it back where you got it" and didn't appear to worry at all about his kid breaking the thing!

Well, soon forgotten in favor of other toys by my busy Dad, it eventually ended up in my room, permanently. I remember learning how to program it by reading the excellent manual HP had written for it. It was at this time I started to draw the connection between numbers and codes - representing real world concepts. This calculator grounded me in the basic principles of programming, which served me well, as I eventually grew into a software developer in my adult life.

On so many levels, this piece of technology was a masterpiece of engineering. I'm still awestruck by it today. It had magnetic storage, a printer, and a programming langugage that included concepts such as indirect addressing. The physical design was no less impressive - from the large digit LED display, to the nearly full day of battery life you could get out of it, to the solid buttons! They really don't make things like this anymore.

Well, a couple of months ago, my Dad and I were talking about this calculator and he announced he still had it! In fact, he brought it down during a visit and even had found the programs I had written on it when I was just a kid! Talk about getting into a time machine!

The experience was so great, that I felt I had to do something to mark it. So I promised my Dad, in return for the calculator, I would use it as the model to write an HP97 simulator program - so he could have one of his own anytime, and so we could share this experience with others who may not have one anymore.

The result can be found at http://www.limpidfox.com/hp97.htm

-Mike O'Shea

Edited: 21 June 2008, 6:54 p.m.

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HP41-Article on german famous online-newsletter

*Posted by **Andre Koppel** on **14 May 2008, 10:39 a.m.***

Last month I have written an small Article about the HP41 that was published on germanys top rated online newsletter "Spiegel".
If one is interested (and able to read german), here is the url:
http://einestages.spiegel.de/static/authoralbumbackground/1824/die_traummaschine.html
The Article contains a lot of pictures and information about old HP-calculators

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HP DESIGNS

*Posted by **designnut** on **24 Apr 2008, 9:03 p.m.***

I started using HP test equipment and birriwed instruction books for HP and Tektronix equipment and read them like textbooks of design. While designing digital meters I had Len Cutler of HP ask me about the field. When the first calcculator ad appeared in Scientific American it was a punch-out fold-up calculator mockup. Someone in sales had one and I asked to try it. GET YOUR OWN! So I did. My boss was going to a negoting session with the customer and asked to borrow it, they started throwing numbers at him, he used the calculator to throw them back and won the day. I had several calculators, the 15C I sent to a pen-pal in Estonia for her son. His math prof was so taken with it he asked to borrow it over the summer. I had seent the manual and the advanced math book for it. I started with RPN and rewrote equations into keystroke procedures. I found solutions I would not have found with algebraic and used intermediate results as extra information from the solution. I admired HP's use of a new technology to develop several kinds of equipment using the same basic hardware. They were always out front of development.

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Let's call it... HP and I

*Posted by **Alejandro Paz (Germany)** on **12 Apr 2008, 5:46 p.m.***

I first came in contact with HP products when my father got a job at HP in 1984, as Service Coordinator. That same year, I was 9 years old and my father took us to the HP conference and showing of new products and technologies... I remember playing with a HP-150 with "touch screen"... there was some kind of game where you marked few dots and polygons where drown. From that time I got a catalog of HP products 1984. Hours spent looking at all the pages, just dreaming of using some of them, calculators, power supplies especially, oscilloscopes. I somehow lost that catalog, but the pages are still in my memory.

Four years later, when in my first high-school year, I visited my father at work almost every day, for my joy, and for, sometimes, the annoyance of some coworkers, especially those working on the "Bench", the repair team. As he had everyday contact with them due to his work, I was let loose to wonder into their repair facilities, loads of instruments, loads of fun!. I used to wonder in the room where they kept they repaired machines, calcs where kept in separated plastic boxes, HP-41s the occasional HP-71B, once I saw a HP-110, I turned it on... and did not know how to turn it off!, Were times of joy, of fun, of discovery. The year before, my father got a HP-12C, I used it almost exclusively, I learned how to use it, how to program it. Beautiful machine, nice keys.

Was the time of the HP-28, and some other models that were not made to be repaired, so I got a HP-28S that had some problem, I don't know which. That machine I used a couple of years at high-school. I got a copy of the owner's manual and learned how to program it, that was a real pleasure, as I did not have a computer, that became my companion. I programmed a NIM game, with the calculator as opponent, I did not always win. I programmed so my classmates could also played, but never told them the rules the program use to evaluate the situation, you have to keep always an edge !, it was somehow nicked-named "Ella" (She), by my-self and made running joke by my classmates, well what could I do ?. That calc prompted some of them to get HPs, in a world of Casio.

As the no-serviceable calculators where popping up, a got a HP-48SX that had some missing lines in the left part of the display, a common problem at the time (1994). I opened it and trace it to a problem in the elastomer, the conductive bridge between the LCD and the PCB. Seems that the rubber part had a dilation coefficient a bit too high compared to the conductive layer. After I opened it in 1995 I went to visit the people at HP and told them how to open a 48, seems that nobody had tried that before... well they learned something from me after all I learned from them!

Some time after wards it developed two more missing lines. That somehow I fixed pressing the LCD to the PCB a bit more. That machine still works, but lays unassembled pending a memory expansion for already 8 or so years, after I got the GX (in 1996, my first bought with my money HP), I somehow left it aside. In the mean time I also got a HP-67 and a card, never got the card reader to work, maybe because of that it was dumped. That was a different machine. Something I could easily open and poke around. When I moved to Germany, it was one of the two HPs (from the 5 28s, the 48SX, a 19BII, a 45, a 65 and plenty of 33s and 38s without case that I got) that I brought with me, along the 48GX (and a TI-92 that has not been powered on for many years). They are in my desk at the uni, in my thinking desk. I just stare at them and try to find a way of reproducing them, those keys. I think I got how, let's see.

I grew up with HP way of things, and with some of their products, with they philosophy, I even read "Working at HP", the HP way. I was really saddened when they split-up the company and merged with Compaq, they lost their way.

Well, the world changed, inkjet ink produces more revenue that HP-67s. The spirit lives in us.

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My HPs and me

*Posted by **Kareem Mokdad** on **3 Feb 2008, 2:10 p.m.***

I had many calcs in my life, starting from the college, where teachers sold us some TI-30 in the early 90's, for the last year of college, I even bought a Casio BASIC pocket computer, but I bought my very first HP when I was at the Ecole Supérieure de Commerce. I was seating in a classroom with a mate who found an HP 32sII left on a desk and begun playing with it and telling me about RPN, which I couldn't handle correctly at this time and actually found really stupid :), he also showed me how to do a hard reset on the machine, useless to say that we had to hide from the owner after this :). But I was so impressed by the unique look of the machine, It looked so solid, so undestructible... I had to get one ! Actually they were very expensive and I eventually bought an HP-20s with my few savings.

Later on, I bought a 17BII, which was even more impressive. And later again a 19BII, what a class !

Years went on and I had other interests and other calcs, since I had been deceived by a low-cost HP notebook running Vista and the awful low-cost HP customer "support" regarding this product, I decided I didn't want to hear from HP anymore and got rid of my HP stuff. I also turned back to TI and bought a BA II Plus Professional. What a foolishness, when I was wandering on the net, I just realized I couldn't live without HP calcs and the fantastic RPN logic. I realized that HP calcs where just the best calcs in the world ever.

So I went to Cash Converters to get MY 17BII+ back with its IR printer and sold them the TI BA II Plus Professional. Few days later I ordered a 33s on the university webstore where I had bought the IR printer and a couple of weeks ago, I was at the dept store and I found there an HP 40G for such an indecently discounted price that my girlfriend didn't really believe me until she saw the receipt. I also decided straight away to order the DVD set from the museum, of course !

Today I'm a very happy HP user and I am convinced, if it's not an HP, it's a piece of junk !

Edited: 3 Feb 2008, 2:26 p.m.

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How I got started with HP calculators

*Posted by **Martin Pinckney** on **30 Aug 2007, 1:32 p.m.***

I purchased my first calculator in 1978, when I entered engineering graduate school. (Undergraduate school in the 60's was strictly slide rule and pencil & paper, with an occasional trip to the Computer Center). It was a TI-55, which cost $50. I remember seeing HP's at the store, but they were almost 3 times the price, so were never even considered. I don't remember if I was even aware of the AOS/RPN debate at that time. Anyway, I took the TI-55 home, and the first night ran out of program steps, trying to do a homework assignment (it had 32). So the next day I took it back, swallowed hard, and traded up to a TI-59 ($250).

The TI-59 was a fantastic machine, even more powerful than the HP-67, which it was positioned against. I later bought the printer cradle, and wrote many programs for it, at least one fairly sophisticated. It served me well for about 10 years, then started to go bad on me. By this time I was using PCs, so saw little need for programming calculators. I purchased a TI-36 Solar, which had your basic scientific functions, but no programming and only 3 registers. After a couple of years, it went out on me, as well.

By this time I was getting fed up with the quality of TI calculators. Over the years, it had not escaped my notice that the HP calculators used by colleagues were of a noticeably higher quality than my TI's, but I had an aversion to RPN. So after some research I was delighted to learn that HP had started making some algebraic models in the "Pioneer" series. I purchased an HP-20s, which I still have and use 15 years later. Over the years I added an HP-22s and HP-27s from this series.

In more recent years I began to be envious of the big screens of colleagues who used HP-48gx's, but I still did not like RPN. So I again did some research, and discovered the HP-38g. My timing was right on, because this model had passed its zenith, and people were dumping them on eBay. I got 3 of them, for $15-$20 each! The 38g may have been a marketing flop, but IMO, it is a fine calculator. Its main drawback is too little memory.

In spite of having the 3 pioneers and 3 38g's, when I learned about the new HP-35s, I had to have one. In fact, I bought two!

Well, this is a little long for an introduction. In a later post, I will present some of my impressions of my various HP calculators.

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HP 2000 Access TS Basic

*Posted by **Davis S. MOORE** on **24 Aug 2007, 12:58 a.m.***

I've been reading the entries in your HP 2000 Computer "Memories" with a lot of nostalgia. We had a TSB 2000 Access system at the central administration of Norfolk Public Schools in Virginia that looked something like the system shown in your entry from Fred Stone. It had similarly gotten to that Access stage via a long sequence of upgrades. (We started as a batch machine for a FORTRAN-implemented CMI application.)

Part of the changeover to Access and a strictly interactive environment came after I too met Dr. Gilpin Brown on a visit to the Richmond, Va. Math & Science Center. Several of our instructional departments had been requesting to use interactive computing in CAI, in computer assisted test construction, and in guidance support. So when Dr. Gilpin showed me their communications setup, with banks of Vadic modems, I could hardly wait to get back to Norfolk and copycat the arrangement. We had 32 modems, with two being for "high speed" operations. The system was used for a number of instructional computing projects carried on in the schools - plus a couple of planning and evaluation applications.

Our central TSB system also resided in its own operations room - on carpet that had interwoven strands of conducting material, with its own supplemental A/C, etc. It was installed right next to the hallowed, environmentally isolated "computer room" that housed the administration's IBM 360-30 system. The HP was kept in use through the 70s at least and abandoned only in the early 80s I think. (I had moved to another department but was still a user.)

You know, even after having worked with MS office, SAS programming, etc., I miss BASIC in the version supplied by the TSB system - with its intuitive string-handling features, neat matrix variables and statements, etc. Can anyone suggest an interpreter or compiler that emulates some of TS BASIC's flexibility and simplicity of coding and is available for programming enjoyment in, say, a Windows environment of today?

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Still Have My Faithful HP-15C

*Posted by **Candy Humphries** on **14 July 2007, 6:05 p.m.***

I just happen to stumble across this museum website of HP Calculators, while searching for RPN software for my Palm. I'm glad to see that there are others who are still fans and/or who have fond memories of owning one! It's kind of funny, because my HP-15C is still sitting right in front of me at my workstation, after 21+ years of heavy usage. Unfortunately, my plate label “15C” has fallen off. I remember owning TI calculators back in the early 80’s, when I was a math/engineering student at Purdue. I still remember throwing one of them across my dorm room out of frustration, because the keys kept sticking (they have come a long way since then). That Christmas, my parents gave me a HP-15C, which was fairly new on the market. It came in very handy, especially when one of my EE professors in ’86-’87 required our calculators to be capable of complex number calculations (added feature from its predecessors). Of all the past Christmas gifts received, I have cherished this one most of all. To this day, I'm still hooked on the RPN technology, unless a subject requires more features, such as tabular calculations for statistics. Over the years, I have acquired a small collection of HP's RPN calculators as an engineer, especially since they are not easy to come by. From one of my past engineering jobs, I acquired an older, portable, HP RPN scientific calculator that someone was giving away, with red led lights, and an electrical plug. I didn't realize some of them are still holding their value! Maybe I should keep the one at work, safe at home, or use my newer 32S model (still old) so it doesn’t magically disappear one day? Does this make me a geek?

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My HP41CV Passed Away Today

*Posted by **Karin Seritis** on **5 Apr 2007, 7:12 p.m.***

I own/have owned only three 'classics' that I would mourn losing, and I am in mourning today. I lost my 1986 VW Jetta GLI a little over a year ago, and had more than a rough time letting that little baby go. Today is not quite that bad, but my irreplacable HP 41CV finally bit the dust for good this morning.

I bought my 41CV in 1983 for $215, after going through 2 TI-55's that each lasted precisely 6 months before the data entries went haywire. One of my study partners (engineering) went with me in order to watch me 'waste all that money' on a calculator. Ha! I could tell right away that the quality of the CV was so far above any other calculator I'd played with as to not even be in the same league. The firm click of the keypads, the solid and heavy feel of the entire unit, and the raciness of the design (OK, OK - I need a little excitement thrown in there) all gave me the impression that this little piece was going to last way more than the 6-month lifetime that I was becoming accustomed to. And I wasn't disappointed. Over the last 24 years, I have taken that calculator everywhere I go. I take it to work every day; I take it with me when I run errands and on long drives; I've even taken it to Europe nearly a dozen times on trips that have lasted up to three months. I use it for engineering calcs, taxes, estimating - you name it. I am also absolutely hooked on RP data entry. I spent 15 minutes practicing data entry with this system when I first brought it home, and have been unable to use standard entry on any other type of calculator since. I flounder if I even try.

Anyway, my CV started dying a few days ago, and this morning I couldn't even get it to show '0.0000'. In desperation, I bought an HP 12c Platinum financial calculator an hour ago for two reasons: 1) the graphing calculators are MUCH too big to carry around on a daily basis (HP Corporation - are you reading this?), and 2) in all honesty, I rarely used any of the engineering functions after I graduated. But I already miss my 41VC's looks, portability and - most importantly - capability. RIP, my faithful little companion.

Well, at least I still have my 1983 18-speed Trek 520 (see first paragraph, on 'classics'). Sigh...

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HP35

*Posted by **Keith Taylor** on **3 Apr 2007, 2:06 p.m.***

Ah - that picture of the HP35. I was working as an RF Engineer with a group of guys (in the UK) and we bought a 35 between 8 us to help us crunch all those dratted complex numbers. It was, at the time, a miracle. We used to just hold it, and look at it in wonder. Later on we used the programmable ones to design stripline filters and do numerical solutions of differential equations and integrals. It really did take out all the drudgery and multiply the fun you could have doing this sort of stuff.

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HP Memory Project

*Posted by **Marc Mislanghe** on **17 Mar 2007, 5:44 a.m.***

I recently put on line the HP Memory Project Web Site:

This site is the virtual showcase of a private collection of equipment and documents acquired over a lifetime career of work in the high-tech era of the 20th Century. The overall HP Memory Project is a work of gratitude from one of the many people who had the good fortune to spend a full professional life working for one of the world's most successful High-Tech Companies, the Hewlett-Packard Co. HP was one of the very few Companies in which the frame of mind of the founders, David Packard and William Hewlett, grew from their cooperative philosophy of life into a model of a wonderful way of management... The HP Way.

http://www.hpmemory.org

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The Perfect EE Undergrad Calculator: HP-15c

Posted by ***Steven Staton*** *on* ***17 Feb 2007, 2:02 a.m.***

I attended Rensselaer Polytechnic Institute in the early 1980s, working on a Computer Engineering degree. In the fall of 1983, I had the good sense to spend $135 (a princely sum at the time) on an HP-15c calculator.

I wanted an HP-41CV, but the price was simply too high, especially given the tuition at RPI at the time (today, it's utterly ridiculous). I had to "compromise" on the 15c, and while in my heart I wanted the 41CV, I knew I was still getting an HP.

A high school friend used to rub his HP calculators in my face, and so for three long years, I ached for an HP-67, and then an HP-41C. I couldn't justify spending the money on these machines, since they cost more than my car! (It turns out that his father was the one buying these HPs -- the friend could no more afford them than I.) When I got to RPI, the HP was still just a glint in my eye.

So in the fall of 1983, I discovered the recently unveiled 15c, and the new price point that was just barely affordable (like two expensive textbooks). I bit, and got the *Advanced Programing* manual, too.

The machine was just magic. I was taken with how much effort was put into helping the user compute the *error* of the calculation! That was amazing to me, until I started having to deal with error in my courses. Then I understood. HP made tools for engineers. I was learning how to be an engineer, and I had selected the Right Tool.

The 15c was a pinnacle of pocket calculators and engineering school. It did exactly the mathematical operations a EE or CSE would have to do, and nothing more. It was simply the best calculator for electronic engineering ever made. It did complex arithmetic as well as real. It could compute determinents. It could find roots, compute definite integrals. It just did it all, and in a tiny package that sipped power from watch batteries, virtually guaranteeing that it would not fail during a test. And you could program it, too!

After all those years, I still have my 15c. It's my favorite calculator, and I expect it to be functioning the day *I* stop. Hats off to the Hewlett-Packard of the 1980s for achieving perfection!

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HP, a Dream Come True and More

*Posted by **BartD** on **21 Dec 2006, 1:02 p.m.***

My dream of owning an HP calculator dates back to 1975, during my sophomore year in an engineering college in the Philippines. My cousin, who was also taking engineering classes told me about an HP calculator that he really wanted to buy. I believe it was a HP-25. Unfortunately, his parents would not buy it because it was way too expensive. So he settled for a TI calculator, an SR-51A. But, every so often, I would visit this Chinese home appliance store in Manila that sold calculators, just to look at this tiny, great looking HP-25. I have been using a slide rule for those past two years and considered myself an expert on using it. But, in our engineering school, almost everyone was using calculators. To my disbelief, nobody had an HP; mostly, TI and Casio. My cousin let me use his SR-51A on a few occasions and after about a year, I had to have a calculator; tired of doing addition and subtraction and addition on paper. So there I went, to the same Chinese store and bought me a TI SR-51II. I probably had it for about a month or two until one day, during an exam, I accidentally knocked off my calculator off my desk chair and fell on the floor. How devastated I was when I tried to turn it back on, because it won't turn on. I failed that exam because of that (I still wished I brought my slide rule as a back up that day)! Poor quality, I thought! My cousin told me that if it were an HP it would not have broken that easy. But there was just no way for me to afford such an HP and so I had to go back using my slide rule for about a couple of months until that calculator was fixed. Honestly, I didn't miss that calculator except its ability to do addition and subtraction. I quit engineering school after four years and migrated to United States. I don't know if I would have quit if I had an HP calculator during my college years; probably not.

Several years later, married with two little children, as we were walking inside a Target store in El Paso, we happened to pass by the calculator section of the store and quickly I noticed this beautiful HP calculator, an HP-27S. I have told my wife about my dream of owning a Hewlett Packard calculator, the best in the whole world, since I was in my engineering school days. To my disbelief, she bought me that calculator that day. Oh, I love my wife! At last, I finally owned an HP. During the next few weeks, probably months, that calculator was my toy. Everywhere I went, it's there in my pocket. Even our two wonderful little children (girl and boy) played with it. Not too long after that, I discovered an HP that could do symbolic math and again my wife bought one for me. Thanks, darling! This time it was a HP-28S. I just discovered the power of RPN. As before our children had a chance to push those crisp buttons and joyfully watched the screen as the calculator plots a graph of an equation. A couple of years later, after my return from deployment to Southwest Asia (yes, I am a US military servicemember, and I'm proud of it!) I again convinced my lovely wife to buy me the HP-48SX. What a machine! I studied the owner's and reference manual religiously for weeks and I just could not believe what such calculator could do. During my professional development schooling (technical phase), which was about 12 weeks, our class had to do some lengthy iterations in calculating the mechanical advantage needed for recovery operations. Doing repetitious manual calculations to arrive at the correct mechanical advantage could take at least ten minutes using an "ordinary" calculator. About two days before our exam, I wrote a program on my HP-48SX that would do the whole "calculations" for me. How surprised were my classmates when I finished the exam while they were still doing their "lengthy" calculations on their nonprogrammable, non-RPN, and non-HP calculators. (I was the distinguished graduate in that class, thanks HP!). Years later, with the birth of our second son, my passion for HP calculator continues. Of course, our children got their chance of "playing" with my precious "toys". During my recent deployment to Iraq, I have come to know Ebay and this mighty Museum of HP Calculators. I am proud to say that I now own the following HP calculators: HP-11C, HP-12C, HP-15C, HP-25 (2 ea.), HP-67 (2 ea.), HP-41CV, HP-41CX (2 ea.), HP-27S, HP-28S, HP-48G, HP-48SX, and HP-48GX. On my

current deployment to Iraq, with me are my HP-41CX and HP-15C. Again, thanks to my wonderful loving wife who let me have all these toys. Playing these mighty calculators in my spare time keeps me sane and motivated.

To this day, I still believe that somehow these calculators have something to do with our two children receiving their degrees in engineering this year. Me and my wife are now proud parents of a BS Electrical Engineering (daughter) and BS in Aerospace Engineering (son) degree holders. Our daughter used her HP-48GX (that we bought for her during her senior year in high school) throughout her college years while our son (I still don't understand why: it must have been those times when I would not let him play my HP as much as his sister did) used a non-HP calculator; although we bought him a HP-38G while he was in junior high. Our daughter swears she would never use a non-RPN calculator. Nevertheless, I strongly feel that HP, with its high quality calculators, played a role in our children's success. How I wish that HP would bring those high quality calculators back!

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HP41C.COM (HP41 in Space)

*Posted by **Ed Langley** on **19 Dec 2006, 10:24 p.m.***

Hi there For all of those that are interested I have put a site on the web www.hp41c.com about the HP41C in Space. I need to update it though.

Also just purchased the HP67 Business Decisions Pac (+22 cards) and am having trouble reading them on my HP41C + Card Reader. Can anybody tell me if I need to do anything special to get them to work? Thanks.

Ed

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HP-45 calculator

*Posted by **Harry A. Madden** on **20 Nov 2006, 1:15 p.m.***

I purchased my first calculator, an HP-45, in December, 1973 when I was employed by Lockheed as a new baby engineer just out of college. The calculator cost me $315 with the company discount.

It almost got me arrested once when I was boarding a plane in 1975. I was wearing the calculator in an HP hard-leather case on my belt, and the security guard asked me what it was. I said, "It's a 45." Needless to say, that remark caused some commotion, including a drawn gun on the part of the guard. It took me a while to explain that a)I was an engineer, b) It was a calculator, c) That we engineers commonly referred to it as a "45", and d) No joke was intended. They finally let me on the plane...

That calculator, obsolete as it is, is still on my desktop at home, plugged into the wall (I haven't seen any rechargeable battery packs for it in decades), and still working. I use it quite often.

HP built it to last, and longer than I expect they thought it would.

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Discovered the HP-41C

*Posted by **Mark Meier** on **26 Oct 2006, 11:26 p.m.***

I discovered the HP-41C in 1979 when I was a Junior in high school. I came across it at a Jacobson's Department Store of all places. For some reason they carried HP calculators. I needed a calculator for school and asked the woman working the counter about HPs. She said in this very charming way, "They were wonderful!" I asked about the fanciest looking one and she said, "Oh that one really does just too much!" Great I thought, how much? I think the HP-41C was almost $300 which was really a lot. I asked my parents if they'd get it for me, and (thanks Mom and Dad!) they did. I knew nothing about computer programming at the time but I took that calculator to the library on afternoons and weekends and sat in the quiet happily working through all the examples in the manual. Very few things captured my imagination as much as programming that calculator. I still have very fond memories of learning all the things it could do and thinking of all the things I could do with it. I really felt that the guys who developed this machine had a sense of exactly what users needed to accomplish and how to elegantly make it possible. It got me started on a hobby I've enjoyed ever since. It's more than 25 years later and I still love that calculator. It's sitting here right next to me. Beautiful. I wish I could meet some of the HP engineers who created it. They really have my respect.

Mark

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35 to 15C

*Posted by **michael thornton** on **26 Oct 2006, 7:10 a.m.***

When i was in junior high my Dad bought the first HP35 (and first HP) in South Africa, from a store that took a chance and decided to import HP. I didn't know anything about calculators but it sure licked log books. So my first experience with calculators was RPN. Seemed real natural to me, worked the way your brain would do it. (from the inside out). Could never understand why newbies were 'stupid'.

I took the HP35 to school to show the teachers, and see if I could use it instead of the damn log book. I figured everyone would start using them, and the teachers were going to be real happy with my find. You can imagine my disappointment when I saw a tool that rivaled the light bulb, being ignored. 'There will be a calculator on every desk...'. I didn't realize the HP35 cost a king's ransom back then.

TI was the first 'contender' to come along as I recall. I felt like a klutz trying to do simple algorithms. The algebraic calculator never found it's way into my possession and as long as my 15C keeps going it never will.

Along the way some of the models included a 29C, 65, HP01, 97. Even though the models changed, the build quality was always superb, and I have never come across a keypad was the same magic feel. I always turn to my 15C rather than the PC, which is like pulling teeth.

HP got it right with the first model ! The 'Golden Age of Technology'. Imagine if the IBM PC had even been close. We would still have all the PCs we owned because they would still do a great job.

My Dad still has never used a PC, his 15C is always on the desk.

Talk about Golden. I am interested in photography and one area I find fascinating is the Golden Ratio Phi. I created a template for my digital camera out of a transparency with a Golden Rectangle/Lines/Points/Triangle mapped on it. I took a shot of my 15C and it looked as if it made a Golden Rectangle, length = width * 1.618. I got out my rule and sure enough, 128mm x 79mm.

Engineers make good artists, Engineers Rule!

Edited: 7 Dec 2006, 8:34 a.m.

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converted

*Posted by **e.young** on **20 July 2006, 5:20 p.m.***

I became a convert to HP and RPN during my junior year of college in structural engineering. I had been using TI and Casio, but I remember having to replace them every semester, and I considered them disposable. The conventional wisdom at the time was that HP calculators were hard to use and expensive. I saved up my money and got the 11c in 1988 (still have it and it works great). I was amazed at how easy it was to use, how powerful it was, and how I was able to perform calculations so much faster thanks to RPN. I often had to go through long chains of calculations and RPN was perfect for that. The build quality and design were near perfect. I was hooked for life.

I then moved on to the 32sii after I had been out of school for a couple of years. Now I had a machine that was faster, did fractions, and could store equations-all absolutley perfect for me. This warhorse was repeatedly dropped, had a stack of books fall on it, was once speared by an aluminum stick file, but still worked fine. I could not imagine performing my work as an engineer without this machine. I consider this calculator and the other older HP calculators to be serious tools in the hands of an engineer, not toys as many of the other calculators are. Sadly, HP's most recent offerings don't hold a candle to the old ones.

I try to convert the "heathens" that I encounter at work, but many seem content with their little TI30's. They are amazed that I pay for a relatively expensive HP calculator. I explain to them that using an HP with RPN is like framing a wood framed building with a nail gun, but using a toy from TI would be like using a 12 ounce hammer. Both will get the job done, but I'd rather use the gun.

I have a stockpile of 32sii and 33s, so that if HP does abandon RPN I will be able to finish my career using the right tool.

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My first HP experience

*Posted by **Antonio Maschio (Italy)** on **15 May 2006, 11:47 a.m.***

I think it happened during summer '96. I was finishing my first year as a 'junior' civil engineer in a private office in my hometown, and my boss, a senior civil engineer using HP calculators since Seventies, after seeing me calculating with a Sharp PC-E500 (I had bought some months before), told me: "Why don't you use a HP calculator? It's much better; and faster".
I shook my head, 1) because I had just bought that powerful machine to substitute an old Sharp PC-1401, and I was very proud of it; 2) because I knew his kind of calculator (a HP-11C) had a weird input system; he called it R-P-N, and I couldn't figure out how it worked.
Of course my answer went like: "I'm too used to mine to change now!"

After a couple of years (end of '98) I discovered that the keyboard of my Sharp PC-E500 - made of awful rubber - was beginning to fail (I had to press some keys twice, or a single pressure returned values twice and so on)(*); I looked around for another calculator, then.
At that times, the HP-32SII - brown type - was still on the market. I don't know why I made up my mind: maybe I remembered what my boss used to tell me. The fact is I bought it, and in a couple of days, after devouring the manual, it seemed to me I had always used RPN. Actually, everything was faster and easier; and programming in RPN was even better (even with not much available memory) than Sharp's BASIC.

Now I' m a proud owner of a 1983 HP-15C, a 1988 HP-11C, two 2001 and 2005 HP-12C (CR2032 batteries), a 1998 HP-32SII, a 2005 HP-33S, a 2005 HP-49g+, a HP-35S, a HP-50G and other HP, Casio and Sharp models and even some rarity of other brands; my favorite is the 15C.

Maybe I'm an 'expert' user of RPN calculators today, who knows. But I remember those days with some nostalgia.

---

* The awful keyboard of the Sharp PC-E500 has nothing to do with the pleasant plastic (and still working) keyboard of my older Sharp PC-1401 I tried to substitute with the E500!

Edited: 15 Jan 2009, 12:12 p.m.

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My Story From the 70's

*Posted by **John Lovda** on **11 Apr 2006, 2:34 p.m.***

I'm 58 years old and an MSEE graduate from the U of Ill. in Urbana in 1972. I can still remember when the HP salesman gave a demo of the brand new HP-35 to the students in April of that year.

I went to work for Shure Bros., Inc. in Evanston, IL dealing with audio and acoustics. I bought a virtually new HP-35 in the spring of 73 for $225 from a real estate agent who just got an HP-80 (for TVM). The next day I drove to the HP sales office, then in Skokie, to buy an extra battery pack. In the display room was an HP-45. I was so impressed by R>P conversions and 10 memories, I sold the 35 to another engineer in my office and ordered a 45 for $414, incl. tax.

For the following 4-5 years I went through the 45, 55, 25, 22 and 27. The purchasing technique was always the same. When the rumors or first hints of a new model would show up in EE Times or EDN, I would drive over to the Northwestern Univ. Engineering School and put up a few 3x5 cards selling my current model for $350. When the new model came out a few weeks later I would order it from Olympic Sales in LA for $350 ($400 list). I don't know why, but Olympic Sales was the ONLY place in the world selling them at a discount. I'm sure the engineering student who bought my old one wasn't too happy when the model he just bought for $350 was replaced by a new $400 model and his dropped from $400 to $300.

I took an evening course in celestial navigation in 1973 at the Adler Planetarium by the Lakefront. I remember the feeling of POWER when one other student and I out of about 30 people could compute declination and right ascention to 10 digits accuracy on our HP's while everyone else fumbled through the sight reduction tables interpolating values.

At the June CES Shows at McCormick Place in the 70's, the HP and TI booths were the first place everyone would run to. It was better than the new car introductions in September to see what features were packed in the new models.

I kept the HP-27 for almost 10 years and then moved to a 27s. The 27's were the best non-programmable models ever made in terms of breath of capabilities. I have two of them.

I just started to buy a few Classic models off ebay for nostalgic reasons. They were the most wonderful geek toys ever invented. I would never touch a TI to save my soul.

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HP's I've owned

Posted by ***Voyager85*** *on* ***29 Mar 2006, 10:09 p.m.***

HP-25,HP-65 (as a surveyor in late '70's) HP-34C, HP-38E (while a graduate student at Virginia Tech in 80's) HP-15C, HP-41CX, HP-12C, HP-32SII (2 of them)

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HP 12C /\ 2

*Posted by **C. F. Howlett** on **16 Jan 2006, 7:33 p.m.***

Bought a 12C in college, 1990 for accounting. Didn't have the benefit of maturity to appreciate and learn RPN, so I defaulted to an el cheapo TI and switched my major to social sciences. (NOTE TO STUDENTS/PARENTS - hard science, engineers, and business majors get paid expoenentially more than Social Workers!)

I've now switched careers from social service to real estate. Guess what handheld calculator is standard for investors, bankers and loan officers! Dusted off my HP 12C, searched high and low for manuals and user guides and I quickly learned to love it! Picked up a 12C Platinum for backup.

As an aside, learning the keystrokes has enhanced my understanding of underlying math principles and formulae.

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Woodstocks rule

*Posted by **Hal** on **15 Jan 2006, 3:49 a.m.***

My first exposure to RPN was in college in 1976. I bought a National Semiconductor Novus from the bookstore. It was cheap, and had lots of colorful buttons that looked like they did lots of stuff. After the reading the RPN tutorial and working with some simple problems for 15 minutes, I was fully converted to RPN. A few months later, my new room-mate saw me working with my Novus, and after laughing in my face, handed me his HP25 and said "here, try out a real calculator". The compact, sculpted, bathtub case (no center seam!), and snappy, hinged keys instantly clued me in that this machine was something special...and I had to have one. By the time I had scraped up enough to get me in the ballpark financially, the 29C had come out. Holy moly...this new 29C was literally dynamite in a small package! (And even today it holds it own in many respects with new machines...for example...it's 30 data registers are more than an HP67, or even the new 33s has!) And the continuous memory was absolutely cosmic! My lab partner always made fun of HP's and their RPN logic, refering to them as "Heap Piles". I remember his TI55 having so many keys you had to "stand on" to make them register, he had adopted the tecnique of standing on them all, eliciting all manor of creaks and groans from the case of this poor tortured machine during use. One semester, in preparation for an upcoming circuit analysis exam, I had written a program for my HP29 to solve a 3 x 3 matrix. Upon seeing this, my TI toting buddy's criticism suddenly ceased. In fact, he borrowed a 25 from somebody, and ask me to put my program into it for the test (as the 25's memory was volital, I wrote the program out on paper for him to key in just before the test, and that worked fine for him). I still have that 29c with it's fur lined case, and it still works perfectly. I've recently started collecting early HP's and have added a 34C, 41C, 41CX, and most recently a 15C to my little collection. I'm still looking for a 67...must have a 67..... hal :)

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HP28C

*Posted by **Henrik Carlsen** on **13 Jan 2006, 3:28 a.m.***

I can't live without my RPN-calculator!

I'm not a great Mathematician but the RPN-way of doing math along with the quality of the HP28c grasped me. We currently have three 28c in our household and the faulty Microsoft calculator is replaced with Calc98. If we can find intact ones the number definitely will increase.

Later on the 48 arrived but it never appealed to me due to the many functions assigned to each key; but it could do data transfer by IR or by serial connection (the IR was creatively used by some Engineering students who modified the led and began sharing the results at exams - it was quickly discovered though, as the exam guards themselves were retired Engineers).

One great flaw with the 28'er the battery-lid which is much to tight and ends with breaking up. The second flaw is not being able to do data transfer.

So I live with the latter flaw, but fears the day when the lid finally breaks (and all my programs are sent to the eternal bit-fields).

/hrc

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Memories from a young 'un

*Posted by **Han Duong** on **11 Nov 2005, 9:28 p.m.***

I got my first HP calculator (48G) in high school (mid-90's). My parents bought me the 48G version since it was only $100 back then. I had a sister who went to the same high school, and convinced her to make use of my 48G. While she did need a graphing calculator to make graphs and whatnot, in truth it was a ploy to get a chance at the 48GX! If my sister used my HP 48G, what was _I_ supposed to use!? (My parents rolled their eyes; they saw through it.) Luckily, they went ahead and bought me the 48GX, giving me the edge when it came to calculator bragging rights.

After graduation, my sister handed over the 48G. (What was an artist going to do with a graphing calculator?) Around that time, I read about memory upgrades, and managed to turn my 48G into the equivalent of today's 48G+. It was then that I truly realized just how well-built the calculator was. No screws! I've read recently that even the 48G series calculators weren't as well-built as their predecessors. It makes me wonder just how much nicer those earlier versions were. (I am particularly fond of the look of the Pioneer series.) At about that time, I was in college. I convinced my three roommates to get a 48GX of their own. It was definitely cool (and nerdy) to see all 4 4GX's and my upgraded 48G on the coffee table.

Unfortunately, that upgraded 48G was eventually stolen while I was studying abroad in Budapest, Hungary -- it was my own fault for leaving my backpack alone and in the open while I went to check my email in a neighboring room. I eventually replaced it a regular HP 48G in grad school. A friend of mine felt he no longer needed it and sold it to me for $15 -- not bad.

I currently own 2 48SX's (Rom D and E), a 48GX, a 48G+, and a 48G (all three are Rom R). I also purchased a 38G for $15 (it's supposedly similar to the 48 series internally) My goal is to eventually have one of each of the Pioneer series, and an HP 48S to add to my current collection. The 48 series aren't Pioneer models, but they have very similar-looking keyboards -- which I love and absolutely miss on the newer models (49G, 49G+). The keyboards on these models are perhaps the main reason I prefer the 48's and the Pioneers. Not only were they comfortable and well-made, they also looked cool too!

It's too bad that the current line of HP's have too much of a high-school TI-ish look and feel to them. It's as if HP were saying "Ok, we'll just make ours look like everyone else's..." =(The only thing they did wrong with the 49G+ was to abandon the keyboard setup used on the 48 series. I can still keep dreaming, though.

I suppose I will eventually buy an HP 49G+ to tinker with. But my I will still enjoy my HP 48's more than the HP 49G+.

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From Sinclair Scientific to HP-45 - What a Relief!

*Posted by **Les Bell** on **22 Oct 2005, 3:20 a.m.***

In 1974, I was a student, studying Cybernetics and Instrument Physics, at the University of Reading (UK). Pocket calculators were fairly new and expensive, and the HP-35 was the only scientific pocket calculator. One of our labs had one, bolted down in its security cradle, and was an absolutely amazing device to us slide-rule users. Way out of my price range, though.

However, Electronics Today International magazine ran a special offer for readers: a Sinclair 4-banger calculator in kit form, for only GBP14.95. I was hooked straight away and ordered one. I built it in a couple of hours - there were only one or two IC's and a few discrete components to be soldered to the circuit board. It worked like a charm, and that night I used it in my holiday job as a barman, to add up a customer's order. The customer was amazed, and offered to buy the calculator. I can't remember whether I sold that one or not, but I remember buying quite a few kits and selling the completed calcs to people, making something like GBP5.00 on each one!

The Sinclair Scientific

Later that year, the magazine offered something *much* more interesting - the Sinclair Scientific, in kit form. I think the price was the same, or very close. I immediately ordered one - I guess I was far from the only person to do so, because there was an immediate backlog and it took ages for the kit to arrive. It finally did, so I set to work, and a couple of hours later, inserted a battery and switched on, expecting to get to grips with the calculator's strange RPN system. Only. . . nothing. Dead display.

I took it apart again and checked for dry joints, but everything looked fine, so next day I took it into the electronics lab where I could put a 'scope onto the beast's innards. It didn't take me long to discover that there was no output from the clock chip, but I couldn't figure out why. Dejected, I put the dead calculator into my jacket pocket and trudged back to the Hall of Residence where I lived. Meeting a friend just inside, I shared the bad news about my new toy, and pulled it from my pocket to show the dead machine - only when I switched it on, it worked!

I tried a few calculations and got the right answers, but within a few minutes, it died again. It took me a few hours of head-scratching to realise that what had revived the calculator was exposure to the cold night air in my jacket pocket. As a test, I put the calculator into the ice-box of a refrigerator for 30 minutes, and sure enough, it came to life again.

A phone call to Sinclair Radionics confirmed that they would fix it under warranty - apparently TI had supplied a batch of chips that were temperature-sensitive and would only work when cold. However, I had a Control Systems course to get through, and for the next few weeks I worked on Routh-Horwitz Stability Criterion and similar problems by getting all my numbers organised on paper, then nipping into the kitchen to retrieve the calculator and number-crunching until it warmed up and failed. Then back into the ice-box it went!

By early 1975, I'd got the Sinclair Scientific repaired, but the limitations of its RPN implementation were becoming very obvious. With no x<>y function, a lot of calculations required writing down and re-keying intermediate results, and (from memory) a 3-level stack and no memory was very constricting. By now, the HP-45 was out, and I'd got a

brochure from the nearby HP UK head office in Newbury. I had to have one, so I worked all through the Easter break to save up the GBP128 it would cost.

HP-45

As soon as the holiday was over, I headed to London and bought the HP-45. With many more functions, nine (9!) memories and a proper 4-level stack, the '45 was a huge relief after the Sinclair. I also bought the HP-45 Applications Book, which was full of keystroke sequences for all kinds of (to me) arcane calculations. My favourite was the weekday routine - I used to regale my non-numerate friends with the day of the week on which they'd been born. Most importantly, Routh-Horwitz and similar calculations were *much* quicker than with a slipstick!

I can still remember the style of the HP-45 Owner's Handbook: *extremely* well written, with humorous examples, use of spot colour for the "gold" key, etc. In fact, it was the quality of the HP calculator manuals that inspired me to pursue a career in technical writing, and when Electronics Today International magazine advertised for an editorial assistant later that year, I applied for the job. The publisher wanted a sample of my writing, so I wrote a review of the HP-45, and I got the job. After a year in London, I was sent to Toronto to launch a Canadian edition of the magazine, and while I was there, I was able to acquire an HP-65 at a discounted price, as the HP-67 was just about to be launched. Eaton's department store also had a large stock of HP-65 Solution Pacs they wanted to quit, so I picked them up for a song.

From Canada, I was promoted to Head Office in Australia, where the '65 disappeared, possibly stolen. It had some LED segment failures, and I was about to send it to HP for repair anyway, so I contacted HP and asked them to watch for it being returned, but it never surfaced. My employer provided an HP-67 as a replacement, but I left soon after, and although they offered to sell it to me cheaply, I turned it down, because I knew the HP-41C was on the way and would in many ways render the '67 obsolete.

Since those early days, I've travelled the world, lecturing and consulting, and I picked up a small collection of HP calculators - often buying them duty-free at Singapore airport. I still have a 41CV, 41CX, 82143A printer, 82104A card reader, lots of modules, a 16C, a 48GX and 82240B. I don't really have any professional use for them these days, but they're wonderful learning tools and toys, and I fondly remember the influence those early calculators had on my career direction.

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HP Calculator Users Were the Most Passionate Customers

*Posted by **Dale Zezula** on **25 Sept 2005, 9:15 p.m.***

I used to work for the Analytical Products Group of Hewlett-Packard in a local Sales Office.

I was always amazed because the calculator products elicited such a response from users.

The Administrative Assistants hated handling Calculator calls because the calls were from people who were extremely passionate.

The owner of a $200 calculator was usually more difficult to deal with than the administrator of a multi-million dollar computer system.

Typically, when a calculator owner with a malfunctioning calculator would phone in, they would LOUDLY complain about it. When asked if they would like a refund, the response would be "Oh no, I love my caalculator. I would never give it up, I just need it fixed fast."

I recall, sitting next to the local Printer/Pheriphals District Manager when he was given a "problem" customer. I felt the need to eavesdrop to see how he would handle the problem. The customer was a student at the local Technical Institute, and his HP calculator was dead. He was having an exam in 2 days and was frantic to get the calculator working again.

The District Manager told the customer to calm down, go to the Technical Institute's bookstore and purchase another HP calculator. Send him the bill, and he would refund him the amount. The customer was obviously relieved. When I asked the DM about the call, he laughed, said that yes, he understood the customer's concern, and that if we treated the customer right, when he graduated, he would be the manager of a multi-million dollar computer centre that would buy HP equipment.

This was one of the moments that I realized that the original Hewlett-Packard was a very special company.

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The calc that always gave PI as the result

Posted by ***Marcus von Cube, Germany*** *on* ***9 Aug 2005, 11:07 a.m.***

When I was 16 years old (back in 1975) scientific calculators were out of reach for me or my schoolmates. But I was lucky for one day...

A friend of mine got hold of an HP 35 and agreed to lend it to me for one day at school. How proud I was!

Next day, I attached the leather pouch with this precious gem to my belt and walked happily into the classroom. I asked my envious schoolmates to perform a simple calculation, e. g. 1+1. The result was always the same, 3.141592654....

In fact, RPN was the first calculator entry system I've ever used, but my schoolmates had never heard of it. They assumed there must be something like an [=] key in the bottom right corner of the keypad.

No look at the keypad of an HP 35:

The calc that always gave PI as the result

I must admit that I switched to the (much more affordable) TI line of calculators in my later school and university career, the HPs were simply out of reach.

Edited: 9 Aug 2005, 11:13 a.m.

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33 years with HP calculators

*Posted by **Mark Crispin** on **7 Aug 2005, 3:06 p.m.***

I first saw the HP-35 in 1972 when I was a high school junior and taking computer classes at the local community college. A fellow student had one. I immediately recognized that it replaced the slide rule. I wanted one, but at the time the $395 price tag was way beyond the budget of a 16-year-old.

In the summer of 1973, I took a physics class at the community college as part of my plan to enter college as a freshman that fall and not bother with senior year of high school. By then I had a calculator -- a dinky four-function Radio Shack calculator at the outrageous price of $100. It was still better than a slide rule, but having to use log and trig tables was a pain.

In the fall of 1973, I entered college, and saw that my dream HP-35 was now $295 due to the introduction of the HP-45. The college bookstore allowed buying on credit, and for the remainder of my freshman year most of my spare income (work-study at minimum wage) went into paying off the loan on my HP-35. But I was happy.

To my mind, the HP-35 had the perfect user interface that has never been equalled.

I never cared for the HP-45, not even when the timer was pointed out. I actually liked having a CLR key and "standard mode" display, and as it turned out I never needed the additional functions on the HP-45.

The HP-65, on the other hand, was a different matter. When it was announced, I absolutely wanted one because it was programmable, even though it had all the user interface aspects of the HP-45 that I disliked. However, at that time, it was totally unaffordable for an 18-year-old college sophomore.

As the years went by, I continued to depend upon my HP-35. Sometime in the 1980s, however, the LED display started to become intermittant. I foolishly made an attempt to fix it, and the "repair" destroyed it. Nothing remains of it except for the hard leather "field case" when I bought in 1973 and still have.

A few years later, around 1989 or 1990, I saw a newsgroup ad for an HP-35 for sale. I immediately bought it. It had the original case, manual, charger, and soft case including the original bands for the charger and soft case. The previous owner was obviously a smoker, as the entire surface had grime on it. That gradually succumbed to repeated applications of alcohol and Q-tip over the years; and under all that grime, the original patina was still there, and the only major area of chrome loss is above the CLR key. The power switch could use a bit of cleaning to make it more robust, but this calculator has never been opened (the label has no peel indication) and I want to keep it that way.

That HP-35 became my primary calculator, and it's staying in that position.

In recent months, I finally fufilled my dream to own an HP-65; and for completeness I got an HP-45 as well. Those were the big three calculators in my early college years. I never paid much attention to the HP models after those three.

I still find the formatted display of the HP-45 and HP-65 to be annoying.

Right now, my major effort is to get the HP-65's card reader working again (a thread which I started in the MOHPC forum). I'm starting to think that it may be time to get a second HP-65 as a parts donor. I was enjoying programming the HP-65 and was in the process of writing a fun program for the MOHPC library when the card reader gave out on me.

I also have two HP-30s calculators; one which lives in my daily travel bag and one which lives in my RV. I really hate its algebraic notion. One of the main tasks of the RV model is to calculate MPG given miles travelled and liters. The HP-30s has metric conversion functions, but I can't figure out how to do the algebraic equivalent of <miles> ENTER <liters> CONVERT-LITERS-TO-GALLONS DIVIDE. The closest that I can come up with is either <miles> DIVIDE <liters> EQUALS CONVERT-GALLONS-TO-LITERS or <liters> CONVERT-LITERS-TO-GALLONS STORE A <miles> DIVIDE RECALL A EQUALS.

I was going to buy an HP-33s instead in order to get RPN, but between that ridiculous chevron keyboard and a user interface that could only be loved by Rube Goldberg, I decided that the HP-30s was alright as a throwaway.

Damn, why can't HP make a $15 modernized HP-35 (which is after all what the HP-30s goes for). I'd happily give up the additional features of the HP-30s in return for RPN.

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All we have are memories

*Posted by **Gary D. Snyder (not the poet)** on **3 Aug 2005, 7:32 p.m.***

I just know I'm going to get flamed for this, but after all is said and done the HP calculators we reminisce over are dead and gone. I've owned a number over the years, starting with an HP-25C (I couldn't afford the classics when they were out) and moving through the years up to the HP-49G+. My sentimental favorite was the HP-15C and was so fantastic that I bought a spare when I started working. That actually proved to be a smart move, as I lost my original during a move. But it's over. HP has killed its own product with unimaginative and undirected product development.

Don't get me wrong. The HP-48GX is (or was) a pretty good calculator (albeit clunky at times) but nothing really special compared to the TI-8x series. The HP-49G+ that I have and greatly respect shows that someone actually did something right, but this was an outsourced product. And does anyone dare throw throw their post-Voyager HP against the wall anymore? Anyone who tries that with my 48 or 49 had better be packing.

Yes, the memories are great, but sadly, that's all that really remains now.

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11C aspect ratio

*Posted by **Dave Chapman** on **27 July 2005, 1:31 p.m.***

I had an 11C at work in 1986, and I was not allowed to take it on a 2-year posting overseas, so I bought my own. It cost $100 Canadian at the time. It is my favorite all-time calculator! When I returned, my old 11C was up for grabs, everyone else having moved on to a more advanced model. Now I have two: one at work and one at home! Beautiful instruments, still going strong.

Has anyone mentioned that the shape of the 11C and similar calculators is very close to the Golden Ratio, (Sqrt[5]+1)/2, also called the Divine Proportion?

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Oh, you're not a freshman!

*Posted by **David Krider** on **11 July 2005, 9:52 p.m.***

My first HP was actually my dad's. He was an engineer, and one of his coworkers got a deal on buying several HP calculators at once. He told me that it cost $300. (We were just talking about this today.) I'm not positive, but, from looking at the pictures on this site, I'm pretty sure that it was an HP-45. I also don't remember the exact year, but I remember learning how to use it late in gradeschool, which would have made it about '77 or '78.

In high school, I remember a kid in my pre-calculus class was allowed to use his 15C to take a test. He had programmed the rule of sines into it. The teacher's thinking, he explained to us, was that the kid had to have written the program himself, and if he could do that, he could do the math. That, and, if he were actually wrong, he'd screw up his test. That satisfied everyone. Now, I had had a Commodore home computer (first a Vic-20, then a C64) since 4th grade, but the power of his calculator really fascinated me.

Two years later, when I got to college and started in engineering, (like my dad, at Purdue), I managed to convince my parents that I needed a 15C. I think it cost $100. (I was just doing some calculations with it today, now almost 18 years later.) Not long after, the 28C's became popular, and everyone forgot about the 15C. My roommate, an electrical engineer, had one, and I just couldn't get into using it. So I happily continued using the 15C straight on through.

I remember a time, as a senior, studying in the Undergrad library, a kid came up to me out of nowhere. He asked me if I had the assignment for Physics 152 (which was -- and probably still is -- the "weed-out" course for freshman engineering students). I was trying to disengage my mind from what I was reading and formulate a response when he looked down and noticed my 15C. He said, "Oh, you're not a freshman, are you?" and walked away. I just laughed.

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First look at an HP-35

*Posted by **Steve Talley** on **6 May 2005, 2:21 p.m.***

I will never forget the first time I saw an HP-35 in the hands of a colleague. He had just received it and was working this and that. He gave me the privilege of holding this first electronic slide rule. I said something brilliant like "Wow."

"Yes," he said. "Now you can make mistakes with an accuracy of ten places."

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HP narrative history

*Posted by **John Minck** on **1 Apr 2005, 9:13 p.m.***

I spent 37 years at HP, mostly in the microwave product areas. But about 3 years of that career were in the light emitting diode dept, just at the time the HP 35 was contemplated.

I have written a narrative history of HP from 1958 to 1990, about 80 pages which includes maybe 5 pages of history on the HP 35.

View the Narrative (PDF).

The success of the HP 35 simply confounded most of us who were used to modest quantities of instrument products. But the engineers who bought the remarkable calculator were the key to the huge quantities ultimately sold.

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My HP-25 and being able to program!

*Posted by **Michael Brown** on **16 Dec 2004, 6:00 p.m.***

In the early 1970s, no one had calculators. Instead, at my high school, we had a physics class that had spent considerable time teaching us how to use the slide rule. One friend had a Bomar calculator but all it did was the four basic functions and it didn't have scientific notation. It was useless so we all jokingly referred to our friend's calculator as the bomar brain.

Then the rich kid got an HP-35. We couldn't believe what it could do, it was a serious calculator. It looked like something the people at NASA would use. But it was no use thinking about it, I was only in high school and it cost over $400! So off to college I went with my slide rule.

Actually, I wish kids today had to use the slide rule because it helps the user exercise their brain in knowing the approximate answer before the actual numbers are realized. So many people today, treat the calculator as a black box and they will accept almost any kind of answer from it. Even when it is ridiculously wrong.

I went through my first year of college keeping track of the decimal point and using log tables. Then they came. I saw the new inexpensive HP calculators at the college store, the HP-21 and the HP-25. I knew that I should buy the 21, I couldn't afford anything better. But every time I would start thinking that way, I would see the 25. It was real cool, too good to pass up. It did so many neat things. It was more than I could afford but I bought the HP-25 anyway. I don't know what I did without, but it was the best thing I could have done! I learned so much from that little calculator.

Two books were in the box with my new HP-25. One of the new pictures of the Earth was on the cover of both books in sharp detail. You must realize that I was of the generation that grew up with the space program. I watched John Glenn make his trip around the world when I was in first grade, actually all school activities stopped that day and we spent the whole day sitting on the floor of the gym watching the historic event on a B/W TV set. Every time a Mercury, Gemini, or a Apollo Moon rocket would blast off, I would be glued to the TV set. So when I saw the NASA photos on the cover of the books, it made me feel like I had arrived! I was working in the right direction. Inside, these books told me how great RPN was and that it was extremely easy to program the HP-25. In fact, it said that what I had in my hands was impossible only a few short years ago, without spending several thousand dollars for a desktop calculator. "The HP-25 puts programming into the hands of the individual!"

I literally read these books all weekend while I played with my new calculator. Before the weekend was over, I knew all the functions on the calculator and I also found that I could program!! I didn't fully realize what I had done until later when I started to learn BASIC programing, I found that I already knew how to program in BASIC! Things were just in a different format but it was the same concept. Fantastic!

I was on top of the world, that is until the HP-25C came out. Well anyway.

In spite of the fact that I now had a calculator, I still needed to take my slide rule to exams. The rule was: Only when everyone had a calculator could we all use our own calculator. When just one person didn't have one, then we would all have to use our slide rule. What a pain! You can imagine the groans in the room just before the exam, when it was found out that we would have to use our slide rules instead of our new calculators!

The neat thing about the HP-25 is it's ease of use. It is so easy to use. When we went into a science lab, most of the time, we had to make graphs by hand, right in lab time. The HP-25 was perfect for that. I would push the top switch to program and start pressing the keystrokes of the calculations we needed to do and that was that. Pushing the switch back to run and pressing gto 00, I was then able to start adding points to the graph.

When ever I needed to do a linear regression, I would punch in a short program that I wrote. My calculator did not have continuous memory so what I needed was a small program I could punch in every time I wanted to do a linear regression. HP had a fancy program in their programing book, but what I needed was something fast to key in. I think it was 11 or 12 steps with just the basic formulas needed for the process. It was such a short program that I would have it in memory in just a few seconds. It was extremely easy.

One time, in a lab something funny happened. I was in a lab class for Laboratory Technicians doing a chemistry test for some parameter. We collected our data than I brought out my calculator. I saw the calculations that we needed to do and I quickly put it in the program memory of the HP-25 and started to work on the answers. Almost immediately, the teacher came in with a new toy. He had a circular slide rule that he thought was pretty good. Most were pretty slow with their calculators and so our teacher challenged us to a race. He said he could get the answer faster on his slide rule than we could on our calculators. I said OK, I'll try.

So, we were off. He was sliding things on his slide rule and I was punching the unknown value into my HP-25. Then I pressed the R/S button and away it went. As the red LED's started flashing, I started to think, boy this thing is slow. Come on! Come on! Then out it came and I announced the answer. He looked up startled. I didn't tell him or anyone that I had programed my calculator before hand, but somehow, I have never felt guilty. Boy was that fun!

Years later, as a Chemistry Professor, teaching general chemistry, I saw something that really amazed me. I had quite a number of engineering students and they all had their new HP-48SX's in the room. (This is just a few years ago.) We were doing an experiment, and the computers were down for some reason. So I commented that maybe they could use their calculators to write a small program that would allow them to do the repetitive calculations easily and then they could do a linear regression which is an already built in function. They looked back at me with a blank stare. They just could not do it.

The HP-48 was so complicated that they were just trying to get a handle on how to use it period! They had not even gotten to the point where they could tackle the prospect of programing it. Nor were they clear on how to conduct a linear regression using the HP-48.

So because of its complexity, my students were not able to program nor do the simple kinds of things that I did with the HP-25. When I was in college, being able to program the HP-25 in class was the major advantage I had, especially when I went through my heavy science and math classes.

I look back to that time with fond memories when HP calculators were more simple to operate, when being able to program was a teaching process in of itself. I was able to write quick programs just when I needed them, to solve all sorts of problems that I ran into throughout the day. It became a daily routine because it was so simple to use. It was truly a great learning experience in of itself!

What my general chemistry students used their HP-48 calculators for, was to do the simple calculations that the HP-42 or HP-32 (The cheeper alternates of that day) is capable of doing. It may be that they were able to use some of the graphic functions to good use. But of course, the p.c. is so common place and high powered that I am sure that it would have been the tool of choice. But of course, the HP-48 looks cool and they could play the games that they downloaded from various sources.

When I was in graduate school, I had bought an HP-34C. It was also a great little calculator but early on, it had developed some real problems and I eventually threw it out (can you imagine). Now after reading the little post by norm "HP-34C BETTER THAN S*X" and other posts on how to repair these calculators, I now wonder if maybe I may try to get an HP-34C for myself again. I'm getting tired of my newer calculators (HP-42 and HP-48SX) and the menus.

My HP-25 and being able to program!

Edited: 22 Dec 2004, 11:43 a.m.

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11c

*Posted by **John** on **21 Nov 2004, 3:13 a.m.***

I bought my 11c back in 1980 and have used it all through my work as a surveyor and am still using it today. It has been kicked, dropped and dented. Used in -30 weather, and they still make the batteries for it. I just bought the 33s which is a super calc for the price. but I still like the 11c.. The 42s is a close runner up thanks hp..

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Experience with the disintegrating HP-41C-system (and batteries).

Posted by ***Guido Abts*** *on* ***20 Aug 2004, 4:13 a.m.***

Hallo,

Please, 2 questions: - I have almost 100 HP-41 magnetic cards (82104A). Can they be read (or written) in another HP-calculator. Or are the almost useless and only ready for the trash-can? - Why should it have been so difficult in the 80's to use standard battery types or to build the possibility to use the recharger without the batteries?

And a little bit more history…

I read somewhere on this site that in the 80's in Belgium you had to deliver the old rechargeable battery pack before you could get an new one. The real story however is a little bit different… In a time that there were amazing and also expensive rechargeable battery packs for the popular HP-41 and HP-82143A-printer it could happen that you bought a new pack that seemed to be useless because of under loading or defect. So far, so good. The first time I had this problem for my printer. But, it seems also that some bad guys brought back their old pack. So the next time – and because of the rumours – I refused to buy a new battery pack for the HP-41 without testing it in the store. It seemed to be OK. You can never be too careful.

Battery pack for HP-41. My card reader HP-82104A vanished this year (5/2004). It was a shock. In fact I didn't use him anymore for several years. He has never worked so good for the first 2 cards, and suddenly there was a lot of dirty sticky glue on the surface of the 3th magnetic card. And also on the cleaning card… Yes, I think the word "gooey" elsewhere on this site will give the right meaning. I dropped it in the trash-can. Probably the card reader was the very weakest part – and relatively the most expensive too – of the HP-41 system. This should have been better done in the development department. Especially for the card reader HP developed a rechargeable battery pack with his own recharger. In the period 1981-1992 there was no need for more than 2 rechargeable battery packs. So, it was about 1992 when I heard there were no battery packs any more since a long time. Since then I use the Varta 4001 LR01 Lady/N cells (the 4001-type, MN9100). They seem to last for almost 10 years in low using circumstances and without a card reader.

Battery pack for HP-82143A printer. The 2d battery pack for the printer was good for 18 years until 7/2004 - however not frequently used. The 1st pack was only 4 years active… I found the following solution to keep the printer nowadays on-line… I hope at least as long as the nice blue (82045A) and black (82175A) thermal paper is available in my desk… Only 6 rolls left, and yes, I had no more than 12 rolls since 1987, 300 m of paper…

The recipe to keep the printer alive. Take 4 rechargeable batteries R14NC-P, 1.2V – say 2.5 Ah. I think it will work with R6 or R20 too. You put the batteries together (the difficult part) i.e. in an old transistor radio with a battery house. You connect the + and – poles with the printer diodes. A piece of electric cable and cupper strips will do it. When you get 5.8 V in a series of 4 batteries and 6.5 A for each battery the printer will work for a quarter. Then the BAT-light will light up when printing. It seems that 5.2 V and 5 A is not enough anymore. So I connected the recharger from the HP-41 battery pack simultaneously and … it works! Without batteries the calculator gives

"PRINTER ERROR". In fact I mislead the calculator. She doesn't see that the power comes almost from the recharger. What a wonderful time…

With friendly greetings, Guido Abts Belgium

Edited: 21 Aug 2004, 4:22 a.m.

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Wow- what a tribute to this very cool calculator

*Posted by **Dale Gombert** on **19 Aug 2004, 11:30 p.m.***

One day in 1980 (?), my physics lab professor was out sick, and we had a substitute. He seemed interested that I had programmed the 41C to prompt me for lab results as the lab went on and then do the analysis and spit out the answer. I was done halfway through the lab, and he took me aside for a chat. He borrowed my calculator, slapped on the card reader, and ran a card in. He had put in the game "Hangman", and told me to come back whe I figured out how to program the statement "STO M".

Well, I never figured it out. But I came to him anyway, to find out how he did it. He told me that he had heard of a challenge from HP to "make the goose fly backwards". He succeeded, impressed HP, and was offered a job with them. That lab was just days before he left U of MD for Oregon.

Prof. William C. Wickes left me a signed copy of his book, "Synthetic Programming on the HP-41C" as inspiration.

I used the calculator to reverse calculate the positions of the planets from the NAV PAC. I was a planetarium director at a near by community college, and the orrery had five little flashlights to project dots for the planets. I had to position the beams before each showing, and the calculator allowed me to do that.

The only product I ever made for it was a reversible overlay made of paper. They were designed to be cheap ($2 for 10 cardstock paper, or 50 20-lb paper). If you really liked the assignments, I recommended using plastic letter transfers (like "Letraset" brand), then spray-painting the overlay with an acrylic paint to seal it. I still have a pile of those overlays, and a few clear plastic ones that were an experiment. They came out okay, but dulled the die quickly.

At a convention in PA, I bought a small light that plugs into a module port, for use at night - those were another third-party product. While a member of the PPC club, I also scored a PPC ROM. I still have about two dozen issues of the newsletter.

I still have my CV, my wife has hers, and I got one for work from a colleague who couldn't figure it out. Aside from our Time and Nav Pacs, we still have my wife's wand, but my card reader seems to have finally conked out. Alas. I am gathering the courage to try the fix posted at your museum's web site.

Thanks for the web site!

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Someone Else's Loss

*Posted by **OJM** on **12 July 2004, 12:21 p.m.***

(Originally posted to the HP Forum while discussing valued items left behind in the office when leaving a job.)

****

Fortunately I have not, either intentionally or unintentionally, left behind something of value like a calculator or books while leaving a job. However, I did benefit greatly from another person's loss (or oversight) a few years ago.

In the year 2000 I was an engineer designing turbine blades for a large US company. This company had already performed several massacres (i.e. "reductions in force") on its engineers, and then had decided to move its remaining engineers to another state. I was one of the last guys left in the old office area, and while still working there I got to see the demolition workers beginning to dismantle the old desks, cubicles, and bookshelf walls and tossing things into a pile at the other end of the office.

At the time I had never used, nor did I care for, any of HP's calculators. To me they were those overpriced calculators that I would sometimes see other engineers using, with that dumb (or so I thought) "backwards Polish whatever" way of entering calculations. Nonetheless, while taking a shortcut through the wreckage on my way to my desk at the back of the building, I spotted a glint of something shiny along with a few keypad buttons in a pile of dismantled bookshelves, broken drywall, and discarded engineering notebooks. I recognized it as one of those thin, horizontal-layout HP calculators I had sometimes seen in use around the office. It had apparently fallen down between bookshelves quite sometime ago, and looked like it had many years (about ¼"!) of dust and lint on it. I wiped off the display and most of the keys, pressed the "ON" key, and "0.0000" came up dimly on the LCD.

Whatever this calculator was, I knew that whoever had owned it before had put it through a hell of a lot of use. All the corners of the once sand-textured plastic case had been worn down to a well-rounded gloss by years of handling. The keys had also been worn to a high gloss by many years of finger keystrokes but were still perfectly readable (thanks to double-shot keys). The aluminum bezel around the LCD was dented and deeply scratched in many places, and the bezel corner next to the logo location was peeling up away from the case. The logo itself was long gone. The four rubber feet were also gone, and apparently had been lost for many years, since the aluminum label on the back of the unit had been rubbing directly on desktops for so long that the writing had been completely worn off, leaving just a shiny & scratched aluminum plate. Even the three little ribs on the little battery cover had been completely worn off.

Anyway, although it was one of those "weird" HP calculators, I figured I might as well try to find out more about it, so I got on the web to search for info. It was then that I first saw this HP Museum web site. After comparing keyboard pictures I learned that I had found an old HP-15C. I replaced the batteries & performed the self-tests described in the web pages, and everything came up OK. So, even though it was worn & ugly, it was still perfectly functional. The serial number indicated that it was one of the earliest USA Voyager units, with a date code from 1982.

Today I realize just how lucky I was, but at the time I still didn't appreciate what I had found. To me it was just an old oddball calculator. I learned basic RPN from this web site, and used the calculator for routine calculations, but many of its advanced functions were still a mystery to me. Then I got lucky again, because in a used book shop I found a

nearly-mint spiral bound copy of the HP 15C User's Manual, and of the Advanced Functions Manual, for about $5 each (apparently they didn't know the value of what they had either).

That was when I began to learn how to use its capabilities, and I began to appreciate what a gem this little calculator really was. I now keep it secure in a locked drawer, and I use it sparingly, not because I don't like it, but because I consider it irreplaceable. I bring it out when I need to do complicated calculations, or run some special little programs for certain equations. The rest of the time I use a cheaper calculator.

Anyway, that's how someone else's loss was my gain. Or maybe a curse! Because now I can't stand to do any calculations on algebraic calculators, and prefer RPN. But RPN is rapidly becoming extinct! Maybe ignorance was truly bliss. Either way, I will try to keep this old HP-15C as long as I can.

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HP-41CV WOW factor

*Posted by **Ted Pantenberg** on **16 May 2004, 5:44 p.m.***

About 25 years ago, I was a new electronic technician at a large aerospace company in California. We did failure diagnosis in our lab and it had lots of very expensive test equipment; much of it did some very interesting things. Also, the product we made - there was always a lot of it in the lab - was 'classy' and expensive. In short, our lab had quite a 'Wow!' factor.

For my work as a technician, I had purchased an HP-41CV, put one of the keyboard covers on it, and used it regularly at my tech. bench.

One day, a group of advanced engineering students was touring through our lab. We had prepared some special things to show off our products and our test equipment. The engineer in charge was showing the students around the lab and, although they seemed interested in everything, they didn't seem to be really impressed.

During the tour, I had to leave my tech. bench for a few minutes.

Suddenly, I was aware that the entire group of students was hovering at my tech. bench and were obviously very impressed by something. I thought, "What I was working on, wasn't that exciting. What's going on?" Going over to my bench, I was surprised to see that they were all agog at my HP-41CV! They had picked it up and were passing it around, making 'Oohs' and 'Aahs' as if they had just spied the neatest thing in the lab. They apologized for picking up my calculator without permission, but they said they were very impressed by it and couldn't help themselves. I was gracious and let them handle it some more. I also explained some things about it. They left saying it was the neatest thing they had seen in the lab!

I, too, was always impressed with HP calculators. Nonetheless, I was surprised at the engineering students' reaction to my HP-41CV. I wonder if I caused a few more sales of the HP-41CV?

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A successor to my slide rule

*Posted by **Aaron Chacon** on **10 May 2004, 11:44 a.m.***

Hello all,

I've been using HP's since about 1975, when my father got me a HP-25 for my first year in college. That was after my trying to take my Christmas exams with a slide rule. These days I think that I would have done OK if I had had a log-log slide rule, but that's a different post. I soon memorized the programming section of the manual and was continually doing data analysis for my lab courses on it. I still remember "do if true".

For some reason, the reverse polish seemed natural after using a slide rule. I'm not sure why, maybe because the slide rule does not have an "=" button, nor any buttons for that matter

Eventually I got tired of the -25 dumping all my programming every time I powered off, so I took one of my first paychecks and bought a HP-29C. That lasted several years until I went to graduate school and I bought an HP-41CV in the fall of 1980, after verifying that of what was available then, it was the most powerful hand-held. My programming had gotten to the point I needed the alpha display when the program was requesting data from the user.

I also got the X-functions and 2 X-memory modules. The biggest program I even ran on it was to do histogramming of grades for a class I was teaching. I split it into three parts so that each part could load the next out of X-memory. That was because one had to trade between program memory and main memory that held the histogram data.

My latest HP is a HP-32SII. I needed base conversions and the -41 does not have HEX. I programmed hex in the -41 at one point, but the fact that progams do not run until the key is let up makes the response strange. You see, I reprogrammed every key on the calculator so that it is truely is a hex calculator, rather than just writing a conversion routine to use on the results. I also have a program that does fractions in a similar fashion.

The HP-25 went to one sister who lost it, the HP-29C went to another, who lost that one. As far as I know, they never broke. The HP-41CV is still in use. I recently bought a financial module so I can figure out if a re-finance of my house makes sense. I am not sure what sort of factor it will have when the mortgage broker is figuring stuff out on an HP-12C and I pull out the -41, but it could be fun.

Aaron Chacon

P.S. By now someone has thought that the -41CX can run re-assigned key programs when the key is pushed rather than let up, which would fix the problem with the -41CV. I am thinking about aBay even as I type this.

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message archive

*Posted by **juanita boggs** on **18 Apr 2004, 6:43 p.m.***

please if you gt this e-mail i m really in need fr some help i need a message retrieved from message archive it was written between feb, and march from a name coolace_64 actually they re two please if you can help juanita boggs

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an ode to my calculator

*Posted by **Laura J** on **11 Apr 2004, 5:07 p.m.***

Just this past week, my HP 28S broke. The row of keys on both sides of the clamshell, the row containing the Enter key, no longer work.

And now, a moment of silence…

I feel as I have lost my dog or best friend. Oh, how happy we were. We went to college together, calculating far into the wee hours, taking tests, working in the lab. We even went off to work together, my dear friend and I. Oh, the things we shared, working at the lab, estimating tube assemblies, even paying bills. (Well, maybe now I've gone too far…) Anyway, I had that calculator longer than my ex-husband.

To add insult to heartbreak, I can't even use a non-RPN calculator any more.

I'd bury it in a hanky-lined box in the back yard, but I just can't bring myself to do it. I can't perform an autopsy on it; I feel I would cause it disrespect. Here I sit, contemplating replacing it with another on eBay, or perhaps replacing it with a 49g+.

How I miss you, my dear 28S. I told my boss I could no longer do any calculating for the next month, out of respect for the dead. All I got back was a cold stare. I knew I didn't belong at my new job when, on the first day, one of my lab mates asked me if I liked big calculators upon first glance of mine.

Thus, my ode to my calculator is here at this page, where someone can understand. Thanks for reading.

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Some fond memories of my CX

*Posted by **Fred Lennox** on **24 Feb 2004, 9:05 p.m.***

Hello HP fans! My fondest memory of my CX was just before a math exam when my friend Peter wanted to use my calculator to work through a question. Before giving it to him I assigned a little program to the operations key that he would be using. The program that I assigned had a nasty little message and a few tones. It made him laugh. In the exam, I had forgotten about the little program assigned to the operations key. My instructor was walking around the room watching the students write the exam. He was walking up my row from behind me. Just as he got over my right shoulder, I touched the operations key by mistake and before I could shut off my calculator. You guessed it! Beep! Tone! Beep! Tone! Nasty little message. My instructor said rather impatiently, "Fred see me after class!" Another time, I had learned in math class that if you multiply by the reciprocal or divide by the number the result would be the same. With this new knowledge I programmed my CX. In another exam I was stuck for a formula. Remembering that I had the formula in my calculator I decided to look it up. Unfortunately I had used the reciprocal in the formula and although I got the right answer for the problem, I was unable to show my work. When I handed in my paper, I asked my instructor about that formula and he asked me how I came up with the answer. So I pulled out my trusted CX and ran the program. I said, "See" and walked out of the class. Needless to say, I didn't receive marks for that question.

Edited: 24 Feb 2004, 9:14 p.m.

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HP-41. Beyond calculators. A real controller.

*Posted by **Garth Wilson** on **19 Feb 2004, 10:15 p.m.***

I had been quite good at the slide rule, and hardly considered calculators until after eveyone else had used them for years. I was just as fast and got the 3-4 digit accuracy I needed in my electronics work while improving my understanding of number relations by using the slide rule-- so why change?

Then I started needing programmability. The slide rule had to go. I collected loads of information on programmable calculators. While I drooled over the HP's, it eventually came down to cost, and I got the TI-58c in 1981. It was fantastic at the time, although I still needed lots more memory. A couple of years later I managed to trade the 58c plus $100 for a hardly-used TI-59 and printer, three additional library modules, extra magnetic cards, and some applications books. Wow!

The next problem I ran into was that the TI's could not control any equipment or take data automatically. Essentially the only I/O was the keyboard, display, and printer. It really was a calculator, not a hand-held computer like my friend's HP-41cv. Now I had more reason to be interested.

In 1986 I got the HP-41cx, the Advantage module, the HPIL module with Extended I/O module built in, and later the tape drive, the Thinkjet printer, the Zenrom, the HPIL-to-IEEE488 interface, the HPIL-to-RS232 interface, the video interface, double extended memory, High-level Math user solutions book, the books "Extend Your HP-41", "HP-41 MCode for Beginners", "Control the World With HP-IL", "HP-41 HP-IL System Dictionary", and probably some other things I'm forgetting. Wow what a fun little machine!!

Right away I started using it with the IEEE-488 interface to connect to equipment on the workbench at work to automate the repetitive jobs of taking certain readings through the DMM, and controlling signal generators, relay boxes, power supplies, and so on. In small but quick steps, the company I was working for got into a product line that required a lot of testing that was totally impractical to do by hand. Not realizing how quickly this situation was going to escalate, I set up automated testing, using my HP-41 as the controller. Especially back then in the late 80's, people would be absolutely stunned to see a large rack of instrumentation controlled by something that would fit in a pocket. It gradually got to where I didn't get to use my HP-41 much anymore. Production test operators were using it all day to test our product. In fact, the first two million dollars' worth were tested by this HP-41cx and a 20-page program.

In the meantime, I got the HP-71B plus 2000 pages of documentation and a similar complement of accessories (including an extra 160KB of RAM). It was far more powerful and more satisfying in certain ways, but not as fun as my beloved little HP-41.

Eventually we transfered the control of the production testing to a 68000-based HP series 9000 computer. Interestingly, it was not even twice as fast as the HP-41, because much of the time was spent giving filters time to settle and waiting for readings to come back from the equipment.

Now I still use the 41cx every day-- not much as a controller anymore, but as a calculator, timer, alarm clock, a daytimer that reminds me of upcoming appointments upon turn-on, calendar, and occasional notepad and phone directory. (The slowness of its text editor limits the scope of the last two.)

I don't really have any use for a modern graphing calculator. For my original purpose in getting the 41, the newer models have not been suitable HP-41 replacements at all. They are what I call "supercalculators" (all one word), and not hand-held computers that can be used as controllers. They're just small consumer appliances. I want the interfaceability to lots of workbench instruments at once, without going through a PC. The workbench is always too messy to depend on communication with IR beams. Things are always in the way. HP-IL was much better.

I have learned much from the 41 that I have applied in various designs in my work, regarding things like RAM file systems, the interface loop concept of communicating among instruments, and making a system flexible, expandable, and customizable. The same goes for the 71 on an even much greater scale. Unfortunately, HP is no longer the company it used to be, and they've lost my loyalty. That doesn't have to be true of the interest group though.

Garth

E-mail: wilsonmineszdslextremezcom (replace the z's with @ and .)

Edited: 4 Jan 2008, 4:52 a.m.

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the HP11C & the Sewage Pump Station

*Posted by **Wayne Stephens** on **28 Jan 2004, 1:26 p.m.***

It is 1989. I am working as a Civil Engineer in Virginia. We are testing a new sewage pump station in preparation for official start-up. My HP11C (purchased while in college in 1982) is in my shirt pocket. I lean over the wet well hatch... I see a dark shadow-like thing fluttering downward... it is my 11C dropping into the wet well. We shut off the pumps. I climb down the ladder into the wet well. Fortunately, since this is a test, we are using "clean" water. I retrieve my 11C. It is soaked and of course will not power up.

I take it home, disassemble it (or at any rate I remove the rear cover) and spray/soak it with distilled water. I leave it disassembled and "bake" it in an oven at 90 degrees for two or three days (I don't remember exactly how long). When I am confident I have driven out all the moisture, I reassemble the calculator. With hopeful thoughts I install the batteries and press the ON button. It powers up. It passes all tests. IT WORKS...

In fact, it still works, although it has been retired and now resides in a quiet corner of my "electronics closet". I use a 48GX, 42S or a 32SII today depending upon what I am doing, but I will always be most impressed with the durability of my 11C. Oh, and after the "wet well incident" I stopped carrying it in my front shirt pocket.

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The HPs I had...

*Posted by **Jim Brown** on **27 Jan 2004, 2:43 a.m.***

I remember my first encounter with an HP RPN calculator. I was in my last year at high school and had a holiday job where the HP rep came round showing the financial models.

When I started University in 1974 I had a slide-rule for a while, but managed to save up for an HP-35. There was a huge backlog of orders. The HP office in Johannesburg was about 4 blocks from the campus and when news of a shipment hit us, we all ran over to get into the first-come first-served queue!

The next year I sold it and got a HP-45.

A couple of years after Uni I started work for HP in Johannesburg- guess who my first boss was: the sales rep from the first paragraph.

At that time HP had the 41C on the market and I had a machine of my own to demo. Then we launched the 11 & 12C and so I had one of each of those too! Also had an 85 computer.

Then soon we launched the HP-125 CP/M computer, and about that time I left to join another manufacturer of CP/M machines. Of course, CP/M soon fell by the wayside to PC-DOS and MS-DOS.

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A simple truth for his Ignorant little sister:

*Posted by **Ron Ross** on **17 Dec 2003, 3:46 p.m.***

My brother-in-law was an EE for Pioneer. When my wife and I both returned to school (1983), she asked her brother which calculator he thought was best and what she should buy?

He simply stated, “The best calculators are American made (and he didn't mean Ti!), and she shouldn’t bother to buy anything else.” Can’t get a better recommendation: directly from a Japanese Electronics Engineer, in my book. While she didn’t listen, I did (she bought a Casio FX4000). I bought my first Hp, a 15c. Ironically, my wife would later work for Hp and shortly afterwards, retire that Casio (so as to not risk losing such a fine instrument at work). Hp’s were known worldwide for their sophistication and quality of calculators.

Today, if my daughter takes her Hp to school, she gets oh’s and ah’s, but mostly, “I didn’t know Hp made calculators”. Different world, isn’t it?

Edited: 6 Aug 2010, 9:39 a.m.

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Racy Machines

*Posted by **Palmer O. Hanson, Jr.** on **11 Dec 2003, 3:15 a.m.***

The Pioneer models were just coming on the market back in early 1988. Descriptions in the Educalc Mail Store's catalog #41 included the words "New vertical design with the Sleek Lines of a New German Car" for the HP-22S (page 41) and "New vertical design with the Sleek Efficiency of a New German Car" for the HP-32S (page 42). The ".... the sleek lines of a new German car" description was also included in the descriptions for the HP-17B (page 12) and HP-27S (page 45). I wondered what that was all about.

I was even more bemused by the tie-in with automobile design when the "Technically Speaking" column in the July 1988 issue of IEEE Spectrum discussed the use of the term "real time four-wheel drive" in the decal on a Honda Civic wagon and asked readers to submit other "examples of high-technology terms used out of context with bewildering or humorous results." I submitted the "New German car" descriptions for consideration. The item "Racy Machines" in the "Technically Speaking" column on page 19 the November 1988 issue of IEEE Spectrum stated

After reading about the application by Honda of the computer-processing term "real time" to a car's four-wheel drive system, Palmer O. Hanson, Jr., of Largo, Fla., sent in an example of the reverse -- using automobile terminology to describe a calculator. In an advertisement for four different Hewlett Packard calculators in the EduCALC Mail Store's 1988 catalog, the machines are described as having "the sleek lines of a new German car." "Comparing calculator packaging to automobile body design seems to be stretching a point," wrote Hanson. But "one point seems clear -- there is someone writing advertising copy for HP who really likes his German car."

Subsequent issues of the EduCALC catalog continued to use the "New German Car" description in advertisements for Pioneer models. The #70 catalog from 1995, seven years after the introduction of the Pioneers, used the "sleek lines of a new German car" phrase in the description of the HP-17BII (page 37) and the "Sleek Efficiency of a New German Car" iin the description of the HP-32SII (page 45).

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...the old department store...

*Posted by **harryb** on **12 Nov 2003, 10:46 a.m.***

In the days of the Commodore Pet and other symbols of that era, I recall walking through the calculator and computer section of Melbourne's (Australia) largest store where they had an array of calculators on display. I was about 11 at the time and already had a sizeable collection of calculators at home including Casio, Hanimex, Sharp, etc. My mother (god bless her, we were not particularly well off) did the best she could to fund my hobby which began at age 9 when I first layed eyes on my uncle's calculator with its glowing blue digits. My first purchase of a programmable was from this store and it was the TI57. Programming was a whole new world, and with the wonderful manual that came with it as well as another manual based on this calculator I purchased a Tandy Electronics store I was able to explore the worlds of relativity (Einstein's twin paradox), balancing stoichiometric equations, Avogardo's number, using the trapezoidal rule to calculate the area under a curve (before I even knew about integral calculus), etc. It was amazing. Soon after this store brought new models in. These included the best from TI including the TI58C and the TI59 as well as the HP67 and HP97. I remember somehow convincing my mother to buy the TI58C. Wow - now this machine had constant memory and preprogrammed module libraries. You could buy libraries for every area conceivable! I recall my best friend, Joseph, purchased a HP33E (not the C believe it or not!) to maintain his _individuality_ . One thing I can't forget, was that despite the many obviously superior aspects of my super TI58C over his HP33E (many more functions, more programming steps, constant memory and library modules) there was something about his calculator that I secretly loved. I would never admit it though - but I would constantly visit the department store and ask to have a play (they allowed me by now since I had already purchased 2 very expensive models from them). It was the only way for me to satisfy my "fetish" without letting on to my best friend how envious I was of his calculator. After much badgering by me he upgraded to a HP34C (which had a built in SOLVE function - a numeric integration algorithm). Internally I was fuming but we both knew I still had the superior calculator. What it was about these HP's? Was it the shape of the keys? The solid feel of the instrument? The RPN (which I still had not bothered to understand)? The shape of characters on the display? The tactile feedback? The incredible manuals that told a story with each operational paradigm? In the meanwhile being the geek that I was, I used to read the monthly Scientific American and Omni, and lo and behold I saw this advertisement one day. The HP41C. It was alphanumeric - you could actually enter characters on screen - the programming possibilites seemed endless (remember when the best you could do prior to this was enter 0.7734 and turn the calculator upside down (hELL0)). I had to save for 8 months. Every week I dilligently went to the department stote and paid off $5 or $10 or whatever I could afford, until the magic day that I picked it up. I did not sleep for over 36 hours when I went home. I read the manual from cover to cover many times, performing every example. I proudly attached it to my belt and carried it with me wherever I went. On the day it got stolen at school, the shy, insecure ectomorphic 14 year old (me) stopped the entire school and made sure no-one went home until everyones lockers and schoolbags were searched. I don't know how I pulled that off but I must have been pretty convincing to the headmistress. It was found about half an hour later in an abandoned locker. I eventually purhased the card reader and the optical wand, as well as a memory module. The printer and storage unit always seemed to elude my pocket. Later on I upgraded to the 41CX. My friend Joseph, always the individualist had to get himself a HP67. My obcession with these computational devices peaked when 20 years later I purchased a second hand Silicon Graphics Onyx IR for about $120,000. I still love this technology, and I'm sure it was thanks to these calculators that I broke high school applied math and university quantum physics exam record - by having my mind opened to the wonderful world of math via these instruments. I have tried to instill the same fascination to my young daughter, but to no avail, despite a natural ability in math. I will be forever grateful to those calculators, especially the

...the old department store...

41.

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HP-25 still running strong 28 years later...

*Posted by **Steve Eddy** on **28 Oct 2003, 12:34 p.m.***

HP-25 'daily driver': Discovered today, it's time for my Nth or Mth battery pack; those little decimals between each numeral mean it won't run anymore, even when the charger's plugged-in... I'll go down to Radio Shack, get a couple new 1.25V rechargeables, crack open their carrier for the umpteenth time, and keep on chugging, facinated by it's still glowing red numbers...

I remember paying $160 or so for it in Lincoln, Nebraska in 1975 or so; it was a replacement for my TI SR-11 (loved that manual 'Konstant' key!). For a brief few moments, I was again 'king of the nerds'; I'll run it 'til its wheels come off!

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HPcalc memories

*Posted by **Wouter Peters** on **21 Oct 2003, 2:56 p.m.***

I met my first HP calculator in the latter half of my secondary school years, when my father bought – if I remember well – an HP35, and I was deeply impressed. The lack of an =key made it special. I quickly got he hang of RPN and learned to appreciate the elegancy of this logic of calculation. I borrowed this machine on countless occasions as a homework aid. From then on I've always found the algebraic logic to be a bit lame.

In 1972 I became a Chemistry student at Groningen University in the Netherlands. Accurate pocket Calculators were still far from common. A practical work course Analytical Chemistry was a tedious affair of repeated titration and browsing through logarithm tables to calculate the results. Yes, we had to do the up to 5-decimal accurate titre calculations the ancient way by manual addition and subtraction of logarithms. The lab assistants used a desktop calculator though to mark our work... After one or two titre calculations with the tables I decided I knew this approach thoroughly enough to look for a way to get to results more quickly. So I decided it could be sped up tremendously with a little electronic help (a lot of the calculations we had to do out of the lab in the evening hours, out of reach of the lab assistants).

Unfortunately the HP35 (or its successor) was too far out of reach of my budget to get one for myself - the few so called scientific pocket calculators I could afford didn't use RPN and weren't accurate enough to operate within the required accuracy interval. My father's machine was also out of reach – geographically – but the phone was not. So each evening of that course I called my father, asked him get his HP, dictated the numbers and operators, got back the results and scribbled them down saving me quite a lot of tedious table work.

Then one day my father handed his HP35 over to me saying "It's yours now, son". "You're kidding, dad" "No I am not. I've bought a new model."

He had bought an HP25C and when he'd demonstrated this machine, I was deeply impressed again. A couple of years later I became the second owner of this nifty piece of equipment when my father moved on to an HP41C. Immediately I became addicted to the beauty of this "complete computer" as James Blodgett characterises this machine correctly (see his contribution to the "Articles forum". Nr1: Hewlett Packard HP-25 Calculator: The Minimum Computer - 2 Apr 2000, 9:14 p.m.). Here he mentions "the educational advantage of a limited system" like the 25C and I totally agree with him. (In fact my reading his contribution stirred some memories of my own efforts with this machine and gave me the inspiration for this contribution to the forum.)

I those days I was discovering the ins and outs of statistics, studying the topic of Analysis of Variance and I decided to try writing a program to calculate one-way AoV for the HP25. Programming on a limited space surely forces one to optimise! It forces you to keep an open mind, to use and stimulate your creativity. I still remember finishing yet another pen-'n-paper version of the program and still ending up with a couple of lines too much to actually fit the program into the machines 49 program lines. Finally I succeeded, had even one or two spare lines! I still can feel the satisfaction of solving this problem. Running the program was a tedious affair though, especially data entry (there was hardly any room for a procedure to correct entry errors). One had to be VERY accurate entering all the necessary data, but the program worked correctly. Unfortunately I can't find the actual program anymore.

After this whole exercise I had acquired a good knowledge of the actual topic of AoV as well as a good understanding of efficient and elegant programming and had greatly improved my skills programming the HP25. So much for “the educational advantage of a limited system”.

Much later in my career I moved to IT and became an application developer. Clearly my second hand HP25C was at the very beginning of this career change and those first efforts surely taught me that the ability to approach a problem from different angles often leads to more efficient and elegant solutions.

After a while, in the late eighties, I got my father’s HP41C system - including printer, wand, a couple of RAM and ROM-modules and a lot of manuals, solution books and bar codes on my wedding day as “yet another second hand from your father”. The same year I bought my first own HP: a half nut HP41CX with a card reader, to “get even more out of this great system”.

Up to today I am still using this machine.

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First Exposure to Bill and Dave's World

*Posted by **Matt Kernal** on **10 Oct 2003, 9:22 p.m.***

[story]

My first exposure to HP and their calculators occurred in 1986 (Yeah, I know, I'm late to the game).

I had just finished college, and had my first engineering position with a small automation/robotics integrator in Portland Oregon.

I was considering buying a new 41CV (nearly everyone in the office had HP's), when a mechanical engineer mentioned he had one that was issued to him while he was in the US Navy. He said he preferred his own 15C, so the 41 sat unused in a drawer.

When he did go to use the 41, it wouldn't turn on, and found it to be terribly corroded from battery leakage. For some reason, he couldn't bring himself to throw it out. He said if I wanted to try fixing it, I could have it, batteries and everything. I took it.

Not having anything to lose, I was unsuccessful in trying to *(now don't laugh)* solder the flex-circuit battery traces back together, which ended up in a worse mess than when I started. So I mailed the calculator (with batteries still in it) "down the road" to Corvallis, asking for a repair estimate. I received a $90 quote stating HP would have to receive the check before they could begin the repair.

Not having owned anything HP before, I didn't realize what HP's definition of "repair" meant. But I was aware of how destructive the corrosion (and myself) had been to the 41, and had to weigh the cost of what I had pictured in my mind of what a "repaired" calculator might look like for $90, or a new one for around $145. I had to think about it a few days.

`(OK, I'm almost done. :-)`

Two days later, and not yet having made my decision, I received a package from HP containing a **Brand New 41CV!** A letter inside said HP decided to repair the calculator at no cost to me, and would bill the battery manufacturer the $90 fee, because the battery leakage was no fault of my own. And this, on an out-of-warranty calculator!

I was taken back and thrilled at the same time! I had never seen or heard of any company going to bat as they did for me, a first time customer. I couldn't believe it. If this was how they stood behind what was then one of their least expensive products, I couldn't imagine going anywhere else when it came time to purchasing expensive test equipment (which my new job did require). I was **SOLD** on HP!

I was so pleased with the fortunate outcome, I thanked my friend with $50 for giving me his old 41. Somehow, it doesn't seem enough today, with all the enjoyment I've gained over the years from these calculators.

I still have that great calculator.

And that's all there was.

Matt

[/story]

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True Love Never Dies

*Posted by **Erich Neubacher** on **2 Sept 2003, 5:05 p.m.***

Hi Folks,

this is my story. [thx to Ray for the good idea]

I got my diploma on Informatique Science in 1977. I ever only worked with machines they called “mainframes” (like IBM /370 or TR440) those days.

But – as you can imagine - I never owned such a device. When I got my first job in 1977, I was looking for a computing system to be used by myself at home. It was 1982, the advent of the machines of Sir Sinclair, when I learned that the prices of these devices came down to the zones of mortal men. And I decided to buy a personal computer system. But I distrust the keyboard of this Sinclair-machines. Nevertheless I was so eager to get my personal computing machine. So I looked in a local newspaper and called a student, who was selling his HP-41C. Strange enough, I never heard of such a machine until this very day. At first I don’t want to buy this thing, because it looks somewhat ridiculous compared to the machines I know. But the HP-41C selling student reduces the price and mentioned his poor situation and because I of my weak heart, I bought this little item.

In the following weeks I fell in love with this little machine, because I recognized the full power of the system. In this very moment I was lost to HP-Calculators [of the Old Style]. The first 41C was exchanged against an 41CX with CCD-Module, 2 X-Mem, CardReader, Printer and Wand. My dream was to design a “little OS” by myself to make the work with the 41C somewhat easier.

But then there came the time of PC’s and I decided to give away my good old HP41 and I lost my HP-Calc-Love. I sold my whole 41-system to an engineer. I don’t know why, but when it comes to my HP41 I wrote down all names and adresses with dates and prices (an important and good thing as it turns out some lines later).

And now, when I got my second spring (as we say in german when you get over 50 years old), my old HP-Calc-Love came into my mind. True love never dies. After 15 years (!!) I phoned the engineer, who bought my system, and asked for the HP41CX-system. He don’t worked anymore and had no need for the machine. He was willing to sell back the whole system nearly for nothing.

So I’m on the old HP-way again. I recognized the HP-scene in the web and “lost” some money with-ebay-deals, just because to own some important modules and HP-Calcs by myself.

There is something around this HP41, which gives it a miraculous touch. I will spend some energy of mine to explore this secret.

I’m very glad to be with you.

(h)appy (p)rogramming…….Erich N.

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An 11C story...

*Posted by **Regis Corbel** on **30 July 2003, 9:19 a.m.***

Born in 1969, I can't remember a day "hp" would express something else than Hewlett-Packard in my mind. I still can remember those strange looking machines a friend of us used to have, during the 70's, in his home office (much later, I knew they were Spice models : 25C, 32E, 34C - alas, they're lost now). One day, this friend explained to me what made these machines so "different". I was a kid (around 8 or 9), but "hp" had just become a symbol of excellence in my mind. And this bizarre number entering method, he called RPN...No parenthesis...No ù%*#!§ Equal sign...Great, I thought.

December 1985 : following scientific studies at Lycée Lyautey (very famous french High School, see http://www.lyceefr.org) in Casablanca (Morocco), it was time to upgrade my calculator (anyway, I was unable to use algebraic model; i was then using a Sharp calculator - which stills works today). A 11C became mine two days before Christmas. Eighteen years ago, an HP-11C cost 800 francs, that is, around 120 of today's euros/US dollars...

June 10th, 1987 : in a Lycée near Versailles (France), I'm about to begin the math exam for the Baccalauréat (the diploma you must have in France prior to entering University or engineer schools). Paper, pens, identity card...and my precious 11C. The subject of the exam arrives on my table. Everything around Pi and integration. Don't remember what happened, but my 11C falls down just before I begin to work. It falls and hits the corner of a hard wood piece of furniture...directly on the "Pi" key...During the 4 next hours, I had to enter Pi manually.

July 1987 : an official phone call tells me that I succeeded in obtaining the Baccalauréat. The same day, the "Pi" key of my 11C decides to work again. This wonderful machine doesn't even wear a mark of its fall !

July 2003 : my 11C, while perfectly working and in near perfect condition, has retired on the shelves - but I can see it everytime I enter my home office. My 11C is there, clean and shiny, with the four other Voyager models around it (all of them in excellent to pristine condition).

A 32Sii is now my everyday's calc. Each time it gets out of my suitcase, when the "hp" logo catches the light, I remember the day my 11C got out of its box for the first time - two days before Christmas 1985.

RC

"C'est un HP-11C. Il y en a beaucoup comme lui. Mais celui-là, c'est le mien."

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An 11C story...

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33E Memories

*Posted by **Winston Smith** on **24 July 2003, 9:10 a.m.***

I have just discovered this wonderful site for the true believers of HP RPN calculators. I purchased my 33E on 5 April 1979 in Sydney University for approximately $140AUS ($160US in those days). This was much more than a standard trainee engineer's weekly wage. I used it extensively to complete my chemical engineering degree. Its most valuable feature was its 49 'lines' of program. I use to have up to four different iteration type calculations programmed to check against a PDP 11/60 Fortran program I had written to design distillation columns. I would run each progam in turn as required to optimise column diameter, plate heights, and most importantly mass balances in the liquid and vapour phases. I specialised in ternary azeoptropic together with cryogenic distillation so my calculator got a real work out. By late 1982 the keys were beginning to stick badly. I had a scouts jamboree to attend in Melbourne in early 1983 and took the calculator on the long car trip in a hope that as the HP main office was in Melbourne they could do something about it. To my surprise they changed the entire key pad within minutes at no cost nearly 4 years after my purchase!

I have changed the battery twice with the current battery being approximately 17 years old. It still holds up for about an hour or longer if I change the decimal point displays to 0 and type in a '1' to minimise LEDs while I am not using it and have a program. I am a RPN tragic and just get frustrated with modern day '=' sign using calculators.

Ability to use RPN has helped greatly over the years with programming PLCs and DCS systems. The now once great but defunct (thanks for nothing ABB) Bailey Controls Company product, Network/Infi 90 use to have a particularly useful function block called the 'Rung' block. Although it was used for digital manipulation intimate knowledge of how to effectively utilise stacks made it a breeze to write powerful compact programs with these incredibly versatile function blocks.

Fortunately I have kept everything since my purchase in '79. I have the original box, receipts, manuals, help cards etc. The box holds a pride of place in my library. Best of all my 33E works just as good as the day I bought it. There is no way I would willingly part with it. When you have a possession which just keeps working and is a link to university days it has, as one writer in this museum noted, become a part of me.

I have to admit I did start with a Canon Palmtronic F-7 at high school in 1976/77. I still have that calculator in working order, it has the advantage of using 4 standard AA batteries. My wife uses it, but it uses batteries like there is no tomorrow.

Please excuse my spelling and grammar. After all I am a practicing injuneer!

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A snowny day at a Colorado ski resort!

*Posted by **Bernie DiTullio** on **10 July 2003, 5:01 p.m.***

“It is unworthy of excellent men to lose hours like slaves in the labor of calculations.”

Gottfried WilhelmLeibniz (1646-1716)

After several day of sales training even at a ski resort in Colorado the 40 or so of us, HP Calculator Sales Engineers were ready to go home. But Alexis Sozonoff, Advanced Products Manager for HP had a surprise for us.

Out of his briefcase he pulls out a tiny, nine-ounce HP-35 Pocket Calculator. Mouths dropped, eyes were open wide and what were a group of tired, ski weary sales people became like school kids dying to get our hands on this marvel.

At HP we were use to innovation and state of the art technology but nothing prepared us for this revolutionary electronic slide rule.

We got our wish we were all handed a HP-35 demo unit. On the bus ride back to Denver all you could hear were fingers on keys as n!, 10e12 and RPN were explored.

It wasn’t long after that I was giving standing room only presentations to scientists and engineers at the National Bureau of Standards and the various Navy labs in the Washington D.C. area.

In my over thirty five year career at HP nothing came close to that event and the excitement the HP-35 generated. It was a once in a lifetime experience and everyone involved with that product launch knew it.

Edited: 24 Aug 2006, 5:41 p.m.

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HP-35 and the Soviets

*Posted by **Happy Holden** on **1 July 2003, 5:54 p.m.***

Soon after the HP-35 hit the international market, the world knew something had changed in computing. In 1973, mfg got a special request from Bill Hewlett to make some special HP-35 stainless labels,but photochemically etched with 3 Soviet scientists names in Cyrillic. I took the opportunity to add my father-in-laws name to the sheet so I could personalize his HP-35. As an engineering professor, he treasured his HP-35, even with the arc-tan flaw. It seems Hewlett was invited by the Soviets to an Electronics Conference in Moscow in 1974 and he wanted to take some gifts to famous Russian scientist that had worked with the IEEE. These HP-35s would all be specially prepared just for them. The Russians wanted HP-35s, but the only way they could buy them was from the HP Helsinki, Finland sales office. The next seven years saw HP Finland sell more calculators than most of Europe PUT-TOGETHER. They also sold HP computers to Finish ship builders that put them in Russian icebreakers. Hewlett was a big hit and he invited some of the electronic institutes to visit him in Palo Alto and see how we made the calculators. The Russians made it over finally in 1975 and I hosted them for a tour of the printed circuit board and keyboard manufacturing. We had our expansion and automation finished by then, and were geared up to make about 1500 calculators a day. I don't know what the Russians had seen elsewhere, but they were impressed by the automation, computer process controls and sophistication of the products we were making by then (the 35, 80, 45, 70, 55,46,81,65 and new 10, 21, 22 & 25)as well as HP instrumentation and computers (for their icebreakers). They then ask our State Department if the HP Manufacturing people would come and be their guests at an electronics manufacturing exposition next year in Moscow. This was the height of détente, and Packard was in the Dept. of Defence, so HP sent us off in the summer of 1976 to Moscow. Fortunately, HP put us under the watchful eye of one of our New England Sales Managers that spoke Russian. His parents escaped the Czar's Pogroms in 1917 and he grew up in NYC. He always wanted to see Russia, so we joined him in Boston for a few days for 'orientations'. One of the things he had us do was fill our suitcases with TicTacs, GoodNews razors, chewing gum, Ban deordorant,etc. Later we would understand his 'wisdom'. Off we flew on Pan Am to Moscow. We checked into the Hotel Russia, then the largest hotel in the world, just off Red Square. Some of the highlights of this Exposition were: We couldn't keep our hotel keys, but had to turn them in when we left. There would be an old woman on the floor and when you walked up to her, you would point to your room number and she would hand you your key. In the entire time there, I never once pointed to my room number because a succession of old women would always have it in their hands for me. We discovered you could not get from the 'Western Wing'to the other three Wings of the hotel-we were 'forbidden from those wings'. But by going thru the basement we got into the other wings and found it full of Russians on holiday-partys, drinking, dancing, bands-just a lively scene. We picked a translator from Intourist (the Soviet Tour Board) but were cautioned, they all worked for the KGB, since Intourist was a branch of the KGB and were trained with photographic memories. They could replay an entire days conversations and drawings. No one told us to hide our HP literature on Saturday. That's when they let the general public in to the Exposition Hall there in Sokoniki Park. In a few hour everything was GONE. So that was when we discovered there were no xerox machine in Moscow. I'm not quite correct, there was one- in the US Embassy. We spent the rest of Saturday copying materials we needed for the next week. Each morning we would have to line up to get a car and driver assigned to us. You had to line us for every thing. Our fearless leader was handing out the TicTacs, razors to everyone, including the woman who set up the cars, to the mater'de of the restaurant where we ate every night. Soon we were no longer standing in lines, but they would motion us to come up to the front and would hand us our papers or seat us right away at a table. When it was all over, the Science Attache' to the US Embassy debriefed us. He was none other than Dr. Egon Loebner from HP Labs. We knew each other from the HP-35 days. He

was a Russian refugee of WWII and wanted to give something back to the US now that he was a naturalized citizen. He had been there for two years. We talked about his experiences rather than the Exposition. He had visited a Russian High Energy Physics Complex and came across an obvious copy of the HP9100 calculator in the museum there. It worked -so he proceeded to program it. The curator asked how he knew how to program this machine since noone else there did. He told them that he helped invent this machine. They said this was the only one to operate out of the 1000's they built. He was NOT SURPRISED !

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HP Calculator Music: John Denver, Paul Simon

*Posted by **Norm** on **28 June 2003, 1:43 a.m.***

Well, its a stretch, but this memorable music might be
fair-game for the memories forum.

After all, we are dealing with 1970's melodies here:

HP-25C: Sung to the tune of "Take me Home Country Roads".

** ** ** ** ** ** **

(roll,roll,roll, THUNK) (sound of quarter being put into jukebox)

Selection "25-C" Record comes up, "THUD" needle hits record....

(a few scratches & pops)

.....

..... Almost Heaven, nineteen seventy-six,
Hewlett Packard Calculators, Model 25C .....
Things they worked then, they worked properly,
Had an owner's manual, and they'd sell accessories.

(Chorus)
Hewlett Packard, take me home,
to designs, that were strong .....
TWENTY FIVE CCCCCCCC, sensible people
Dont say Kinpo, Hewlett Packard .

All my memories, it did impress your friends,
and if you got a nice one, it will impress 'em yet again.
A dark backdrop, red LED's bright as the sky,
Misty smell of new stuff, a teardrop in my eye .

(Chorus)
Hewlett Packard, take me back, to designs, that were strong
..... TWENTY FIVE CCCCCCCC, no pulldown menuuuus
Take me back, Hewlett Packard .

I smell some MBA's now, they're like tent caterpillars,
chawin' up our dreams and our money like green leaves,
Driving down the road I get a feeling

like I want to run them over nowwwwwww (over nowww.....)

(Chorus)
Hewlett Packard, take me back,
to designs, that were strong .....
TWENTY FIVE CCCCCCCC, small and heavyyyy
Take me back, Hewlett Packard .

()&)^&)&)&)*&)(*&*&^&^%(^%(&*)*&^*&^(*&(*** GLUNK *** needle returns to side, record drops back out of view....

The jukebox, full of fun and intrigue, falls silent...
but not for long ....

****

sung to the tune of Paul Simon "Kodachrome"

** ** ** ** ** ** **

(roll,roll,roll, THUNK) (sound of quarter being put into jukebox)

Selection "34-C"

Record comes up, "THUD" needle hits record....

(a few scratches & pops)

.....

When I think of all the cr*p I learned in high school....

its a wonder I can think at all,

it werent for my trusty red LED calculator,

math class wouldn't have done me no good at all.

RED LEDDD""s, give me them bright red digits

give me them 7 bright segments,

make me think every calculation is a sunny day,

oh yeah,

I got an HP 34C

I love to do formulaaaas

but Carly gonna take my 34C away.

(chorus)

Carly don't take my 34C

Carly don't take my 34C

Carly don't take my 34C away

Carly she took my 34C

Carly she took my 34C

Carly she took my 34C away .....

etc etc etc

****

Hey if anybody wants more of these, just ask, they scheme up pretty easy.

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Nathan Pritikin's Diet and HP Calculators

*Posted by **Happy Holden** on **22 May 2003, 12:20 p.m.***

Most of you have probable heard of the Pritikin Diet-but I bet you didn't know Nates critical role in the second generation HP claculators.Calculators like the HP21 & 22 series had a 12 digit display build as chip-on-board (COB) instead of the 15 digits (3x5 digits)on a DIP package. These displays were gold-wire thermocompression bonded (at high temperatures) to a new high-temp laminate. The laminate, Howe-3000, was made by a unique guy, Art Howe, and was the only laminate that could take the temp. and TC bonding process. Nate Pritikin owned a pcb shop in Galena, CA (next to Santa Barbara) and was the only one that plated pure silver on pcbs. Silver worked as well as gold but was a lot cheaper. We teamed the two up and had Nate make the small pc boards (~0.5" x 2.5")with Howe's laminate. We eventually moved the process into HP facilities because we discovered that we wanted to do A LOT OF COB work for calculators. We also filled a warehouse with HOWE-3000 because we found it to be the only laminate that would work this way. All laminate went to the warehouse, on a first-in-first-out basis "Just-In-Case". In my trips to work with Nate, over lunch, he would drag me to these resturants that he had convinced should serve food to his "Diet Theory". He was always preaching about the "Miraculous Cures" of his diet. He developed these diet theories after WWII, while working for the OSS (fore-runner of the CIA) when assigned to discover why the general population in Germany, at the height of Allied bombing, had the lowest death rate from "Natural Causes" (cancer, strokes, diabetice). {But this is another story}. I told him he should "Write-a-book". Anyway,he did! Nate got on the Johnny Carson Show to talk about his new book "The Pritikin Diet"-got rich and famous, started the "Longevity Institute" and sold the pcb shop. We lost a unique fabricator- but gained a very popular and controversial diet.

Edited: 4 June 2003, 1:57 p.m.

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Working with Hewlett on the HP-35

*Posted by **Happy Holden** on **9 Apr 2003, 2:18 p.m.***

As much as everyone loves their HP calculator, it is nothing in comparison to working on the first calculator (35) with Bill Hewlett. This was a labor-of-love by one of the world's consumate engineers. I was a recent ChE. graduate, hired by HP in 1968, to work in printed circuit manufacturing. This was a new technical area that became pivital in many of HP's calculator products. Bill came down the hill to my desk in early 1970 (we were at 3215 Porter Dr., down the hill from 1501 Page Mill Rd.)and described for me his idea of making a hand-held portable version of the 9100 desktop. He drew a flexible circuit that had a tilted up display, flat keyboard and folded back for the logic section and battery connections. Well, I went off to investigate flex circuits and later came back to him to say that what he wanted didn't really exist. But we could use two flat boards with pins to connect together and assemble the display at an angle. Disappointed, but time being of the essense for the project, he went with the rigid boards. This proved usefull when we eventually would parallel-gap weld the gold-plated beryllium keystrip to the thick-gold plated circuit board and the logic board turned into a multilayer. To make a long story short, Hewlett had 4 operating units (but at 1/4 clock frequency)by Dec. of the year for the Board of Directors to see. He was still a non-believer to Marketing's estimate that we would only sell 300 a year of these 'Hand-held calculators'. Soon after introduction, the order rate zoomed to 3000 per day and we all had to scatter to find sub-contractors to build additional parts for us.

Future stories: How in 1975, HP engineers and Steve Wazniak (he worked for the HP Calculator Div) invented the APPLE 1 using calculator technology.

The story of the original ROM board for the 9100 calculator. It would be complex to manufacture even today, but that was 1968!

The story of how I almost lost my HP-35 (in 1972) to Rumanian Agents at a Trade-Show in Helsinki, Finland

The story of Egan Loebner (one of the inventors of the 9100 in HP Labs) and his 3 years as Science Attache'in Moscow in 1976.

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HP-34C BETTER THAN S*X

*Posted by **Norm** on **30 Mar 2003, 3:18 a.m.***

HI!

This nostalgic post concerns getting REUNITED with my old flame, the HP-34C, here in 2003. Hadn't seen one since about 1985..... it was really quite endearing to get a nearly brand new unit shipped over, thanks to classified ads at this HP Museum !

---------->

After a troubling encounter with the bizarre plastic case halves on a SPICE machine (difficult to take it apart) its all checked out and this baby is up and running. THIS IS MY FIRST TIME TO GET A CLASSIC BACK INTO MY HANDS AFTER 18 MISERABLE YEARS OF HAVING DUMPED MY 34C for a 32S.

Early version with unsoldered chips inside said to be unreliable? I dunno, thats what this one is, and its working OK. I like the extra 1.5 ounces of weight.

LED's, RED LED's YEAHHHH. And a SWITCH. YEAH, a REAL LIVE POWER SWITCH. *CLICK*. OOH YEAH

C L I C K !!

Not like a 32S where they were too greedy & cheap to give you a power switch.

You can see the bureaucrats in the HP boardroom right now, designing out our switches. Sitting around a $90,000 Mahogany table that is 50 feet long, everybody wearing $2000 "power suits" and sitting in chairs that cost $4000 each, but we don't get a 5 cent power switch. Mmmm Hmmm...

The 32S was already cost-reduced to the point of a cereal-box-toy, but they discontinue it like they can't make any money ?!?!

SOOO I AM REDISCOVERING THIS BEAUTIFUL 1979 WORKHORSE, after multiple owners and 25 years on this Earth, its ready to go to work.

NO STINKIN SOFT-MENU'S. You want to F, ENG, 4 ? TO CONFIGURE THE DISPLAY ? JUST DO IT. You don't have to hit 2nd, DISP and then continue with a soft menu, like 32S.

I put this baby into Engineering Display mode, does it say something bleccchy like

"14.142E0" ???? NO! AN HP-34C SAYS 14.142 00

YEAHHHHHHHHH. In nice clear crisp RED LED digits.

R E D

L E D S !!!!!!!!

No, I don't calculate in sunlight. I calculate indoors. I want RED LED's !!!!!!!! THEY ARE MORE BEAUTIFUL THAN A ROW OF COLLEGE FOOTBALL CHEERLEADERS .

OHHH ITS GETS BETTER AND BETTER. I MAKE A LITTLE PROGRAM. IT WORKS, IT WORKS !!

I got some nice "LABEL" buttons right up top, label a program "A" or "B" and run it easily just by pushing "A" or "B".

Think you could do that with a 32S ?????? HA HA HA HA HA HA no way charlie.

I GOT A REAL LIVE SWITCH TO GO BETWEEN "PRGM" AND "RUN" bet those HP bureaucrats are doing speeches right now with powerpoint and excel spreadsheet, to prove that nobody should have a slide switch anymore.

THE SUSPENSE IS KILLING ME, I MADE A PROGRAM, SO NOW I RUN THE PROGRAM AND ALL THEM LED'S START A BLINKIN'

KeR blIPPTY blippITY BLIP BLIP.

KeR blIPPTY blippITY BLIP BLIP.

KeR blIPPTY blippITY BLIP BLIP.

KeR blIPPTY blippITY BLIP BLIP.

U gotta love that one kilohertz CPU speed. OOOO LAAA LAAAA. (OK I admit, if they speed that up with a new CMOS chip, I'll accept that. But no other "improvements"!!!!!!!

THIS THING IS GEORGEOUS. Couldn't a done it w/o the HP Museum. Thanks dgh.

Every key push is like total ecstacy. Little keys with little tiny hinges on them, that really push with some character. KLUNK, KLUNK, KLUNK, when you push these keys. But HP-32S has just got a whole bunch stuck in there all blow-molded at once. You get that flim-flammy feel on all those uninspired brown-plastic cereal box calculators because the keys aren't even free floating. Yeah, they should put a 32S at the bottom of each box of "Fruit Loops". Then we wouldn't have to pay for them.

THIS THING IS AWESOME. A month ago, I said on the forum board that HP should start making these HP-34C 's again, right now, in 2003 ! Now that I have had the good luck to re-acquire a nice sample, and get re-acquainted with my old friend from 25 years ago.....

I WAS RIGHT !!!! MAKE 'EM BRAND NEW! Then I don't have to worry about losing this one.

HUBBA HUBBA OOOO WEEEEEE BAAABEEEEEEEEE. HP-34C .

If I saw a kid trying to learn trigonometry and calculus, I'd get him one of these. AWESOME. The graphing calculator craze makes no sense, dropping RPN makes no sense, because we are trying to deal with NUMBERS not with graphs. You are supposed to know in your head what Y= X^2 looks like w/o a gimmicky calculator to try and show you. That's why this HP-34C is so substantive.

And thanks to more modern high-power batteries, the RED LED display is not something to fear..... it's something to be ENJOYED ..... I am gonna put some Nickel Metal Hydride batteries in this, OR... Rechargeable Lithium !!!

While I re-read the HP-34C owner's manual to rediscover what made it such a cool machine, I am busily COMPARING IT to the HP-32S.

If you just type in a scientific notation number, like 25.251 E 08 I immediately noticed how much more nicely it was formatted. The decimal number is pressed to the far left, the exponent is pressed to the far right. Crisp, clear and you don't even need an "E" in the display.

The 32S crams all the numbers together for scientific notation, with no spaces and uses an "E" to separate them.

You don't need an alphanumeric display! You don't even want that on your calculator. The 34C sports 20 registers, 0 thru 9 and .0 thru .9 . You don't need A to Z, it only clutters the machine.

OK, we can always find some sort of advantage to the 32S. It has got 12 digits, the 34C has only got 10. But so what, the 34C is more fun. One designer can build a beautiful machine with an economically constrained 10 digit display, the other builds something boring and dull with a 12 digit (or even more sophisticated) display.

I am absolutely ecstatic that the internet is allowing us to re-acquire beautiful older pieces of equipment, and spend our money on other things, and run circles around HP corporation, if the corporation no longer builds what we wish to buy.

Thank you for sharing this moment which I am really enjoying, getting reacquainted with a machine so marvelous, it took comparing it to several of its descendents to realize how far out in front they were, way back in 1980.

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My HP story

*Posted by **Howard** on **28 Mar 2003, 6:41 a.m.***

In 1975 I was a Shift Operator at at a powerhouse. It was a real easy job. I had never finished high school but was earning the equivilent of an engineer with about 15 years experience. I had a lot of time on my hands and I started to study the subjects I had not done before. I was very interested in mathematics but in the end I studied to matriculate as a mature student. In the end I studied law and became a barrister. I now am a lawyer for the Aboriginal Legal Service here in Brisbane Australia. Anyway, when I was studying mathematics I purchased a HP32E (it was the only HP they had). I immediately fell in love with RPN. It seemed so natural. In fact I didn't have to learn it. It was so easy. The 32E got lost in my divorce. But I still had the passion for HP calcutalors. A lot of water passed under the bridge. I didn't study any more maths. I'm 59 and at my age you get nostalgic for your youth. I discovered Ebay and purchased a couple of HPs. I have quite a collection now. HP67 HP65 HP32SII HP42S HP45 HP33C HP34C HP41CX - Advantage pac, Finance pac, Maths I pac, card reader HP41CV HP19BII HP12C HP48S HP30S. The card reader for HP41 but it is defective and I'm looking in to fixing it.

The HP67's card reader has a problem but I'm working on it.

My main problem now is that my calculators are much smarter than I am. I do not understand some of the functions - matrices, complex numbers etc. So now I have had to buy a mathematics book to understand my calculators.

There is something of a reverse situation here - most people buy a calculator to do the maths that they already know, I'm studying maths to use the calculators the I already have. Anyway I don't care it is a great interest.

By the way the book I eventually purchased was; Mathematics: From the birth of numbers by Jan Gullberg. It seems to cover all subjects but not in boring depth.

I recently got the handbook for the HP41CX and all the pacs. There is no doubt that the newer HPs can do all the things that my 41CX can do (and much fastr) but I find that the fact that the 41CX could do these things in the 70's is fantastic. I'm just overawed by the technology. The 41 is a lot easier to use than the later calculators. I would say without a doubt the the 41 with my packs is the best of all the HP calculators. Another thing, apart from the 41cx, the led HPs are much better than the later models. I get sort of goose bumps when I use my 33C, 45, 67 & 65. That technology was great and strangely, because the advance in technology has made them redundant, they hold even greater interest for me. All the best, Howard W Jones.

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HP-34C in high school calculus, back in 1980

*Posted by **Norm Hill** on **27 Mar 2003, 12:06 a.m.***

I always will have the finest memory in high school mathematics class (I was in the 'advanced' calculus program). The time was 1980. At the time, the HP Calculators were around, but very expensive. Schools would encourage you to purchase a TI-30 for trig and calculus. People knew about the HP but refrained ("that's for Einsten, and there's no eeekwulz button). I was interested in the superior unit and had earned the money and bought one. I had been told how RPN would make the calculator work better than a TI-30 and I had mastered the 34C and really liked it. It was a fine fine complement to going thru teenager trig and calculus classes. (later I used it thru college).

The high school math teacher was skeptical. That was "Mr. Hilton" out near Lynnwood, WA. He preferred the 'one with the eekwulz button'. He was probably intimidated that I had bought this extremely expensive HP calculator, because who could afford one on teacher's pay. (HP calc cost a LOT of income at the time). And some of the students had noticed it, and were wondering if the calculator really was better than a regular one like a TI-30.

The TI-30 the schools & teachers recommended is pretty much useless for doing anything more complex than 2+2=4 . You can't evaluate complicated formulas readily. If you use the parentheses, you get lost, and if you try to store intermediate results in a register, you'll also get lost. Meanwhile RPN supports complicated numerical evaluation.

AND SO, we were going thru the calculus class one day and dealing with a problem. We had actual numbers to plug into a big formula, the teacher wanted to get a numerical answer, even though it was a theoretical calculus class.

EXACTLY the situation for which RPN existed. So, we've set the stage for something humorous.

.....

The teacher pulled out his "TI-30" with the eekwulz button.

He started pushing buttons, trying to use the memory (this plus this, eekwulz, I'll store this..... EQUALS, OOPS, got to start over, EQUALS, mumble mumble, store this, DARN, left parentheses, rats) yeah, he was carrying on like that because the formula was kind of complicated.

Like a relaxed sharpshooter, I reached down to the book-pile on the floor at my high school desk..... I pulled up the HP-34C (in its fancy fur-padded pouch).

I removed it from the pouch. I began typing the formula, ONE TIME ONLY, without hurrying. Even though I'd started well after the teacher with the TI-30,I had the answer in seconds.

The teacher was still mumbling and saying 'eekwulz, recall that, eekwulz, store this, where is the parentheses, eekwulz, OOPS', and then, I stated the answer to him.

He simply put away his TI-30 calculator and wrote the answer on the board.

He said 'Norm has one of those expensive HP calculators. It uses a system called RPN which is supposed to make it

more practical to use on difficult formulas like this. I don't know if its true..... well..... maybe it is".

"We'll trust that this answer is correct". He had never gotten any sort of answer with the TI-30.

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LEDs, TIs, and HPs.

*Posted by **Jeremy** on **23 Mar 2003, 9:46 p.m.***

I have always preferred LED displays to LCDs. They are easier to read and just have a certain charm to them that is very hard to explain. That they actually 'emit' light rather than just displaying something is just awesome to me.

It all started a couple of months ago. I spotted an old TI-1200 calculator on a shelf in my grandpa's bedroom: Jeremy: "Pop, do you still use that?" Pop: "Nope." Jeremy: "Can I have it?" Pop: "Sure. Knock yourself out. I remember paying $150 for a TI in the 70s... it was the first one with square root" (He was referring to the TI SR-10) {I don't know if that is true or not, I think the HP 35 may have predated the SR-10 but maybe it was so expensive he didn't consider it}

So I took it, put a fresh battery in it and kept it next to my computer keyboard. I used it for things like balancing the checkbook and such. Every time I turned the thing on and saw that sharp little red LED display, I smiled. I had to have more.

Off I went to eBay, where I bought the Sanyo 'Mini Calculator' which is AC-only powered and the size and shape of an old transistor radio. I've seen the inside of one of these, and the display I think is what you guys call "Pixie Tubes"? They look like little neon bulbs. This one seems to work more like an adding machine than an typical alegebraic calculator. (for example if you want to subtract 3 from 6, you would key: 3 += 6 -) Multiplication and division work normally, but if you want to subtract, you have to hit the subtract button AFTER you add it. This one has a beautiful amber display. $8 + $8 shipping.

Next, I found the coolest little Casio Personal Mini with a green LED display and the sideways format. I bid on that and won it for $12. The guy shipped me the wrong calculator, a Unisonic 888. I decided I would be open-minded and try it. Two of the keys didn't work and there was corrosion all over the terminals. So I emailed the guy and let him know. He said "Keep it and I'll refund the money. It's not worth all the shipping charges. If I find the Casio, I'll send it to you." Nice. So I took the thing apart, cleaned off the terminals and fixed the keypad. It was not the HP type of keypad. It was the mushy kind where each key had a spring, a contact, and a couple other pieces. It was an absolute nightmare getting it back together properly. It turns out that someone before me had it apart and couldn't get it back together right, and so two of the keys didn't work. So that one was free, and had a nice green tube display. (which looks like LEDs) $0)

Next, I got to thinking that although I like these LED calculators, they won't do me much good in the Advanced Communications class I'm taking. So I went back to the Datamath site and did some research. What I wanted was a classic TI scientific with enough scientific functions to be useful to me in school. I also wanted it to be not too collectible as I wanted to buy it and use it. So I got a nice first generation TI-30. (Red LED display again) I think I paid $22 for that one. It came with a vinyl case which was made to look like denim. (Did people actually wear these on their BELTS??!!) My fellow DeVry students were having a good laugh at me. My one good buddy in particular is in this phase where he's dressing as if it's 1971 outside. So I let him know that he could laugh at my calculator, but it's newer than his pants!

Then, I remembered the nice keypad my 48GX had before I sold it out of discouragement that it was so unintuitive to

use. So I figured older HPs might be simpler and have the coveted LED display. I surfed over to eBay and was floored by how much they were going for. $300 for a 30 year old calculator? They must be good, or collectible, or both. I didn't buy that HP 35, way out of my budget right now. Still, I wanted an HP scientific with an LED display. The first thing I saw that fit the description that I could afford was a heavily used hp 45, which I won in the auction for.... $45. No battery, a dirty and sticky keypad with 'keys that had to be pressed hard to work', dirty keypad outside, cracked battery door. No problem, I could fix or deal with all of those things. I took 'er apart, cleaned out the keypad, built and hardwired a AAA battery holder and away I went. It wasn't quite that easy, it took an entire evening to do it. The first time, they shift key didn't work. So I took it apart, hardwired the battery holders and gently cleaned underneath the shift key with a toothbrush and some 91% alcohol. When I got it back together, the shift key worked, but the 1/X key didn't. So I took it apart again and cleaned THAT one. It worked, but now some other key didn't. So I took it apart again (thankfully this is very easy to do) and cleaned all of the keys. I replaced the plastic sheet that separated the keys from the rest of the environment. (using a wrapper from a package of Radio Shack AAA battery holders I happened to have on hand; it looked like about the same kind of plastic) Anyway, now it is very clean inside and out, and works like new. It still looks very worn; you know how they get shiny from years of use. It feels a little odd though; using something that has that worn, shiny feeling that I have only had for a few weeks.

For some reason, (cough cough, have I caught something?) that wasn't enough. I had to have more of that elusive HP quality. I discovered MoHPC and read for hours for about four nights. As nice as that hp 45 is, it doesn't do complex numbers and matrices. True, my trusty TI-85 does all that, but it is not quite the same. At this point, I was starting to really get used to RPN and develop a distaste for algebraic. (although it is very well implemented in the TI-85) I decided I should get a 15c. What?!! They're discontinued and selling for over $200 on eBay?!! Bogus. Next, I decided that a 32SII would be good. Seemingly, Amazon still had some, they they were selling for $240. :(How COULD they? A quick trip over to eBay explained it. They have been discontinued and are fetching crazy money. About $220 at that time. Then, I got to thinking, if those are selling for so much on eBay because they're collectible, does that mean that some of the newer high-powered ones are out of favor? Yes, it did. I picked up a 48G with manuals and a couple minor dents to the faceplate on eBay for $40. Even if I didn't use all the fancier functions, it was worth $40, right? That huge easy-to-read display shows four levels of the stack and probably is better on batteries than the LED display of my hp 45.

Last night is the final chapter. (hopefully) I was surfing around on eBay and out of curiosity, I wanted to see what the 32SIIs were going for. $250 apparently! Blimey. I changed the priority and had it display the newly listed items first, and someone was selling a nice condition 32SII with case for $125 with 'Buy it Now' So I jumped on that without a second thought. The interesting thing is that I can't really afford it right now, but I know that if I feel any remorse, I can get back my money and then some. For a while now, I'm going to have to stay the hell off of eBay or I will find myself in trouble. ;) I'm just going to read this forum and be a good boy. Maybe actually learn how to program the 48G and 32SII.

Side comment on my TI-85. I bought this in about 1991 in high school. It has gotten me through all of high school, and the first three years of Electronics Engineering Technology. It has had my name carved into it, the battery door, and the slide case with my Swiss Army knife. It has been dropped once or twice, but not too badly. It is shiny and worn, and has earned its retirement.

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HP48 and dialog boxes

Posted by ***Karma Policer*** *on* ***23 Feb 2003, 11:51 p.m.***

when i was on those "nothing to do" days, i had the idea of impressing some friends.

I done that: I've draw a fake dialog box "HP48: This program caused an illegal op. and will close" in my PC. Then I converted it to a grob and stored in my HP-48. i sent this via IR to a friend, ASNed it to the OFF key and made an infinite loop to look like it's crashed. My friend said: "what the $&*@&$&$@*$ is happening? Can't it be only in Windows? Or it must be in the HP too?". LOL :)

g'bye KP®[apx] - Porto Alegre - Brasil YM Mathematician182

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Buyer's Remorse... no more.

*Posted by **Michael Meyer** on **29 Jan 2003, 11:53 p.m.***

I had a fun realization the other day.

I put myself through college and med school working several jobs. I had to watch my pennies closely.

I was proud of the fact that I'd never experienced "buyer's remorse" with my purchases. I always knew that happiness didn't come from buying, but from enjoying and appreciating the things I'd bought.

When the HP-15C came out, I had to have one. Later, I experienced "buyer's remorse" probably for the first time. While I enjoyed carrying it, I didn't really need it as I did my HP-25 and later a TI-59. I felt badly that I'd spent money I really should have kept.

Jump forward 20 years. I now collect HP calculators. It struck me recently: one of the only things I'd bought that I'd had remorse about.... I'm now so happy that I bought it!!!!

Michael

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Fun with HP-11c's

*Posted by **surfguy** on **21 Dec 2002, 2:17 p.m.***

I've owned my 11c since the early 80's. As a Mechanical Designer I used it daily and with a couple simple programs it served me very well. I have since changed professions and have taken it to work at the local home improvement store. We do a fair number of simple calculations throughout the day. Most of the Associates wait their turns to use the ten-key at the end of the counter, or use pocket calculators.

That's where the fun comes in for those of us who use RPN. It normally goes something like this.. "Hey, can I use your calculator?" "Sure, here ya go." Pause.. "Uh, where's the 'equals' key?" "Doesn't have one, it uses Reverse Polish. Just input the number, enter, input the second value and push the function key you want to apply... Simple. You can save values using the STORE / RECALL functions." Pause.. "Thanks, I'll wait for the ten-key." Inside of two weeks, nobody wants to borrow your calculator and you can literally leave it on the counter without worrying about it being "borrowed".

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HP 35/45 competing with a main frame computer

*Posted by **Jan (Switzerland)** on **6 Dec 2002, 10:21 a.m.***

It was in the 70's. As a young student of engineering I had to undergo a 3-month practical training in a well-known Swiss machine building company.

My assignment was to investigate why same machine parts revealed different properties after a heat treatment and what the relevant parameters were. Pretty soon I have figured out, that I would require a multiple linear regression.

So I gathered quite large number of data, tabulated them carefully on a big sheet of paper and went to the COMPUTER CENTER to have the regression calculated.

I entered a new and different world and was deeply impressed by the rows of tape machines moving back and forward their large tape-wheels, by the busy men and women moving from one to the other terminals, by the many blinking lights and noisy printers. I felt small, behind the large windows.

Then I presented my tabulation to the man, who served as an interface between us the common engineers and the higher caste of the people who understood and could even talk to computers. After 5 minutes, I had to realize, that my humble request really insulted the man. He explained me in the precise language of a computer expert, how I was supposed to present my case in order to get a chance to be considered for a calculation. I did not understand a word of what he was saying in his computer language, so left the place with deep admiration for a world from which I would remain excluded for the rest of my life.

Still I had to run my regression. I took my HP-35 and went around and collected another 11 calculators from other engineers, some of them HP35 and some the latest and spectacular HP45. I arranged them on a large table around my data sheet. And, 3-4 hours later my regression was calculated and double-checked.

I would not need that again, but this experience helped me a lot in my later career.

Jan (Switzerland)

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Calculator or Pocket Computer?

*Posted by **HPunk (Brazil)** on **23 Nov 2002, 3:04 p.m.***

(note: I'm a friend of "HPhreacker").

I bought an 48GX when I won R$5000 (+- 1500 dollars) at a competition in 2001. I bought a Palm and a new computer too. Recently I got a new cable for HP-to-computer and a 2MB ram card. Then I download a bunch of programs... The Palm rendered almost useless. My HP is now HP48-Agenda-Pocket Game-Graphics drawing tool-text editor computer!!

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Eulogy for a 15C

*Posted by **deb** on **15 Nov 2002, 2:24 p.m.***

My calculator died today. The LCD display is shot. I can only see the upper left of any given digit.

I won my first 15C in a math competition in High School. (Still remember the wave of anger when the awards ceremony MC made a big point that this was the best a girl had ever finished in the competition.)

My college roommate lost that one. Imagine my dismay when I learned that HP had discontinued the model. A few weeks later I was at a graduation party for my mom's exchange student's boyfriend whose dad worked for HP. I complained bitterly that the 15C had been dropped from the lineup.

A few days later he showed up at my house with a brand new 15C - still in the packaging. Found it in some salesman's desk. I immediately had it engraved so that I could identify it if ever it were lost again.

I've checked e-bay. Looks like they're selling for ~$200. At that price, I guess I'll somehow learn to use another calculator. Or maybe I'll just mourn.

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30 years of HP calculators

*Posted by **Tom Mathews** on **12 Nov 2002, 1:04 p.m.***

I too remember the excitement in the early 70's when a couple of my fraternity brothers who were also in engineering school bought the HP-35. I personally was never too found of the slide rules and used to hang out in the lab where there was a desktop calculator to avoid having to use a slide rule. If memory serves me correct, a short time later the price dropped to $325. At that time, I could not still not afford one, but I was sold. Several years later, I bought the HP-27s and used it in business school. One of my memories was that the HP-27s was the only calculator that could solve for internal rate of return. That was a great calculator. I actually went through 2 of them. I remember problems with the keys on the keyboard failing. The nicad batteries had limitations as well.

Later when my second HP-27s died of of keyboard failure, I moved on to a HP-33. Don't remember too much about that one.

I am now the satisfied owner of a HP-42s. Great calculator. Nice LCD screen. No battery problems.

After all these years, I still can not understand why anyone would not use RPN. When I see a HP calculator on someones desk, it adds to that persons credibility.

I would also like to add that your website is excellent!

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Persistence pays off!

*Posted by **Grant Henson** on **4 Nov 2002, 11:30 a.m.***

I've been fascinated with HP calculators ever since I used to hang around the lab where my dad worked when I was a kid, some 25 years ago. The scientists there had several of the old 9800 series, and the cryptic program listings and paper storage tapes had me champing at the bit to get an HP, any HP. I also had a hardback 1980 edition HP catalog which I looked through like a normal kid would look through a Sears catalog in December.

I got my first HP, a 28C, as a high school graduation gift from my parents. Used it through four years of engineering school, until it disappeared one day. Then I got a 42S, which remains my favorite "modern" HP, but it too disappeared soon after I took my first job...strange how HPs have a habit of vanishing when other engineers are around.

I then got a 48S (too cheap to spring for expandability), and still have it; used it up to about a year ago when I picked up a 48GX, which I use for most everyday stuff now.

But what I really wanted was a classic HP! The last place I worked had evidently bought a bunch of 97's, because you'd see one every so often on an old-timer's desk. I kept my eyes open and finally located one in a box, under a bunch of junk, complete with owner's manual, AC adapter, thermal paper, and a stack of blank magnetic cards. Paydirt! I got permission to take it home, and played with it briefly...but when I turned on the printer switch, I experienced the dreaded crumbly printer gear! The printer ran and ran, and of course the display froze, but when I turned the printer switch off, the freaking switch broke! I tried fixing the switch, but I am not an electrician. It was something non-obvious deep in the circuitry that was wrong. I made a feeble attempt to cast a replacement printer gear out of epoxy, but of course could not get the teeth to come out very well. So my HP-97 dreams were dashed...

Until...at my new job, I discovered a surplus warehouse. Decided to take a stroll over there one lunch hour...and...paydirt again! A 97, a 34C, and a 55, sitting on a shelf. All I had to do was sign my name and they are mine! The 97 works very well, although I have not tested the card reader yet. The 34C and the 55 had leaky battery packs, but the damage appears superficial. I now have the 97 on my desk, and I use it for simple calculations because I like the bright display and big keys. It also has a certain conversational value. The other day, my office mate looked at it and said "What is that...THING on your desk?" Which I think is the reaction we all like to hear :)

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My First HP-21

*Posted by **Olivier TREGER** on **1 Oct 2002, 8:27 a.m.***

I remember this sweet day when my mother took me to the department store to get me a calculator.

At the time we left home, she didn't know she would pay FRF500.00 (in 1976!... wow, what a bunch of money) to get a 1-memory (not continuous), 4 operations calculator.

She almost said no but when she saw the spark in my eyes when touching the 21, she finally accept.

Irony is that the calculator has been stolen in my satchel at the college, 2-3 years later. At that time, my beloved school tools were the HP of course and a Parker 45 Flighter (stainless steel version) to take notes rapidly.

I was gained by the demons of trigonometry thanks to the R-P and P-R functions of the HP21.

Nothing very interesting except for me... ;-)

Olivier_from_Paris

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Way back in 1981...

*Posted by **EdAustin** on **21 Sept 2002, 10:37 a.m.***

1981....

Started College doing Computer Science and saw some commotion around this guy. Went to have a look and saw he was showing off his brand new 41C! I was hooked immediately, from the solidity and made-for-engineers like look I knew I had to get one. At the time I had little money.. so it had to wait, but it was a dream started...

My first paycheck... my first HP.. the 41C ! Way back in Mid-late 1983, it was I recall about 150 UK pounds or so, then about $300.

Since then I have owned an HP-12C (1995, My favourite all time HP calculator, serial number indicated it was a 1982 model!) and now have an HP-71B which I am looking into writing an HP-12C emulator for (including full RPN etc).

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hp80

*Posted by **sergio ricardo moreno** on **4 Sept 2002, 4:28 a.m.***

I happy for may calculator hp80, is the best ! Serjao

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"Playing" with a 9820

*Posted by **Joe Hallett** on **24 Aug 2002, 3:53 p.m.***

One of my favorite stories from a past life concerns an HP9820 that I purchased for my R&D lab back n the '70s. The justification was that it would be useful for running automatic test setups, which it was. But the real problem was to introduce its use at a time when the normal process of "doing a job on the computer" meant sitting with an analyst for a few hours, then waiting for days or weeks while the problem was coded and run on a centralized machine. The beauty of the 9820 - which introduced a high level Basic-like programming language - was its accessibilty for hands-on work by people who weren't computer experts.

I tried to make the 9820 more accessible by putting it in its own little cubicle where people could make mistakes in private. And I spread the word that there was no access control. Anyone could use the machine whenever it was open. Conficting uses would be resolved case by case.

The result was predictable by today's standards. People started to play. A lab tech with no prior computer experience - who happened to manage the bowling league.- set the key precedent. Bowling stats started to appear on people's desks the morning after league play. People wondered how he did that!

The real challenge was keeping my boss out of the area. (I think his office was too close to the finance managers.) He was under pressure from the computer resource people to keep our people from wasting their time. So "playing" was an outrage!

The bottom line is - I guess - to never lose sight of the benefits to be derived from people doing what they enjoy.

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HP Computing in 1969/1970

*Posted by **Chuck Lytle** on **21 Aug 2002, 10:28 a.m.***

I got my master's degree at Purdue in 1970 under Sam Perone, who was one of the very first people to interface digital computers to scientific instruments. He and Harry Pardue ran an intensive, three-week NSF course every June for academic/business people called "Digital Computers in Scientific Instrumentation" (also the title of a paperback that came out of the course). Through the pull of Purdue instrumentation guru Stan Amy, who was a personal friend of David Packard, early every June a huge truck would appear, down from Skokie, IL, loaded with HP 2115 and 2116a&b cpus. We taught HP assembly language, and HP knew all those students would go home knowing how to program only HP computers. We set up all interfacing using those huge, blue LogicLabs (made by ??), wiring everything up with a maize of banana plug wires. Had to "hard wire" our own A/D coverters, clocks, etc. because none were commercially available. Basic had just come out, and we spent a lot of time writing a subroutine library we called "Purdue Real-Time Basic" that would reach into HP assembly language and set flags, etc.

Notable students included old man Keithly of Keithly Instruments fame. When other companies got wind of how HP was "helping out" the short course, they insisted on bringing demo cpu's to campus, and we ended up having to set up a sort of show room in one of the vacant chem labs. DEC brought Nolan Bushnell (who later founded Atari) who had what had to be version one of Space War set up to run on the PDP-12. Craig Williams and I built two joy sticks (were these really the first???)in the basement Chem. Dept. shop out of two Budd chassis and aluminum tubing. We soldered push buttons to the top of each tube, flattened the other ends, and soldered them to two gimbled pots. I assume Bushnell had SOMETHING cooked up to run the game, but he didn't have anything with him. Thus our rudimentary sticks. Bushnell also gave us a little program to play ping-pong using the light registers on the front of the HP 2116b. All programming was put on paper tape and usually fed into the cpu via a floor teletype. For longer programs, we rewound tapes using electric drafting erasers outfitted with aluminum discs.

I vaguely remember that the HP 2116b had 12K of memory. The diode boards were huge and clearances tight. On a couple of cpu's, we kept experiencing transients that could only be solved by keeping the cpu's very cool. To run the course without glitches, we resorted to funneling the entire output of a window air conditioner into the open back of the cpu using big pieces of cardboard and duct tape. Now that was computing! Red Green would've been proud.

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my first paid program...

*Posted by **Clif Swinford** on **20 Aug 2002, 9:40 p.m.***

... was on an HP 9810A, in 1972. We had one in my high school, and I put together a card stack to print out a banner message (an obscenity, of course) repetitively. I then sold the stack to another student who planned to print a huge number of "bumper stickers" and throw them into a fan during a pep rally. He got caught before he was able to implement his plan -- but not before he paid me! Five bucks -- my first professional programming gig.

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OOPs ! Wrong Battery in a HP-41CV

*Posted by **Eduardo Munoz** on **31 July 2002, 8:40 p.m.***

I have an HP-41CV that I purchased in a trip to US in 1980. I used it for the last two years of my Mechanical Engineering studies at the Simon Bolivar University in Caracas, Venezuela. Later I used it at my first job, but I finally decided to keep it at home, so it would not get "lost".

The other day I took out of the drawer I keep it, and noticed that the batteries were low, so I went to the refrigerator where I keep several batteries stored (they are suppose to last more that way, maybe it is just another urban legend ...).

I noticed that I had a battery labeled 23A used for garage remote controls, that was almost the same size of the N batteries used by the HP-41CV. So I placed 4 in the calculator and switched on.

The LCD's blinked and went off, so I shut it down. Humm, maybe these batteries are not the same, so I opened the lid and saw (to my horror) that the battery said 12 V!

Wow, I had fed the HP with 48 volts instead of 6 volts !!

I thought I had cooked the HP, and it didn't work for several days. At the end after removing the Stat1 and Math ROM drawers I had bought with the HP, I finally got it to work, although sometimes when I start it, it displays "Memory Lost".

So, be careful with the batteries you use ....

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Another memory from me: HP48G.

*Posted by **HPhreacker** on **23 June 2002, 10:06 p.m.***

When I played with the 48, i didn't had a real computer, so I considered it as a "real computer". The 32KB memory was VERY BIG for me. When I got my real computer(a Pentium MMX-266, Windows 95) I was missing my 48, and no Excel/1-2-3 program can suppress the fault. Now that I am running Windows on the SAME computer, I have the 38G/39G/40G/48SX/48GX/49G emulator and many math/calculus programs(free and comercial), like Mathematica and Scilab. The things the HP needed built-in were a block diagram editor(this is why I use Scilab ;) and more special functions.

If you have spare time visit my home-page: www.hphreacker.hpg.com.br or contact me via ICQ 151782344.

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HP memories from Brazil.

*Posted by **HPhreacker** on **2 June 2002, 5:45 p.m.***

I am 14, so I've lost MANY of the HP history. I've started with a HP12C from a friend. I was messing RPN, typed: 3 + 4 ENTER. So fast learned RPN. I could fit many functions in the 99 steps. Then used an graphing 48G(32K). I was simply HOOKED on it. So I've spent nights searching for "hp48 emulator", when I found... hpcalc.org(actually, i have GUESSED it from my ideas: hp + calculator=hpcalc, I was new to Internet)! Downloaded the emulator(emu48) and then... "it needs a ROM dump". "But what's a ROM dump?", i asked to myself.

So i looked in hpcalc.org and got the dump. 3-4 months later, I was with an 49G emulator. November 2001: bad news. Lost all data in system damage. Time to search all... in hpcalc.org again! :-)

My site is www.hphreacker.hpg.com.br. My emails are: hphreacker@CUT.hotmail.com and hphreacker@CUT.brasnet.org I am on IRC.brasnet.org#ti_cas or irc.dal.net#brasil.

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HP48GX/HP49G

Posted by ***George Tsiros*** *on* ***26 May 2002, 10:28 a.m.***

I'm a bit young (born 1980) so i guess i lost all of HP's history since the beginning. I was lucky enough to be there when the GX was introduced, which i consider the be the greatest calculating machine yet...and quite possibly ever.

My dad (Chem engineer) knew that the HP calcs were like diamonds. Himself couldn't afford one (told me they cost two months' payments, at least) so he got a ti (loses memory the moment you turn it off).

Anyway, fastforward to 1994, he told me that one of his friends has this strange machine that noone knows how to operate it and that it is very VERY expensive. Oh well, i didn't know much about calculators, so how could i expect what it could do? I sat with it about 2 minutes, trying to make the "main display" go away and show me a command prompt of some kind. Bah.

1997. My dad bought me one. We knew that it was something extremely special, but not anything specific about what it can do...The manual was huge, bigger than the damn calculator itself! But it was nicely laid out so i sat and wrote a 3D scene renderer in RPL. Lines only, and takes about 5 minutes to render each scene, haha! Strangely enough, i took RPL much easier than any other language i "know" (C,pascal,fortran). A couple years later i found out about hpcalc.org, hpmuseum.org, hp history (and present), asm/sysrpl, #hp48 on efnet and now you can find me in #nop3 together with JD.

Right now, i study physics at the university of patras, www.upatras.gr and i use my GX at the laboratories to make a quick draft of the report (ED,a spreadsheet and some little programs are the "suite". Thanks guys...).

Thanks to all the people on the RULES screen... no thanks to Carly...

Bye

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HP-42S

*Posted by **Walter Christensen** on **10 May 2002, 3:45 p.m.***

I have a HP-42S. It helped me get through college (BSEE)in the 90s. HP makes the best calculators!

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My first calculator

*Posted by **David Chong** on **23 Apr 2002, 1:20 a.m.***

I received my first electronic calculator back in 1975. It was a HP-21. I read the user's manual from cover to cover many times over, enjoying the many practical examples given there and fell in love with RPN. I especially enjoyed sitting in the front row during physics or chemistry lessons with my HP-21 and waiting for the lecturers to take the bait. Every now and then they would conveniently pick up my calculator and try to solve some equations on the board and I just love the look on their faces as they try to search for the equal sign. Exasperated, they would eventually turn away to look for some other calculator from one of the other students.

One day my HP-21 dropped from my motorcycle and as I went back to look for it I saw it being run over by a car. My heart sank as I heard the sick sound of "thump-thump" as it was being run over twice, first by the front and then by the back wheel of a car. To my surprise it was still working fine when I picked it up. The calculator (and the manual) is still with me today and functioning well. I had to remove the NiCd batteries though beacuse they started to leak but they continue to work well with normal dry cells.

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MIT physics lab and HP-45

*Posted by **Paul M Lieberman** on **22 Apr 2002, 5:07 p.m.***

My first exposure to what I thought of as a computer was the HP-9100, which members of my junior high school math team were allowed to program.

Possibly the most demanding course for physics majors was the two-term Atomic Physics Lab (called "junior lab" by most, because most of us took it in our third year). There were various experiments we each had to perform, in teams of two (when I saw the expensive equipment in this lab, I suddenly realized where a good chunk of our tuition went [about $4000 in 1974]). When it came to the Rutherford experiment, which proves that atoms have nuclei, we shot alpha particles from Americium (from a $5000 chunk of the radioactive metal) at gold leaf, and measured the dispersion of these particles. To see the result, we had to do a statistical analysis of the data. In earlier years, students who did not know how to program a computer, or did not have access to computer time (I believe most MIT physics majors in the early '70s did NOT have this skill), did these calculations by hand. In our class, we had one student with an HP-45 (I believe it cost him $495, or twice what it cost me to fly to Europe in '73). He graciously lent it to each of us as we did the Rutherford experiment, so we could use the built-in summation, mean and standard-deviation functions. For this, H-P, I will be forever grateful!

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paper tape punch 9884A

*Posted by **Milan Jolic** on **16 Apr 2002, 5:47 p.m.***

I have paper tape puncher 9884A and 9815/A calculator. Calculator is damaged and not working, so I wish to connect my puncher with PC. Can anybody help me how can I do that? Thank you. Jolic Milan Livnica "KIKINDA" Yugoslavia

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HP 21 & 60 seconds of "++++..."

*Posted by **Robert Miller** on **15 Apr 2002, 11:45 a.m.***

I always wondered if there was some kind of world record for how many times a person could push a button in 1 minute. Anyway, about 25 yrs ago when I was perhaps in 8th grade or early High School I started giving it a try on my HP 21. "1, Enter, Enter, Enter, 0," & away I'd go pressing +, +, +... for 1 minute. The "clicky" feel of the HP keypads are perfect for this & I began breaking my own "record" regularly. It wasn't long before I showed a few classmates my new found past time & I'd let anyone try who thought they could beat me. (Nobody ever did!) I'll submit my all time best "score" of 528 as the unofficial record here. It is an amazing tribute to HP that my "+" button never wore out & worked like new up until I lost (& still miss) the 21.

There was one time that I "cheated" by entering 1.1 into the stack & performing a FIX 0 to hide the decimal. I did that just to make one guy stop borrowing it in an attempt to break my record... It worked. Much to my dismay my current 41CV & CX models will not add fast enough for me to continue my quest. :o(Anybody else out there ever give this a try???

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The story of a globe trotting HP-15C

*Posted by **Ala'a H. Jawad** on **1 Apr 2002, 7:45 a.m.***

Awhile back in 1988 at Monmouth College (now M. University) - New Jersey, I was in my Physical Electronics class when our professor commented on how power efficient modern electronics were. As an example, he mentioned that his HP-15C, which he had purchased some 5 years earlier - still runs on its original batteries. To that I jokingly commented that my HP-15C - purchased in 1985 – had at least 2 years to go before I need to change the batteries. Even then at that time, the 15C was not my main calculator (that would be the HP-28C), it has been relegated to an early retirement as a “desk” assistant. Flash forward to 2002. My HP-28C is still with me; it’s my “desk” calculator at work. I also have a HP-28S that I used years ago to crack the length of the Synodic Month (a story for another day), and more HPs all over. I still use the HP-15C, although now I have changed its status to my “travel” calculator, and so I don’t use it frequently now. I’m an eclipse hunter and for determining solar contact timings I use customized graphs and tables that I’d calculate before traveling to my destination, and along with a GPS receiver to determine the exact log/lat of the location I’d calculate contact timings and totality duration on my 15C. The calculator, GPS receiver and notes take a lot less space in my gear bag than a PowerBook, space that is saved for filters, observing and photo equipment.

Oh, I forgot to mention. My 17-yr old HP-15C still runs on its original batteries!

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H-P Calc trivia fm ex employee

*Posted by **Jim Grant** on **22 Feb 2002, 11:17 a.m.***

The origional hp 35 had a mistake in an alogrithm that caused a 1% error when taking the Ln & antiLn of 2. AMD made many of the IC's & contributed to HP 35 alogrithm development. The size of the 35 was dictated by Bill Hewlett's shirt pocket. HP 35 became the volume leader; It quickly passed the 5245 Frequenct Counter. 9800A was a marvel! The 9800B did have a couple of IC's (I think op-amps) in the card reader. The Timer functions of the 55 are in the 45 also. The timer can be accessed by simultaneously pressing the CHS,7 & 8 keys. The 45 clock osc isn't calibrated, so the timer accuracy will vary up to +/- 14%.

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memories? Nope, my 35 still works

*Posted by **Bob Hartman** on **7 Feb 2002, 3:07 p.m.***

Just discovered this HP Web Museum while looking for a new calculator (my personal 11C just died). From the descriptions in the web site, the 35 I use at work seems to be the second version (no red power light, no 35 on bottom, etc.). It works fine: no sticky buttons, all digits till work, etc. Can't get batteries for it, so it remains chained to its AC adapter. For that reason, I also have a 32SII to use when I have to move around with it. But I prefer the 35! It's S/N 31847; NASA finally removed the property sticker about 5 years ago; decided it really wasn't worth $395 anymore.

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HP Memories from Greece

*Posted by **Nick Karagiaouroglou** on **23 Jan 2002, 3:22 p.m.***

The first HP calculator I ever saw, was not a calculator at all. It was the HP01 in 1978 and I was dreaming of having one, standing in front of the jewellery that was selling it in Greece. At that time I was 14, so it is useless to say that this was completely impossible. The same shop start also selling HP calculators a couple of months later. Comparing them with the calculator of my dad, I wondered what these HPs might be capable of, if they had so many more keys. In 1981, a couple of money saving years later, I dared ask what they cost. (They never put any price labels on the exposed calculators for obvious reasons.) You must imagine my sudden face color change, when I realized that I couldn't buy even half a calculator with the amount I had saved. Depressed I went to an electronics shop and bought a simpler calculator, but still I had the dream. In 1989, again a couple of years later, I was studying chemistry in Duisburg, Germany. A good friend of mine borrowed me his HP41 and I was amazed of this fantastic machine. So the story "save money to buy one" started again. But just at the time, when I thought I had saved enough, I saw a commercial about the HP48SX. With an integral on its big display. I was amazed and devastated! I just had the money for buying the flag ship, but it was no more the flag ship! But I was lucky. The university offered some good jobs and I got one, which helped me improve my economy in a couple of months. Then I bought the HP48SX and felt like the king of the university. It could give you results of trigonometric functions with complex arguments on a single key press. And could do symbolic math. And many kinds of plots. And it had the command KILL which somehow gave me the feeling of having a big computer in my hands. I remember running behind people, to show them what was possible with this machine. They would hardly believe it! I did the whole work for my diploma with it. From measured data storage to fitting, from calculating theoretical values to plots, simply everything. Since that time I was lucky enough to be able to buy many other models. But when it comes to memory magic the HP48SX is a real treasure.

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Floored and thunderstruck by the HP-35

*Posted by **D.Slauson** on **21 Jan 2002, 5:17 p.m.***

In the fall of 1972 I was a university freshmen living in the dorms. I was struggling through my first chemistry course, and recall that our lab TA had spent a few sessions on mastering the slide rule, reminding us to be careful to not lose track of the decimal point! One night, one of our dorm-mates comes up to a group of us and says, "You guys have GOT to see THIS!..." and pulls out this little black box. I didn't know what it was (remember, I was a naive freshman, and had not even seen a simple 4-function handheld calculator); it looked kind of like a Startrek tri-corder or something. Anyway he fires it up, punches in some lengthy number, hits the square-root button, and BAM! There's an immediate and precise answer, out to n decimal places! Trig and logs too! I was absolutely floored. We were all quite excited and wanted to rush out and get them ourselves until we found out they cost about $400. The kid who showed it too us, had borrowed it from his uncle, who was a physics professor, so he wasn't really any better off than the rest of us. I don't think I ever quite got over that moment. About 2.5 years later I finally scrimped up enough to buy an HP-25. In the fall of '72 you could tell the science and engineering students by the slide-rules hanging from their belts. By 74-75 all those students had calculators, and slide rules were extinct.

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Funny anecdote about HP-45

*Posted by **aruid** on **18 Jan 2002, 6:35 p.m.***

Today my circuits professor was telling me how his friend (a math teacher) bought a HP calc in 1973 for several hundred dollars. They were talking and playing with the thing and his friend (the math teacher) asked "so when are you going to get one of these?" My professor replied "when I can buy it for ten bucks." Naturally his answer was laughable in 1973, but now you can get a calculator that does everything a HP-45 can do for under $10. I personally have a HP-49G and it makes me wonder what I will be able to get in 30 years, will the HP-49G be worth money as a collectors piece?

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The great trip East with the 41C

*Posted by **John Hancock** on **7 Dec 2001, 1:07 a.m.***

In 1990 (I think) when my four children were 8, 10 and 12 we went on a family holiday to central Victoria (Australia) ot just below the snow country. We had a great time but it took two days traveling there and back.

Question. What to do with four children in the back of a van for two days?

Why play hang man on my HP 41C of course. It was a synthetic programme and kept them occupied for the whole time. They still remember playing hangman together on that trip and occasionally ask for me to load it up and play it again.

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HP-35 vs Slide Rule

*Posted by **Bob Hermann** on **28 Nov 2001, 3:51 p.m.***

In 1972, I was taking engineering classes at Cal State Northridge. One of the guys in my classes had bought one of the first HP-35's (red dot) for $395 directly from HP (he worked for Lockheed and they had a direct line to HP). He definitely had an advantage with that calculator over the rest of us using slide rules and trying to maintain the location of the decimal point while performing iterative calculations during tests.

The next year he just had to have the new HP-45 (it sold for $395 and I believe HP dropped the price of the HP-35 to $295). He sold his "old" HP-35 to me for $175. That was a bit much in those days but it was a much better calculator than anything else around.

It was a dream come true and I sailed through engineering school. The University debated banning calculators but never got around to actually doing it.

I used the same calculator for about ten years during my first years at Bechtel Corp. as a Mechanical Engineer. I also was able to use it during the P.E. exam.

One real nice thing about the first HP's was that people quickly learned not to ask you if they could borrow it. The lack of the equal sign was very intimidating and most never got over that initial shock. (RPN did have another advantage.)

One minor glitch that did come up after all those years was that one portion of all the LED's went out. The problem was that you did not know if any of the digits was a 5 or a 6 and an 8 or a 9. I used a work around for a while by subracting a 1 from the affected digit to determine its correct value. For example if the screen showed 51491, I would subract 10010 from the display. If the result was 51491, then I knew the screen had actually displayed 61491. If the result was 41491, then the original display was 51491. After tiring of this, I finally gave in and bought a full function Casio for about $25. (By that time I was fully AC/DC and could easily go from RPN to the "Dark Side.")

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First time I was paid for programming

*Posted by **Nelson Asinowski** on **16 Nov 2001, 3:45 p.m.***

During my last year of high school I went on a tour of a local Junior College and saw a machine printing out biorythms. The next year I went to that college and found the lab where the HP9830a with plotter was located. I learned to program on that machine. They also had several desktop HP calculators so I learned to use them too. Through people I met there I got work in a local store that sold calculators. I learn to program the HP 25 there.

Somebody at the store gave my name to a stock broker who need some programming done on a HP67. They had a group of 3 HP-65 programs that they used for some of their calculations. The sequence took them 15 minutes to do. They did not like having to load the next program from the cards so they bought an HP67 and tried to load the program all in memory at once. They didn't fit.

They gave me the 67 and all the manuels for the weekend. I looked through the code and found that all three used number of days between date routines. I recoded the routine as a subroutine everything fit with room to spare. I took the money I earned from this job and bought a HP-29C (about $300 Can) which I still have to this day. I was in a computer science degree at that time and I did lots of silly programs for the 29. I wrote a quicksort routine for it. It could sort 26 numbers in about 5 minutes. I might even have my old hand copies listing of the code somewhere

Edited: 18 Aug 2004, 3:11 p.m.

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HP Memories

*Posted by **Fred Stone** on **25 Oct 2001, 1:57 p.m.***

About 1971 I was part of the evaluation group planning to purchase a time sharing system for Tuskegee University (Institute then). The sales rep came around with the HP35 and part of his method to show it was to take it out of his pocket, and in the process of handing it to you, drop it and while trying to pick it up, kick it, bouncing it off the wall or whatever it hit. Then retrieving it, allowed us to get our hands on it and smile while we drooled.

One of the students working in the center had forgotten his TI calculator and asked to borrow my HP35. He insisted he could use the calculator - NO PROBLEM - on an exam. I warned him it was RPN. NO PROBLEM! Well, he flunked the exam, cursed his TI and purchased an HP.

I still have the HP35 and many others - HP27, HP71, HP75, HP12C, 15C, 16C, 92, Portable Plus, 95LX still in use, 100LX (damaged display), 200LX used by wife today, 620LX still used.

On a training event, I was in Corvallas and took the plant tour. In the manufacturing area, they had the HP Museum of calculators that had been sent back for repair. One story stands out -

A person working in a zoo used his HP calculator to compute the proper food mix for the hippopotamus. While in the hippopotamus cage, he was shoveling the food and his calculator fell out of his pocket. Before he could retrieve it, the calculator had been consumed. There was a theory that it took about 41 - 43 days for food to work it's way through the digestion process, but nothing definite. 42 days later, out popped the calculator. A few nicks and bruises. It was washed off and it worked.

12/76 I went to work for HP. Retired 5/00.

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Thanks for the magic memories

*Posted by **Carl Landsness** on **13 July 2001, 9:55 p.m.***

I wish to say thank you to the webmaster and you contributors for triggering some incredibly magic memories... I'm tingling throughout with energy.

As a new engineer out of college in 73, I was given a dream experience by working as a designer in the HP division responsible for calculators... first in Silicon Valley, CA; later in Corvallis, OR. Everything about those early years was very special: the products, peers(e.g. Steve Wozniak), managers, toys, freedom, trust, comraderie... and the amazing feedback from users (ravid fans) like you writing to this website.

I couldn't believe we got paid for so much fun and satisfaction!

We also had many opportunities to meet and interact with many of the HP pioneers: Bill, Dave, Barney Oliver, Ralph Lee, Dave Cochrane, etc. I developed an immense respect and gratitude to these individuals who created such a unique and pioneering environment. They shaped many of my own values, skills, and dreams... which I am now using in the formation of my own company (in microfluidics and inkjet technology).

I can hardly imagine a better place to have worked or products to have worked on. Even my participation in the hugely successful and very exciting thermal inkjet program (at HP) did not create the special magic of those early calculator years.

I am very grateful. Thank you.

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Truck ran over my HP-11C

*Posted by **Tim Souza** on **7 July 2001, 1:44 a.m.***

I had a Truck run over my HP-11C and it worked fine for several years until I dropped it from my desk to the floor and the LCD cracked. waaaaa.

Too bad!! Thank heavens I have my newer 42S.

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Your 41 did what?

*Posted by **Jim Creybohm** on **23 June 2001, 11:22 p.m.***

While studying Petroleum Engineering in the early 80's, I became quite adept at programming my 41CX. I garnered a lot of favours by writing up little routines for people heading into a thermodynamics exam.

Anyway, one day my friend left his calculator on the table while he went to get his lunch. Knowing that he was nervous about his Physical Chemistry exam later that same afternoon, I decided to add a bit of levity to his day by writing a small program on his calculator.

OK, here is a basic framework; SF11 (start the program when the calculator is turned on), write a rude message,(7 letters, 2 words, you figure it out), AVIEW, and then XEQ OFF.

I may have overestimated my friends ability to work his 41, as I learned later that he only knew enough to use the alpha register to save some P-Chem equations. When he powered his calculator on in the exam, it beeped, wrote a rude message, and turned off! Panic struck, he did an ON and CLX at the same time (the only way he knew to stop the program). Of course, this resulted in a MEMORY LOST. He failed the exam, no doubt due in part to emotional stress.

After learning the consequences of my errant programming exercise, I feigned astonishment that some uncaring soul would dare write such a message on his calculator especially when he was heading into an exam!

Well, I ultimately 'fessed up after my friend passed P-Chem. (thank god, he may have throttled me had he have had to repeat). We still have a laugh about it, and he and I both still have our 41's. Funny how you can have a fondness for a calculator...

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HP41C Memories

*Posted by **Namir Shammas** on **20 June 2001, 2:21 p.m.***

I first saw the HP41 at Educalc, CA, while visiting ther ein the summer of 1979. Upon returning to Ann Arbor, MI, to complete my studies, I headed straight to Ulrich's Bookstore and bought me a machine.

I ended working for a water treatment company in Richmond, VA. I travelled a lot to do technical demonstrations. I took my HP41C and all of it's accessories with me. After work, I'd sit in my hotel room and write programs that I submitted to the library in Corvallis. I guess I lost count of how many programs I sent. I got a call one day for a phone interview and was told that I held the record for contributing HP41C programs.

My interest grew thanks to Jimm DeArras who also lived in Richmond. Jim was among the first people to allow the 41 to hook up with more memory that HP said was possible! Jim and I attended the PPC chapter meeting in College Park, MD. It was an interesting ritual. The PPC meetings in Chicago were wonderful too. I have a lot of fond memories of meeting bright and enthusiastic folks, like Richard Nelson, Jake Shwartz, Bill Colb, and many more!

The HP41C (and all the other HPs calculator I owned) occupy a special place in my memories. Thanks HP!!!

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My first HP-35 and several HP's later

Posted by ***C_Thomas*** *on* ***12 June 2001, 8:11 p.m.***

In 1976 I was a senior in high school taking both Physics and Chemistry. My high school was just beginning to allow the use of personal calculators. I long-admired the HP-35 owned by my brother-in-law so when he wanted to sell it so he could buy himself a new HP-67 I scraped up the $50 he wanted and bought it from him. That HP-35 first took my bro-in-law through his engineering degree and then took me through my chemistry degree. I still have it and it still works like new (when plugged in, the battery pack is dead of course). I retired it in 1985 or 1986 when I bought a HP-11C. I still use my HP-11C every day but I started to worry that someone might swipe it for its Ebay value so I also purchased a HP-20S that I am not so concerned about someone "borrowing" if they really feel they need to. Today I ordered a HP-30S for my niece, might as well get her started on the right path too. That HP-35 started a legacy of HP calculator use in my family, now in its second generation.

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My calculator is older than I am?

*Posted by **Neil Fraser** on **8 June 2001, 10:48 p.m.***

About seven years ago I was browsing through a garage sale, and spotted a rather old but interesting calculator for $5. A glance at the keypad was enough to get my attention. It was obviously RPN. I'd heard about RPN, but didn't know how it worked. $5 seemed like a good price for finding out.

After a few minutes of fiddling I got the hang of it, and after a few more minutes of fiddling I was left wondering why all calculators weren't RPN. This new calculator soon found itself on my desk and in use every day. The label on the back said "HP-35", but there was no date so I didn't have a clue how old it was. It had everything I needed so I was happy.

It wasn't until last year that I spotted an identical calculator in a display at a science museum. It was dated 1972: two years before I was born!

The HP-35 is still my favourite calculator. Since it doesn't have working batteries I always know where is, right at the end of the power lead. Since it doesn't have an equal key, my coworkers never borrow it. Since it has an LED display, I can use it in dim light. What more could I want?

vv.carleton.ca/~neil/

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How I got my 65 before they were introduced

*Posted by **Dean Lampman** on **30 Apr 2001, 6:18 p.m.***

How I got my 35 is a story for another time, but when I opened it up and saw the stack the first words out of my mouth was "They are going to make this thing programable".

So I wrote a letter to HP saying I wanted to buy one of the first could I enter my order. The thing I got back in the mail was a non disclosure form (which I had signed by my company president and returned). Three days later by Fed-ex I got an HP 65 (90 days before they were anounced). My contact at HP was Richard Baumann. SEE MESSAGE #83:

I was working on my Masters in Operations Research and when I used it for a test (calculators required), it started an arguement which all my classmates still remind me about.

Then I used it on my P.E. exam (calculators permited) and had the state pass a law that programable ones were excluded.

When my 9 year old took it to school for show and tell, the teacher, the principle and the head of the school board called me at home to see how they could get one.

It was so popular and famous that the people gathered to gether formed a Personal Computer Clup and chapter number 1 in Dayton Ohio became DMA ... see http://www.dma.org and is as far as we know today the bigest and longest lasting of all compter clubs

PS I have seriel number #17 of the ALTAIR's also

>> and that is yet an other story

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HP Memories and my HP-80

*Posted by **Richard Baumann** on **12 Apr 2001, 8:32 a.m.***

I was very pleasantly surprised to stumble on this website while searching for an Internal Rate of Return program on the Internet.

I worked for HP's Advanced Products Division in Cupertino, CA from 1972 to 1976, when the divison moved to Corvallis, OR. I was hired into the Marketing arm of APD to develop a training program for the HP sales force and customers for the soon-to-be released HP-80. I was a MBA "business type" and, of course, the HP sales force had primarily "engineering types", who needed to learn about financial applications. When the 80 was introduced, customers deluged us with "how can I do this calculation?" questions. I finally got to use some of my college business training helping them and learned a lot in the process. We decided to publish many of these calculations in application books.

As we produced more models, and application books and software, I managed those efforts also. Eventually I became Product Support Manager, managing Training, Applications Software Development, the Users Library and Publications Development. Let me just say that those were by far the best years of my working career! The products were wonderful and outrageously successful. Everyone in HP was "consumed" by these little calculators. Advanced Products was the darling division of the company. Our robust profits for those early years helped finance the development of HP's computer business. The people in my Applications Software Group were always working with Bill Hewlett, other HP execs, and famous name customers...helping them write a navigation progam for the HP-65, finding a way to squeeze a couple steps out of a Math progam or make it faster, etc. What a great job they had!

By the way, Steve Wozniak worked in the R&D arm of Advanced Products Division in those early days. He, of course, went on to design the first Apple computer and co-founded the company with Steve Jobs.

My calculator of choice is still my HP-80. It's a pre-production model that the company gave me for my efforts. With my own engraved nameplate and everything. It still works fine. Had to go out and buy a battery a couple years ago from Battery Works, but that's about it.

I still have some of the old application books and accessories that I keep as mementoes of those halcyon days. I also have an HP-22 as a "reserve" but the HP-80 remains my first love.

Thanks for bringing back some wonderful memories.

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Happy to see the HP calculator site.

*Posted by **Stan Shankman** on **12 Apr 2001, 1:15 a.m.***

Greetings, I love your website. My first and second calculators were the HP-45 and HP-65 respectively. I'm an RPN fan, and have always been a little disappointed with HP (and other manufactures for that matter) for not making an RPN wristwatch calculator. To my knowledge not a single RPN wristwatch has ever been made by any company! (Are you listening Sony?) It is defiantly something I would want. When the HP-01 first came out, it was disappointing to find that it did not use RPN and sad to see that HP never made another model.

Just a little something I remember: I remember Jimmy Carter (then President) received a HP wristwatch calculator as a Christmas present (or was it a birthday gift?) from his wife. President Carter had a degree in nuclear engineering. One last note: Did you realize that the current HP RPN calculator offering, the HP-32si, has been on the market for 10 years! When are we going to see something new and wonderful? Or, could the end of RPN be near?

Thanks for the great website,

- Stan Shankman Minneapolis, MN

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my addiction

*Posted by **Ron Ross** on **28 Mar 2001, 5:25 p.m.***

My first Hp was a replacement for a Ti-55. It was my third Ti in as many years. The keyboards just did not last. I was an electrical engineering major just finishing up my sophomore year. I was drooling over three possible candidates, the Hp11c, Hp15c or the Hp41c. Well I was considering the 41 but the 15c came with matrix capabilities to solves linear eq. The 41 would need additional memory and/or software to get the features I would get with a 15c and still cost another $100 of my $$. (The Hp11c wasn't really in the competition, but it was more in my budget)

I ordered the 15c from an electronics outlet and also purchased the advanced users manual also. I waited anxiously for my calculator. I was a student just squeaking by with my wife and I both full time students and we both subsisted off our part-time jobs and student loans. It was a big purchase when I could have just as easily bought a $20. Scientific. This calculator was going to cost us a whole months rent.

Years later my wife gets a job with an electronics firm by the name of, you guessed it, HP. She brings in her Casio to crunch some #'s and a manager suggests that she just requisition a calculator from suppplies rather than show off her fancy programmable (I suspect there was some sarcasm in his advice). She came home and asked if she could borrow mine. "Of course,,,,,NOT!!", I said. But we could buy her a new one, and she then stated she would receive a 40-50% discount and I might want to buy a new calculator myself. She wanted me to review the specs and pick something out as close in capability and use as her Casio. I chose an Hp27s for her and a 42s and 48s for myself. There really was no reason for me to buy either since my 15c still worked fine and was enough for me. (however a Ford pinto gets from a-z, and so does a Porsche, ie. 15c vs 42s , though this isn't fair comparison, a 15c has much more class than a Ford pinto.)

Thus was born my Hp addiction and it has since expanded to other calculators as well. No, my collection isn't nearly as great as some, but it is certainly larger than most. I am missing over half of the LED's made by Hp, but alas the market has skyrocketed on old Hp calculators and I add one every so often. Such is life.

I now use a 48g, but only because I don't want to risk my 42s or 15c at work. My wife lost one 27s, promptly replaced it and wished she'd bought a spare. She is hooked on the 27. She used a 19B for a physics course (only because of the faster key input for eq solver) but dumped it back into my collection after the course. The 27s was just better.

Edited: 11 Sept 2006, 5:12 p.m.

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Only one calculator for me

*Posted by **Ernie Malaga** on **13 Mar 2001, 2:34 p.m.***

THERE IS ONLY ONE CALCULATOR FOR ME

I have always been fascinated by calculators. In fact, I can't remember a time when I was not. Even as a kid in Lima, Peru, I used to play with mechanical calculators and slide rules. My first encounter with an electronic calculator, however, did not occur until 1971 or '72, when an uncle of mine bought one that could only perform the 4 basic operations and had all of 8 digits in a fluorescent display. It must have been a Casio, and I probably wore out the batteries from playing with it so much. But, feeble as it was, it piqued my interest for these devices. And it made me want to have one myself.

By 1974 I had come across a full-page ad on the local newspaper, featuring the HP-35, 45, 65, and 80. The ad did not mention or even hint how much they were -- and a good thing too, or I would have been discouraged. As it was, I clipped the ad and stared at it often, wondering what all those buttons could possibly be for. I remember, for example, coming to the conclusion that the HP-65's RTN key must be "the memory" because "RTN" probably meant "retain." Boy, was I off-base!

At the time I was 19 and attending one of the local universities, studying to become a chemist. A classmate of mine brought one day a calculator he had, the TI Datamath. It was bulky and very limited, and the battery charge didn't last long, but it was interesting nonetheless and got to play with that one too.

An aunt of mine who lives in Los Angeles offered to give me a calculator as a gift, and asked me what kind would I like. By return mail (international calls were astronomically expensive for me) I candidly mentioned the HP calculators I had seen featured in the newspaper ad, concluding that a 35 or a 45 would be well received. Some time later I received a letter back; she informed me that the prices were prohibitive, but offered to send me a calculator of a different brand instead.

And so she did. I received it a couple of months later. It was a Rockwell calculator, model 262 if memory serves. It was no HP, but it was good enough for my needs back then. No scientific notation, 8 digits only, one memory, fluorescent display, but all the scientific functions I could possibly use in my studies. I was enormously thankful and said so. My mother then made a soft pouch for it. I don't remember if it was because it did not come with one, or because I lost the original.

Of course, now I came across TI's SR-50 and SR-51, and feeling awestruck about the latter. I had to have one. I asked around, and discovered that they were considerably less expensive than equivalent HPs, so perhaps I could afford one someday. That someday was the following year. In late 1975, my father traveled around the U.S. attending training seminars, and I asked him to bring me an SR-51.

He could not do it. When he came back, he handed me an SR-51A instead. Apparently the original model had been discontinued, but I didn't care; the 51A did the same things and looked even better. Now this was a calculator! An astounding array of built-in functions, including linear regression, and 3 memories! I read every page of the manual, pushed every key there was, and really got a lot of mileage out of the machine.

Late in 1976 my father discovered that a classmate of his (from his high school days) owned the company that represented Hewlett-Packard in Lima: Compania Electromedica. By this time my fanaticism with calculators had climbed to new heights, and I collected every leaflet, catalog, and advertisement I came across, comparing features and prices. That's how I discovered the HP-25. I decided that somewhere there was one with my name on it, and it was my moral duty to find it.

Because of my father's friendship with the company's owner, we got a good deal on an HP-25, and I rode home with my prize in a state of complete disbelief -- and delight. By then I had picked up quite a bit of programming skill, having read books on FORTRAN and BASIC, and practicing both whenever I could. This meant that, when I read the Programming section of the manual, I was not a complete neophyte. All I had to do was adapt what I knew to the features offered by the calculator. The manual was in Spanish, of course. In no time at all I wrote several dozen programs for the 25, collecting them in a booklet.

Around this time TI came out with the SR-52 and SR-56, programmables too, and not bad at all. But I decided that, if I ever went for another calculator, it would have to be an HP. Less than a year after buying the 25, HP released the HP-67. Keeping the 25 while buying the 67 was out of the question, so I sold my trusty 25 to a friend; that gave me a good chunk of the money I needed for the more expensive unit.

The problem is that they did not exist in Lima for some reason. A co-worker of my father, who traveled a lot, was approached to find out if he would be willing to buy the machine in Miami and bring it to Lima. He even agreed to let me have the calculator before paying him the whole amount -- which was $450, a huge sum for my family. Then he came back from one of his trips, and he gave me the 67. It was the summer of '77, and I spent days and weeks familiarizing myself with the 67.

I kept that 67 for over two years; that's when the HP-41C appeared, and it was love at first sight. I did not have to find a trusted friend to bring it to me, since now I lived in Los Angeles. My only problem was finding someone who would want my 67. But no matter -- I ordered the 41C and got it in December '79. Then I heard about Richard Nelson and the PPC, and joined the organization. I even had a very small part in the history of the PPC ROM.

Sometime in early 1983 someone broke into the room I was renting in a house and stole many things, including my loved 41C with Time Module and PPC ROM. Not much of a problem, since by then I could afford a 41CX; I bought one and plugged into it the second PPC ROM I received with my order (they were sold in pairs, and a good thing too).

In 1987 I bought an HP-28C and a 32S just because they looked interesting (I was too far gone to show better sense than buying calculators on the spot). Although I studied the 28C's manual with great care, I never really understood the machine well. The 32S was a different thing; this little calculator I really liked. I still have the 28C, and my father now has the 32S. My 41CX is long gone, and with it, the second and last PPC ROM I had. I think I sold the calculator to a friend of mine.

Many years later, in 1997, I broke down and, against my better judgment, bought a 48GX. As it happened with the 28C, I found it extremely hard to understand, and never liked it much. I really missed the 41CX, but there was nothing to replace it. Then, in early 2000, I gave the 48GX to my nephew and bought a 49G for myself.

But the 49G was hate at first sight. Not only it was even more complicated than the 48, but the keyboard was uncomfortably hard and (in my opinion) ill-designed. Heck, it did not even look like an HP. My 49G stayed unused for many months. Then one day I found the MoHPC in the Web, and discovered the Classifieds.

I am indebted to Tom Drewski for trading his HP-41CX for my 49G. I understand that his daughter is in college and using the 49G. As for me, once again I have a calculator I enjoy using, and use it I do. It gives me an odd feeling like... when you go back to an old neighborhood where you grew up and haven't visited for many years. Just looking at the 41CX brings back memories of earlier times.

Now if I could just find a PPC ROM...

Only one calculator for me

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The Magic of Continuous Memory

*Posted by **Paul Brogger** on **20 Feb 2001, 3:19 p.m.***

I can remember it as if it were yesterday.

My math professor had convinced several of us to get HP-21's rather than the National Semiconductor & TI models that were available for much less, and I'd been using mine for a year. It was time to "trade up", however, so I mail-ordered an HP-29C.

At the next lecture session after its arrival, I went up to Matt and showed it to him.

I turned it on.

Instead of the red "0.00" in the display (to which we were accustomed), it showed the x-register value as of the time I'd last turned it off!

He let out a soft, and deeply appreciative "Ohhhh . . . "

To which I responded in kind, "Yeahhhh . . . "

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Once More Through The Rinse Cycle, Please!

*Posted by **Brian W. Haren** on **16 Feb 2001, 10:28 a.m.***

Way back in the late '80s I was working as a geographer for the US Army at Fort Bragg, NC. My constant companion was my HP 11C. It fit just great in the cargo pants pockets of camouflage uniforms we wore. I went to work one day and realized I'd left my 11C at home. Not to worry, the Army in a (very) rare fit of good judgement decided to make a bulk purchase of 10 & 11C's and issue them to our various sections, so I had something HP to work with. What I didn't realize is that I'd left my 11C in my pants pocket and just tossed them into the dirty laundry bin. My wife had (and still has) a standing laundry policy - "Empty your own damned pockets, or else!"

I got home that night and my wife greeted me with a wet pair of camouflage pants freshly out of the spin cycle. "You left something in the pocket" she growled, "and I'm not responsible!" I felt the pocket and instantly realized that my beloved 11C had been washed along with the pants.

I pulled the calculator out of the case - it was wet, but there was no condensation in the display (a good sign!). Remebering HP's boast that you could spill coffee on their calculators and they'll still operate (do they still make that claim?), I pushed the 'ON' button. Nothing. Gulp. I took out the batteries and set the calculator aside to dry. A few weeks later new batteries went in, a trembling finger pushed the 'ON' button, and there was life! The only long term effect from the washing is that the little 'HP 11C' sticker fell off.

Now, 13 years and 2 sets of batteries later it's still ticking along. Long live HP!

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Landing on the moon never impressed me

*Posted by **D. Banks** on **12 Feb 2001, 10:25 a.m.***

I grew up with slide rules and books of tables. Yeah, maybe I was the only one in 6th grade that knew how to use either, but by the time I got to high school, they were very useful skills. Every once in a while, one of us could sneak up to the front of the chem lab and steal some time on the big nixie-tube 4-banger, but otherwise, calculators pretty much didn't exist.

Then HP changed my world. Back in '69, when we got pictures of people walking on the moon, I wasn't impressed. Maybe it was all those years of 2001, Buck Rogers and everything else, but it just seemed like moon walks were inevitable. What I wasn't prepared for, what science fiction didn't tell me was coming, was the HP-35.

I remember reading about it in '72 in a Poptronics issue. I was enough of a computer geek already to understand (and prefer) RPN. This was the most amazing thing I'd ever seen in my life. The moon thing may not have surprised me, but this sure did.

I mean, I had this slipstick that was good to maybe three digits, and I had these books of tables that were good to maybe six, but here was a device that could do 10 digits. Ok, maybe not so accurately in the case of the original 35s, but still. Ten digits.

And, it could fit in your pocket, for large values of "pocket." This thing was totally amazing. Yeah, $400 was a lot of money then, but I'd expected it to cost more on the order of $1000, especially considering what lesser calculators were going for.

I went off to college in '73, and when I got there, I discovered that nearly the entire campus had already converted to "HPs." By the end of my first semester, I found that a person was at a serious disadvantage on the exams if they only had a slide rule. Fortunately, it was easy to borrow a 35 for an exam.

In the classroom, there was always a very distinctive sound when a professor would put a problem on the board. It was the sound of 30-40 velcro belt packs being ripped open.

For the little time I was at that college, HPs ruled. Even when the high end TIs came out, HPs were considered the real deal, and anyone who didn't have one was to be pitied. The college bookstore ordered them by the truckload, and buying one meant going down to the bookstore and getting one's name put on a list. And one particularly memorable HP demo that the bookstore used was to throw one across the room to prove its durability.

In the spring of '74, I managed to talk my parents into getting me a 45. Lucky, I guess. What a great machine that was. I learned every aspect of it, and even tripped over the timer, which I discovered by fiddling with the power switch.

The 45 lasted me until 1980. By then, the battery pack was long gone, and I learned, one horrible day, that the calculator could indeed be damaged if operated by wall wart alone.

I first considered starting a collection back when the woodstocks were coming out, and I saw the classics being heavily

discounted on closeout. I didn't buy anything at the time because I was barely making enough money to survive. Later, around 1987, I really did start my collection, and one of my first acquisitions was a working 45. I remember that at the time, everyone I knew thought I was crazy for collecting those things. After all, who ever heard of collecting calculators?

And now, nearly 3 decades after the original release of the HP-35, I still think it's the most impressive bit of technology of the 20th century.

Of course, the 45 is still my favorite; I was just playing with one the other night.

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Best money i ever spent

*Posted by **Dana Bingham** on **6 Feb 2001, 11:29 p.m.***

During an impulse trip to the book store at Ft. Devens in December, 1970, i was struck by a calculator in the case that had an unbelievable price of $395. Being a lowly corporal, the sales people had no desire to let me touch it but did show me how it worked. This was understandable, being as it was over three times my monthly salary. It is possible it was a fore-runner of the HP-35, but my memory is pretty good and it looked a lot like what my HP-35 looked like 2 years later. What would such a thing be doing on an Army base so early on? Ft. Devens was the cryptological training and operations base for the Army and NSA, and all our civilian instructors were Phd Mathematicians. I swore i would have such a calculator someday.

Back from 'nam and at the University of Texas as a EE student, in fall, 1973, our prof said we should all learn to use one of the two HP-35's in the engineering library. I went from class to the library and from there to the Co-op, where i spent my next three month's budget to buy the first one sold to an individual. $395 plus tax. My wife said it was pretty when she got home from class and then began the beginning of using Hewlitt-Packard as her favorite curse for the next 3 years. Something to do with price.

I cursed a little too, when 2 months later, HP introduced the HP-45, for $395 and dropped the price of the '35 to $295. Evidently, HP got the message, because they shortly announced that they would accept any '35 bought within 90 days and $100 for a '45. I wrote the check, the post office did the transport and my wife did the cussin'.

My '45 sits here on my desk, works good as ever, tho of course the battery pak is useless. It's serial number is 30 weeks higher than the first number in the archives here.

A few weeks later, the demo HP-65 arrived at the Co-op. It took $20, a phone number of an old high school girl friend (who was talking to me while i looked at the demo), and the threat of extreme violence to get the Co-op salesguy to promise to call me when the first 4-sale unit arrived. Got it between thanksgiving and Christmas, 1973. It sits here on my desk, works good as ever. The serial number is the same as the oldest unit here in the archive.

It was $795 and i found it wrapped up again Christmas morning with a note from Santa Claus stating that it was my Christmas present for the forseeable future and she, i mean he, could see for 30 years.

By that time i had sought out and made my friend the HP sales rep out of San Antonio. His name is Rick Dyer and i think he owns HP now. He told me that i could buy his demo '65 for 10% off, so i bought it in January and sold it to a UT engineering prof for $800 (no tax). My lovely wife financed the deal and keep the $80 in profit for some stupid thing like groceries. My friend Rick loaned me, for me to have at my home and touch and love for a week at a time, a 9830. Remember, a 9830 with minimal options was $7000, which was the price then of a 914 porsche. i just could not swing one, tho i tried. Someday, i will own a 9830, now that i have found this board.

That got me a summer job doing some programming on the 9845, which was a bigger, better 9830, and paid for my senior year.

My friendly sales clerk at the Co-op went on to first date and then marry my high school friend and i bought the first

'67, '97 and '41c to hit Austin. I always seemed to know they had arrived before they were unboxed. I gave the '67 to another dear high school friend and it died in the Abilene basement, where they stuck the EE's, of the city power company during a flood. (in Abilene, so help me.) I gave the '97 to another high school buddy who had become a surveyor and swore it would make him successful, wealthy and also not ever tell my wife the story of our high school senior all-night party.

i traded the '41c to an army buddy who said he liked it. He still makes a living with the programs he wrote to do optimization of helicopter flight plans, although he has ported the code to later HP calculators.

The '67 and '97 let me understand that i was a computer science student, not an engineer, only such a thing did not exist at UT in 1977. But all was well when later on, programming on pc's came as natural as moving from a moped to a cruising bike.

i hated the '41c, i felt betrayed by the LCD display. i have never bought another calculator. Why should i, i got my '65.

I bought a '75c, cassette unit, printer, monitor adapter, etc., mainly because the '75 seemed to be of the quality of the old days. i think all of it came to around $1800. i used it for a couple of weeks and then bought one of the original ibm pc's. i have not got the fogiest idea of where or what i did with the '75c, probably gave it to a friend.

And of course, after the '41c, HP left the quality for the low price. The quality of the "classic" models is the same as my rolex, my colt, my porsche, my martin guitar, my wife. Get the best and never have to get another.

Sitting here with 3 HP pc's in my home office, i still can not forgive HP for losing the quality calculator market they created.

i am still as thrilled and overwhelmed by my HP-65 as the day i took it new out of the box. For the mere price of $795.

dana

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HP41c Memories

*Posted by **Mike O'Regan** on **29 Jan 2001, 6:18 p.m.***

I had a couple of CASIOs before buying my first 41c. When I realised that the BEEP function had implications for BLIND users, I contacted HP to see if anyone had done such work. Surprisingly, nobody had thought about it. I set to work and devised TWO programs to enable blind people to "read" the display at anytime, using the TONE/BEEP function. The two programs were at different levels of difficulty. The simple one just BEEBed the number of each digit (with a special TONE for decimal point and SCI). The second one used ALL the normal TONEs. It was quicker, but required a short training period. With this in mind, I devised a simple Hi-Lo game for the blind user to train with. Everything worked fine and HP accepted the programs into their Software Library (whatever happened to THAT!). I later heard that my programs were helping blind students in the States, as talking calculators had not yet arrived on the scene, and, when they did, they were only simple four function jobs, whereas my programs could make the full power of the HP41c available to blind people.

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Treasure your classic HPs

*Posted by **Fred Boness** on **19 Jan 2001, 3:07 a.m.***

I bought my first HP in 1975 when I was an engineering student. It was a used HP45 I got from a professor at the University of Wisconsin for $250. P***ed off another professor who also wanted it and was trying for a better price. Fortunately I didn't have any classes with him!

I still have that HP45 and an HP10C, HP16C, and 32SII. I bought the 32SII two years ago when my HP15C died and I wondered if I would be able to get replacements for my HPs. Hooked on RPN, you know.

I don't like the 32SII. It has made me appreciate the classic HPs more. The HP10C and HP16C never leave the house now. The 32SII is expendable and likely my last HP. It is as though HP has forgotten how to engineer calculators. How could HP get an on/off button wrong? It should be a simple toggle; push on, push off. Instead it's push on and CLEAR!. Off is the shift function and that is backwards.

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"Funny, for that much, you'd think it would be bigger.

*Posted by **Rick Wagoner** on **15 Jan 2001, 3:30 p.m.***

In the middle '70's I was a buck sgt, in the USAF. In my off time (while not keeping the country's supply of F106 fighters in good repair) I was a student at the local JC.

A buddy had shown me his HP-35 and went on to say that they had a programmable unit out too. This was the HP-65. After devouring the literature I scrimped and saved for months to get the $842 that the calculator would cost.

One day, Joy of Joys, it arrived! I took it into work to show the other Avionics troops what a marvel it was. Needless to say, there was much "ooohing" and "ahhhing" as I put the '65 through it's paces.

Somewhere during this our Maintenance Officer (a 2nd Lt.) came in. He saw the little wonder and asked to see it and was suitably impressed.

After fiddling with it for a while he asked the inevitable question:"How Much?" "$842 I replied." After considering my answer his reply was: "Funny, for that much, you'd think it would be bigger..."

I think he is still a 2nd Lt.....

Cheers!

Rick

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Nostalgia

*Posted by **Len Matlaw** on **31 Dec 2000, 1:05 p.m.***

I worked for HP from 1972-82 and was a sales representaive and then a sales manager in the "calculator" sales force in Northern New Jersey and later in the Washington, DC area. These were the heyday of HP calculators and I remember them fondly.

I came across the site because the Denver Post (where I now live) referenced it in the 12/31 edition. My congratulations to you for your efforts. It has brought back many, many memories. I've also e-mailed some old-time HP'ers with whom I'm still in touch.

Thanks again,

Len Matlaw

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My HP 67

*Posted by **Rex Wiederanders** on **7 Nov 2000, 10:28 p.m.***

I was a chemistry undergrad in 1975 when I purchased my first HP calculator, an HP-25. When HP came out with the HP-67, I managed to obtain a brochure, in color, and dreamed about buying such a magnificent machine. I recall that the 67 was about $450, which to a student was absolutely out of the question. So I did what I knew I had to do, I saved, waited, and fantasized about holding an HP-67. To this day, I cannot figure out how I came up with $450 plus tax, but nothing was going to stop me. When I sent the order in to HP, I had to wait until they could ship it to me and I could not sleep.

You can imagine that after this level of expectation, there must be a let down when the calculator arrived, but there was not. I read every page in the manual, programmed every problem I could think of, and pushed the buttons over and over. I had that black leather case on my belt and strutted around campus. I had an HP-67! I made a small silver plate engraved with my name and glued it to the back.

That 67 made it through grad school with me and I still have it. All the functions work great, although the case is a bit worn. A friend who knows how much I like HP calculators gave me his 67, a machine with absolutely no wear or damage, but I still prefer to use my old and tattered 67.

The HP-67 needed a friend, so I found a slightly used 97 for $15 which works quite well. I love those things.

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HP-35 and beyond

*Posted by **Erik Wahlin** on **16 Sept 2000, 12:58 a.m.***

I was just a 12 year old kid when my dad took me down to the "cyclotron" at the nuclear physics building at CU (Univ. Colo.) where he worked and showed me a HP-35. It was secured in a security cradle I remember. I was totally amazed by this device. Up to this time, my dad had taught me how to use various slide rules (including a cylindrical one), but this calculator was just to easy to use and unbelievable to me! Well he (as well as myself) was hooked on HP calculators from this point on. He bought our family business (Colutron) a HP-35 around '72. Colutron, named after the University of Colorado manufactures ion sources and ion beam equipment. Later, he bought a HP-55 and gave the HP-35 to a machinist that worked at the cyclotron and also part time for our business. He to this day still works for our business and still uses that HP-35 at his shop!. He told me recently that he is going to give it back to us since it was our first calculator. Kind of like having that first dollar framed on the wall. He just needs to find something to replace it. Since he has been using RPN for over 25 years he says he will need to get another HP. That old 35 has a couple spots where some hot metal chips melted a button or two. I might restore it with some of the 35 parts I have collected recently. Well, the HP-67/HP-97 series came out and my dad just had to have a 97. He also had to buy the HP-01 watch when it came out. After using the 97, I just knew I needed one too. Well $750 was a lot for a kid in high school back then (maybe even today for that matter!). I saved up my money (working part time for my dad for quite awhile) and bought a more affordable HP-67. Not that $450 was cheap! Well this guy was my constant companion all through college and later through graduate school in physics. I must confess that I may have cheated once on a undergraduate physics exam by quietly loading in a mag program card with an important equation. By graduate school, if you couldn't derive equations on paper, you were not going to last long. That old friend still sits on my desk, as well as a HP-97 I recently restored. Just recently my dad gave me his old HP-01. It's a little worn from wear, but is certainly a gem I will always treasure.

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HP 9100 Environmental Controller and Telemetry Systems

Posted by ***Wirt Atmar*** *on* ***10 Sept 2000, 1:03 p.m.***

Recently, HP ran a trivia game where you were asked to guess the function of various products shown. One of the products was the HP 9100, which inspired Wirt Atmar of AICS Research to write this article which is reproduced here with his permission.

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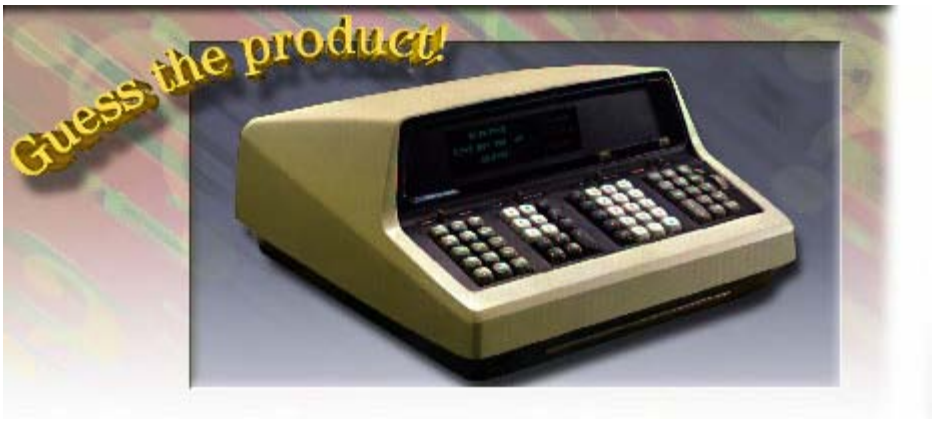
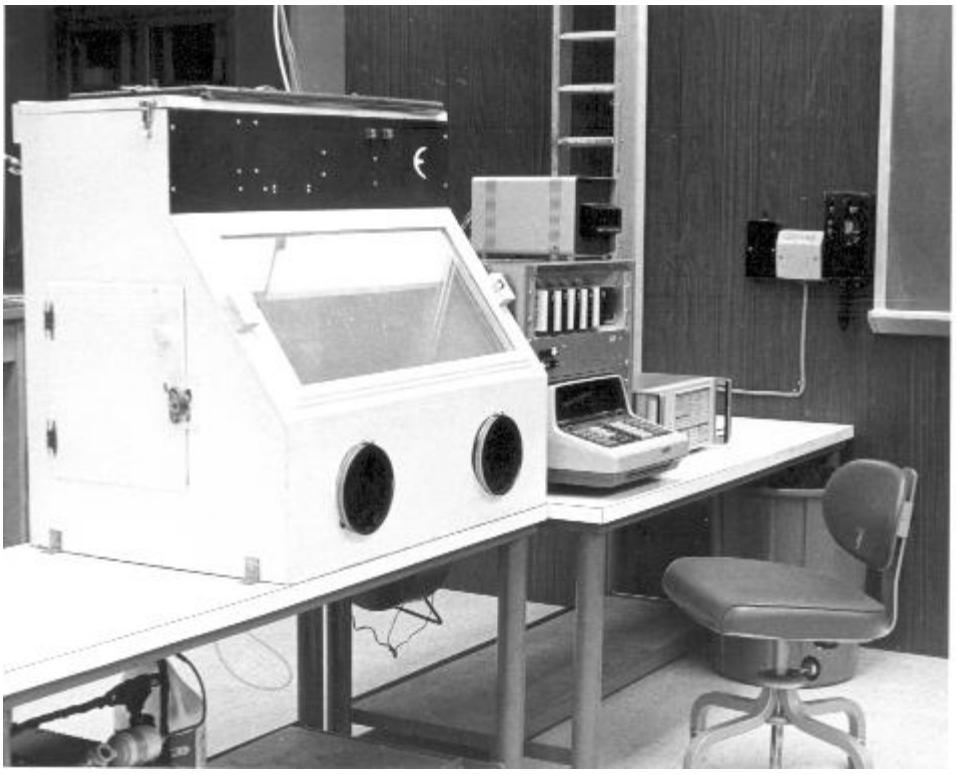


HP's Text

The HP9100A/B Scientific Calculator

The world's first programmable scientific desktop calculator, the HP 9100A could add, subtract, multiply, divide, take square roots with 10-digit accuracy, compute logarithms and compute the full range of trigonometric functions in all quadrants in either degrees or radians. In a unit the size of a typewriter, with built-in, read-only memory that stored calculating and display routines, and the ability to perform floating-point calculations, the HP 9100A could run programs recorded on wallet-size magnetic cards.



AICS Research's Text

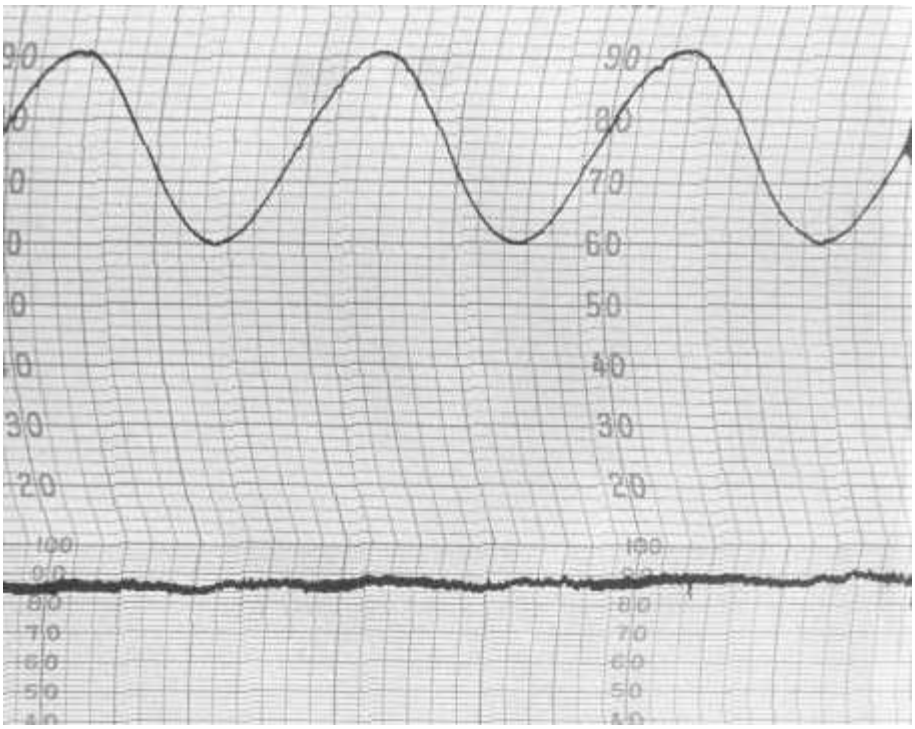
The Environmental Chamber Controller

In 1968, we purchased a HP9100 Calculator as soon as one became available. And then we performed a lobotomy on it. The case of the HP9100 was cast aluminum, which we very carefully sawed off.

The HP9100 was built prior to the use of integrated circuits, thus every transistor in the HP9100 was a discrete device and the "ROM" was composed of four stacked boards that completely consumed the base of the calculator. The logic of the ROM was created through the use of a resistor/diode matrix (not unlike the display/keyboard computer that was on board the Apollo spacecraft that was flying to the Moon at the same time, although that computer was completely encased in poured plexiglass for mechanical rigidity).

We opened the calculator up in order to use it for a purpose for which it was never designed: an environmental chamber controller. To do this, various signals had to be intercepted from the circuit boards and converted into then-new TTL logic levels. And an 8-bit, sharable bus structure was designed to allow a serially sharable talker/many listener protocol to transmit the calculator's programmed commands to up to eight environmental control chambers simultaneously and listen to their responses.

Our HP representatives at the time were Norm Matlock, Ralph Kotowski, Jim Kemp, and Bill Little. Norm was excited enough about the novel use of the HP9100 that he convinced a group of HP engineers from the Colorado Springs Division to fly down and see what had been done. Eventually, three groups of HP engineers visited the lab at separate times and asked if they could copy the design, although it was nothing that they wouldn't have devised on their own. With some modification, HP later released the design as an internal standard and called it HP-IB, which was later certified to become IEEE-488.



The level of environmental control that we could obtain within the chambers using the HP9100 calculator was impressive. The graph above is the output of a mechanical hydrothermograph. This specific data was an early test run to demonstrate the chambers' capabilities over a two-week test run (only three days are visible in the photo above).

Insects are extremely elaborate behavorial machines, more elaborate than the most complex mechanical machine ever built by humans. Much of their behavior is driven by abiotic environmental stimuli (temperature, humidity, daylength, light levels, etc.). These chambers were designed to simulate those stimuli in an effort to tease apart the factors that promote the onset of such key behaviors such as ovipositional (egg-laying) rates.

In the graph above, the temperature was commanded to cycle sinusoidally precisely plus and minus 15 degrees Farenheit from the room's ambient 75 degrees while maintaining a relative humidity (atmospheric water saturation percentage) fixed at 85%. As you can see, control was nearly absolute. This level of precision control was accomplished by running small multi-stage refrigeration units (one per chamber) in opposition to air and water heaters. Although the technique was energy-expensive, the level of control necessary to the task demanded this design.

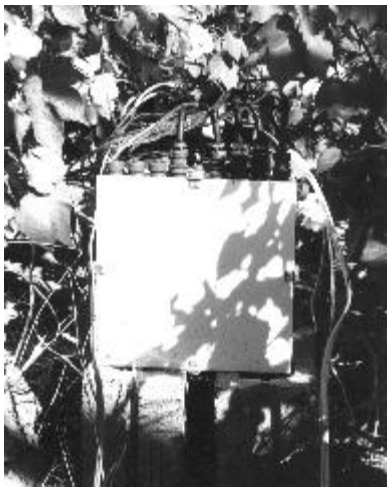
The sensors in each of the chambers were idiosyncratic, thus the HP9100 maintained a different calibration table for each temperature and humidity sensor in the chamber field. But it was the ease of generating elaborate polynomial equations using the HP9100's intrinsic scientific calculation capabilities for complex curve-fittings that made the HP9100 such an ideal controller.

Every calculator manufactured from HP following the 9100 incorporated a controller interface and became more and more elaborate in its capacities to control instruments. The later calculators incorporated a very fine BASIC language as their operating system. Nonetheless, for years following the HP9100, when HP advertised their new controller calculators, the example they always used in their advertisements was that of controlling environmental control chambers.

1970

The Remote Environmental Telemetry System

In 1970, we took the same HP9100 calculator, repackaged it, and significantly upgraded its responsibilities. Not only did it continue to control the eight environmental control chambers, it also became the centerpiece of a remote environmental telemetry system that stretched 200 miles from the Lincoln National Forest in the north to the Plant Science Center south of Las Cruces, New Mexico.



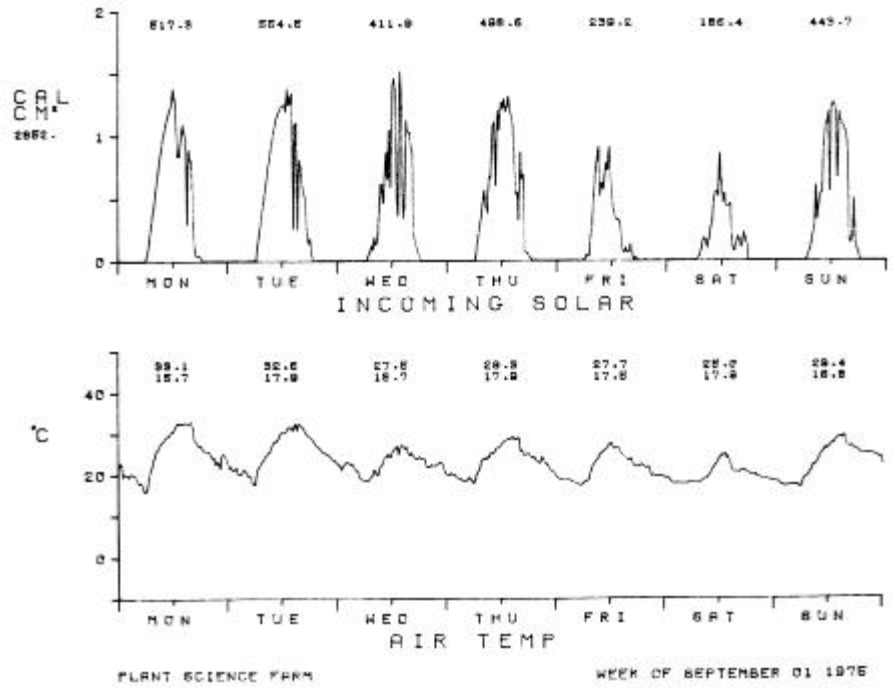

Remote telemetry stations were designed and constructed so that up to 16 sensors per station could transmit abiotic (weather) information back to the HP9100A calculator. The two principal research efforts at the time concerned phytophagous cotton insects and bark beetle infestations in the Lincoln Forest.

In both instances, sensors were placed at various heights in the plant canopies to accurately record their various microclimates throughout the year, the only difference being that the top of the cotton canopy was approximately four feet tall at its highest and the pine forest canopy was 70 to 100 feet tall. The white container in the right photograph was a surplus missile warhead container that we obtained from White Sands Missile Range. These lockable containers proved necessary to protect the telemetry stations from hunters.

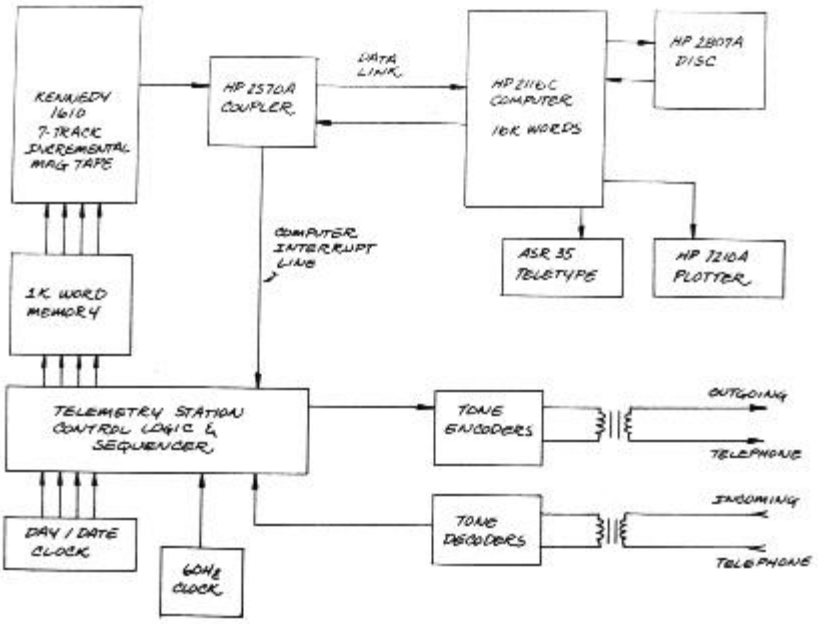
The data transmitted back to the lab was recorded and passed on to the HP2116C computer for plotting and numerical integration. Insects respond to a wide variety of abiotic signals, but generally in a summed fashion such that total heat input or duration of daylight trigger fundamental physiological changes in them. Handling the insects was generally performed during their "night" period, in red light, which is invisible to them, in order to minimize resetting their natural clocks.

The data returned to the lab was not only recorded by the HP9100 calculator, but could also be sent simultaneously to one or more of the environmental chambers so that the external environment could be recreated within the chambers themselves. Every few seconds, the HP9100 readjusted the settings in the eight environmental control chambers. Interleaved with this activity, once every few minutes, the HP9100 calculator would query each of the remote

telemetry stations.



Each remote telemetry station generated eight pages of plotter output per week, if all 16 sensors were active. The qualities recorded were most generally soil, air, bark and leaf temperatures, humidities, soil water tension, rain, wind speed and wind direction, although any physical quality could have been measured. Indeed, we were just beginning to measure electrical field strength and electron density, both of which were suspected of being sensible by our insects, when the project came to an end in 1976.



Although it's difficult to remember nowadays, standard communication speeds for teletypes were 110 baud. And 1K of memory was actually considered a fair amount of writable store. "High-speed" 300 baud modems were just beginning

to arrive in the late 1960s, but you couldn't connect a non-Bell System modem to your telephone lines at the time.

However, in our case, the Bell modems that were available weren't usable. They drew far too much power and wouldn't fit in our size constraints. So we built our own modems from scratch, designing the UARTs (using TTL flip-flops and NAND gates) and tone decoders, and having them integrated into the remote telemetry station circuit boards, all of which were hand wire-wrapped by the wildlife and biology students.

In order to connect these "modems" to the telephone network we had to undergo a reasonably rigorous certification process by Mountain Bell to guarantee that the modems met all Bell standards. In spite of the pro forma procedures associated with this certification, the local Bell people were always very helpful. But then again, we were paying them a great deal of money each month.

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"new" memory

*Posted by **john** on **5 Sept 2000, 6:46 p.m.***

here's a good one, folks. i have in my possession a MIB, NEVER USED 29C with all the manuals et cetera in mint UNUSED condition that my uncle picked up at a yard sale for (drum roll please)....one (1) dollar. And then was gracious enough to just GIVE to me. how 'bout them apples. works, too! Okay okay the nicads are corroded, but they charged enough to let me know that it works! Straight from 1979 and i am the first to fire this baby up. this one's going in my hp scrap book :o)

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16-yr old HP-15C still running on original batteries

Posted by ***Chuck Yount*** *on* ***1 Sept 2000, 12:24 p.m.***

I bought my HP-15C when I was a sophomore EE in 1984. Its built-in imaginary number capability was a real time-saver in linear circuits. I used it heavily through my undergraduate years and often since then. The amazing thing is that it is still running on the batteries that were in it when I bought it. Previously, I had used cheap calculators that I had to throw away after a year or two, but this is the last calculator I ever had to buy.

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Some 41 memories

*Posted by **Juan Jijon** on **26 Aug 2000, 7:39 p.m.***

The calculators revolution passed by as I grew up and went trhough school. I remember playing with an HP 67 and finding out about the 41 series, monsters by those times standards. When I went to the university I managed myself to buy an HP 41CX, amidst lots of advices against it and favoring Japanese "function library" pocket computers.

To make a long story short, I was never dissapointed by my trusty 41CX. I could do things ten times faster with much less hassle. The CX's stopwatch and extended functions made event logging and time management a lot easier, specially in the Chemistry lab (by the way, newer HPs lack a functioning stopwatch). Synthetic programming also allowed me to automate a lot of repetitive calculations, especially for my Math and Thermodynamics classes. I wrote a number of programs that allowed me to pass problems by while my classmates looked for the "library reference" of a related function, often to calculate an intermediate answer, which in turn needed either a mode shift or another reference call to continue the calculation.

Later I bought the Math/Stat Pac and a card reader, which made my life even easier. Changing calculator status and assignments to swap tasks was so simple and elegant; a program set up a "normal operation status" with the constants and functions I used most. The software was powerful, yet friendly, and the XROM function allowed function calling from other programs. I even modified some Solution Book programs to take advantage of both Pac subroutines and the CX extended functions. Pacs and Solution Books were written for the 41C/CV simpler function set.

One day my CX flyed away of my hands, hitting the ground and suffering a break on the display. Not surprisingly, it still worked but there was always something about that crack on the display (which I later sealed). I was offered a 48SX, but said no (it didn't have a stopwatch, did not solve polynomials and did not handle matrices and arrays very well, among other things) and clinged to my 41CX.

Shortly before I graduated, HP introduced the 48GX. I liked it and bought one. I remember putting the 41 and 48 close together, while I said to myself "HP 41CX, retired from active duty." Since the 48GX was a much improved product than the 48SX, I ended up liking it. I transferred data to and from my PC, wrote applications and used third-party cards. But the feeling was never the same. HP accesories always had a familiarity feeling of their own, aside from fine craftmanship, which was (and is) hard to find in other manufacturers. HP surely changed the way it made handhelds and stopped manufacturing applications and peripherals because of all that Japanese machines, and did it well, but in the process it lost that aura that made the 41 series so special

I lost the 48GX some time ago. Bought a new one, which I still use, for number crunching and as a PDA (a well-programmed 48GX can beat any Palm Pilot by a huge margin). However, every now and then it feels so good to do serious number crunching with the 41CX, which lies close to the 48 in my desk and spends part of its "retirement time" calculating moving averages for my mother: the program took thirty minutes to write, and all you need to do is turn the calculator on and follow a few simple instructions (with little knowledge about RPN, she was able to beat a colleague using a Casio and another using Excel!)..

Once I read about a fighter pilot that flew supersonic jets in the 1960s but remained fond of the fine handling characteristics of the F-86 Sabre he flew as a brand-new pilot from the academy. Same thing with the 41: it might

have been surpassed by newer machines, but still handles superbly.

I recently found out about the role of the 41 series on the space shuttle. One thing I am sure of is that a 41CX with a Math/Stat Pac and a card reader can easily take you to the Moon and back, and its 12-digit accuracy can make you feel far more confortable than the double precision floating point results of many desktops and laptops. Which is also valid for the 48GX, although to a lesser extent.

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HP-35 Unfair Advantage (plus HP-67 story)

*Posted by **John Meyer** on **24 Aug 2000, 2:21 p.m.***

My first memory of the HP-35 calculator was my midterm exam at Stanford in Professor Fred Gibbons EE-111 class. One of the problems on that test involved semiconductor diffusion, and it required that we calculate the value of "e" to the minus 28 power [Answer: 6.91 x 10(-13)]. Out of a class of about twenty students, only one got the answer: the one guy who worked for HP and had purchased one of the first HP-35's using the 30% employee discount (they were $395 without the discount and none of us could even consider spending that amount of money). The rest of us, using only slide rules, forgot about using a Taylor series to simplify the problem, and got zero credit for that problem. As a result of this incident, Stanford banned calculator use during engineering exams for several years, until the prices came down into the range that students could afford.

I went to work at HP, the following year, while still a student, and got my own HP-35. I used it on homework assignments, and I bet it saved me 15-20 minutes each night doing engineering and physics problem sets. When I left HP three years later to go to business school, HP's management gave me an HP-67 as a "going away" present (I liked everyone there, and I guess they like me and wanted me to return). I still have that HP-67 and have used it several times a month, every year since then.

I can think of no other "tech" gadget that has not been totally obsoleted in the last twenty five years. No only is the HP-67 no obsolete, there is still nothing better than my HP-67.

John Meyer

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an interesting hp device, etc.

*Posted by **Robert Weigel** on **11 Aug 2000, 1:39 a.m.***

I used to work at University of Oregon, and came across a loading dock toss out. I had to (against the rules I know) save some pieces of this thing just to prove to people it existed! It was some sort of counter with nixie tubes or whatever lighting up numbers on the front panel, and it was full of HP 5963 tubes (which are real close to a 12AU7A). The tubes were mostly in octal socket modules of 4 tubes per module. Each one had the enscription that appeared on the front...."dy". It took me a while. But I finally realized it was HP upside down with the ellipse drawn around it! Anybody got the history behind this? I'd love to hear it. Meanwhile, I just picked up an IMMACULATE HP27 at the local salvation army yesterday with manual/charger! It's too perfect except no batteries of course. Works great though.

A friend named Jeff Forsythe, while I was an aspiring physics student in High School, took his time to build me an HP29C out of junk parts. It was starting to loose a few displays by the time some thoughtful person stole it out of my backpack. Bet they never lived to see what a prize they had acquired. Oh well. I also had a 15C stolen after I left it in a parking lot in my brief case after helping a guy with a porsche push start...the wimp didn't know what gear to put it in...arghhh! I got a more conservative 10C after that which I sold for $100 through this site when I was in need of cash a few years back. Take care, -Bob 406-582-5849

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My HP-3545

*Posted by **Andrew Burg** on **28 July 2000, 12:45 a.m.***

For my High School graduation present in 1971 my parents bought me a beautiful Keuffel & Esser Slide Rule. I never used it (sigh) and sold it on eBay in 1999 for 36 bucks. But shortly after I got the gift, I saw the most amazing thing - a four-banger calculator by Sharp - no memory. I think I paid $140, new, but it was worth it. I remember the green fluorescent display and so many digits too - eight of them!

I used the Sharp for a while, then in 1973 a guy showed me this HP-35 thing. The data entry was weird, but I caught on in a few milliseconds, it was so natural. I had to have it. I sold my Sharp for $70 to a student I was tutoring and I was able to buy that beautiful 35 - used. I didn't have the foresight or the money to see if there was an upgraded model, the word upgrade didn't exist until Microsoft came on the scene many years later. So I bought that 35. I think I paid $150, but it was sure worth it.

In 1975 I had a friend who also had one. He said "Hey - I know this guy - give me your 35 and 50 bucks and he'll re-wire it and turn in into a 45." "What are you - crazy? Give you my 35 *AND* 50 bucks??!!" But he was a good, trusted friend and the 45 was even cooler.

A week later, the calculators were ready. But I didn't want to wait to have mine shipped. Since I was a private pilot (we always need places to go), I could fly up to San Jose and get the calculators directly from Steve - the guy. He was somebody working at Hewlett Packard who designed calculators, that's all I knew. He had a few spare test chips or, um, "leftovers" and I got a great newer calculator. I met him at the airport and he was "thrilled to death" that I would take him up for a buzz around. Then my father (my travelling companion) bought us all lunch. Steve had 43 cents in his pocket.

I later modified my 45 by putting a crystal in so the timer was accurate and also modified the [Enter] key to make the timer easy to access. How wonderful. I had a serious scientific calculator and timer all in a single package. I used it for chemistry, physics, electronics and other college stuff! I also timed eating, sleeping, peeing and anything else that took more than a hundredth of a second. As I used it, I thought how neat it would be to be able to automate some routines I did all the time. Little did I know of the future to come...

Steve and I had fun. He gave me spare parts and an "old" HP-80 (that I repaired) and I even built an HP-55 too. He visited me, we played with modems, VCRs (in those days a box more than a cubic foot) and other stuff. One day we were "hangin' out" and he says "Hey - let's build a computer." He sat down on the living room floor and proceeded to do so. I visited him and he showed me around at other friend Steve's (#2) garage and some circuit boards there, his mother made us sandwiches and Steve #1 says "Hey, Andrew... Why don't you move up here and help me start a computer company?" I said "I'm not ready to move out of my parents' house yet." But I visited again and was impressed. It was too late, Steve Wozniak went on without me. I never met Steve Jobs again, but I hear he's been successful too.

In college I worked in the bookstore. People came in to buy TI's because they were cheap. When I demonstrated the HPs they sold easily.

I always had my HP with me. In college, I carried it with my books instead of wearing it on my belt so as not to wear out the leather case. Once in the computer lab I turned around and my trusty 65 was gone. There was no time to panic. I made a beeline for the lab door and closed it. In a booming voice I announced that I might have misplaced it. By the time I got back to my station it was returned!!

I remember one of the programs Woz wrote for the 65: Assume you're travelling X miles per hour and cop is on the side of the road. You estimate that it will take him Y seconds to start moving and his speed, Z, how long will it take him to catch you?

I've modified hundreds of calculators and modules. I doubled the speed of the machines, put modules inside the calculator and combined up to three modules in a single package. I also sold hundreds of aluminum carrying cases. The case held the 41, printer, barcode wand, spare paper, batteries and modules all in foam. It was a hit. I recently learned to repair the mushy card reader rollers, restoring my machine to normal, but never learned much about synthetic programming, though I wanted to.

I bought my sister an HP-25. After 15 years or so it was lost. I forgot that it was a 25 and recently bought her a non-working 21 on eBay. I fixed it and gave it to her - then she found her 25. So I sold the 21. I could not fix the 25 completely, so I sold it too...

Over time I've had an HP 35, 45 (hand wired), 55, 80, 65, 67, 95, 97, 41 and a 25 for my sister. I also had clear cases (engineering test or marketing units) for the 45, 67 and 97 and MANY spare parts. I still have a few keys, port covers, print heads and other stuff, but not much. I even have an HP Diagnostic ROM somewhere. It was used by the factory for checking out machines. Boy, I'll bet there's some synthetic code in that! However, all my calculators (except the 41), clear cases and most of my spare parts (it was all in a large box) were stolen in a robbery in 1990, a heavy sentimental loss as well as the loss of these wonderful collectors items.

Epilogue: During the writing of this memory (pun intended) I just bought my second 41C (eBay, $28) for spare parts. I know my wife will think it's more junk, but I know you know the sentimental and technical value of having a spare. Woz and I send each other birthday greetings at the appropriate times. He enjoys teaching kids and I'm looking for another job... http://www.andrewsite.com/resume

Also please see what I have on display at San Diego's prestigious Reuben H. Fleet Science Center http://www.andrewsite.com/museum

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HP-41 fond memories

*Posted by **Chris Weaver** on **27 June 2000, 7:29 p.m.***

The first time I saw the HP-41CV I knew that it was the calculator to have. Unfortunately it was beyond my price range at the time and I had to wait until I had a steady paycheck to afford one, but when I did that calculator was the first major purchase I made. As I ended up taking my math courses at night school the Math Pac chip became an invaluable tool for me. Most of the other students were both amazed and envious of the matrix operations it could perform. Years later, when I was once again a full-time student attending university, my computer science degree changed the day I declared my major and I was now forced to obtain a minor in a lab science. I chose chemistry and that HP-41CV once again proved itself invaluable. During that time one of the measures I had for a device's utility was how many hours of sleep it helped me to obtain, (I usually only managed between two and five a night), and I can definitely credit that calculator with saving me a few extra hours. The unique way the keys felt made entering calculations so much faster and easier that I could almost ten-key the equations I had. Now that I am a working professional I don't have as much use for my old HP-41CV as I used to but I have still hung on to it anyway and wouldn't part with it for anything.

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Good ol' 28C!

*Posted by **Matt J. McCullar** on **25 June 2000, 2:31 p.m.***

When I advanced from the local junior college to the University of Texas at Arlington to study electrical engineering, I was fixing Apple IIe motherboards in Fort Worth. One of my coworkers was about to depart the U.S. to fulfill his missionary work overseas and was unloading a lot of his stuff. At the time, I was thinking about shopping for a good scientific calculator (upgrading from the old Radio Shack I'd bought in high school), but didn't quite know what to look for. I'd never used Reverse Polish Notation, but I'd heard that HP was good at this sort of thing.

Scott brought it to work and showed me the basics of using it. "Hooked" doesn't say it! I bought it immediately and he also provided all of the manuals (including tutorials). I wish I'd had this thing when I took calculus!

I quickly learned that engineering courses get considerably more complicated as the calculators get smarter. If you compare a statics or dynamics textbook against one from 40 years ago, you'll see that today's problems practically require a calculator or computer.

In showing the 28C to my dad, who earned his degree with a slide rule, he said, "I would have KILLED to have had something like that when I was in school."

I wasn't able to capitalize on the graphing functions (I had previously tried using a Casio graphing calculator, but I stupidly let a classmate borrow it, and of course I never got it back) with the HP, but to be honest it was too slow. The algebraic stuff was okay, too, but I could work it out myself faster than it could.

But the HP-28C really paid for itself when I took Circuit Analysis. The professor never said that a scientific calculator was REQUIRED, but he did say that he "strongly recommended" that we get one. We poor students quickly found out that you had better program your calc with the right formulas, because you would never finish the weekly 10-minute quiz without them. Changing resistor values from wye to delta (and vice-versa) is a breeze when you've got an HP, and murderously slow when you don't.

I took a class called "Engineering Economy," which was basically an economics course. This required a great deal of numerical interpolation, or trying to figure out what a particular number would be when you look at the numbers before and after it in a pattern. Programming the formulas for this into the calculator really sped things along, particularly during tests.

I still use my 28C today for troubleshooting digital circuits. It's great for decoding error codes. With the old equipment I work with, you never know if you're going to be working with binary, hex, decimal or even octal notation. We can nail down a flaky data bit immediately.

One thing I wish the 28C had was a function for working with fractions. My old Radio Shack calculator could add, subtract, multiply and divide fractions with ease. That's all I keep it for now. :)

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Good ol' 28C!

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Indestructible 11C

*Posted by **Maurice Delaney** on **12 June 2000, 9:33 a.m.***

Using a computer as a calculator has lost what little appeal it ever had - don't send a boy out to do a man's work! - so, 18 years on, I've just bought a new set of SR44's and turned on 'the HP' for the first time in 8-10? years. It was last used in the southern hemisphere.

A small dint still shows over the upper left hand corner of the display. Memories begin to surface ...

In 2nd year Engineering lab, I knocked both my beloved HP-11C and a 10kg weight to the hard floor of the lab. HP hit first (Gallileo anyone?) followed a split-second later by the weight. On top of the HP.

With trembling hands I picked up the weight, no, the calculator, and pressed the ON key. No problems. Then or since.

I didn't pass Engineering but I kept my HP. TO paraphrase Neal Stephenson:

This is my HP

There are many like it

But this one is mine

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HP35

*Posted by **Ian Kettleborough** on **22 May 2000, 3:27 a.m.***

This was a brand new tool when I first bought it in 1971 or 2. It was very expensive at the time at $395. This was the early release of the 35.. with a bug in one to the arc-sine, arc-cosine, or arc-tangent routines.. HP would not replace it. The demand was so high for them.

The 35 and 45 were a real issue with the university I was attending where they were considered to be a device "only rich kids" could own (and therefore gave them an advantage) and were banned on all tests until more could afford some sort of calculator.

I had to learn RPN which turned out to be extremely easy. I also have a 12-C, and 2 16-C with no worry about losing them at work. Very few people like RPN, but I like it. Using any other seems to be so awkward.

I still have the 35 case, manual, external ps, minus a working battery, and it still works, after being bought a long time ago. (anyone know where to get a working battery for this, just to be complete?)

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A Godsend HP42S

*Posted by **John Triplett** on **18 May 2000, 3:16 p.m.***

I arrived on the HP scene a little later than most of you other geeks (compliment), but I have a story, too. I was in Civil Engineering at Mississippi State University in, oh, I think it was 1997. I had just bought a GX (I had already used a G for a few years, so i was pretty familiar with programming and everthing) when I was burning a few minutes in the Campus Bookmart (RE: earlier post about the 16C) and I saw this smaller HP calculator in the display case. I was interested because I could stick this one in my pocket, and after reading the back of the box I realized that this one wouldn't leave me out in the cold for functions. So, I paid the $75.00 price and walked out with it (Stole it, didn't I!!!). Keep in mind, I bought this in '97--five or so years AFTER they stopped making it (WHY ON EARTH?). I'd use it every now and then and really got hooked on it. I was amazed at what this little thing could do, which was insignificantly less than a 48G. I was especially amazed by how easy to program it was, but yet how powerful still the programs could be (I hate programming a GX). (Remember, I was a Johnnie come lately with HP's). Well, one day my GX just grew legs and walked off--either with one of my roomates, or just some thief who came in my house and took it. This semester i just happened to be taking Open Channel Flow, and now without a GX. BUT--I did have my 42S, and no other choice. To make a long story short, well, you know that time an hour before an exam when everybody is calmly (yeah right) reviewing their notes? I was furiously typing in solver programs so i could find stuff like Yn for a trapezoidal section or Yc out of the Fr equation or many other headaches which were nothing on a G or GX. More subrouting calls than you can believe. I remember REALLY sweating the time in the exam doing the same thing while everybody else just punched SOLVE CHOOSE MANNINGS or something like that--but the little thing got me through that and many other classes. I finally scraped up enough to get another GX, but after using the 42S, i only used the GX out of dire need. My calculator of choice is now a 41CV I got brand new a few years ago. I had to look all over the world to get all the bells and whistles, but it was worth it.

Since then I have become much more experienced with HP calculators and have managed to get my hands on some more of the older models (which make me dislike the 48 even more). I was especially surprised when I learned just how fortunate I was to have found a 42S. I rarely use it as don't want anything to happen to it and because to replace it now will cost and arm and a leg. Most of you out there love the HP25 or HP67, but my favorite will always be my 42S.

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On the Eve of My 2^14 Birthday

*Posted by **Bill Duncan, ve3ied** on **22 Apr 2000, 9:25 p.m.***

At midnight tonight I turn 2^14 days old, and my age flips to needing 15 bits. I figured that only the readers here might appreciate the significance. (My wife doesn't understand...)

I've had a special fascination with HP calculators at least as far back as when I was 2^13 days old (roughly 22 years ago). Not that I'm a brilliant mathematician you understand. I'm a programmer, and back then computers were either programmed with punched cards, toggle switches, or there were these little wonders.

The first HP to really catch my eye was the HP-65, and then the HP-25 (which was more in my price range at the time). Could I justify it? I wrestled with this for awhile until they brought out the HP-29C. That was my first HP. (It's still probably my favourite, many HP's later...)

Soon after, there was my first HP-41C. (As soon as I saw it, I knew that it was an HTH [Have to Have].) Around that time I started a local HP club here in Toronto with several other HP fans. In its hey-day we'd have over a hundred people coming out to meetings.

There was of course the seemingly endless thirst for new peripherals. (First, the card reader, the HP-IL devices, the modules...) Somehow I managed to keep up (without going to the poorhouse).

And darn them, they kept coming out with other calculators which were just as fun in their own ways. I ended up buying both the HP-15C and the HP-16C because of their unique qualities. (Someone else liked my HP-15C too, as it walked away once when I wasn't looking.)

There was the HP-95lx and the HP-48G which I picked up. And all of these machines were way ahead of their time and milestones in their own way. (Many more that I missed too, but then even *I* couldn't justify buying them all. And I'm a master at it!)

What is it that keeps drawing us to buy these machines? (And will HP get back on track to find out?)

A few weeks ago (on April 7th actually) I was exchanging email with a friend who had mentioned me in an article he was writing on Slackware Linux on ZD-NET. In the article he had gently suggested that I was an "old fart" for doing things the old Unix way (by editing config files by hand, and actually *liking* Slackware).

So I pulled out one of my trusty HP's (I think it was the hp-41cx) and punched in some numbers to see just how old I really was. That's when I discovered that I was fast approaching 2^14 days.

I also immediately recognized the digits in the number of seconds. By strange coincidence I was roughly sqrt(2)*1E9 seconds old that day. (Thats when I knew that I spend too much time with my calculators...)

So will I still have my collection of HP's when I turn 2^15 days? (If I'm still around...) And how many more will I have? (And when is my birthday anyway...)

Cheers!

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HP-16 RIP

*Posted by **Steve** on **22 Apr 2000, 10:39 a.m.***

Back in the days of steam radio (before the IBM PC) I was working in the Computing section of a large mining company. This company used HP computers (minis as well as smaller devices like 9845's) because of their remote location and HP's dedication to service. HP was the only company that would provide on-site servicing.

When HP brought out their HP-150this company bought a large number of them. Mostly on the strength of their usefulness as a terminal, but with the added capability of doing local word processing (anyone remember HPWord?).

Well, a particularly far sighted individual saw that there was the possibility of using these PC's to do some of the manual computations done by the Timekeepers who were responsible for paying the large wages workforce.

A short time later I was brought into the project. The program initially used text files for storing data, and the method of manupulating them was Wordstar!!!

These were very slow to read and write, so I converted the program to write binary files (as the slow part was conversions of numeric to text and back). This increaced the speed of the system dramatically, but meant that we could no longer use WS to edit files. The new tool was DEBUG.

However, we now had to work with hexadecimal, and the hand computation of hex to decimal, and calculation of offsets was a little cumbersome. We consulted with HP, and they suggested that the HP-16C would be what we needed.

So an HP-16C was bought for me. I never even knew it was programmable. I never read the manual. But for the numerous conversions it was a dream.

Unfortunatly the data files grew beyond 64K and the use of debug grew even harder, and so we developed a program that could edit the files (and it was GREAT). But the HP-16C fell into disuse.

The program developed further, and eventually found its way onto an Vectra (an HP version of the IBM PC -- a 386/20).

I continued to marvel at the HP-16C. I still hadn't figured out how to program it, but it was just a great tool. Looked great, worked great, unobtrusive. I carried it around because it was useful, stylish, and was still going on the original batteries :-)

One sad day I thought it was stolen. It eventually turned up in a suit pocket .

The next time I left it somewhere, it was inside a car in summer. When I returned, the calculator was warped, the enter key was about 70% of its original size, and it _really_ looked dead.

Well, it was close to dead. It couldn't be used in any normal sense any more, as the kees that still worked (almost all of them) required large to huge force to operate. But amazingly the LCD screen was unaffected!

The calculator was put away (I could not bring myself to discard it). Over the years, and the several moves, it has been lost, probably discarded somewhere. :-(

It was a great calculator, a great tool, and I miss it. I'm amazed that I formed an emotional relationship with a calculator. Am I that strange?

R.I.P. HP-16C

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Reactivating an old HP87

*Posted by **Fred Ellers** on **8 Apr 2000, 3:55 p.m.***

Here are a few thoughts that may be helpful to anyone else interested in reactivating an HP87 system. The big problem is that the 5 1/4 inch HP87 floppy drive is entirely different than the same drive for the PC so all the programs and data that were developed by the user in the early 1980's cannot be recovered (so far as I know) except by reactivating the HP87. In my case at least it has turned out that the floppy drive is the Achilles Heel since it has the most mechanical movement and HP stopped supporting or repairing it in the mid 1980's. The HP87 it's self was designed to be totally quiet with no moving parts or fans and based upon the two units I have owned was built to last a lifetime.

At the time I bought the HP87, Hewlett Packard did not have a hard drive for this unit but one was being offered by Bering which I added. It bombed out in rather short order, was repaired once by Bering and is now in storage with no thought of being used in the future. With the floppy and the hard drive out of service everything has to be keyed into the HP87 which turns it into an oversize calculator. None of the programs written for it can be read or used.

A little background which may have been shared by others may be helpful. I retired as an mechanical engineer with an engineering and construction company in 1982 with no background in programming and only a casual contact with those who did that kind of work in our company. At the advice of a fellow engineer, Bob Custer, I bought an HP87 system including the plotter and printer and started out with the really excellent HP87 operators manual to write all my own programs. In particular I was delighted with the rich graphics language that came embedded in the computer and that is in fact my main reason for trying to reactive the HP87 system.

After retiring from Bechtel, I took on some consulting assignments related to the North Sea oil fields and made an initial draft on the HP87 of an article for the Scientific American on these platforms which finally came out as a lead article in the April 1982 issue. During this time I bought a critical path project program for the HP87XM named CPERT and had the programmer expand it to 625 tasks which as I recall took about 3 hours time to run on the HP87 so long as I kept up with the paper feed to the printer. This was in the development phase of the Oseberg Platform and as part of a consulting assignment to Norsk Hydro in Norway.

Other special applications included an artificial intelligence program for evaluating gold mines in the East Belt of the California Mother Lode (essentially a shrinking down of a Stanford Research Program oriented to evaluating world wide mining projects) and a geophysical data processing program to read, evaluate and plot the VLF carrier signals used to contact nuclear submarines. All of these were undertaken more as hobby rather than with any real expectation of making any money and that in fact is the way things turned out. None of the above programs can be run on anything but the HP87. In the years since the HP87 was operational I have upgraded to a new PC every three or more years but every time I have started to develop a PC version of the old HP87 programs, I miss the HP graphics language that was built into that first computer and besides I no longer have the time or patience to learn a new language..

Anyway several months ago, I ran an ad for the HP87 floppy drive, an 82901m and got a response for an as new unit for around $100. After getting all the equipment operational, I found that I had depended on my memory too much in running the old programs mentioned above and had to reread the hard copy and go back to the various HP manuals but as of now everything is working and I sit back and listen to the old plotter clacking away and the printer spilling paper all over the floor and think how satisfying it was, and is, to have participated in what was very close to the first real

deck top computer.

One other thing this exercise did was lead me to browse the want ads and the HP forum on old calculators which have proven to be very interesting experiences and which I would not otherwise have known about.

And that's the way I ended up using the HP forum as part of the reactivating the old HP87.

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HP-25 Controlled Coffee Maker

*Posted by **francis TEYSSIER** on **2 Apr 2000, 10:27 p.m.***

I discovered the HP museum of calculators some time ago and could not stop browsing through all the pages . What a gold mine for information about these wonderful calculators that only HP could build.

I bought my HP25 when I was in my first year of college (well, it was in France and not exactly a college but more a school that lead me to the engineer I am today).At this time , 1978, I had to pay FF800 (about $130.00) for a used HP25 . Not to mention , it was quite a sum for the poor student I was . Anyway I discovered the magic world of programming and was amazed to see that the display of calculator was able to change all the time when the program was running. In my mind, all calculators had a fixed display and did basics operations : plus, minus, multiply, etc..

This calculator was with me during the 4 years of my scholarship and trust me : I used all the programming lines available.I often wished I would have more of them. We used to have competition between the HP-fans and the TEXAS-fans. If I remember correctly the TI57 was a competitor calculator and had almost the same functions as the HP25, except the RPN mode . We frequently tried various calculations using both machines and HP was often a winner (not always...). But the proof came one night when we had both calculators sitting on a table, trying to extract the square root of some huge number. I pulled by mistake both power cords and the 2 calculators fell on the tiles of my small student room. How horrified my friend was to see that his TI57 was memory, while the HP25 was still blinking the long line of red zeros ...

Then in 1981 I had my diploma and went to Morocco to spend my army time. The climate over there is not very friendly for electronic equipment (hot, humid,etc.) but the HP25 never suffered. I even built a programmable coffee maker managed by the HP25. A small wire was connected to the last digit of the display, and I ran a counting program. When the program ended, the display did not move anymore, and this triggered a relay to the AC power for the coffee maker....

Now we are in year 2000 and the HP25 is still in my home office. I would not sell or give it for anything in the world. Needless to say, I bought a new coffee maker with integrated clock since then.

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tticon@swbell.net

*Posted by **Barry Williams** on **2 Apr 2000, 10:26 p.m.***

I thought I would share something I did with my first HP-41.

The HP-41 allows for programming the keys to be assigned as you wished, an interesting capability which was normally quite constructive, but with a little thought .....

Our department had just been issued new HP-41s with options as requested by the engineers. Many of us had the card readers and additional ROM modules. The next day one of the mechanical engineers had proudly announced that he had been able to throw away his "Little Black Book", as he had programmed all the names and addresses into his new calculator. A day or two later, I went in and asked his advice on a program problem I had. I asked if I could run the program on his machine as I thought that my card reader had a problem. He insured me that I had a program bug, and took the program card and loaded it into his calculator. When the load was finished he hit a key and the calculator turned off, so I told him that that was the same as what had happened to me. An hour or so later he came into my office after he figured out that what I had done was to program every possible keystroke as an "Off" button. He finally had to do a hard reset, and lost all the names and addresses of his girlfriends.

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Where is the Equal sign?

*Posted by **E. Abgarian** on **2 Apr 2000, 10:24 p.m.***

I was in junior high school (1981) that my friend showed his Casio FX502P Programmable calculator. He explained to me what "Programming means". So one day I saw this HP67 and I felt Love with it. I had to Borrow the money from my father (Thanks Dad).

My first impression was "Where is the Equal sign" and I almost felt cheated!! But when I learned RPN I used it to impress my friends and family.

My first program was Converting Decimal to Binary number, and my friend taught me the concept of "Loop" and the world was different since then for me. I remember numerous nights that I lost the track of time, everybody was sleep and I joyfully understood indirect addressing and more.

Today I am working with DSP and Assembly Language and all the tricks and techniques I learned, helps me to squeeze couple of bytes, here and there.

Today Programmers could not care less about memory or speed, but those days every "Step" counted.

After HP67 I had, TI59, HP15C, HP41C, Commodore 128, PC Pentium II.

Like the First Love nothing is the same.

HP67 truly changed my Life.

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Car Trek XVI -- The Search for the HP-16C

*Posted by **Wayne Brown** on **2 Apr 2000, 10:22 p.m.***

My love affair with the HP-16C began about 1988-89. Up till then, I had used a TI calculator that did basic math and number-base conversions, and not much else. Then I was assigned to interface a UNIX system to a network of Honeywell process-control computers. This involved a lot of time with a data scope, analyzing bit patterns and calculating checksums, etc. One of my colleagues (a mainframe systems programmer) offered to loan me a calculator that he said was much better suited to the job - an HP-16C. From the first moment I picked it up, I knew there was something special about it. At the time, I was providing application and systems programming support for several HP minicomputers, and already had come to appreciate Hewlett-Packard engineering. This, however, was my first exposure to an HP calculator. The solid feel, the beautifully laid out and labeled keyboard, the sleek lines all said "Quality." I had intended to use it for nothing more than hex and binary arithmetic, but I soon found the bit shifting and masking functions, as well as the variable word size, to be exactly what I needed. Before long, I had learned to use its programming capabilities in a myriad of ways. It was clear that I had to have one of my own.

I called our HP account manager - a man who had never let me down before - to see how quickly I could get one. What he told me was very disconcerting; the 16C had been discontinued! He said he'd do what he could, but doubted he'd be able to find one for me. I called every HP CE (Customer Engineer) and technician I knew, but no one could give me any pointers to finding a 16C. The only suggestion anyone had was that maybe I could find a store somewhere that still had one on the shelf or tucked away in a back room. Thus began my year-long search for the elusive beast.

I drove to stores all over Mississippi and Alabama, checking with anyone who carried HP merchandise. Several times I came close - one store had the entire Voyager series EXCEPT the 16C, another had just sold their last one, still another listed it in their catalog but turned out to have none in stock. I had almost given up hope, when I found one more possibility - a bookstore at Mississippi State University. I had already checked the MSU campus bookstore, but I discovered there was an off-campus bookstore that did a lot of business with the students. So I went there and asked, and was not surprised when the sales clerks said they'd never heard of it. However, they invited me to look though their stock, and behold, in a dark, dusty corner of a display case, almost buried under newer merchandise, was a faded 16C box. It had been in the display case for so long that the part which was exposed to light was now several shades lighter than the rest of the box. Inside was a pristine 16C whose serial number showed it to have been manufactured in 1982. The clerks figured it must have been there, forgotten, for at least six or seven years. There was a price tag on it, but they had no idea if it was correct for such an old item; so, they gave it to me at a discount. I carried it home as if it were a twenty-carat diamond.

That was about 10 years ago. My 16C has a few nicks and scratches now, but it's still as beautiful as ever. None of the key labels have faded or rubbed off, and the display is still clear and sharp. It works as well as ever, too. Just the other day, I changed the batteries, for only the second time since I've owned it. (I've never seen any device get the kind of mileage out of batteries that this thing does.) I carry it in my briefcase or pocket every day, and have a small collection of programs I've written to do little jobs over the years - everything from calculating hardware addresses for HP 3000 DRT (Device Resource Table) entries, to doing metric conversions for the table saw in my home workshop. I can't use an algebraic calculator any more; RPN is hardwired into my brain now, and I always press the keys in the wrong order on non-RPN calculators. My 16C calculates my taxes, guides me through hex and octal dumps, balances my

checkbook. The wife and kids have gone through several calculators over the years, but my 16C is still going strong. It's been a faithful friend, and I have no doubt that it will continue to serve me well for years to come.

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Calculator Memories from Argentina

*Posted by **Andrés C. Rodríguez** on **2 Apr 2000, 10:17 p.m.***

I think I was interested in calculators ever from my childhood. As part of an endless curiosity for automatic mechanisms, switches, keyboards, and indicators; I recall playing with a typewriter when I was seven years old, pretending I was "calculating". My father, an aeronautics engineer, taught me the use of nomographs, and slide rules when I was eight or nine. Incidentally, he still has a Faber-Castell "Darmstadt" slide rule, which has an extra, special logarithm scale that allow for easy power and roots calculations.

When I was about eleven, I learned to use a pocket circular slide rule (Concise brand) that the people from Lockheed gave to my father as a souvenir (when C 130 Hercules aircraft entered service with Argentine Air Force). I also had a smaller, circular Concise slide rule, which included a sort of perpetual calendar as a bonus. It was small enough as to be used as a keychain.

At the same time, I was interested in model rocketry, and that brought the need for simple trigonometric notions, in order to calculate the altitude my models had reached. To that end, I resorted to a pocket (but straight) slide rule, Aristo brand, which I still have as a conversation piece near my desk. It was1969, and I was astonished at a drugstore when I saw one of the first cash registers with an electronic display (Nixie tubes). Electronic calculators were big, clumsy machines, only to be available in specialized shops in Buenos Aires (I remember some Sony and Lloyds desktop calculators). All other calculators, the ones you may see at a clerk’s desk, were mechanical or electromechanical at best

About mid 1972, I read an article in Popular Mechanics magazine, featuring several four function pocket calculators. I recall a Canon unit, and the Casio Mini 6, which had a six-digits green display and a "right arrow" key that shifted the contents of the display to show six more digits. LED and Fluorescent displays were usual (no LCD yet), and NiCd batteries were almost mandatory. Some models sported modified seven–segment patterns to make the digits recognizable, even when a segment fails.

Versions of 0 , 6 and 7 used to make the patterns for all 10 digits to differ on more than a single segment.

Short after that, I had the chance to use the TI Datamath and Bowman calculators. In addition, in 1972, I saw an advertisement of the HP 35. In 1973, I got the HP Journal issue about the HP 80 financial pocket calculator, and near the end of that year found the announcement of the HP 45. It appeared in the "Measurement and Instrumentation News" leaflet from HP, the same issue in which the 9830 with BASIC language was introduced. All pocket calculators were still prohibitively expensive for me. At the same time, I also read a Philips (Netherlands) article, describing a prototype calculator, which used shift registers, pulse-counter logic and a cold cathode display.

I was then sixteen years old, and soon learned about the TI SR series, including the SR 50, which incorporated angular

mode selection and some other functions absent in the –35. It seemed to be a good machine (I was not irreversibly converted to RPN yet), but still expensive. (By the way, that TI brochure was my first contact with hexadecimal notation and hyperbolic functions). Near the end of 1974, I bought a TI SR 10, that I later replaced with a SR 11. This last one had a "constant" switch, only valid for multiplication and division. I recall myself using a repetitive "times 10" multiply so to make the calculator work as an event counter. The counter was the two–digit exponent part of the display, and the 10 E 99 overflow did not prevent it to keep counting (multiplying) past 100 events. Lest of scientific notation, 1/***x*** and square root were the only scientific functions of the SR 10 / 11.

I still have my copy of the Popular Electronics January 1975 issue, usually considered as the starting point of the Personal Computer era. It featured the MITS Altair 8800, based on the Intel 8080 microprocessor. It's cover also showed a scientific calculator kit that sold for U$S 99. That calculator appeared in Argentina as Norman 700, assembled by the car-stereo company of that name, and was popular among college students at that time. The Cifra brand of calculators, made by a local electronics company, was also well known in my country. At that time, a scientific calculator was far more powerful, and usable, than a toggle-switch-based personal computer!

During 1975, I was amazed reading about the HP 65, and even received a sample copy of the PPC newsletter: It only increased my need for a calculator better than the SR 11. One of my best friends bought a HP 45. I remember we talk about what to do with that much memories (nine). I also remember the day when I learned the trick to make the –45 work as a stopwatch, and puzzled my friend with it. The announcement of the HP 25 in the November issue of Popular Electronics made it clear what would be my target, no matter how much to wait for it.

In 1976, I entered the Buenos Aires Institute of Technology (ITBA), to pursue a six-year degree in Electronics Engineering. In the first courses, no calculators were allowed, so we resorted to slide rules and books with logarithms tables. As a vengeance, I wrapped my log-tables book using a HP 65 brochure as a bookcover.

After the first half of that year, some classmates started showing their brand new HP 25; a TI SR 52 unit (with magnetic cards) also appeared some months later. It was a time when new calculators were announced almost weekly, so we had the chance to look at our friends models, and compare them with ease. In August 1976, I finally received my HP 25, and started *wearing it* (not merely using it) 24 hours a day.

Two months later, the –25C was introduced, and then the –29C, with more registers and subroutine support; but the –25 was something special for me. Suffice it to say that, in 1978, a distant earthquake made Buenos Aires buildings oscillate for a minute or so (a very uncommon fact). My parents and I left our apartment and went down 12 flights of stairs. I carried only one thing with me: my HP 25.

At the ITBA, there were a good number of HP calculators, and a friendly but competitive fever started. Not only between HP and TI frays, but also about the fastest or shortest program to achieve a function. Battleship, variants of Nim, "Corner the Lady" and Mastermind were popular calculator games. They become programming challenges for us as important as the more formal solutions for matrix algebra, definite integrals, factorials and Fourier transforms. Root finders, linear regression and the Monte Carlo method were concepts that we learned much before the EE curriculum specified, thanks to our programmable handhelds. As for games, as an advertisement put it, the most powerful graphic devices of these years were the brain and the imagination. It may seem strange today, in the multimedia era; but we were much thrilled at the mere sight of a few red digits output of a lunar lander simulation!

A frustrating thing for us, EE students, was the lack of some input/output on our calculators. Being so comfortable programming them, it would only be natural to control external devices from our programs. I read about the –97S, but that kind of machine was absolutely out of reach. Instead, we focus our energy in the rather futile observation of the LED display while running programs (you can decode the angular and display modes from the displayed patterns), and also to the behavior of a "properly shaken" –25 (it may show "rorE" instead of "Error" on its display). Varying the number of digits shown during a PSE instruction was a manner to alter the sound on a nearby radio receiver (RF interference allowed to signal the end of a program, well before BEEP was available on the HP 41). In short, we squeezed every possible drop of juice from the wonderful –25.

I should mention that imported goods were heavily taxed by customs in Argentina during the 1970 and 1980 decades, and in most (but not all) of those years, the average salary was rather low when measured in US dollars. To purchase a

sophisticated calculator was not easy, not even to mention a HP-01 watch. Only one thing could ease the "pain" for not owing such a marvel: it was algebraic, not a RPN model!

In 1978 we were taught the first programming course as planned on the EE curriculum. We learned FORTRAN IV and use a special machine to punch cards, rather sumbitted to an IBM 1130 mainframe (the mainframe had 16 K RAM). The same year, a Computer Lab opened at ITBA, and the students helped to build a DEC LSI-11 from a Heathkit set. It ran BASIC and Focal as high level languages. The invariable impression all students shared was that, for "serious" work, it would be preferable to use our calculators rather than a computer; a feeling that remained valid for some five more years.

TI had announced the TI 58 and 59, powerful machines but somehow dull. Although the alphanumeric LED display of the desktop TI 60, showing a "Prompt required" message was a sign of things to come, it was preferable to wait for a new HP than to embark on such adventures. Even the –67, nice indeed, was not far enough from the –25... In the first months of 1979, some friends and I started discussing an imaginary "wish list" of features to appear in "the next HP". Of course, we had no HP contacts, nor any other information to base that list on. When, in 1979, we read about the HP 41C in a Scientific American ad, we were amazed by that calculator; but also because our wish list was quite close to the –41 features!

In 1980, I bought my HP 41C. It was very powerful, friendly and easy to program, particularly when compared against the limited memory and function set available on the -25. Very soon I was solving college and work problems with programs that *may be used by others*, with labels, prompts, messages and so on. Math I and Circuit Analysis Pacs was useful in my sixth and last year at ITBA (1981). Among other things, I solved Simplex method calculations, run probabilistic simulations, venture into digital filters theory, and integrate RIAA equalization curves easily with my own programs. My HP 41 even let me wrote and run a Cross-Assembler with labels support for the RCA 1802 COSMAC microprocessor which I was experimenting with.

The need for I/O was still there, even more tempting than before. Realizing that HP–IL was not for mere mortals, I solved the "output" part of I/O connecting the beeper leads to the outside (using the gold–balls holes). Using TONE commands, different number of pulses may be sent to a microprocessor or discrete CMOS logic circuitry to communicate the status of the calculator, or to trigger an external event. Synthetic programming helped giving us much more TONEs to choose. To try to give my –41 some means of "input", I've tried reducing the batteries voltage (by means of a series diode), and so to flip Flag 49 (Low battery). To communicate via a single flag (almost a Turing Machine proposition) would have been hard, but possible in theory. My "output" experiments were successful, but the "input" idea was not. I tried to peek on the expansion ports with an oscilloscope, specifically on the Flag Input pin. However, I never found a good way to input anything to the HP 41 (short of HP IL, or connecting switches in parallel with the keyboard). Serial buses were not for mere mortals, either.

As I was closely–attached to my HP 41, it was only natural to look for HP Journals and to subscribe to HP Key Notes. When this newsletter opened a contest for a language name for the –41, I submitted EUREKA, as an acronym for the calculator main features:

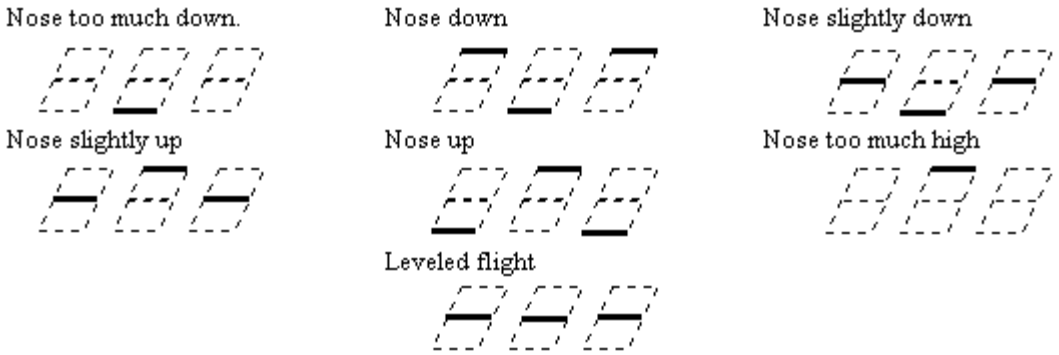
- Expandable (hardware, via peripherals)
- User customizable keyboard
- RPN logic
- Extendable (software, since programs are invoked the in the same way as built in functions)
- Keystroke operation (opposed to writing BASIC lines in other calculators)
- Alpha capability

(By the way, I never knew the result for that contest).

I have some 50 magnetic cards with HP 41 programs of my own creation. Sadly, the card reader capstan weared out some time ago, so I am unable to replay them. The calculator itself is still in more or less working order; but some loose contacts between the boards appeared after the first years of use, and the flex circuit backplane become corroded by battery leakage. Not being able to repair it, I bought a HP–42S in 1990, which I still have. In my opinion, the –28

and –48 models are very unfriendly, even for a RPN fanatic (I could not believe an argument is needed to roll–down or drop the stack!). Certainly, I would like HP to offer again a –42 like machine.

Some of my –41 mag cards contain what I think was my best tribute to the HP 41 power: a Flight Simulator. It was based in simplified but quite real equations, taking speed, altitude, attitude, angle of attack, potential and kinetic energy, gravitational, lift and drag forces into account, adding even a random factor. It actually let the user control the glide and landing of a space-shuttle-like vehicle in the final approach phase. The controls available are the elevators, an aerodynamic brake, and a "turn around" function that makes the shuttle to slowly invert the horizontal direction of its flight. The LCD showed the altitude, attitude indicator, speed and distance to the runway on a single display line updated every six seconds. The ubiquitous "colon" separated the fields, and a leading-zero routine kept the same display alignment in all phases of the "flight". The flag zero indicator meant that a 180° turn was in course. The attitude indicator was "graphical", using combination of dashes as follows:



The main loop of the program was executed in six seconds, and that was the "delta t" value used for the equations, so the simulation ran in "real time". The mission was to land the shuttle in a runway 4000 meters long, at some 200 km/h . The starting point was 20 km far from the runway and at some 700 m altitude. After a successful landing (with good vertical speed, attitude and horizontal position parameters), the shuttle will coast to a stop at the end of the runway. Then a "Over" message was displayed, with a BEEP. A "Crash" legend appears otherwise. The program fits and runs on a standard –41C, without extra memory. I think I exploited every possible trick on this program, but I am now unable to load it from the magnetic cards, and have no complete listings on paper.

To tie these memories up, the "calculator" I most use these days is an HP LX100, which I received as a gift in 1994. Although the newer LXs with Windows CE are very nice machines (I would however prefer a Compaq C-series over the HPs), and as smart as a PalmPilot may be, none offers a calculator function good enough to relegate the LX 100, or the –42S for that matter. My –41C may still be turned on, but not much more. With regard to my –25, I lend it to a friend and it was stolen from him. I miss it a lot. However, the excellent Java simulation available through the Museum of HP Calculators let it live in every PC I use.

Andrés C. Rodríguez

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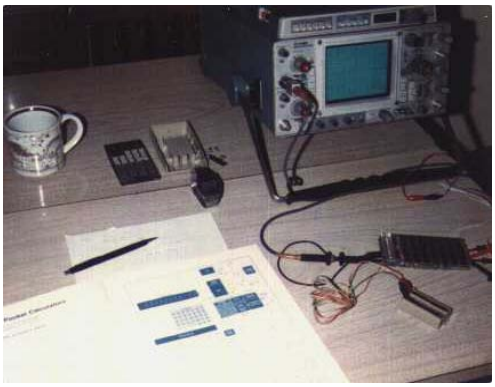
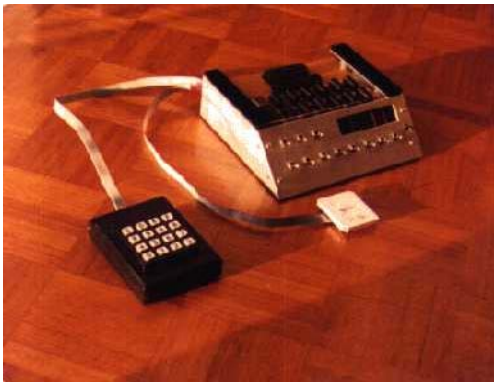
About the author:

Andrés C. Rodríguez was born in Buenos Aires, Argentina in 1958. He graduated as an Electronics Engineer from ITBA in 1981, and has worked for 20 years in the computer and information technology industry. He is an IEEE member since 1978, a Microsoft MSCE and a Compaq ASE; and has been appointed in Who is Who listings. He is married (’83) with Claudia V. Tróccoli, and has two daughters: María Julieta (’84) and Ana Inés (‘89). He owned a HP 25, a HP 41C, a HP 42S, a HP 32S and a HP LX 100.

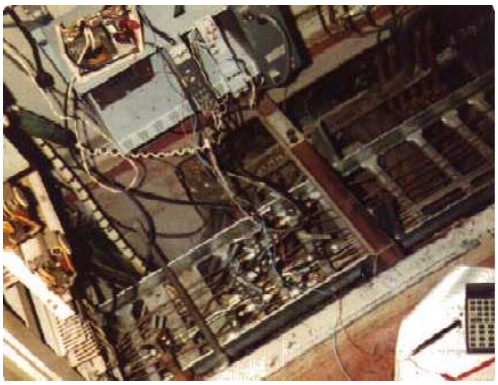
This article was written in December 1998, only from ideas, experiences, and actual memories of the author. No manuals, books or other reference material was used to prepare it. All photographs are from the author's archive, from 1979-1982.



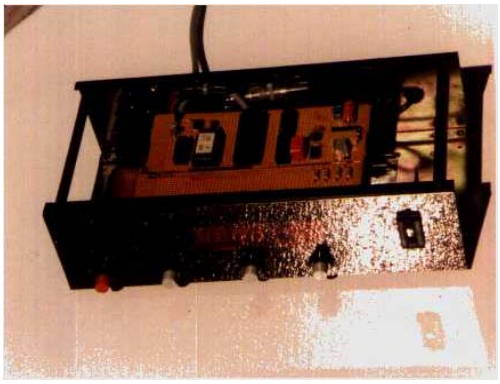
Trying to peek (with poor results) into my HP25. Note the Tektronix 465 oscilloscope with a DM 44 multimeter optional feature in top.



A homebrew RCA 1802 microprocessor (COSMAC) prototype system, used to "read" TONE commands from my HP 41C.

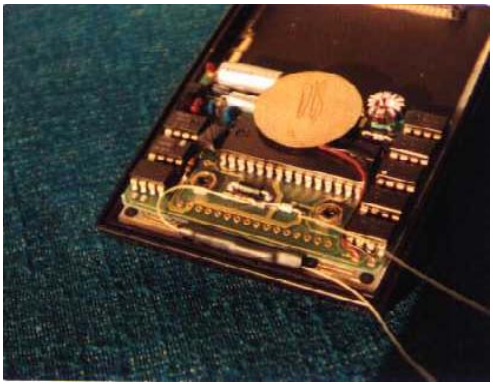


Using the HP 41C to calibrate an analog-to-digital converter, that monitors a compressor in a computer-controlled CO_2 production plant.



A prototype of a microprocessor based controller for a chemical plant. The HP 41 was used to develop algorithms used in this device.

My HP 41C helped in the design of a custom interface prototype (white breadboard). A Data General Dasher terminal, a plotter, and a Tektronix graphics terminal (with storage CRT) are also shown (left to right).



Close up view of my HP 41C board, showing the connection of the TONE interface. A series resistor, used as a limited short-circuit and ESD protection, was inside the heat-shrunk tube.

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Collecting Memories

*Posted by **Dr. Sean F. Johnston** on **2 Apr 2000, 10:16 p.m.***

I was surprised and pleased to discover the HP Museum, because it recaptures my HP fanaticism of earlier years. I first read of HP calculators in the early 1970s while in high school, via ads in Scientific American. I read and re-read the HP desktop calculator, and especially the HP-65 and HP-35 ads.

In my last year of high school (1973/4) a few affluent students had other scientific calculators which were just coming out, but these were relatively large, seemed poorly made and had no mystique whatever. When I won a graduation award, I put it towards a $395 (Canadian) HP-35. My mother had to order it from the HP office in Vancouver (and wait several weeks for delivery), because the calculators were not sold in Canadian stores at that time. I began collecting HP advertisements and brochures that week, starting with the 4-page HP-35 brochure (yes, those brochures are still in a box in my closet). My math teacher, Mr Denton, had just bought an HP-45, and piqued my interest by telling me that it had a 'hidden stopwatch'. So there was an HP underground!

I played with, and used, the HP-35 daily for at least a year as a physics undergraduate. One of the professors of Physics in my first year had an HP-65, and he wore it prominently on his belt, demonstrating it (rather smugly) to all and sundry. I bought the HP-65 users manual, just to lust over it.

I wrote to HP for more background information, and was rewarded with back copies of the HP Journal, which are still the best sources of info on design and development issues regarding the calculators. I bought the HP-35 MathPac, a book of programs.

By my 2nd year of university in early 1975 I really yearned for a newer HP, and bought an HP-55 from a fellow student who was selling them. My own programmable calculator! The drawback, of course, was the lack of storage. I bought various HP programs books for it. To me, the moon lander program that was so current in HP program books of the time was a noble copy of the games programs I had seen running on minicomputers at the nuclear accelerator facility I worked at that summer.

When the HP-21 came out, I bought ITS manual, but wasn't impressed by the 'improvements'. Same for the '3rd generation' series, which passed me by with scarcely a glance.

But in 1980, at my first job, I suddenly had money and heard about the HP-41C. I quickly bought one, and then the card reader a few months later, and then the printer by that Autumn. Apart from a faulty keyboard, which was replaced in 1983 or so (and which gave me the newer, more sloping, keys), it has worked flawlessly since. I contributed to the users' program library, learned about synthetic programming, and how to make a battery supply using a large storage battery and adapted mains lead (my HP-41C had the side door and gold contacts for the never-produced battery recharger). Later still, I bought the Memory Module and X Functions modules.

I still have it beside me in my desk, and use it regularly for most of my calculator-based calculations. My 'yearning' today, though (considerably muted) is for laptop computers, which all fail to encapsulate that old HP aura.

I began to realize that my HP love was becoming old fashioned when an undergraduate physics student saw me using

my HP41C and said "Gee, what's that? Why are you using that big old thing?". This love of calculator technology has been imprinted on a single generation, and is never going to be repeated.

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You Could Have Bought A Good Used Car For That!

*Posted by **Mike Morrow** on **2 Apr 2000, 10:15 p.m.***

I first saw an HP ad for the HP-35 in "Scientific American" in Spring, 1972. I was an EE undergrad at Ga. Tech, and I still remember the storm of interest that this model caused. I remember discussing with a fellow student the "HP Journal" article that described the cordic algorithms the HP-35 used. We couldn't imagine why it would be important to worry much about fast algorithms for a calculator, since it would give answers faster than one could use them no matter what method was used. I also remember a friend purchasing an HP-45 for $400 in 1973. We taunted him with comments like "you could have bought a good used car for that!" Envy makes a person say things like that.

By the time I graduated in 1974, the only calculator I could afford was a four function Bomar 901. My Dietzgen slide rule still carried most of the load, and continued to do so through the Navy officers' nuclear power school I attended. There calculators were prohibited and part of the math training involved the best course in slide rule usage I've ever had.

My first HP calculator was the HP-67. While reactor controls officer on a submarine, I programmed it to carry out the set of moving average calculations required for the nuclear power plant calorimetric procedure, in which thermal data is collected while at high power operation and used to compute an adjustment to the nuclear power level instrumentation. This cut the time required to perform this procedure by 50 percent. I also used the HP-67 when I was officer of the deck to enter radar range and distance data and compute a time and closest point of approach to other sea traffic when we operated on the surface. An HP-97 was eventually purchased with government funds.

During this time I toyed with the latest TI machine, the TI-59. This calculator was actually faster and more powerful than my HP-67, but I never could keep one working for more than a few months.

I've continued to use HPs in my civilian engineering career. I've used the -41CX, -15C, -28S, 48GX, and many other HPs, since I now collect them. This began in 1978 when I traded a TI-58 for an old HP-35, which turned out to be one of the very earliest "red-dot" models. In an echo of one of your other correspondents, I am most attached to the HP42S, the best pre-RPL calculator ever made. Were HP interested, I could certainly give them some suggestions for enhancing and reintroducing this excellent machine (not likely, sadly).

Thanks for the wonderful information you've assembled at MoHPC. Now if only I could find a polynomial root-finding program optimized for the HP42S somewhere on the net...I just don't have time to write such stuff anymore!

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It Still Works As Good As The Day I Bought It

*Posted by **Steve Simpkin** on **2 Apr 2000, 10:14 p.m.***

I probably should have written sooner. I have been visiting MoHPC several times a week for a long time now. I particularly love reading about all the details of HP calculator internals and development insights.

I think most people today don't care about how most of the things they use work. Its just another appliance to do a task. That's why Hewlett Packard, of all companies, felt justified in leaving out the programming section of the 48G manual. I wrote and used literally hundreds of calculator programs to do useful work (and some play). True most of these have been small programs but that's why a programmable calculator is so useful. You can write small programs quickly and easily to automate small tasks.

A case in point, in a past job I had to create a table of elevations and compass headings to aim a portable satellite dish to the Galaxy II satellite from about 200 latitude/longitude locations across north America. I obtained the required formulas from a library book, programmed my HP25, plugged it into AC power and away I went. At the time I didn't have access to a computer with a printer. The "company" computer filled a LARGE room, used punch cards and no one, including the manufacturer, knew how to write new programs for it. The latitude/longitude locations were given as arbitrary values that I would have had to enter anyway. The HP25 did the job in a fraction of the time and effort any other method would have required. HP product do "fill real needs, and provide lasting value".

Enough of my preaching.

My first exposure to a HP calculator was in a large department store in Halifax, Nova Scotia Canada in the summer of 1975. I found a large brochure for a HP25. I must have read that brochure hundreds of times before it wore out. I finally saved enough money to buy a HP-25 in 1977 for my 16th birthday. I used that calculator for over ten years. I always wanted a HP41C but my HP25 worked so well and did everything I needed that I couldn't justify spending so much money on a 41 when they came out. I used my HP25 though high school, college, and two years of work.

I bought a HP-11C when my HP-25 started to malfunction in 1987. I had recently converted it to to AA battery operation and thought I had broken it. I started a new job in 87 (still working there) designing 911 communication equipment. A co-worker was an HP calculator nut of sorts and had a 41CX and a HP-28C. When the HP-28S came out he bought one and sold me the HP28C. I bought the HP-28S (and sold my 28C) when he bought a HP-48SX. In 1991 I bought a HP-48SX and sold the HP-28S. I can't say I use my HP25 much anymore but it still works as good as the day I bought it. I've always loved calculators in particular HPs.

Well a month or so ago I discover that same HP25 brochure on you site that I discovered in 1975. What a flood of happy memories it brought back!

Thank you for creating and maintaining my favorite web site.

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A Miniature 9100

*Posted by **Adams Douglas** on **2 Apr 2000, 10:13 p.m.***

The summer before I started college, I went to an electronics trade show. Then, as now, I just loved to look at the wonderful new gadgets carefully demonstrated by enthusiastic salespeople. Of course I couldn't buy anything then, at 16. But it was fun to look.

At this particular show I was suddenly riveted by the HP booth. There was a handheld calculator, the HP-35, with apparently all the functions of the HP 9100A, also on display! After questioning the sales person, I found it wasn't programmable like the 9100, but so what? It was better than any slide rule or other calculating tool available at the time. But, of course, I couldn't afford it. So I gathered all the brochures, and occasionally looked at them wistfully.

Fast forward to 1974. I'm in my second year of college and browsing the magazines in the library. I come across a full page ad in _Technology_Review_ for the HP-65. Now this _did_ look like a miniature 9100. Right down to the magnetic cards! And this time I _did_ have the money. My mother had sent me money for expenses every month which was actually in excess of what I needed, so by then I had quite a surplus. I literally tore out a piece of notebook paper and wrote "Please send one HP-65 calculator." I added my name and address and quickly wrote out a check for $795. This I sent off to the address for Hewlett Packed in the ad.

I'll always be grateful to HP that they took my somewhat unusual order in stride. After a quick reply confirming my order, I was told it was backordered due to the incredible demand. I settled down to wait. Summer came and no HP.

At the end of that summer, I returned to college the night before it was due to reopen. Parking on the dark campus, I looked through the glass doors of the College Center where I could see the mail slots. On the table was a package, and I could just discern the blue HP logo on the mailing label. Knowing it was inches away was too much to wait longer for. I got a coat hanger and pulled the locked door open by hooking over the inside pushbar, I scooped up my package making sure it was indeed for me and carefully relocked the door (I'm glad my little college didn't have burglar alarms back then).

I stayed up all that night learning about my new HP. I started that semester itching for every new math and physics assignment just to experience the joy of how fast I could compute the answers--as I did for the rest of my college life and for my professional career. Since that day, I've always had an HP calculator handy, whatever the best one was at the time.

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Nobody Wanted To Touch It

*Posted by **Bruce Kebbekus** on **2 Apr 2000, 10:12 p.m.***

I got an HP41-C back in about 1979 (whatever, they had just come out). I had heard about them and how hard they were to get.

Then, one evening one appeared on the Connecticut Public Television Auction. Contributors could call in to Bid, and I called in over and over to bid and re-bid even when I was high, to keep others lower. I raised by oddball amounts until I won it at $187.75.

I got it and showed it off at my Financial Planned job at Aetna, but when I took it home to study how to program, I got so frustrated that I took it back to work and asked anybody to buy it for most of my cost.

Nobody wanted to touch it.

So home it went, and one weekend I just sat with it until I figured how to write a loop. Now I had an old BASIC timeshare program I had written back in '73 at Oregon where I worked and failed to get my Finance Doctorate, so I wrote the same steps into HP 41C language and got the calculator to come up with the VALUE of a GNMA Mortgage Pool at a given yield, age, and prepayment rate or FHA Speed. (I was a closet GNMA expert, and the recent father of Aetna's multi-billion dollar guaranteed investment contract products).

Off I went, I fussed with that routine, boiled a version that gave 30 annual years with the same results you would get if the program ran the actual 360 month mortgage life...I figured all sorts of correction matrixes and built these in. This gave the slow HP41-C enough speed because a Bond Trader wouldn't wait 2 hours for an answer, but they would wait a minute and a half, and that saved a lot of interpolation and fussing with out-of-date yield books being put out by Financial Publishing Company.

After working on this for about four months, I got permission from Aetna to do mail order sales, and took out an ad in the Wall Street Journal. Off she took, and the new company, Almont Analytical, began to get all sorts of calls from Bond Dealers who wanted it, or to get consulting. My phone at Aetna got embarrassingly busy as many discovered where I really was.

The next Christmas, I got an Apple II Plus with one disk drive, and I went through the same programming. Of course, the Apple was much faster, and I found protection schemes, hookups to tape drives and compilers. So I quit Aetna.

That was the start of a very successful company. It became part of the Thomson Companies and long after I retired, it absorbed the yield book publisher, FPC, and still runs out of Avon, Connecticut, just down the street.

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HP41C: More Memories

Posted by ***Raul F. Rueda*** *on* ***2 Apr 2000, 10:11 p.m.***

Reading "HP41 From Inside", "...Memories", "Mystique" and "Thank for…" led me back to my university times when I started studying electronics engineering in '79. My mum made an effort to buy me a Casio FX 120 calculator, which was kind of popular. Very simple machine, tough as an ox though. Believe me, I saw one falling from the third floor to concrete. It worked perfectly after placing the batteries back. And I learnt more stories like this. Anyway, this machine was my first sweetheart.

Some lucky guys were using TI30's and TI55C's at that time. Cool guys used TI58C's and TI59C's (expensive machines for Peruvian mortals). But some real aliens would use HP32E's and HP33E's or even a monster called HP67. Odd machines: "Where's the equal sign?" , "What's this ENTER for?" and "What about the parentheses?" were FAQ. Some friends of mine let me play with their machines, so I learned some RPN, although I must admit I couldn't really tell whether it was better than algebraic or not then.

Problems made me stop studying for some years. In '83, I returned and met other guys who used new Casio calculators (PB700 used BASIC and became popular). I knew of the existence of something called HP41. "H-pists" (kind of a translation from Spanish "achepista" which means hp addict more or less) said it was the Mercedes-Benz of the calculators. An old good friend of mine had visited the US and bought a HP41C for him. He was given a 41CV as gift the very next day! Well, he sold the 41C to me at the same price: US$200.00. A real fortune but far cheaper in comparison to the price listed for the HP Peruvian representative at that time (US$375.00). I sold my soul and bought it.

My wife knows nothing about scientific calculators but she liked the machine and thought I was getting crazy when she noticed I spent more time with my 41 than with her. And she confirmed her suspicious when heard me screaming after finishing my very first application program. Well, I've just stepped into the Hall of H-pists!

At the university, TI58's and 59's had almost disappeared. BASIC Casio's PB700 and PB1000 were used by most of students. They would say theirs were better than HP41. I used to smile a "wanna compete?". Witnesses can testify I defeated their machines running the same application programs with hard-to-process data. My 41 gave me the exact answers after some minutes, leaving the Casio's running in endless loops. H-pists became so proud. Most of us used to gather to chat about programming and hot news (when available) on accessories. This calculator turned out to be my true-love!

I met a classmate who worked with another HP representative. He taught me how to open the machine and maintain it. I even made some pocket money servicing some 41's…and had the opportunity to upgrade my machine to HP41CV (a dead CV was given to me with destroyed case and display but operational board). I could never afford a Card Reader or an Optical Wand. Not even a module. So I started hand-copying and making hardcopies of all the programs I could get 'till I finally got a good library, which I lost after lending it to a friend (yeah, you're right…!).

My 41CV died in '93. I got quite disappointed 'cause I ended using a simple pocketsize Casio (a bike after having used a Volvo!). But in mid '94 I managed to get a used 41CX (never asked where it came from for it was in good shape and cheap) with no manuals which led me to figure by myself what the extended and time instructions could mean. I

managed to understand just a few. I haven't been able to get a copy of the HP41CX manuals so far.

I have been tempted by some friends to sell my good old 41CX. With the amount offered I could easily afford a 48GX, but I will keep my HP41CX 'till I die…or my biggest son kills it. He's about to finish high school and he's using a Casio (argggg!). I'm only waiting for the moment he is ready to learn RPN. Of course, I'll teach him all I know and pass my beloved second sweetheart to him.

HP41 forever!

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HP-41 From Inside

*Posted by **Russell Nelson** on **2 Apr 2000, 10:10 p.m.***

I worked at HP from '81 to '83, during which period the HP-41CX was produced. My part it in was very small; mostly it consisted of not strangling Hank when he tested the alarm on the timer module Yet Another Time. My job was designing a CMOS version of the Harris Bipolar power supply chip. Curious job for an electrical engineer turned software hacker, but in my naivete that's what they hired me for. That lasted for a year, when Harris improved the quality of the chips they were sending HP.

My G-Job* (everybody at HP had a G-Job or two) was working with HP-IL. I scarfed a 1LB3 and interfaced it to the Radio Shack Color Computer. Cool chip. It interfaced with 8 I/O ports in a manner very similar to a UART. So I got my hands on an HP-IL digital tape drive. I wrote some code for the Color Computer which let me save files on the tape drive. Mass storage in the days when hard drives were hard to find.

I still have the ISA board which makes a 1LB3 available to PC compatibles. I ought to write a Linux driver for it, just for hack value. And I would if my HP-41's still worked. They both died a few years ago. Don't remember what I did with them. Unless they're at the bottom of some box in the garage, they're gone. It's just as well, since they were both hacked-up machines. Originally HP-41's, one was hacked into a CV and the other into a CX.

So, has anybody noticed the similarities between USB and HP-IL? About the only improvement in USB is power to the devices. Otherwise HP-IL was much simpler to use.

The only product I did that ever made it out the door was the HP-41 HP-IL Development ROM. I got to learn HP-41 microcode. Very bizarre. Only 4 levels of code stack, so you have to store state in flags instead of your calling address.

The best hack I did was to create a power indicator. I needed to know when the HP-41 was on, sleeping or off, so I took the plastic from an HP-IL module, cut a hole in the top, and put a two-color LCD (stolen from some other HP product) into it, along with some logic to twiddle the LCD's (they need AC, not DC) using the power signals from the module connector. Voila'! A simple power state indicator.

Russell Nelson

* G-Job = Government Job

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Starting Your Kids On The Right Path

*Posted by **Chris Lott** on **2 Apr 2000, 10:09 p.m.***

First, I fondly remember my first calculator of any type - an HP-25 that my mother got me when I was a Junior in High School. That would've been late 77 or so. She was a college math teacher at the time, and insisted that I use an RPN calculator. Back then, algebraic calculators weren't the overwhelming market sellers as they are now. I used it for many years, even through my first few years at Ga Tech. Finally, I broke down and purchased an HP-34C that was on clearance at the bookstore, which I used for many more years. Ever since, I have been sold on HP's quality calculators. I have owned since then an HP-15C, an HP-28S, an HP-48SX, and an HP-42S. These days I use an HP-32S almost exclusively.

The recollection that I most wanted to share was of my boss, when I had my first real job as a coop student. He was an older engineer, and I later learned had numerous HP programs that he had written for the 9100. One day, I was walking down the hall past his office (this would have been in the early 80's). He was scratching his head, and had about 4 each HP-9100's all opened up and spread out across his conference table. I asked what he was doing. He replied that he needed to run one of his old programs, and his 9100 was on the fritz. To fix it, he dug up three other units from the basement, and was swapping circuit cards around until he found the right combination to make his unit work again. I was just amazed at all this (keep in mind I had an HP-25 in my pocket), and wished him luck in his venture. Later, when it was working, he showed me how *his* calculator worked, and I remember being impressed at how similar it was to mine - and you could see the whole stack at once! This wasn't possible again until the newer multi-lined displays became popular, like in the 28S, 48 series, and the 42S.

I am currently wrestling with what kind of calculator to start my kids on. These days, they start much earlier than high school. All the examples in their texts assume an algebraic model, but I think I'm going to make them at least try out RPN for a few weeks, anyway. I've dug up my 34C and have it all repaired and working. Now to resurrect the old 25...

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My Calulatin' life

*Posted by **Tom Lianza** on **2 Apr 2000, 10:08 p.m.***

As I sit here staring at my calculator collection I can recall some of the most intense and happy days of my life. I have a vivid memory of sitting in a statistics class and dreaming of some way of getting the homework done quicker so that I could get onto the more important things in life: beer and women. I anguished over the calculations because I was so careless. There was lots of sums, sums of squares, square roots, ratios, F-tests, T-tests, ANOVA and each one of them was a land mine waiting to snuff that "A" to a "C". This was 1972-73. There still was a war in Vietnam and there was a probability that I might end up drafted, so beer and women did mean a lot to me.

I had made friends with a student from Hong Kong and he showed me a Sharp PalmTop that might have been the CS1120 or EL102. The square root key was there and the calculator had the old += and -= keys for summing. I was staring at heaven. I got together the coin to buy that and then I noticed a new calculator from a manufacturer I only recognized as a test instrument maker: HP. One look at the HP35 and I knew that there was life beyond heaven. It did logs! I used logs in every lab (I was a photographic science major at RIT and most photo measurements are analyzed in log space). I phoned the HP field office and placed an order. Then I phoned my mother and told here to send money. They didn't have store distribution or anything like that. There was a couple of week wait (which was anguish) . I got a card that my calculator was in and I hitched a ride to the HP field office to pick it up. There was a line of people waiting to get their calculator. By this time, it must have been obvious that HP had a winner on their hands. We all sat in line and got handed our little cases. It was exciting.

I had an original 35 red dot with the math error. That calculator lived on my hip or on my desk in the dorm. One day I came back from the bathroom and found that someone had liberated the machine from my desk in my dorm. I was heart broken. By now the 45 had been introduced so I took the insurance money an bought one of those. Without question, the 45 represents one of the best examples of what a calculator should be. It had great balance in terms of features and it just said "QUALITY" every time you pushed a button. I was working on campus and someone ripped that one off out of my briefcase, I didn't have the guts to put a security cradle in the case.

I was getting tired of being a low cost supplier of HP calculators to thieves and decided to take drastic action: I bought a CompuCorp 326G calculator. It was big, it was very high quality and it cost a bit more than an HP65 (which had been introduced by this time) One advantage that the CompuCorp machine had was a tape drive that could record data. I used an endless tape in it and I was able to write a fourier transform program that let me do the calculations that I needed to do for my masters thesis. I never had to go the computer center again. What a blessing.....

After college, I worked with a number of HP desktops. The 9815 was one of my favorites, and I am still looking for one of those....I've got a 9825a and HP-85 in great shape (along with a group of assorted Monroes).

I had a 28s which baffled me and I never did warm up to it. I bought a 41CV the day it was introduced and used that machine for years. I wore out an HP-16 and I know that there are thousand of programmers that would welcome the re-introduction of that machine(HINT, HINT, HP). I bought a 48SX shortly after it was introduced. That was a case of too much calculator and too little time. The learning curve was too steep to do much with it, although I am now starting to take an active interest in the 48 architecture.

During the PC revolution, I moved away from calculators. I realized that general programming skills went a long way to easing the translation between technological advances. I finally could just write a "C" program and run it on a Unix, Windows,or Mac machine. As I got more into that I realized that computers were also a losing proposition when it came to technological transfer. Now I understand more about computers and calculators and I have strong feelings about where in my technical life each belongs. I carry an HP 32SII in my bag today. It's a fine machine and it's easy to program. As I look at PDA's (yeh, I've got a pile of those) I'm still trying to figure where they belong. My 41CV might have made a useful platform for a PDA as well as a great calculator. I just know the current PDA's don't make it from the standpoint of calculation. The calculator is becoming a specialized tool. I was in Wood Workers Warehouse and I saw a carpenters calculator that did rise/run calculations for steps and roofing calculations. There wasn't one program that I couldn't replicate on any of the programmables, but the key layout and labeling made it easy for a woodworker to use the machine. I almost bought one but I realized that now that I collect calculators, I would have to buy 2.

After I started collecting calculators, I was finally able to put all the HP classics next to one another and ,at last, I appreciated the technologies and steady progression of features. It was clear to see that the programming features where starting to have a major impact on the keyboard layout. Each of the classics had the 5 X 3 array of function keys, separated by a the row of 4 keys which always included enter and finally that 4X4 row of numeric keys. The impact of micro-code suddenly hit home. Each machine had a unique set of functions, but the physical layout was almost constant. Comparisons of the 41CV and the 65 show the physical similarities but also emphasize the philosophical difference between machines. As I look at the 48SX and my bad feelings about the 28s, I realize the quantum jump that HP made in these machines. I just didn't happen to make the jump with them.

I don't know what memories I'll be writing about in the next 25 years, but I know that I'll never lose my love for those calculating machines that gave me more time for life's pleasures....

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HP-35 "Know-it-all"

*Posted by **Mik Butler** on **2 Apr 2000, 10:06 p.m.***

My first sight of an HP calculator was in 1974 when I started studying 'O'-level physics at school. On the wall, locked in a tiny steel cage to prevent it being "borrowed" was this strange-looking calculator with far too many buttons. Instead of the usual 16 that most calculators had on them, this had 35! And where was the = key?

We were given a short lecture on using this strange beast, and while I could then usually get the right answers out of it, I didn't feel very confident pushing its buttons.

So after a couple of weeks I got up the courage to ask the physics teacher, Eric L. Green(*) if I could take it and the manual home for a weekend and really understand how to use it. Eric told me that the school had paid 175 pounds for this calculator, so I'd better not break it.

By Monday morning I was the class "know-it-all", which meant that I was then expected to help and teach others how to use it. No problem...

When I went to University in 1978 I bought a Commodore as I couldn't afford an HP. The Commodore was pretty good, but where was the ENTER key?

During my first year physics exams I knocked the Commodore off the table and unlike an HP it didn't survive the 3-foot fall. Luckily for me I still had my old slide rule with me, so as far as I know I'm the last person to use a slide rule in a physics exam at Durham University (June 1979).

It wasn't until 1984 when I joined HP that I bought my first HP calculator, an HP-16C which got a lot of use when I worked on HP's MPE machines. The 16C is in great condition and is still used when I'm debugging machine code. Since then I've bought both HP 50th anniversary calculators, and for those difficult sums I use an HP-48SX. I did have an HP-28S, but sold it :-(

I've still got and use the slide rule I used at university, although its getting a bit worn out now. I must buy a new one, or maybe replace it with one of those strange-looking calculators with 35 keys.

Mik Butler

HP Development Alliances Lab

(*) I never did find out what the L. stood for. Eric would never say, but he hinted it might be Lucifer. If you're out there Eric, send me email!

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JPL Meets the HP-35

*Posted by **Dan Bathker** on **2 Apr 2000, 10:04 p.m.***

In June of 1971 Dr. Barney Oliver, then longtime Chief Engineer of HP, lately deceased, had volunteered to lead a joint Stanford University / NASA Ames Research Center study conducted at NASA Ames near Palo Alto-Sunnyvale California. Notable academics and engineers spent an intensive summer studying the prospects for discovering extraterrestrial life, by listening to microwave radiation using a huge dish antenna system on the Earth surface. I was privileged to have been invited to spend a day up at Ames describing the large sensitive NASA Deep Space tracking antennas developed for NASA by Jet Propulsion Laboratory (JPL) in Pasadena California.

Dr Oliver (Barney to all he dealt with) was an outgoing, encouraging and gregarious type person as many know. He seemed to enjoy being a student of human nature as well as an eminent engineer. His final presentation of study results given later that summer was very exciting to a large audience assembled at Ames and consisting of scientists, engineers, government sponsors and a few news people. Later still, a final report was published entitled "Project Cyclops" with the all-seeing one-eyed giant from Greek mythology analogy being clear.

A month or so later (September or October 1971) Barney paid a visit to JPL. He was particularly fascinated with our large sensitive antennas used to track weak spacecraft signals from deep space. Three or four of us antenna engineers conducted Barney around our "campus" and labs discussing technology directions. Towards the end of the day Barney reached deep into his jacket, searched around, smiled broadly as he was given to doing and s-l-o-w-l-y pulled out a sparkly-new HP-35, winked and said, "Gentlemen, I just happen to have a little something here to show you".

You might imagine our responses. Prior to that, small "pocket' calculators were known, but were 4-function and with limited calculation (accuracy) and poor display ranges. Here was (essentially) a pocket calculator that did trig, logs, exponentials and more and even more importantly did extremely large and extremely small numbers (10-to-the-plus/minus 99th power if I recall correctly). It was a professional engineers' dream, lying there in the palm of my hand. It was like a very pretty genie just popped out of a magic bottle and announced "I'm here to solve your number problems from here on out, anytime, anywhere, and with greater accuracy and ease than you've ever imagined in your wildest dreams." Besides the attention-getting math capabilities, the product design in terms of human factors (button size, that incredible tactile quality and the obvious manufacturing refinements) were most impressive. It was a genie indeed. As we ooh'ed and aah'ed the little jewel, Barney just sat back, enjoying the scene as he had probably done before, and planned to do in the near future with other potential users. He was obviously very proud of what HP had produced.

Barney just smiled as he observed our reactions. He was being the student of human nature, and loving every moment of it. He seemed to know HP had a success-in-the-pipeline. As I recall, it was the next January (1972) that HP advertisements were released. For many years the old '35's served their owners well. To this day I use my 20 + year-old '65 on a daily basis, caring and gently feeding that (4th) fussy rechargeable battery as I would for any pretty genie, including my powerful old chevy el camino of the same vintage.

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An HP made a hacker out of me.....

*Posted by **Alexandra L. Carter** on **2 Apr 2000, 9:59 p.m.***

I traded by beloved Commie 64 for an HP-41, partially because I'd read books about the HP's and the crazy things that could be done with them, like non-normalized numbers, and partially because I was mad at the old Commie bacause I couldn't get BASIC to do what I wanted. So, here I had this awesome machine and I carried it everywhere. I want through the book, doing all the problems, and had a great time.

When my Pascal class started dealing with pointer variables, I'd already done them on my HP. I felt them to be my special forte, and when I got hired as an "engineering student technician" by a large company (which shall remain nameless to protect the guilty) I was told I could explore the VAX all I wanted, and so I was just itching to try out pointers on it. After all, I'd done them on the school's PDP, and on my trusty calc, how could I hurt a REAL computer? ?

It turned out, plenty. With the randomness only the half-educated are capable of, I found a bug or feature depending on how you see it, that allowed me to read ANYTHING regardless of protection level. I figured out how it worked, and told the sysop all about it, and got in real hot water! And I mean HOT. Moral: Your HP is your friend and the Authorities are not.

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HP-25 Survives Montana Winter

*Posted by **Julius Strid** on **2 Apr 2000, 9:58 p.m.***

I have owned several HP calculators since 1976, when I began college. I bought an HP 21 my freshman year which I still have. It still works. My college fraternity room mate (Steve) bought an HP 25. After we graduated, he went to work in mines and I went on to work on tunnel projects. We both became interested in hang gliding. I learned in Tennessee and he learned in Montana.

Steve was flying from the North Pryor Mountain in Montana in the fall of 1978 and used his HP 25 to calculate glide slopes to see if it was safe to launch on the west slope. This mountain is a "trap-door" fault mountain resulting in a portion of the earth's crust tilting up with a near-vertical side at the fault line and a relatively gentle slope on the tilted portion, looking somewhat like a partially opened trap door, hence the name. The west slope is the more gentle tilted slope and the east side is a nearly vertical 5,000 foot cliff. Generally, it is better to launch over the cliff, but on this particular day the wind was coming up the gentle slope and it was unsafe to launch downwind over the cliff face.

Steve determined that is was OK to launch, so he set up his glider and flew off to the west. It wasn't a very good flying day though, and he couldn't gain much altitude. He had to fly back and forth across the slope in ridge lift between canyons in the mountain face. The canyons on the mountain face are hundreds of feet deep and there is no safe place to land in them. For that matter, there is not really any safe place to land on the western slope of the Pryors, unless you gain enough altitude to fly out further. This didn't happen. As Steve flew across the face, he sank lower and lower, with no place to land, until he caught a wing tip. This tumbled him and the glider into a ball with the glider collapsing around him and resulting in a spectacular crash.

The glider was a mess, and miraculously Steve wasn't hurt at all. This actually happens quite often in hang glider crashes since the tubing collapses and absorbs most of the impact. In the excitement, Steve forgot that he had left his HP 25 out and when the glider debris was packed up and they drove off the mountain, the calculator was left behind. Since it is a long drive up very rough trails requiring about 4 hours of four-wheel-driving from the nearest road, he didn't go back to get the calculator.

The following summer, he decided to go back to fly the Pryor again. When he reached the top, he looked around and found his calculator that had gone through the entire winter, which can be pretty harsh in Montana. Steve brought it down, put a new battery in it, and it still worked perfectly. He still has this very same calculator.

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HP-41 Memories

*Posted by **Dan Grelinger** on **2 Apr 2000, 9:57 p.m.***

Before becoming an HP owner, I had some of the most common calculators of the time, (a TI-1250 for Christmas '75, an NS 600 won in a junior high school lottery, and a TI-30 in high school). I took my TI-30 to engineering college with me, and when it was stolen (I actually left it in Thermodynamics class, and it wasn't there when I went back to get it) I moved up to the TI-58C. But by this time, I had noticed a new type of calculator that seemed to be the Cadillac of engineering calculators, the HP-41C. I ran into a few people that had them, and would ask to borrow theirs, just to explore for a few minutes what this new machine could really do.

My first memories are of turning the calculator on, and seeing the previous calculation result in the display. "Do you need this number?" I would ask. (Seems silly, doesn't it). The "Fix 4" display format, the LCD display with ALPHA messages (DATA ERROR), the large "ENTER" key, the other multi-faceted keys with blue LETTERS on them, and not just one, but FOUR module ports, all in a nice little package smaller and lighter than the TI-58C! Of course, I began dreaming of owning one. But could I really justify $275 (I had to have the CV, not the C), and maybe $195 more for a card reader. This was the same as a semester's tuition, just for a calculator!

The campus bookstore put on a calculator exhibition for students one winter evening, bringing several calculators to a classroom on campus, and allowing the students to test drive them. I went to this event, (yes, I must admit, this was the highlight of that week, since I had no girlfriend), and the bookstore was showing off the HP-41. They had the card reader, the bar code wand, the printer, and many other accessories. This was not just a calculator, but a real computing machine! Of the calculators they brought for the event, this one commanded the most attention. I did not even get to pick up the calculator, I could only watch as other students tried it out.

One guy bought a 41CV on the spot, and the bookstore let him borrow the wand to scan in any programs he wanted from the solutions books. I watched as he pulled an I/O port cover off of the calculator, plugged in the bar code wand, and scanned in program after program into his CV, pausing between programs to "pack" them in memory. This was SO COOL!! The calculator could hold so many programs, and each with its own alpha name. So much better than the TI-58C.

I started collecting all the advertising material I could get on the HP-41. My goodness, according to Hewlett Packard, it could even land the Space Shuttle! I envisioned the astronauts, faced with multiple computer system failure, pulling out their trusty HP-41, plugging a space shuttle control cable into one of those I/O ports, and executing the "LAND-ME" program on that 41, and letting that little machine take over! I HAD TO HAVE THIS CALCULATOR!!

The final straw. I came back from the summer, to start my senior year in engineering, and my new roommate had a 41C! Fortunately, I had come from a decent summer intern job, and had the cash to go immediately to the campus bookstore and buy my own 41CV and card reader! I still actually felt guilty about spending this much money on a "gadget". (I then sold my TI-58C to my girlfriend, [yes, I had one by then] who is now my wife, so I got it back!)

I learned that machine inside out. My girlfriend bought me the "HP-41 Synthetic Programming Made Easy" book (yes fellows, she was quite a catch!) and my roommate and I spent hours figuring out how to do strange things to each other's HP-41. Not too long after I bought my HP-41CV, Hewlett Packard came out with the HP-41CX.

ARGGGGGG! Back to coveting again.

When I graduated (1984), I sold my HP-41CV to another engineering buddy, and took some graduation money and bought one of those HP-41CX's. It is still my primary calculator. At my first job, I actually programmed HP-41's to support semiconductor manufacturing. I had 12 of those little machines collecting inspection data from operators and sending it to an IBM compatible computer. (Fun job!)

I bought my first new scientific calculator after the HP-41CX a little more than a year ago. It is an HP-48GX. I have figured out how to play that MINEHUNT game, and that is about all I have used it for. I still use my HP-41CX to do my serious number crunching.

Long live the HP-41!

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HP Mystique

*Posted by **Terry Nielsen** on **2 Apr 2000, 9:56 p.m.***

There has always been a mystique about HP calculators. The look of it, the feel of the buttons - they have never been equalled.

I was first introduced to the HP in the mid seventies by an eccentric high school math teacher. Among his idiosyncrasies was a fondness for having inattentive students stand in the wastepaper basket. He was the very prototype of the mad genius - wild hair penetrating eyes, and throughout my entire schooling I never saw him in anything other than a gray turtle-neck sweater and black pants. His two contemporary vices?- A classic grey Corvette, and his HP calculator.

Mr. 'H' showed me how to use his calculator one day, and I was hooked. I very quickly took to RPN. It felt more natural to me. I found that it was particularly adept at handling equations with multiple bracket levels.

And what did I like most about RPN? - nobody ever wanted to borrow my calculator! The phrase "where's the 'equals' key?" is probably familiar to anyone who has ever owned an HP.

Since I couldn't afford an HP, I had to settle for another brand that used RPN. It eventually broke, so just before I entered university, my parents bought me my first HP. It couldn't have been better timing, since in those days engineering students wore their HP's on their belts much like peacock feathers.

Unfortunately my HP was stolen and I haven't had a working one since. I do have one a friend gave me with a wonky display....I must fix it one day.

By the way, my most vivid memory of my HP? - Opening up a university math exam, gearing up to tackle the first question, turning on my HP and watching those little red LED digits fade to black from a dead battery. Battery packs! Probably the most universal grumble any HP owner ever had...but somehow it was easy to forgive.

Terry Nielsen, Maple Ridge, B.C. Canada

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My experiences in collecting HP and how I came to it

*Posted by **Thomas Kiesewetter** on **2 Apr 2000, 9:55 p.m.***

How it all began:

My appreciation for HP's began many years ago when it was "really scientific" to work with a calculator as powerful as those old HP's already were. The first one was a HP 33 E, which was very expensive but powerful. I used this one at school and wrote a lot of programs. At this time (around 1979) it was tremendous to call someone owner of a HP-34C. Later after finishing school I bought a 41-CX, one of the first on the market. This one didn't bring it's own handbook but a collection of others to describe all functions. It still looked the same as the HP-41 CV on keyboard and display. It was the best one I ever owned, but someone stole it. So I bought a 71B that I never really "came close to". But of course I like this one too.

At the same time my brother presented me a 11C, that I still use in every day work, looking like new. With that 11C and before with my 41CX in the lab work at University I was always ten times faster than the ones working with non programmables. This one is one of the most perfect HP's ever made. But how did I come to start collecting: Once I found an HP-55 in a cupboard in a Institute. It took me four weeks to find and contact the owner of this calculator which works and looks new. That owner gave it to me for free.

From that point on my brother and me started to collect HP's. Right now we have nearly every one that we really want to own, some of them twice and three times to be able to work with them and still have one not touched at home. What I like in collecting is the fun that comes up with a good deal. That's why I would like to give you some examples which could be a reminder when going on one of those expensive deals on EBAY. It's sometimes worth waiting: We got for example:

HP15C in perfect cond. $30

HP55 in very good cond. Free

HP 67 with all original cards and working reader (perf. Cond.) $30

Hp 41C perfect cond. Like never used: $28

and so on ...

The last deal was a (not collected business calc) HP19BII never touched, plastic still closed for $35

We got our HP97 for free and for a HP19C I paid $30

This is what makes collecting fun. But the best is to look into the glass cupboard with light and all those HP's in it.

Hope you have the same fun...

Greetings from Thomas Kiesewetter

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HP-25 Reminiscence and Regret

*Posted by **Richard Woods** on **2 Apr 2000, 9:54 p.m.***

The Museum of HP Calculators is very nicely done, and brought back both fond memories of my HP-25 and regret about its fate.

1965-7: Friend Lloyd and I discussed combining his hardware, and my software, expertise to make a small computer in my bedroom at home from spare IBM 704 parts. We didn't. (So Jobs and Wozniak started Apple.)

1974-5: Back in college to try to finish my CSci degree. Every time you entered the university bookstore, there was the HP display. WOW -- the HP-65 functions, programmability, & card reader/writer! Wow -- the HP-65 price... (From a technical viewpoint, the price was low compared to anything else at the time but as a student on unpaid leave of absence from my job, living on my savings, with no scholarship or student loan, the price was too high.)

Just as I had decided I could give up some things in order to afford the $795 (not the -35 or -45: it _had_ to be programmable) ... there was a new model, HP-25 -- programmable and a quarter the -65 price! Hey, for $600 I could do without a card reader/writer! Hmmm... not as much programming space ... but steps could hold more ... well, okay.

IT WAS JUST GREAT! Practically the same "bedroom computer" Lloyd and I had discussed!

I treated it gently. After I tried out all the examples and programs in the owner's manual and program book, 99% of use was to program it for long calculations (e.g. primality testing of large numbers) then let it run untouched for weeks or months except to restart it after it stopped to display a result. (Unlike one of your other contributors, I never threw my HP at any hard surface!)

1989 or '90: Preparation for garage sale -- wife pointed out that I hadn't used my HP-25 since my sister gave me that Radio Shack thingie (my wife's terminology for a Tandy Pocket Scientific Computer PC-7), and she remembered my griping about the cost of replacement battery packs. I put the -25 on a table in the garage, and labelled it "FREE - but requires $25 battery pack". (Since I've always considered myself fumble-fingered in regard to electrical stuff, I never followed the frequently-offered advice to just put in standard ni-cads.)

I GAVE AWAY THE HP-25 IN ITS ORIGINAL BOX TO SOME STRANGER WHO WAS SUSPICIOUS ABOUT WHY IT WAS FREE. Fully functional. No key bounce. OK on AC and batteries, but needed new batteries. Never a battery leak. Never needed repair. No scratches. No missing trim. Had never been cleaned harshly. No engraving. Never spilled anything on it. Never fastened any label or tag to it. The leather case was still soft and clean - had rarely even been touched or outside the box. Owner's manual like new except for handwritten corrections from errata notices. Had all sample Program Form sheets (unused), quick reference guide (like new), the book of programs (only item showing wear and bearing notes other than errata corrections), and all errata notices.

ARGGGGGHH!

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Thanks For The Memories

*Posted by **John Alwood** on **2 Apr 2000, 9:52 p.m.***

I started saving for an HP-35 when I first heard about it. I was in college, driving a junk car, skipping meals, and saving up for a $400 calculator! More than a few people thought I had my priorities a little bit mixed up. Many changed their minds when my calculator began running dozens of split-second circles around their clumsy slide rules and trig tables, etc. (to 9-digit precision.)

By the time I had saved up the $400 to buy the HP-35, the HP-45 came on the market at the same price -- and it became my first HP calculator.

After that, I began the process of always selling my "old" HP calculator so I could purchase (for a few extra bucks) the "newest" HP. There was never a shortage of starving students more than willing to buy a second-hand HP calculator!

I went from my original HP-45 to a HP-29C (programmable), then to a HP-67 (using an occasionally borrowed HP-97 to print) and finally to an HP-41C with printer, card reader, and all other accessories.

I still have the HP-41C and peripherals -- and everything works.

I purchased my step-daughter an HP-48 when she went off to college nearly 10 years ago. Of course, I did perform extensive "burn-in testing" prior to giving it to her as a "gift".

Since 1983 my focus shifted to microcomputers (i.e., Kaypro 8-bit CP/M portable) and has been with micros ever since. But I learned almost everything I know about math and programming from those calculators. I wrote the most complex (at least in THIS universe) Star Trek game for the 41C that there is. I never got around to publishing it, however.

Thanks for the memories.

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Constructive Butchery of a HP25C

*Posted by **Walter Gray** on **2 Apr 2000, 9:51 p.m.***

I bought my HP25C back in Aug. 1976, when the "C" model first came out. It cost 155UKP which would have been nearly $310 US in those days, so naturally I took good care of it. (Definitely no throwing it on the ground to see how well it bounced!)

By 1982 I was getting somewhat fed up at the way it seemed to consume Nicads. No matter how carefully I discharged and recharged them, they died like flies, and replacement battery packs were not cheap.*

Eventually I got up courage and installed 2 ordinary AA-cell holders bought from Tandy (Radio Shack) for 17 pence each. You can imagine how I felt when it was necessary to clip off the battery contacts. That was the point of no going back. Fortunately a good pair of Swedish cutters clipped through the fibreglass very neatly. Then a couple of solder connections to the PCB traces, and fix the battery holders in with a big messy blob of epoxy.

So now I can use the HP25C with alkaline cells or nicads and for a while I was notorious for scrounging dead battery packs and salvaging the good cell (there is always one good cell in every dead pack).

Now it's 1997 and the old HP is still in use almost daily in my hobby room. Despite the availability of PCs, there is still no substitute for the sheer convenience of a small handheld programmable calculator.

*Curator's note: Walter was operating under the folklore of the time that encouraged full discharge of nicad battery packs. Deep discharge of multi-cell packs can lead to short lifetimes. See the battery page for more details.

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Unshakable Bond with (almost) Unbreakable HP

*Posted by **Paul J. Brogger** on **2 Apr 2000, 9:49 p.m.***

My excellent 1st-year math professor, Dr. Matthew Halfant (Hi, Matt!), strongly recommended we students buy HP's when we went out to get our calculators for college. I drove two hours to Portland to buy an HP-21, and fell in love. Other than using it to learn and appreciate RPN, my most vivid HP-21 memory is when the power went out unexpectedly. Deep in the bowels of our lab building, I turned it on, punched in all 8's and used it for a flashlight to find my way past the oscilloscopes and out of the building.

My senior year, I ordered an HP-29C by mail order – my first stored-program digital computer. In a Computability class, I simulated the Universal Turing Machine (indirectly addressing a multi-register "tape") in 98 steps!

I would routinely toss my HP 6 feet away to the hard brick of "red square" to demonstrate its durability, and the TI users would (probably correctly) point out that that's not how a calculator is used. My bravado was shattered the last time I tried this little stunt when I turned it on and saw to my horror that the display was filled with flickering ghost images and randomly-lighted segments!

Having played some with electronics hardware, I brazenly decided to try & fix it myself. (Kids: do not try this at home!) I'd already dismantled the thing to see what it was like inside, so that part was easy. Everything looked O.K. superficially, so I took the clear plastic lens off of the LED circuit board, and examined the display chips under a dissecting microscope. Apparently, the inertia of repeated trips to the pavement had caused some of the hair-fine connecting wire loops to collapse onto one another and to the pcb, shorting out some of the display traces. I sharpened a soda straw, heated it over a Bunsen burner (to remove burrs), and (again working under the dissecting scope), carefully picked up each tiny wire loop, restoring their proper shapes and separation. After re-assembly, the display worked perfectly, and I never undertook dramatic demonstrations of HP durability again!

Since the days of school, I've had an -11C, a -28S, a -32S and am now inseparably bound to my HP-42S, which I believe represents the very apex of shirt-pocket-portable RPN calculator design and usefulness.

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