Archiving Projects

Eric Rechlin

HPCC 40th Anniversary Conference

22-23 October 2022

I’m a bit of a data hoarder

- I’ve worked on a bunch of virtual collections of HP calculator materials over the years
- Biggest one is hpcalc.org, the HP Calculator Archive, a collection of software and documentation for the HP graphing models
- This presentation focuses on two projects:
  - HP Calculator Literature Archive
  - HHC USB Drive

HP Calculator Literature Archive

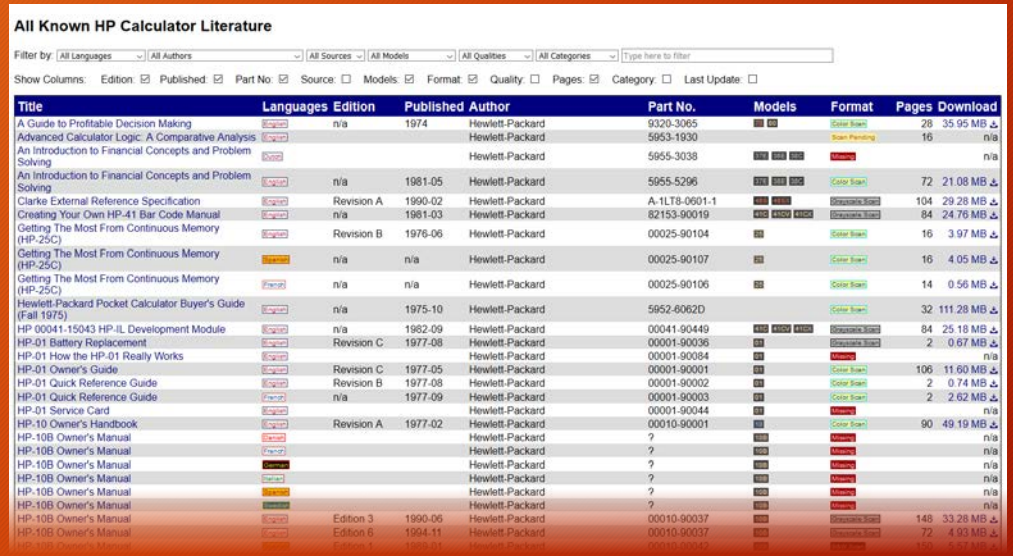
3

HP Calculator Literature Archive

- Online at **https://literature.hpcalc.org**
- Intended to be a both a list of and also a reliable source for all HP calculator documentation
  - Manuals from calculators and accessories
  - Third-party books related to HP calculators
- Idea started during conversations with HP in 2008
  - HP's site has been less-than-ideal, and many PDF downloads disappear
  - Also wanted to include scans of older manuals
- Site finally launched in limited form at HPCC 2020 in October 2020
- Rapid growth ever since, but it's close to where I want it

What's in it?

- Serves as a bibliography of all known HP calculator literature
  - Over 2400 items listed, sortable and searchable, with metadata including ISBN/part numbers, publication dates, languages, and associated calculators



All Known HP Calculator Literature

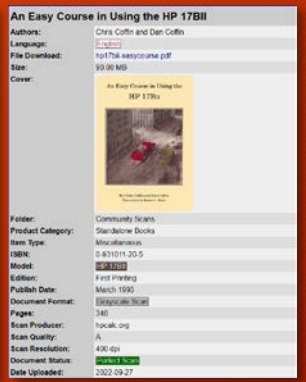
Filter by: All Languages | All Authors | All Sources | All Models | All Qualities | All Categories | Type here to filter

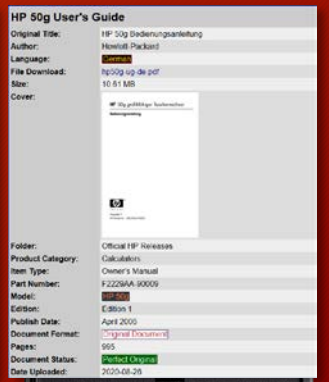
Show Columns: Edition: ☑ Published: ☑ Part No: ☑ Source: ☐ Models: ☑ Format: ☑ Quality: ☐ Pages: ☑ Category: ☐ Last Update: ☐

Title	Languages	Edition	Published	Author	Part No.	Models	Format	Pages	Download
A Guide to Profitable Decision Making	English	n/a	1974	Hewlett-Packard	9320-3065	11 12	Color Scan	28	35.95 MB
Advanced Calculator Logic: A Comparative Analysis	English			Hewlett-Packard	5953-1930		Scan Pending	16	n/a
An Introduction to Financial Concepts and Problem Solving	English			Hewlett-Packard	5955-3038	67	Missing		n/a
An Introduction to Financial Concepts and Problem Solving	English	n/a	1981-05	Hewlett-Packard	5955-5296	67	Color Scan	72	21.08 MB
Clarke External Reference Specification	English	Revision A	1990-02	Hewlett-Packard	A-1LT8-0601-1		Grayscale Scan	104	29.28 MB
Creating Your Own HP-41 Bar Code Manual	English	n/a	1981-03	Hewlett-Packard	82153-90019		Grayscale Scan	84	24.76 MB
Getting The Most From Continuous Memory (HP-25C)	English	Revision B	1976-06	Hewlett-Packard	00025-90104	11	Color Scan	16	3.97 MB
Getting The Most From Continuous Memory (HP-25C)	Japanese	n/a	n/a	Hewlett-Packard	00025-90107	11	Color Scan	16	4.05 MB
Getting The Most From Continuous Memory (HP-25C)	French	n/a	n/a	Hewlett-Packard	00025-90106	11	Color Scan	14	0.56 MB
Hewlett-Packard Pocket Calculator Buyer's Guide (Fall 1975)	English	n/a	1975-10	Hewlett-Packard	5952-6062D		Color Scan	32	111.28 MB
HP 00041-15043 HP-IL Development Module	English	n/a	1982-09	Hewlett-Packard	00041-90449		Grayscale Scan	84	25.18 MB
HP-01 Battery Replacement	English	Revision C	1977-08	Hewlett-Packard	00001-90036	01	Grayscale Scan	2	0.67 MB
HP-01 How the HP-01 Really Works	English			Hewlett-Packard	00001-90084	01	Missing		n/a
HP-01 Owner's Guide	English	Revision C	1977-05	Hewlett-Packard	00001-90001	01	Color Scan	106	11.60 MB
HP-01 Quick Reference Guide	English	Revision B	1977-08	Hewlett-Packard	00001-90002	01	Color Scan	2	0.74 MB
HP-01 Quick Reference Guide	French	n/a	1977-09	Hewlett-Packard	00001-90003	01	Color Scan	2	2.62 MB
HP-01 Service Card	English			Hewlett-Packard	00001-90044	01	Missing		n/a
HP-10 Owner's Handbook	English	Revision A	1977-02	Hewlett-Packard	00010-90001	10	Color Scan	90	49.19 MB
HP-10B Owner's Manual	Danish			Hewlett-Packard	?	10B	Missing		n/a
HP-10B Owner's Manual	French			Hewlett-Packard	?	10B	Missing		n/a
HP-10B Owner's Manual	German			Hewlett-Packard	?	10B	Missing		n/a
HP-10B Owner's Manual	Italian			Hewlett-Packard	?	10B	Missing		n/a
HP-10B Owner's Manual	Spanish			Hewlett-Packard	?	10B	Missing		n/a
HP-10B Owner's Manual	Swedish			Hewlett-Packard	?	10B	Missing		n/a
HP-10B Owner's Manual	English	Edition 3	1990-06	Hewlett-Packard	00010-90037	10B	Grayscale Scan	148	33.28 MB
HP-10B Owner's Manual	Italian	Edition 6	1994-11	Hewlett-Packard	00010-90037	10B	Grayscale Scan	72	4.93 MB

What's in it? (2)

- Serves as a repository to download items when available
  - Original official PDFs of all manuals released by HP
  - Original PDF-format books released by third parties related to HP calculators
  - Scans of printed books made by me or others in the community
    - All other manuals for HP calculators and accessories
    - All third-party books related to HP calculators





My scanning project

- Goal is to scan everything I can myself
- Equipment
  - Fujitsu fi-7160 automatic document feed scanner
  - Epson V850 Pro flatbed scanner
  - Martin-Yale 7000E stack paper cutter (for perfect bound books)
- Sources of books
  - Close to 600 lent by Richard Nelson
  - About 50 lent by Bob Prosperi (with more coming)
  - About 60 from my own personal collection
  - Many others who have donated or lent books

Scanning process

- Unbind book if feasible for ADF
  - Easy and reversible with spiral, comb, wire, stapled bindings
  - Destructive process with perfect bindings (softcover/hardcover)
  - Otherwise manually scan on flatbed
- Scan at 600 dpi (24-bit color or 8-bit grayscale)
- Only use lossless image compression
- Process images (automatic+manual)
  - Full details in my HHC 2021 presentation
- Render to 400 dpi (8-bit color or 4-bit grayscale) PDF with OCR and clickable bookmark list from table of contents

Image processing steps

Auto crop

Manual deskew

Batch clean edges, size

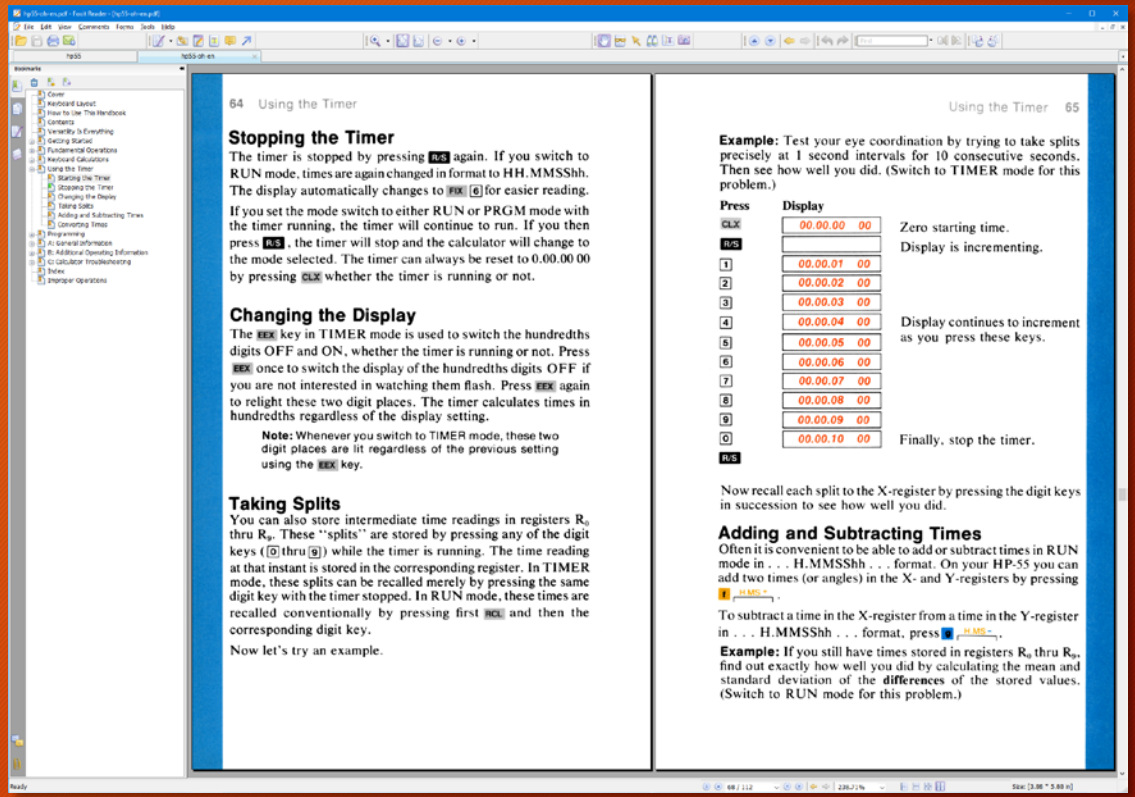
Batch level adjustment

Color/gray separation

Manual cleanup

Optimize PNG and convert to PDF

Putting it all together



64 Using the Timer

Stopping the Timer

The timer is stopped by pressing R/S again. If you switch to RUN mode, times are again changed in format to HH.MMSShh. The display automatically changes to FIX 6 for easier reading.

If you set the mode switch to either RUN or PRGM mode with the timer running, the timer will continue to run. If you then press R/S, the timer will stop and the calculator will change to the mode selected. The timer can always be reset to 0.00.00 00 by pressing CLX whether the timer is running or not.

Changing the Display

The EEX key in TIMER mode is used to switch the hundredths digits OFF and ON, whether the timer is running or not. Press EEX once to switch the display of the hundredths digits OFF if you are not interested in watching them flash. Press EEX again to relight these two digit places. The timer calculates times in hundredths regardless of the display setting.

Note: Whenever you switch to TIMER mode, these two digit places are lit regardless of the previous setting using the EEX key.

Taking Splits

You can also store intermediate time readings in registers R_0 thru R_9. These "splits" are stored by pressing any of the digit keys (0 thru 9) while the timer is running. The time reading at that instant is stored in the corresponding register. In TIMER mode, these splits can be recalled merely by pressing the same digit key with the timer stopped. In RUN mode, these times are recalled conventionally by pressing first RCL and then the corresponding digit key.

Now let's try an example.

Using the Timer 65

Example: Test your eye coordination by trying to take splits precisely at 1 second intervals for 10 consecutive seconds. Then see how well you did. (Switch to TIMER mode for this problem.)

Press	Display	
CLX	00.00.00 00	Zero starting time.
R/S		Display is incrementing.
1	00.00.01 00	
2	00.00.02 00	
3	00.00.03 00	
4	00.00.04 00	Display continues to increment as you press these keys.
5	00.00.05 00	
6	00.00.06 00	
7	00.00.07 00	
8	00.00.08 00	
9	00.00.09 00	
0	00.00.10 00	Finally, stop the timer.
R/S		

Now recall each split to the X-register by pressing the digit keys in succession to see how well you did.

Adding and Subtracting Times

Often it is convenient to be able to add or subtract times in RUN mode in . . . H.MMSShh . . . format. On your HP-55 you can add two times (or angles) in the X- and Y-registers by pressing f H.MS+.

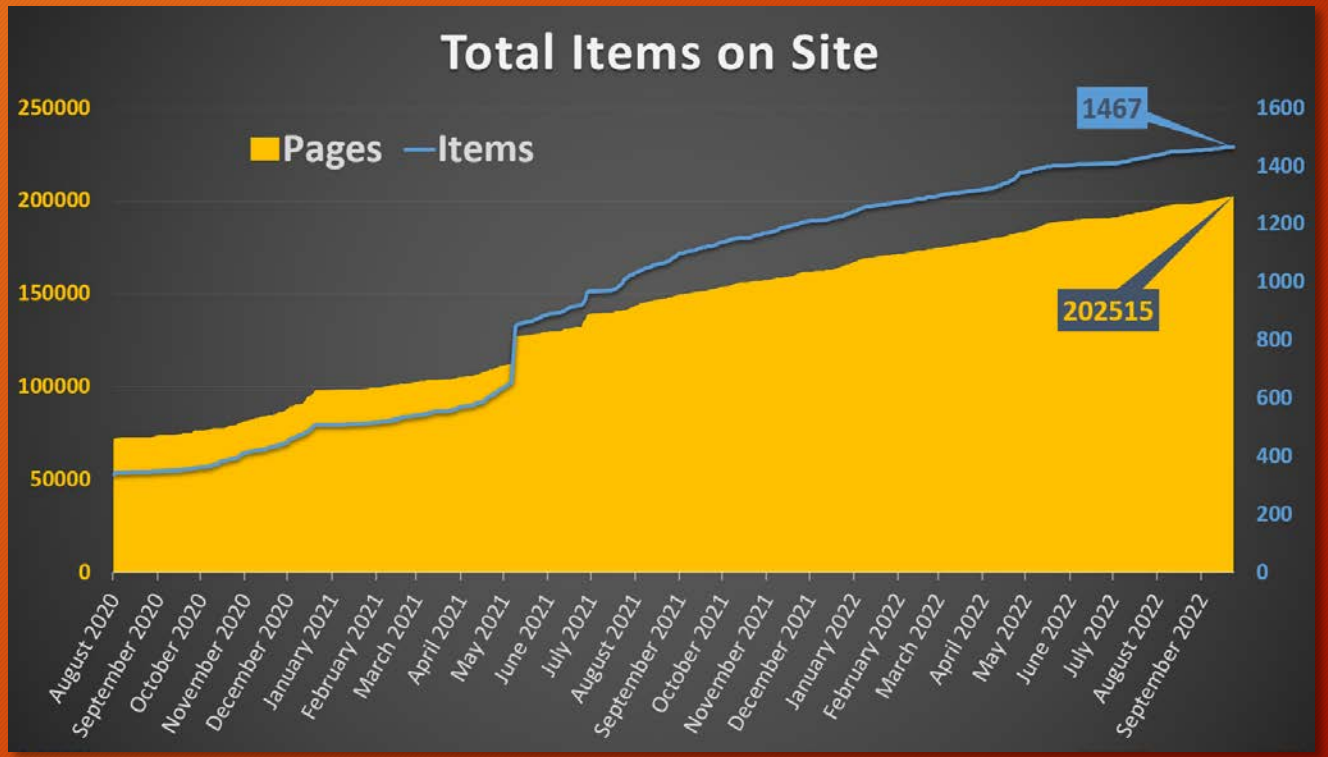
To subtract a time in the X-register from a time in the Y-register in . . . H.MMSShh . . . format, press g H.MS-.

Example: If you still have times stored in registers R_0 thru R_9, find out exactly how well you did by calculating the mean and standard deviation of the **differences** of the stored values. (Switch to RUN mode for this problem.)

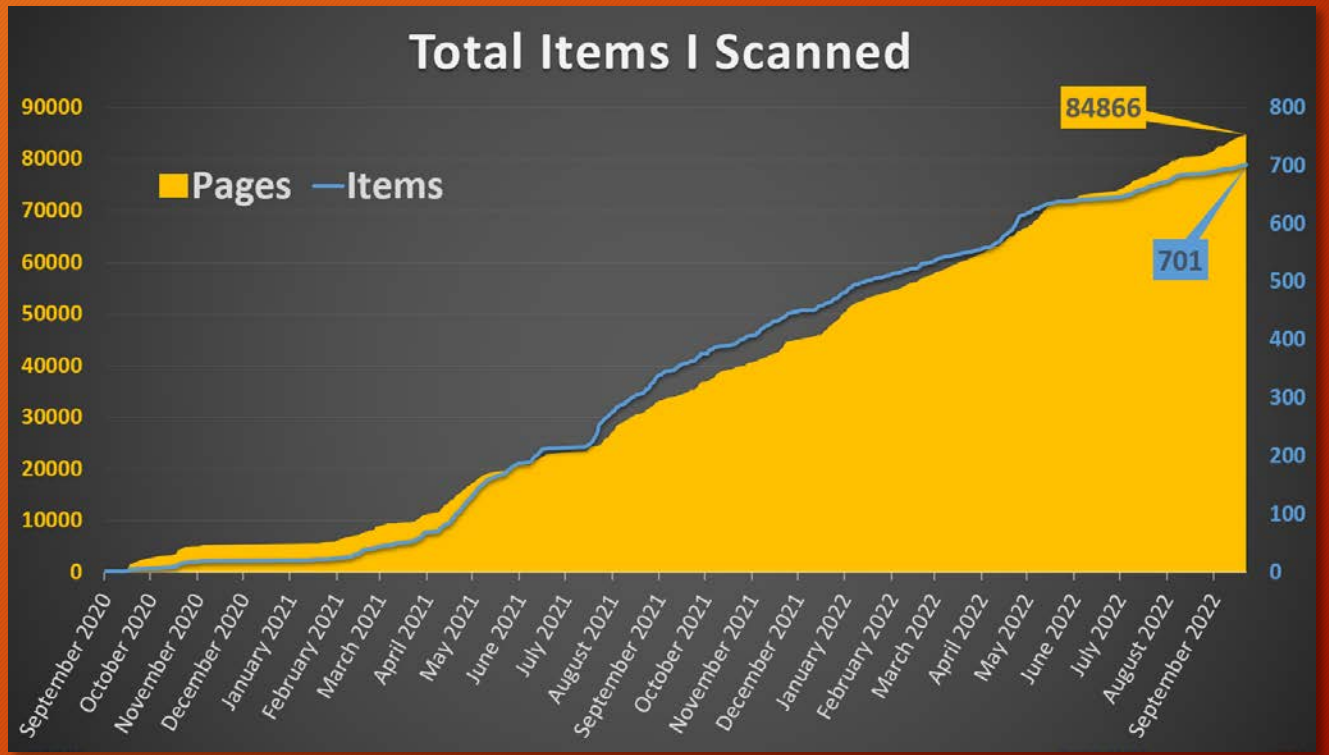
The collection in raw numbers

- Presently, **1467** books are available for download
- Total page counts:
  - **80,211** pages in **518** books of original PDFs created by HP
  - **6,757** pages in **24** books of scanned PDFs created by HP
  - **84,866** pages in **701** books of PDFs scanned by me (all over last 2 years)
  - **9,494** pages in **62** books of original PDFs created by the user community (or myself)
  - **21,187** pages in **162** books of PDFs scanned by the user community and cleaned up by me
- Grand total: **202,516** pages taking 34.9 GB

Progress over time: total site size



Progress over time: books I scanned myself



Status

- English-language HP materials are nearly complete (556 total known)
  - Almost all calculator owner's manuals scanned (missing 2)
  - Almost all calculator quick references scanned (missing 2)
  - Most accessory/module documentation scanned (missing ~16)
  - Most application books scanned (missing ~27)
  - Most users' library books scanned (missing ~13)
  - Most service manuals scanned albeit usually photocopies (missing ~5)
  - Most internals (NOMAS) missing (only scanned a few out of ~20)
- Non-English HP materials are almost all missing (23 scanned of 387)
  - I don't even know what all I am missing (may be a lot more than 387!)
- Third party materials are perhaps one-third done
  - I've scanned 237 so far, and 59 more are original PDFs, with 755 known
  - About 100 have been scanned by others but I want to rescan

How can you help?

- Lending me books to scan
  - Will unbind (without damage) books with **spiral**, **comb**, **wire**, or **stapled** bindings, then run through ADF, and then restore binding
  - Perfect bindings (including hardcover) must be cut to scan at present
    - Do not lend these if I cannot cut them
    - At some point in the future I may take the time to scan these by hand
- Providing me with 600 dpi grayscale or color scans
  - Ensure compression is minimal
  - Avoid any automatic processing (brightness/contrast, etc)
  - Put on Dropbox, OneDrive, Google Drive, etc for me
- Find candidates at https://literature.hpcalc.org/all
  - Anything with “Missing” in Format column has no known scans
  - Anything with “Off-site” in Download column has been scanned by others but could justify new scan

HHC/HPCC Conference USB Drive

What is this drive?

- Originally was a record of the annual American HHC conference, dedicated to HP calculators
- Now it is essentially a one-stop repository of the world's HP calculator knowledge, small enough to fit in your hand

History of drive

- Conference proceedings packets sometimes had a floppy disk, or CDs or DVDs, with supplementary information
- Eventually this became a USB drive, with electronic proceedings replacing the printed version
- Started at 4 GB, eventually reached 32 GB in 2017, 64 GB in 2019, 128 GB for 2020 virtual conference, and now 256 GB
- Each drive is now cumulative, containing all previous drives
- Goal is to both document all conferences and contain all freely-available material related to HP calculators – with a bit of HP computers and non-HP calculators thrown in too

Structure of drive

- Emulators
- Manuals
- Fonts
- Discussion Forums
- PPC Archive (Jake Schwartz)
- hp41.org (Warren Furlow)
- series80.org (Vassilis Prevelakis)
- Other archived sites
- A lot more

- ROMs
- Photographs
- Publications
- Conference proceedings
- hparchive.com (Glenn Robb)
- hpmuseum.net (Collins/Johnston)
- hpcalc.org (Eric Rechlin)
- Old calculator ads

HHC 2022 (G:) Properties

General | Tools | Hardware | Sharing | ReadyBoost | Customize

HHC 2022

Type: USB Drive
File system: exFAT

Used space:	196,749,901,824 bytes	183 GB
Free space:	59,827,585,024 bytes	55.7 GB
Capacity:	256,577,486,848 bytes	238 GB

Drive G:

OK | Cancel | Apply

Browse HHC USB Drive.html, ... Properties

General | Details

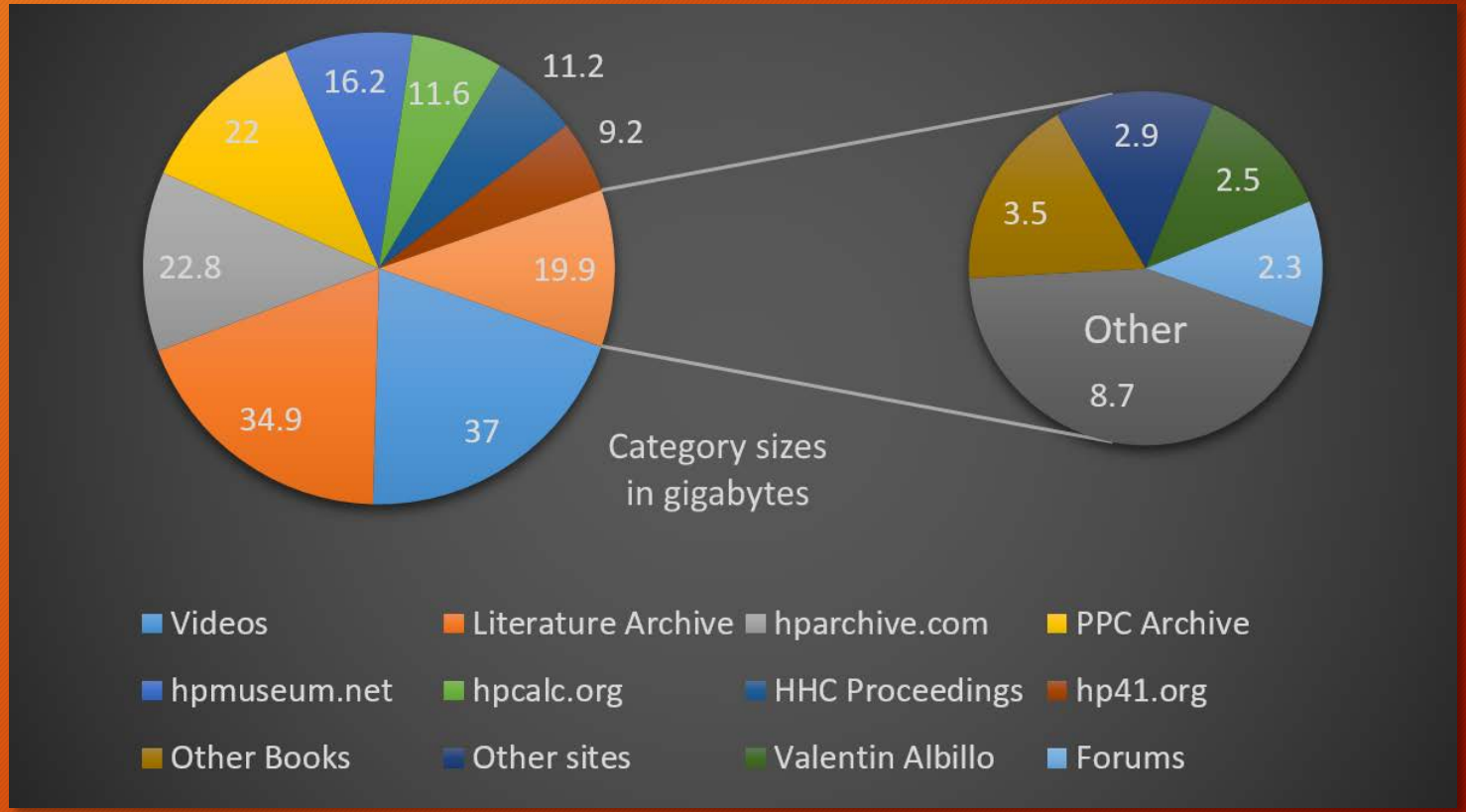
811,772 Files, 22,054 Folders

Type: Multiple Types
Location: All in G:\
Size: 172 GB (184,818,204,932 bytes)
Size on disk: 174 GB (187,056,087,040 bytes)

Attributes: ☐ Read-only ☐ Hidden — Advanced...

OK | Cancel | Apply

What's on the drive?



HHC 2022 USB Drive

This USB drive is the official record of the HHC 2022[online link] conference.

HHC

HHC Conference Materials

Contains materials from HHC conference floppies, CDs, DVDs, and USB drives from 1998 through 2022, plus many of the presentation files.

HP Conference Videos

Contains captures of the talks presented at the live-streamed HPCC 2020 conference and HPCC January 2021 and October 2021 mini-conferences and videos recorded by Eric Rechlin of the talks presented at the HHC 2019 and 2021 conferences, along with a couple videos presented at earlier conferences, Gene Wright's training videos for financial calculators, and a few other videos.

Large Collections

hp41.org

All the file downloads from Warren Furlow's hp41.org[online link] site, the Internet's largest collection of HP-41 resources, archived as of October 15, 2022. Based on the November 6, 2020 torrent copy of the DVD and manually updated with all updates made since then.

hpcalc.org

An offline mirror of Eric Rechlin's hpcalc.org[online link] site, the Internet's largest collection of HP graphing calculator resources, with over 9000 items, archived as of August 31, 2022. Also includes historic older versions of all files ever on the site, plus allows direct browsing of the contents of all compressed archives.

PPC Archive 2.41

A full copy of Jake Schwartz's vast collection of over 50,000 pages of information, including materials from various HP calculator clubs that were active in the 1970s to the present, plus materials from EduCALC and HP, current through April 1, 2022. Updates are available for purchase from Jake[online link].

For the best experience, please go to the root of this drive and open "Open PPC Archive.pdf" in your favorite standalone PDF viewing software for interactive PDF-based navigation of the collection. It is highly recommended that you use a quality third-party PDF viewer to open these documents, such as Adobe Reader, Foxit Reader, Nitro PDF, PDF-XChange, or Sumatra PDF, because these PDFs have features that do not work properly within a web browser or with operating system built-in PDF viewers.

Section 1 Version 2.16

65 Notes / PC Calculator Journal / PPC Journal volumes 1-14 (1974-1987), plus Chicago-Area CHIP Group Newsletters (1991-2005), and Philadelphia-Area PAHHC Group Newsletters (1992-2000)

What's on the drive? (2)

- HHC conference materials
  - All presentations and supplemental materials from HHC 2013 through HHC 2022
  - Most presentations and other files from HHC 2006 through HHC 2012
  - Miscellaneous files from a few earlier years
- Videos I recorded of conferences
  - HHC 2018 through 2022
  - Screen recordings of HPCC virtual conferences from 2020 and 2021
  - All videos are also on https://videos.hpcalc.org
  - Separate HHC Videos drive with all 1986-2019 videos recorded by Jake Schwartz and me is available for purchase at https://commerce.hpcalc.org
- Assorted other videos related to HP calculators

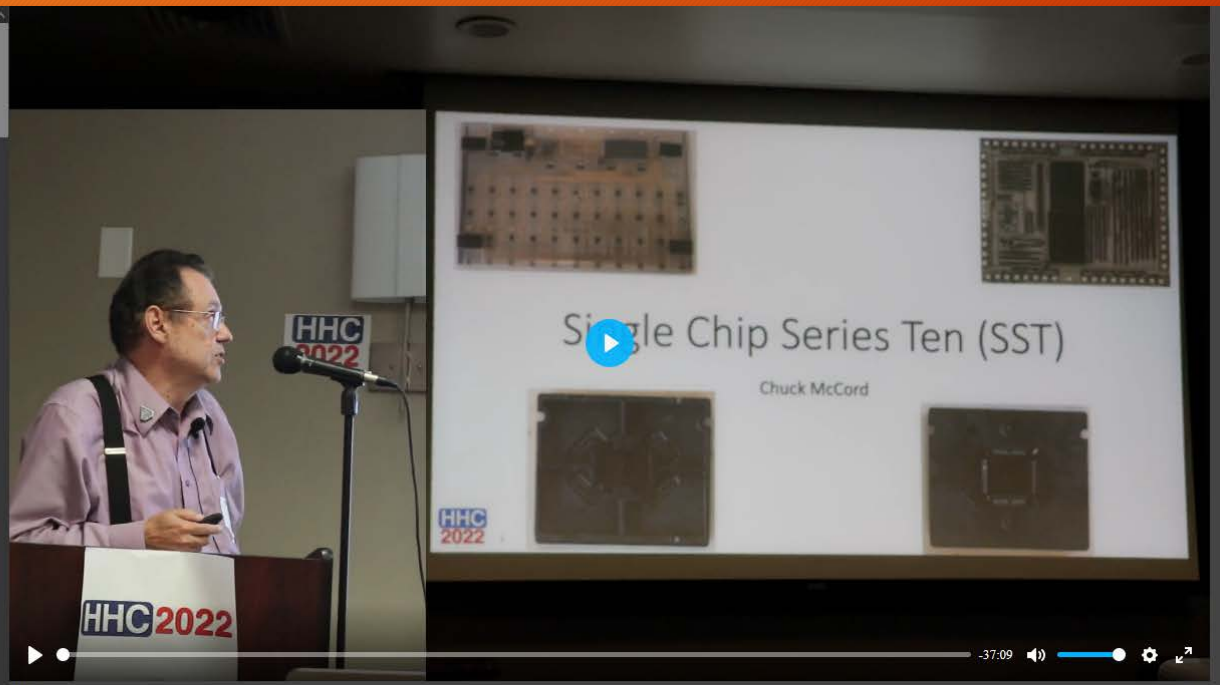
Conference Videos

☑ Autoplay next video

HHC 2022
We're Not Dead Yet

September 10-11, 2022, Nashville, TN
Richard Nelson, Hilton Garden Inn

1. Felix Gross
   Calculator Patents and How to Find Them
2. Gene Wright
   TI-88 Part 1: History and Go / No Go Decision
3. Richard Nelson
   TI-88 Hardware Tour
4. David Ramsey
   Autonomous Vehicle Status - Tesla's Full Self Driving in 2022
5. Eric Rechlin
   What's New on the HHC 2022 USB Drive
6. Jake Schwartz
   What's New in the PPC Archive
7. Bob Prosperi
   When Odran Is New Again
8. Gene Wright
   TI-88 Part 2: Features, Comparisons, and Verdict
9. Chuck McCord
   HP-75 Software Development System Prototype
10. David Ramsey
    Everything But The Kitchen Sink
11. Chuck McCord
    Voyager Single Chip Series 10 (SST)
12. Sylvain Côté
    Advanced HP-IL Communication
13. Jim Johnson
    HP-10 Calculator with Focus on the HP-10 Printer
14. Chuck McCord
    Bobcat Prototype
15. Gene Wright
    Calculator Humor
16. Gene Wright
    APF Calculators
17. Klass Kupereus
    HP Calculators Distribution
18. Eric Rechlin



Previous Next

Chuck McCord: Voyager Single Chip Series 10 (SST)

HHC 2022: We're Not Dead Yet
September 10-11, 2022, Nashville, TN; Richard Nelson, Hilton Garden Inn

What's on the drive? (3)

- Over 2000 PDFs of calculator instruction manuals
  - Complete collection from my HP Calculator Literature Archive
    - About 1500 manuals, current as of October 18, 2022
    - Over 200,000 pages, over $^{1}/_{3}$ of which were scanned by me
    - Also online at https://literature.hpcalc.org
  - Non-HP manual collections
    - Katie Wasserman's https://www.wass.net/manuals/ site (300+ manuals)
    - BASIC manuals from http://basic.hopto.org/basic/manuales.php (300+ manuals)
- Warren Furlow's hp41.org
  - Contains all file downloads from his site in a convenient folder structure
  - Modules/ROMs, subset of Users' Library, manuals, and much more
  - Current as of October 15, 2022

What's on the drive? (4)

- Complete offline mirror of my HP Calculator Archive site
  - From https://www.hpcalc.org
  - Current through August 31, 2022
  - Zip file contents can be browsed directly, and all historic (old) versions of all files included as well
  - These extras add over 9.5 GB to the site's normal 2 GB size
- Historic version of my site from December 1997
- Jake Schwartz's PPC Archive
  - Updated to version 2.41 (April 2022)
  - 56,232 pages documenting the HP calculator community
  - Details are in Jake's presentation
  - Updates can be purchased from http://www.pahhc.org/ppccdrom.htm

Racer

Description:	Outrun style racing game, with amazing graphics, just like the old Sega game.
Filename:	racer35.zip
ID:	7703
Current version:	V35
Author:	Mark Power, http://www.btinternet.com/~mark.power/hp48.htm
Downloaded file size:	72,462 bytes
Size on calculator:	97 KB
Platforms:	
Recommended:	Get it!
User rating:	7/10 with 3 votes
Primary category:	Games
Languages:	
File date:	2018/02/18 18:02:04
Source code:	Not included
Download count:	5,064
Version history:	2018/02/18: Updated to version V35 2017/02/16: Updated to version V32 2016/08/04: Added to site

Archive contents:

Length	Date	Time	Name
0	2018-02-12	15:58	Racer35.hpappdir/
4056	2018-02-09	01:35	Racer35.hpappdir/cars.png
3450	2018-02-09	01:35	Racer35.hpappdir/hills.png
3117	2018-02-09	01:35	Racer35.hpappdir/icon.png
3878	2018-02-09	01:35	Racer35.hpappdir/nightcars.png
5978	2018-02-09	01:35	Racer35.hpappdir/nightcity.png
2348	2018-02-09	01:35	Racer35.hpappdir/nightsky.png
2615	2018-02-09	01:35	Racer35.hpappdir/nighttrees.png
200	2018-02-09	01:35	Racer35.hpappdir/Racer35.hpapp
3420	2018-02-09	01:35	Racer35.hpappdir/Racer35.hpappnote
64024	2018-02-09	01:35	Racer35.hpappdir/Racer35.hpappprgm
3030	2018-02-09	01:35	Racer35.hpappdir/sky.png
2934	2018-02-09	01:35	Racer35.hpappdir/trees.png
5450	2018-02-18	18:00	racer.htm
9259	2016-08-04	22:22	setup.png
8470	2016-08-04	22:21	night.png
9488	2016-08-04	22:14	splash.png
131709			17 files

Screenshot:

User comments: No comments at this time.

Part of the HP Calculator Archive.
Copyright 1997-2022 Eric Rechlin.

PPC Archive 2.41 – April, 2022

Click on an image to make a selection:

What's on the drive? (5)

- David Collins and Jon Johnston's Australian HP Computer Museum
  - From https://www.hpmuseum.net
  - Contains all file downloads from the site as of June 9, 2022 in a convenient folder structure
  - Over 7000 files related to HP computers, handhelds, and accessories
- Glenn Robb's Hewlett-Packard Archive
  - From http://hparchive.com
  - Contains a complete browsable mirror of the web site as of May 25, 2022
  - Thousands of scanned documents, including HP publications, catalogs, equipment manuals, and more
  - Includes all 478 issues of the HP Journal

The Hewlett Packard Archive

Dedicated to Vintage Hewlett-Packard Documentation

Periodicals

HP published many famous engineering periodicals. While some are available on-line at HP or Agilent, our volunteers have scanned several others. We are missing issues of Measure, Bench Briefs, and Watt's Current, and would appreciate hearing from anyone who can help complete this on-line collection.

- Bench Briefs
- HP Journal
- Measure Magazine
- Insight Magazine
- Watt's Current
- HP Test And Measurement News

Search This Site

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- Advertising
- Price Lists
- Specialized Catalogs

Equipment Manuals
- Early Serial Numbers
- Computers
- Service Parts

Periodicals
- Application Notes

What's on the drive? (6)

- Vassilis Prevelakis's HP Series 80 Web Site
  - From https://www.series80.org
  - Contains a complete browsable mirror of the web site as of June 13, 2020
  - Hundreds of files for the Series 80 machines, including manuals, programs, and ROM images
- Valentín Albillo's HP Collection
  - From https://albillo.hpcalc.org
  - Contains a complete browsable mirror of the web site as of September 22, 2022
  - Nearly 4000 pages of articles, programs, programming challenges, letters, brochures, pictures, and discussion threads, mostly about HP calculators and Sharp pocket computers

HP Series 80 Web Site

Introduction

The Series 80 is a collection of microcomputers that was released by Hewlett Packard in the late seventies. It offered a large number of accessories, including ROMs, adapters, and interface modules. The first member of the family, the HP-85 was targeted towards engineers. It was a compact machine comprising an integral screen, mass storage device (tape) and thermal printer. Although by no means lightweight, it was luggable; HP even offered a carrying bag.

Other members of the family that did not include a printer or tape were the HP-83, the HP-87 which featured more memory and a wider display, and the HP-86 which provided an even larger screen in the form of an external monitor.

Mid-life improvements to the family included the HP-85B, the HP-87XM and the HP-86B. All offered additional built-in features and more memory.

Finally, there was also an embedded version of the HP-85 that was called the 9915A/B.

Although marketed as a single compatible family of computers, the Series 80 machines were split into two groups. The low-end comprising the HP-83 and HP-85, and the high-end with the HP-86 and HP-87 computers.

Subtle changes in the architecture necessitated *conversion* of BASIC programs between the two groups, and precluded the

Valentin Albillo's HP Collection

Welcome to my HP site. ***Latest Update #39 since Sept 22 (20 new files, 304 pages)***

Since 2019, this *ad-free*, no-frills web site for my vintage calculator materials (***HP***, ***SHARP***, etc.), old *HP* computers and *Misc* topics (*Computer Chess, Fractals*) has been possible thanks to ***Eric Rechlin***'s generosity and invaluable help. It features *Articles, Programs, Challenges, Pictures, Brochures, Book Reviews & Covers, Raw Scans* of vintage materials and more, all free to download. There's now ***1,110 files available*** *(thousands of pages)* and more will be added periodically. *Should you want to* ***comment*** *or* ***ask*** *something, this is the thread to do it. For past Update announcements, see here.*

Click the lovely image to visit my daughter's art homepage

Update #39 highlights*: 70 HP-41C programs, 5 Full brochures, 2 Raw Scans, 3 Challenges, 5 vintage letters, 4 Easter Eggs (for a list of all new files see* ***Latest Additions*** *below.)*

- No corrections or changes.

Project HAM *is now at 3,855 pages =* ***96.38%*** *completed.* See ***Introducing Project HAM (Historic Albillo Materials)***.

If you'd like to help*, please include a* ***link*** *to this Main page into your own site and/or ask other related sites to do so, for increased visibility. It won't mean a cent but will do wonders to encourage me to spend the enormous effort required to prepare and upload more materials.* ***Thanks !***

HP Calculators (497 files)

- HP Calculator Articles (45 files)
- HP Calculator Programs (43 files)
- HP Calculator Challenges (80 files)
- HP Calculator Pictures (53 files)
- HP Calculator Brochures (84 files)
- HP Calculator Raw Scans (37 files)
- HP Calculator Book Reviews (3 files)
- HP Calculator Book Covers (47 files)
- HP Calculator Selected Threads (102 files)
- HP Calculator Vintage Letters (33 files)

HP Computers (19 files)

- HP Computer Programs (3 files)
- HP Computer Brochures (4 files)

What's on the drive? (7)

- Newsgroups and Discussion Forums
  - Archive of comp.sys.hp48 with almost all posts from July 1991 through August 2022, missing only about a year from 1993-1994 (229,287 messages)
  - Archive of comp.sys.handhelds from May 1989 through June 2013 (106,777 messages)
  - North Dakota HP 48 email list (2,013 messages from 1990 through 2001)
  - Old HP Museum Forum posts (174,288 messages from February 1999 through February 2014)
  - New HP Museum Forum posts (90,466 messages from December 2013 through May 2018)

June 2010

Previous Month | Back to Index | Next Month

168 messages

Subject	Author	Date
Re: HP50g won't compute integrals using infinity	Merciadri Luca	2010-06-01 16:05:06
Re: HP50g won't compute integrals using infinity	John H Meyers	2010-06-01 16:40:44
Re: HP50g won't compute integrals using infinity	Merciadri Luca	2010-06-01 16:48:37
Re: HP50g won't compute integrals using infinity	John H Meyers	2010-06-01 17:17:50
Re: HP50g won't compute integrals using infinity	Merciadri Luca	2010-06-01 18:03:00
Re: HP50g -> computing whether or not (mathematical) series converge, and, if so, which value to?	Merciadri Luca	2010-06-01 16:07:27
Re: HP50g -> computing whether or not (mathematical) series converge, and, if so, which value to?	Merciadri Luca	2010-06-01 16:07:47
Re: How many colors can be used for the HP 48 Emu emulator skins?	PixelOz	2010-06-02 07:17:01
Re: How many colors can be used for the HP 48 Emu emulator skins?	PixelOz	2010-06-02 10:36:30
Re: How many colors can be used for the HP 48 Emu emulator skins?	John H Meyers	2010-06-02 11:04:02
Re: How many colors can be used for the HP 48 Emu emulator skins?	PixelOz	2010-06-02 11:48:51
Re: How many colors can be used for the HP 48 Emu emulator skins?	PixelOz	2010-06-02 11:50:16
Re: How many colors can be used for the HP 48 Emu emulator skins?	PixelOz	2010-06-02 11:56:22
Re: How many colors can be used for the HP 48 Emu emulator skins?	PixelOz	2010-06-02 12:30:33
Re: How many colors can be used for the HP 48 Emu emulator skins?	PixelOz	2010-06-02 12:44:42
Re: How many colors can be used for the HP 48 Emu emulator skins?	John H Meyers	2010-06-02 11:48:55
Re: How many colors can be used for the HP 48 Emu emulator skins?	PixelOz	2010-06-02 11:44:13
Re: How many colors can be used for the HP 48 Emu emulator skins?	John H Meyers	2010-06-02 12:25:10
Re: How many colors can be used for the HP 48 Emu emulator skins?	John H Meyers	2010-06-02 12:46:38
Re: How many colors can be used for the HP 48 Emu emulator skins?	PixelOz	2010-06-02 15:31:16
Re: How many colors can be used for the HP 48 Emu emulator skins?	PixelOz	2010-06-02 15:40:36
HP50G: Emulator hangs when alarm goes off	Han	2010-06-03 16:39:53
Re: HP50G: Emulator hangs when alarm goes off	Andreas_Möller	2010-06-03 20:48:02
Re: HP50G: Emulator hangs when alarm goes off	John H Meyers	2010-06-03 21:52:56
Re: HP50G: Emulator hangs when alarm goes off	Han	2010-06-05 02:10:10
Re: HP50G: Emulator hangs when alarm goes off	John H Meyers	2010-06-06 22:45:08
Probability functions	Giovanni	2010-06-04 08:34:40
Re: Probability functions	John H Meyers	2010-06-04 11:24:17

What's on the drive? (8)

- Other archived web sites
  - **hhuc.us**: Joe Horn's still-online archive of web sites from each HP Handheld User Conference from 2000, now through 2022, maintained by David Ramsey since 2021
  - **hp42s.com**: Erik Ehrling's defunct web site dedicated to the HP-42S
  - **jacques-laporte.org**: Jacques Laporte's defunct web site dedicated to deciphering the inner workings of the HP-35, fully restored
  - **greendyk.nl**: J. Groenendijk's defunct collection of re-created manuals for the HP-15C, -41C, -65, -67, -80, -85, -97, and more, plus an online HP-65 emulator with over 50 application cards
  - The S.U.P.E.R. Site: Michael Bel's defunct web site with all software known for the 95LX, 100LX, and 200LX (>1000 programs)

HP-15C Handbook
Introduction
•Contents
Problem Solver
Getting Started
Numeric Func.
Memory Stack
Statistics Func.
Display & C.Mem.
Program Basics
Program Editing
Prg. Branching
Subroutines
Index Register
Complex Numbers
Matrices 1
Matrices 2
Finding Roots
Num. Integration
A B C D E F
•Function Index
•Programming Index
•Subject Index
•HP-15C Reference
•Keyboard & C.Mem

Section 9

Subroutines

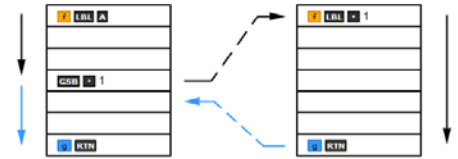
When the same set of instructions needs to be used at more than one point in a program, memory space can be conserved by storing those instructions as a single subroutine.

The Mechanics

Go To Subroutine and Return

The GSB (*go to subroutine*) instruction is executed in the same way as the GTO branch, with one major difference: it establishes a *pending return* condition. GSB *label*, like GTO *label*,* transfers program execution to the line with the corresponding label (A to E, .0 to 9 or .0 to .9). However, execution then continues *until the first subsequent* RTN *instruction is encountered*—at which point execution *transfers back* to the instruction immediately following the last GSB instruction, and continues on from there.

Subroutine Execution



END
Execution transfers to line 000 and halts.

RETURN
Execution transfers back to original routine, *after* GSB . 1.

* A GSB or GTO instruction followed by a letter label is an abbreviated key sequence (no f necessary). Abbreviated key sequences are explained on page 78.

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Henry Briggs and the HP35

I will start this article with a few words about Henry Briggs himself (1561-1630) who published in 1624 his book "Arithmetica Logaritmica" [1], describing a set of methods to help calculate tables of (common) logarithms.

Napier (or Neper) (1550-1617) is the inventor of the logarithms around 1614 ; Briggs and Napier agreed to redefine logarithms so they have 10 for base (what we call today "common logarithms").

ARITHMETICA
LOGARITHMICA
SIVE
LOGARITHMORVM
CHILIADES TRIGINTA, PRO
numeris naturali serie crescentibus ab vnitate ad
20,000 : et a 90,000 ad 100,000.
HOS NVMEROS PRIMVS
INVENIT CLARISSIMVS VIR
DEVS NOBIS VSVRAM VITÆ DEDIT
ET INGENII, TANQVAM PECVNIÆ,
NVLLA FLAGITVTA DIE.
LONDINI,
Excudebat GVLIELMVS
IONES. 1624.

In the following years Briggs published "common logarithms" tables and the method to compute them.

In fact, these base 10 logarithms tables were still in use in the 70s and the slide rule (which is a direct application of logarithms) was at this time a common engineer tool.

I have already explained how Hewlett-Packard with its HP35, introduced in 1972, revolutionized the engineering world.

No more logarithm tables or slide rule to handle. Just press a key.

I remember that time (the start of my career) and the day I put my fingers on a HP35. Immediately, I pressed ln(x) and magically the result was there in around 200 ms!

Surprisingly, the internal algorithm was said to be based on a method close to the approach that described Briggs in 1624!

The present article is about the link -somewhat magical- between Briggs and the HP35.

Briggs' book is available on the Internet (in English) on the Ian Bruce's site University of Adelaide, Australia.

Briggs "Golden rule"

Briggs organized his work in a simple way; genial ways are often simples.

A left column was supposed to contain the numbers ("numbers from continued means from 10 to 1") while in a right column he would write their logarithms.

He started with 10 and log(10)=1.

Then he calculated repeated square roots of 10 and in the right column he place the half of the preceding number: $\log(\sqrt{n}) = (\log n) / 2$.

I reproduced here the table from Briggs's book.

What's on the drive? (9)

- **Fonts**: 60+, mostly by HP, Ted Kerber, and Luiz Vieira
- **HP Learning Modules**: training materials published by HP (20 calculators from the 2000s)
- **Old Calculator Ads**: over 1500 images from 1966-2015 collected by Gene Wright
- **Periodicals section**
  - **HP Solve Newsletter:** edited by Richard Nelson and published by HP (33 issues)
  - **L'Ordinateur de poche:** French newsletter published from 1981 to 1984 (23 issues)
  - **La Gazette des Pockéticaires:** French newsletter published from 2013 to 2019 (12 issues)
  - **Palmtop Paper / HP Portable Paper:** Published 1986 to 2005
  - **PPC Notes**: Newsletter published by a TI calculator enthusiast group from 1976 to 1990
  - **PPX Exchange**: Newsletter published by TI from 1977 to 1982

THE NEW HP-67

Fully Programmable Pocket Calculators
(Comes With 15 Prerecorded Programs)

A Complete Range Of Prerecorded Functions And Features

26 addressable memories simplify calculating and programming.

RPN—The professional logic system—gives added flexibility, speed and confidence.

You can display and print in decimal, scientific, or engineering notation.

All the mathematical functions you need.

The statistical functions you need.

The HP-67 Gives You Exceptional Programming Power & Ease Of Use For Lengthy, Repetitive Calculations

It's easy to create your own time-saving programs.

New "Smart" magnetic card reader makes every problem easier.

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Editing is fast and easy.

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Direct Branching.

224 steps of program memory to work with.

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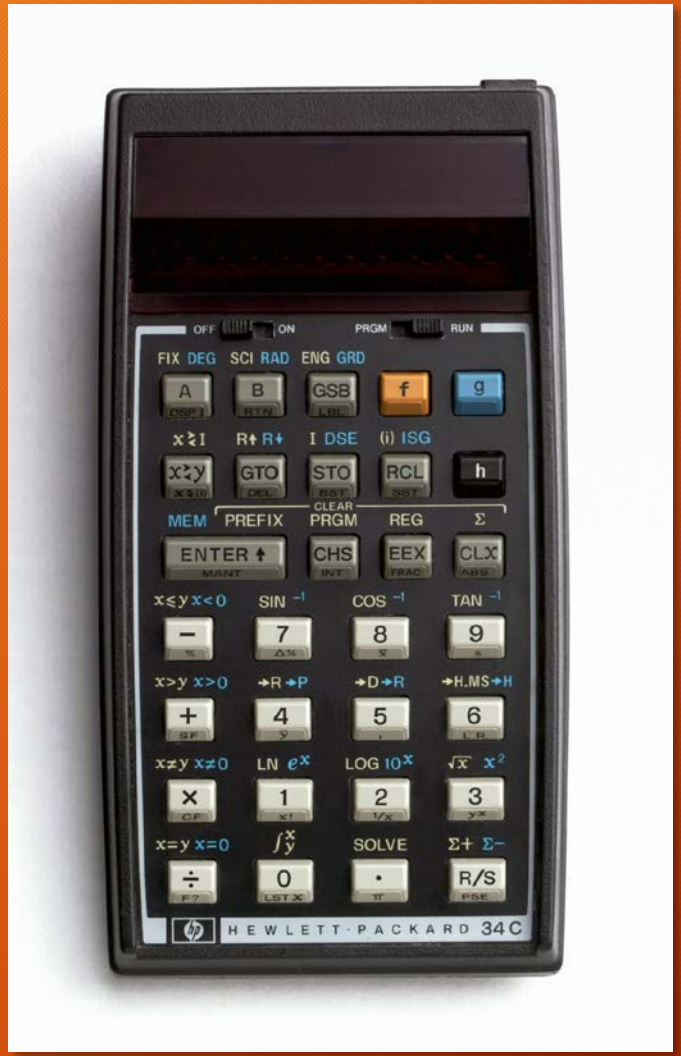
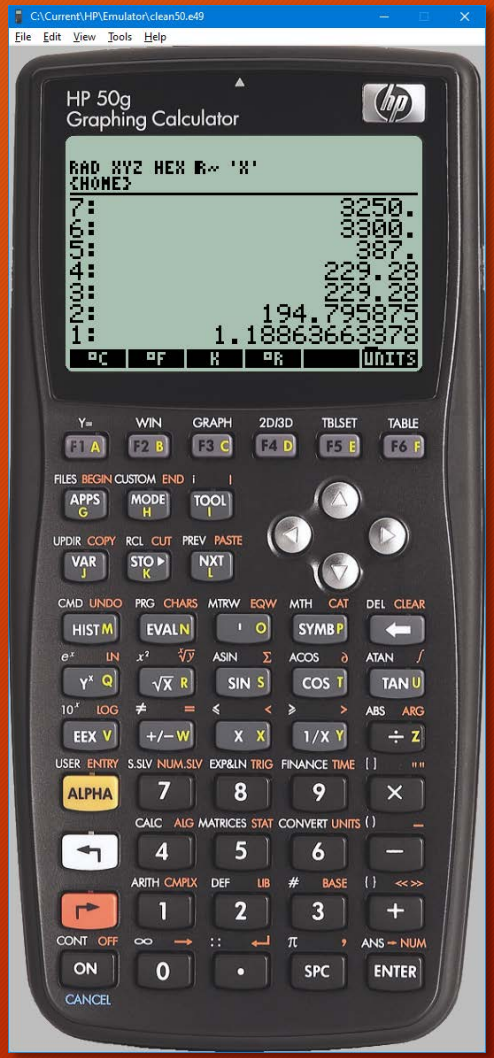
What's on the drive? (10)

- ROMs
  - Hundreds of raw dumps of ROMs from various HP calculators
  - Includes many never-publicly-released beta ROMs for some of the graphing models
- Photographs
  - About 200 official HP press photos of calculators
  - Scans of 142 promotional slides from HP
  - Scans of another 27 promotional photographs
  - Over 100 photos taken by me of HP calculators
  - About 40 others photos taken by others in the community
- Emulators for Windows
  - Emu28, Emu42, Emu48, and Emu71 pre-configured with ROMs and skins
  - Free42, Plus42, newRPL, WP 31S, and WP 34S simulators
  - Eric Smith's Nonpareil, ready-to-run
  - All simulators officially released by HP
  - Full mirror of Tony Nixon's teenix.org web site with all his simulators/emulators, current through October 16, 2022

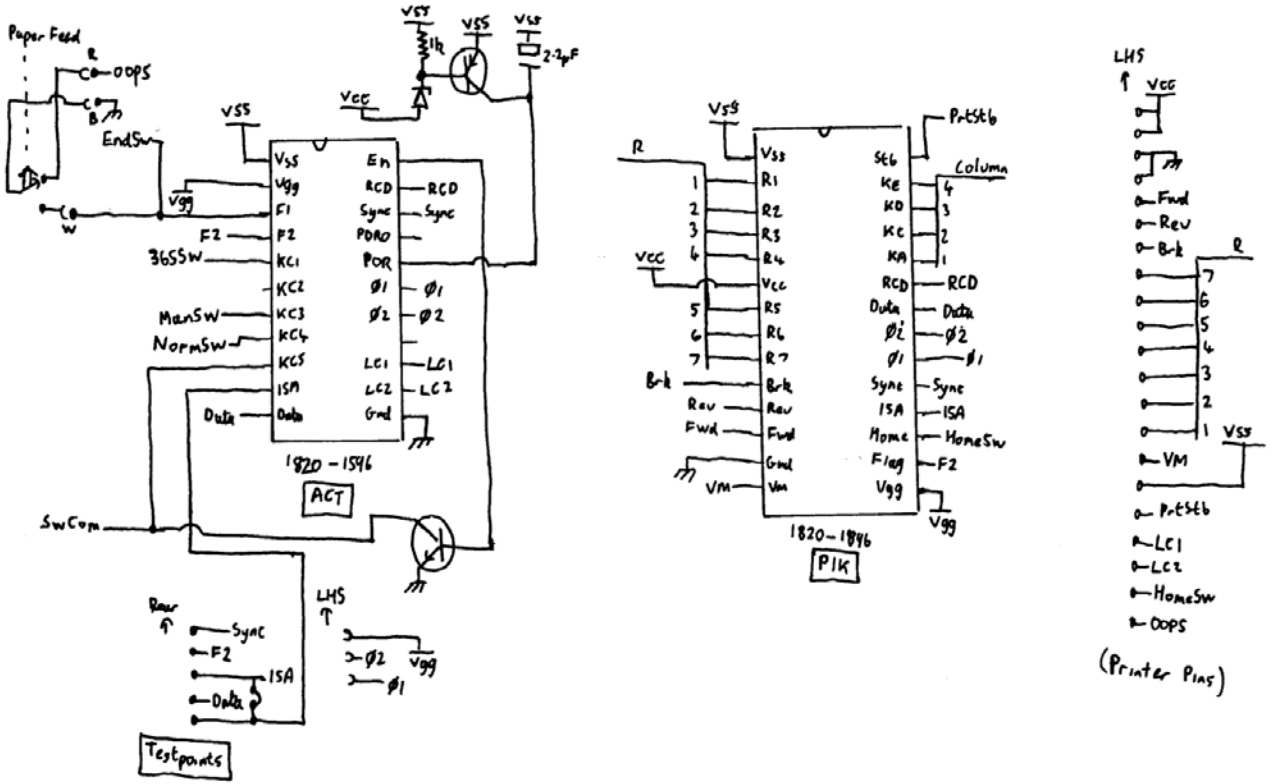

OFF ON PRGM RUN
FIX DEG SCI RAD ENG GRD
A B GSB f g
x≷I R↓ R↑ I DSE (i) ISG
x≷y GTO STO RCL h
MEM PREFIX CLEAR PRGM REG Σ
ENTER↑ CHS EEX CLx
x≤y x<0 SIN⁻¹ COS⁻¹ TAN⁻¹
7 8 9 −
x>y x>0 →R →P →D →R →H.MS →H
4 5 6 +
x≠y x≠0 LN eˣ LOG 10ˣ √x x²
1 2 3 ×
x=y x=0 ∫ SOLVE Σ+ Σ−
0 . R/S ÷
HEWLETT-PACKARD 34C


C:\Current\HP\Emulator\clean50.e49
File Edit View Tools Help
HP 50g
Graphing Calculator
RAD XYZ HEX R⇔ 'X'
{HOME}
7: 3250.
6: 3300.
5: 387.
4: 229.28
3: 229.28
2: 194.795875
1: 1.18863663378
°C °F K °R UNITS
Y= WIN GRAPH 2D/3D TBLSET TABLE
F1 A F2 B F3 C F4 D F5 E F6 F
FILES BEGIN CUSTOM END i I
APPS MODE TOOL
UPDIR COPY RCL CUT PREV PASTE
VAR STO NXT
CMD UNDO PRG CHARS MTRW EQW MTH CAT DEL CLEAR
HIST EVAL ' SYMB
ASIN ACOS ATAN
SIN COS TAN
LOG ABS ARG
EEX +/− X 1/X ÷
USER ENTRY S.SLV NUM.SLV EXP&LN TRIG FINANCE TIME [ ] " "
ALPHA 7 8 9 ×
CALC ALG MATRICES STAT CONVERT UNITS ( )
4 5 6 −
ARITH CMPLX DEF LIB # BASE { } << >>
1 2 3 +
CONT OFF ∞ → :: ↵ π , ANS ← NUM
ON 0 . SPC ENTER
CANCEL

HPCC 40+h
ON USER PRGM ALPHA

What's on the drive? (11)

- HP Calculator Schematics
  - Contents of the HPCC Calculator Schematics CD-ROM version 5.0
  - Over 160 schematics, hand-drawn by Dr Tony Duell
  - Calculators, computers, and accessories
- HP-75 groups.io downloads
  - Hundreds of files related to the HP-75
  - Software, documentation, and ROM dumps
- CB Wilson's scanned document collection
  - TI engineer during the time of the TI-88 development
  - Manager of TI-99/4, 99/4A, CC-40, and CC-40+ programs
  - Nearly 150 scanned internal TI documents from 1977-1983



HP92 Logic PCB Sheet (2) 00092-60001

Obtaining extra HHC 2022 USB drives

- Most of you here received one already
- Additional drives will be available for purchase beginning November 1, 2022 from my web site at **https://commerce.hpcalc.org**
- Price is US$65 plus shipping

- Fine print: Most virus scanners will flag “ALREADY.COM” on this drive as a Trojan. This is understandable because of its functionality, but still a false alarm. Worse virus scanners will have other false alarms — ignore them, and even better, stop using them.