HHC 2023 SUMMARY REPORT

MARK POWER

HHC 2023

7th-8th October 2023, Orlando, Florida

Top row: Brad Barton, Kerry Veenstra, John Mohn, Nils Andersson, Gene Wright, Eric Rechlin, Scottie Hall, David Hayden, Günter Schink, James Donnelly, Claudia Granger, Daniel McDonald, Geoff Quickfall, Namir Shammas, Jeff Birt, Chuck McCord, Jake Schwartz, Steve Keifling, Jim Wild, Joe Horn, Joey Shepard, Brian Walsh, Bill Butler, Joe Rigdon, Richard Schwartz

Bottom row: Mark Power, Sylvain Côté, Jason Li, Richard Nelson, John Doran, Stephen Thomas, Geoff Granger, Robert Prosperi, David Ramsey, Mary Boetcher, Craig Bladow, Horst Hoffmann, Jim Johnson, Deb Elliott, Roger Hill

Missing from the photo: Eric Smith

ERIC RECHLIN'S USB UPDATES

- Minor Updates

  - Emulators

  - Websites: series80.org, hpcalc.org, hp41.org

  - HHC conference proceedings

- New

  - Jean-François Garnier's "Jeff Calc page"

  - Newsgroup and Discussion Forums, comp.sys.hp48

  - Calculator literature archive (online at https://literature.hpcalc.org)

HP CALCULATOR BUSINESS

- Mitch Abrams – 38 years at HP as an engineer, now brand licensing

- HP Responsibilities

  - Quality Standards, Quarterly Business Reviews, Channel/Regional Alignment, Product Review/Approval, Communication of HP's standards (e.g. battery, environmental, etc.) and Audits

- Trademark License Agreement

  - Key Quality Requirements, and Oversight, CSR, Product and Marketing approvals process, Royalty t&cs

- Licensee's Responsibilities

  - Development to HP's standards, Marketing and Customer Support, Supply Chain, Inventory, Regulatory, Quality and Customer Experience Reporting, Sales and Promotion Plans, Product Roadmap

- Desire to reintroduce the HP brand to teens

- The current product line is out-of-date

- Python is mandated in Europe, so looking to update quickly

ROYAL CONSUMER INFORMATION PRODUCTS

- David Joachim, based in New Jersey

- Royal Typewriter Company is over 100 years old, mergers include Olivetti

- Product design and marketing, not a manufacturer

- Sells shredders, cash registers, water coolers, laminators, time management, Royal Go Printers, sharpeners and staplers, automotive products and

- HP calculators for the Americas (60,000 HP-12Cs shipped to Brazil Sept '23)

- Trump added 25% tax to Chinese-made products, but HP had not increased the HP Prime price. Products from Philippines are not impacted

- Rely on Moravia. HP-15C CE is selling better than expected, but wary

- www.hpofficesupply.com 15% discount until 31/12/23 Code: HHC15

MORAVIA CONSULTING

- Klaas Kuperus, responsible for the HP Prime

- Now have a team looking at the bug tracker

- Working on iOS and Android HP Prime apps, but very complex

- Agreement with Dr. Bernard Parisse to upgrade HP Prime CAS

- Release updates should increase in frequency

- Beta program

- Will continue to develop and invest in the HP Prime

- Mac Connectivity Kit by next conference

MORAVIA CONSULTING

- Radim, responsible for all HP calculators except HP Prime

- HP-15C CE shipping well worldwide. Demand perhaps better than expect

- Keyboard and bezel issues related to Kinpo factory

- Protective film to be added to second production slot, but maybe no 3rd run

- 6 new desktop calculators this year:
  - Premium OfficeCalc 100 II, 200II and 300 II Desktop Calculators
  - Lite versionsOfficeCalc 108 II, 110 II and 112 II Desktop Calculators

- HP-16C CE not yet confirmed, maybe news next conference

- Open to potential collaboration in future to help developments

- Next project: HP-12C Premium/Ultimate (possibly with dot-matrix display, rechargeable battery and/or USB-C) as Platinum IC is EOL. By End of Next Year

RECREATING THE HP-15C MANUAL

- Eric Rechlin

- Fonts used in the new manual were rebuilt and made consistent

- The fonts are on the HHC 2023 USB stick for use when producing HP-15C program listings and documentation

- Fixed many errors

- Diagrams redrawn and program listings improved in places

- The Advanced Functions Handbook was also re-engineered but only as a PDF

- Program comments added to listings which did not have them

25 YEARS OF THE PPC ARCHIVES

- Jake Schwartz

- April 2023, version 2.43

- Added "Introducing HPCC" leaflet and our conference proceedings from HPCC 2022

- Additional Educalc material, material from the Francis Hookham collection

- HP Measure and invent

- Nov 1st release due with material from HHC 2023 and more European information

HP PORTABLE PLUS DRAM ROM - ROMULATOR

- Chuck McCord

- Version 1 has two 256K RAM banks

- Used in the development process during the development of ROMs, but using RAM

- Burn.com will take an edisk and produce the information needed to burn the EPROM

HP DISK BY ANDERS GUSTAFSSON

- Chuck also described the HP-IB disk emulator using a PIC microcontroller and 2GB micro-SD card on which we hope to put every piece of IPC software ever produced.

- It also works with other HP-IB devices

- This week Anders has been able to reproduce the odd behaviour we see on IPCs

THINGS THE HP-41 DESIGNERS GOT WRONG

- Gene Wright

- Overlays – too thick and not reversible – fixed by users

- Tones – real notes and durations needed – fixed by Mark Power (Play ROM)

- ROM subroutines – you can't jump into the middle of a routine in ROM
  (TI-58/59 had 2nd PGM 16 SBR 104) – fixed by PPC-ROM XE etc.

- View ALPHA but never stop (SF 21 and no printer stops execution) – VA in PPC-ROM

- XM – can't execute programs there and data is LIFO
  Angel's X-Mem Twin solves some of the problems XSTO/XRCL

- Why Decimal to Octal conversions (two ROM entries wasted?)

- ADV on a machine that may never have a printer (another ROM entry wasted?)

- One-byte labels but why LBL 00 – LBL 14 (00-10 might have saved ROM entries)

- Add linear regression, correlation, permutations, combinations – fixed by various ROMs

CC41

- Craig Bladow

- HP-41CX usable from the command line on Linux, macOS and Windows

- Extended precision

- Execution can be scripted

- Source can be sent to DM41X

HP 82120D BATTERY BY DIEGO DIAZ

- Presentation by Sylvain Cote

- Rechargeable battery for the HP-41

- Connector USB-C (remove gold balls if your HP-41 has them)

- Lasts, and lasts, and lasts

- BAT indicator works correctly with 20% notice - recharge when BAT comes on

- Cost €120

- Batches of 12 being made every month or two

MAXX MODULE BY MONTE DALRYMPLE

- Presentation by Sylvain Cote

- $155 USD + shipping without a donor module

- $135 USD + shipping in you send a donor module

- Maxes out HP-41

- Depending on model will add quad memory, extended memory, timer, and expanded memory

- In test at the moment – coming soon

DM32 UPDATE

- Bob Prosperi

- Precision improvement, as per DM-42

- Memory improvement, 434K reported by MEM

- Performance improvement, at least 2x

- Hardware is final and available to purchase, software is Beta

- State files, which are text, give multiple personas limited only by RAM on ~10 keystrokes

- Import/export via USB-C (USB 2.0)

- Stack and global registers are shared between states

- Due sometime soon: call a global label in another state file as a subroutine, which solves the limitation of 26 global labels

DIY CALCULATOR UPDATE

- Joey Shepard

- 6507 Graphing Calculator

- Added Forth interpreter which is tokenised (so like RPL) and pre-processed with Python

- Not the right solution to get it inside 8K ROM (for an internet competition)

- Producing DIY calculator keyboards – lots of things that don't work and some that work well – see the full presentation for the many things to avoid before finding a good solution

USING FLOPPY DISKS IN 2023

- Eric Rechlin

- Greaseweazle – reads/writes magnetic flux (analogue) so you just need appropriate software to decode any non-standard format floppies

- FluxEngine – reads/writes flux with Greaseweazle and provides support for DOS, HP LIF, Amiga, CP/M, etc.

- Eric with the help of David Given, the author FluxEngine, added HP-71 LIF format images in early 2023 - 616KB 9114 disks for 41, 71 and 75

HISTORY OF PORTABLE TIME/DATE FUNCTIONS

- James Donnelly

- Introduced a portability index for time/date devices

- Time/Date functions on HP calculators back to the 17th century instrument makers, the Byzantine Sundial calculator from AD 650 and the Antikythera Mechanism

- Cave paintings – portability index 0

- Upper Palaeolithic Lunar Calendar – age 10,000 years – portability index 5

OPTIMISING MANDELBROT ON THE HP PRIME

- David Hayden

- Program on the HHC 2023 USB stick

- Not all optimisations deliver the benefits expected

- See also Günter's Mandelbrot Explorer

HP-91 & HP-92 CONTRAST & COMPARE

- Jim Johnson

- Architecture – HP-20 series ACT

- Performance – 3000 instructions per second

- Differences in construction shown in the presentation on the USB

- Geoff Quickfall commented that one of the resistors on the printer control board can be replaced by a potentiometer to vary the print intensity

- Be aware that a particular NNN will cause the print head to stall and burn out – the only known way to destroy an HP calculator by a program

BUILDING AN RPN CALCULATOR AT HOME
(IF YOU ARE AN ENGINEER)

- John Doran and Eric Smith

- Nixie tube display

- Eric's emulator – new version of Nonpareil HP-32E
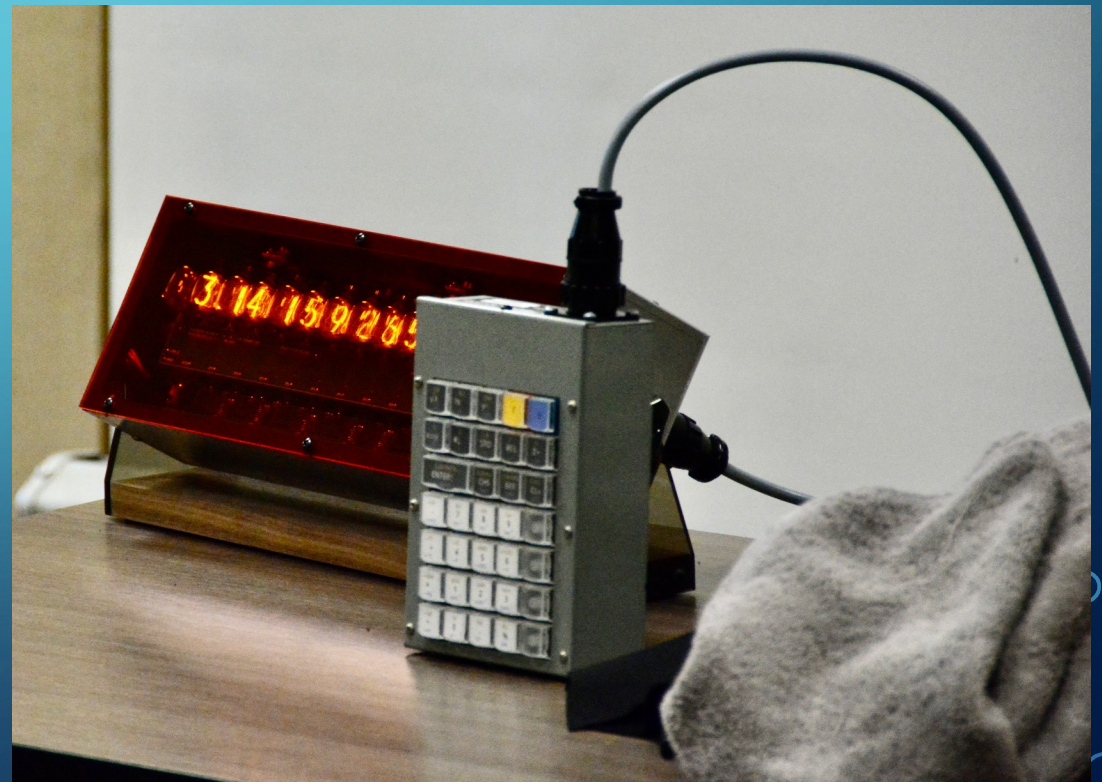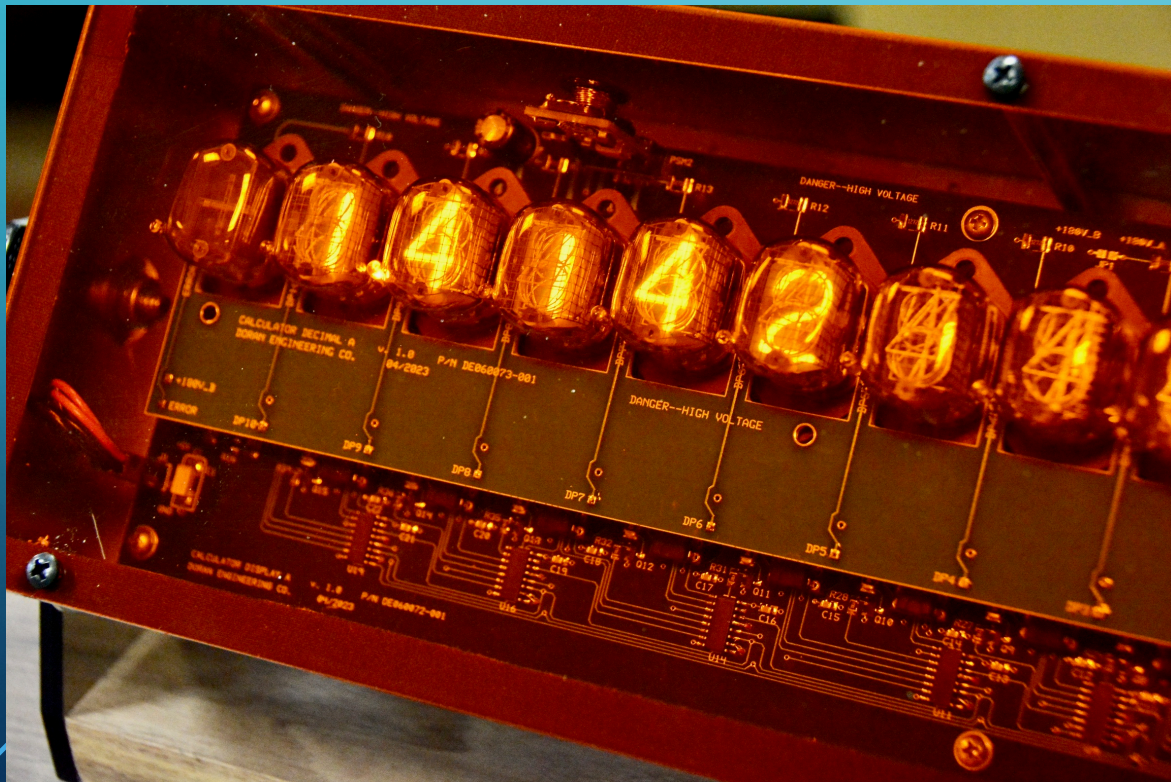
IN PRAISE OF THE TI-30

- Gene Wright

- Souped-up TI-1250 with logs and trig

- The University of Denver produced two school courses to encourage use

- Functionally equivalent to SR-40 which cost $20 more which had legends on the keys (rather than printed above) and a rechargeable battery

- Frame the same as TI programmer

- Cheap! $24.95 (equivalent to $133.62 in 2023) compared to $395 HP-35

- Due to one chip – no other components on the board and no screws only 6 interconnecting plastic clips

- Over 15 million sold

PYTHON ON THE PRIME

- Günter Schink

- Turn off autoload (Shift + for Python setup screen), change heap size and memory

- Enclose each program in "def"

- PPL can call Python and vice-versa

- hpprime.eval() for input, output and choose which are tricky

- String concatenation

- %s, %d, %i %f replacement

- MicroPython is stable, but include modules and you see bugs

- Lots of items in the catalogue are not all available

VOYAGER EXPANSION

- Eric Smith

- HP-12C or other appropriate model (DM) reflashed with HP-16C plus trig functions on shifted function keys which do not have any operation in floating point mode

- Keyboard overlay to show updated capability

- Eric will be monetising this – so you will be able to buy these in future

- May eventually be open-sourced but don't expect this anytime soon

[There may be some differing views on the copyright of Voyager firmware]