

HP-41C or HP-41CV Alphanumeric Full Performance Programmable with Continuous Memory

The HP-41 is the most powerful handheld, programmable calculator ever made by HP. You now have two calculators to choose from: the HP-41C with 441 bytes of program memory built in (expandable to 2,233 bytes) or the HP-41CV with 2,233 bytes built in.

The HP-41 communicates with words as well as numbers. You can key in any combination of letters and numbers up to 24 characters wide and display 12 characters at a time. A complete system of status annunciators also helps to keep you firmly in control. Error messages are displayed in plain, understandable English. For aural feedback, you can use the HP-41 "beeper." Ten different tones will let you signal the end of a program or data entry point. Continuous Memory saves your programs and data even when the calculator is turned off. Over 130 separate operations comprise the total HP-41 function catalog. You can assign a function or program to almost any key. The HP-41 comes with keyboard overlays and a set of user labels to help facilitate customization of your HP-41. With a few keystrokes, you can actually create a "personalized" custom calculator for special applications.

You can store more and longer programs in the HP-41 than you ever thought possible. Each program is autonomous. Call it up by name, edit it, even clear it without affecting other programs. And each program can have up to 99 local plus 15 local alpha labels for addresses or subroutines. However, these independent programs can also be interactive. Using global labels, you can summon one program or branch to a subroutine (up to 6 levels) from another program.

Both the HP-41C and HP-41CV come complete with Owner's Handbook and Programming Guide, quick reference guide, application book, 4 N-cell batteries, 2 keyboard overlays, 1 module or overlay holder, 1 set of function labels, and a soft carrying case.

HP-41C and HP-41CV Specifications

Mathematical Functions: SIN, COS, TAN, and inverses, DEG, RAD, GRAD, $R \leftrightarrow P$, $DEG \leftrightarrow RAD$, $H \leftrightarrow H.MS$, octal/decimal conversions, sign, modulo, INT, FRAC, ABS, round, log, 10^x , e^x , $\ln(1+x)$, $e^x - 1$, y^x , \sqrt{x} , $1/x$, π , $+$, $-$, \times , \div , LN, $H.MS \pm$, CHS.

Statistical Functions: $\%$, $\Delta\%$, \bar{x} , s , summations (Σx , Σx^2 , Σy , Σy^2 , Σxy), summation corrections, select summation registers, factorials.

Stack Functions: ENTER, $R \downarrow$, $R \uparrow$, $x \leftrightarrow y$, $X \leftrightarrow REGISTER$, LAST-X.

Alpha Symbols: upper-case alpha A through Z, lower-case alpha a through e, Σ , $\%$, \neq , $<$, $>$, \dagger , \triangleleft , $\$$, $+$, $-$, $/$, $*$, $:$, $;$, $?$, $=$, space.

User-Definition: alpha mode on and off, alpha store and recall, alpha shift left, alpha view, append alpha.

Programming Features: 100 numeric labels, unlimited global alpha labels, user-definable keys, indirect addressing of labels, data storage and recall, storage register arithmetic, alpha storage and recall, viewing register contents, display formats, looping, audible tone pitch, definition of accumulation registers, flag setting and clearing, catalog

list, 6 levels of subroutines, controlled looping, 30 user flags, 26 system flags, 4 flag test functions in addition to set flag and clear flag, 10 conditional tests, 2 of which may be used with alpha strings ($x=y$, $x \neq y$).

Editing: singlestep execution, single- and backstep inspection of a program, delete program memory lines, position the calculator at any line in program memory, pause to review intermediate results, correction key to delete keystroke while entering data or alpha character, change size of data storage register allocation, catalog positioning.

General: label program, alpha prompt, aural prompt, pack program memory, stop, end, programmable OFF, go to end of program memory and prepare calculator for new program, advance paper, prompt, catalog list, copy program from ROM to user memory.

Clearing Options: DISPLAY, X REGISTER DATA, REGISTERS, ALPHA, PROGRAM, FLAG, STACK, STATISTICS REGISTERS.

Display: fixed decimal, scientific, and engineering notation.

Memory: last-x register, 4-register stack, alpha register, data storage registers.

HP-41C: 63 registers and 0 program bytes or 0 registers and 441 bytes (expandable to 2,233 bytes).

HP-41CV: 319 registers and 0 program bytes, or 0 registers and 2,233 bytes.

Power Requirements: 4 size N batteries, not rechargeable. Optional nickel cadmium battery pack.

Size: 33 × 79 × 144 mm (1.3 × 3.1 × 5.7 in).

Alone, the HP-41 is a powerful, programmable, problem-solving calculator. But, by adding optional plug-in peripherals and modules, you can expand the capabilities of the HP-41 to keep pace with your growing computational needs. Four input/output (I/O) ports at the top of the HP-41 accept peripherals, plug-in application modules, or Memory Modules. Each quick-connect peripheral and module is self-contained, with its own set of functions that is added to the calculator's existing function catalog. And each peripheral and module is fully portable.

HP 82106A Memory Module

These Memory Modules can quintuple the HP-41C's memory. Each module contains an additional 64 registers that can be allocated as program memory or storage registers, or any combination. You can add four Memory Modules to your HP-41C for a total of 319 storage registers or 2,233 bytes. The Memory Modules, like the HP-41C have Continuous Memory. However, memory loss will occur when the module is removed from the calculator. (Use only with the HP-41C.)

HP 82170A Quad Memory Module

The equivalent of four Memory Modules, the Quad Memory Module contains 256 data storage registers or 1,792 program bytes and expands the HP-41C's memory to full HP-41CV capacity using only one port. The Quad Memory Module, like the HP-41C, has Continuous Memory. However, memory loss will occur when the module is removed from the calculator. (Use only with the HP-41C.)

COMPUTERS, PERIPHERALS & CALCULATORS

HP-41 Peripherals, Software, Accessories



HP 82104A Card Reader

Reads and writes programs and data onto magnetic cards with 32 registers per card. Adds over 30 card reader control functions to your calculator, including prompts and program security. Also reads HP-67/97 program cards.

HP 82143A Thermal Printer/Plotter

Portable, quiet, thermal operation, and battery operable, the HP 82143A prints upper- and lower-case alpha characters, including special characters you can create. The Printer/Plotter also does high-resolution plotting routines.

HP 82153A Optical Wand

Inputs data by reading programs in the form of bar code. Most HP-41 software is available in bar code, including Users' Library programs and solutions books.

HP-41 Application Pacs

Whether you're an engineer or technician, student or scientist, business person or other professional, you'll find an application pac or solutions book to solve many of the most common and difficult problems in your area.

Every application pac comes with a comprehensive manual, and, when applicable, a keyboard overlay. Choose from:

- | | |
|-----------------------------------|--|
| • Aviation | • Petroleum Fluids |
| • Clinical Lab & Nuclear Medicine | • Securities |
| • Circuit Analysis | • Statistics |
| • Financial Decisions | • Stress Analysis—Mechanical Engineers |
| • Mathematics | • Structural Analysis—Civil Engineers |
| • Games | • Surveying |
| • Home Management | • Machine Design |
| • Real Estate | • Navigation |
| • Thermal & Transport Science | |

HP-41 Solutions Books

Business:

- | | |
|---------------------------------------|-------------------------------|
| • Business Statistics/Marketing/Sales | • Lending, Savings, & Leasing |
| • Home Construction Estimating | • Real Estate |
| | • Small Business |

Engineering:

- Antennas
- Chemical Engineering
- Civil Engineering
- Control Systems
- Electrical Engineering
- Fluid Dynamics & Hydraulics
- Heating, Ventilating, & Air Conditioning
- Mechanical Engineering
- Solar Engineering

Computation:

- Geometry
- High-Level Math
- Test Statistics

Other:

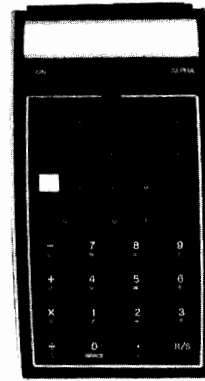
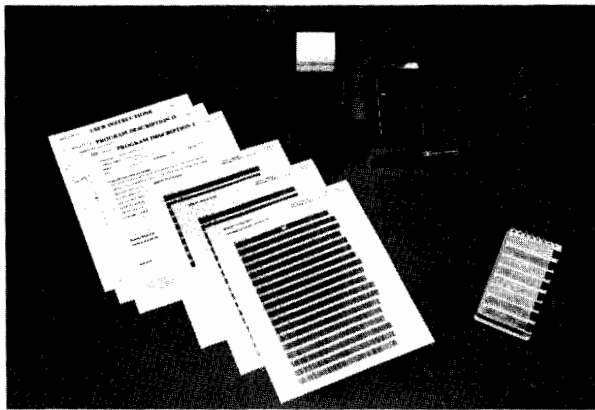
- Calendars
- Cardiac/Pulmonary
- Chemistry
- Games
- Optometry I (General)
- Optometry II (Contact Lenses)
- Physics
- Surveying
- Taxes

Ordering Information

	Price
HP-41C	\$250.00
HP-41CV	\$325.00
HP 82106A Memory Module	\$30.00
HP 82170A Quad Memory Module	\$95.00
HP 82104A Card Reader	\$215.00
HP 82143A Thermal Printer/Plotter	\$385.00
HP 82153A Optical Wand	\$125.00
HP-41 Application Pacs	\$30.00 to \$75.00
HP-41 Solutions Books	\$12.50

Calculator Accessories

A Hewlett-Packard calculator purchase is a smart decision. Power, convenience, and quality from a company you can depend on. But HP calculators also have a versatility unequalled in the industry. There's a complete accessory line engineered to provide the support you need. No matter what type of Hewlett-Packard calculator you choose, you'll find it supported by a full line of replacement accessories and supplies to keep it operational.



HP Users' Library

The Users' Library is dedicated to making programs contributed by HP-67, HP-97 and HP-41 users available to others. You'll discover a wide variety of programs written for specific applications areas. The solutions you need may already exist! As a subscriber to the Library, you will receive the *Catalog of Contributed Programs* and the *Contributor's Guide*, periodic supplements, and coupons for four programs of your choice complete with pre-recorded magnetic cards. You will also receive the *HP Key Notes* newsletter, which keeps you abreast of programming techniques, Library activities, and notes of interest.

Ordering Information

	Price
First Year Subscription	\$20.00
Annual Renewal	\$10.00
HP-67, HP-97 Programs (Includes program descriptions/listings, and magnetic cards.)	\$6.00
HP-41C, HP-41CV Programs (Includes program descriptions/listings, magnetic cards, and bar code.)	\$6.00

Custom Services

HP Custom Services satisfies the growing need for specialization in portable computing products. Through customization, the powerful HP-41C and HP-41CV calculators can be tailored to do your dedicated complex or repetitious calculations when and where you need them.

Using customer or third party written programs, the HP-41 or an HP-41 with blank keys (Option 001), can be customized using one of three options: custom ROM's, custom magnetic cards or custom bar code. Each option is designed to suit particular information and problem-solving requirements. When selecting one of these alternatives, consideration is given to: frequency of code alterations, desired program capacity, updating of variables in your data, required level of privacy and initial investment. For assistance, consult your local HP Field Engineer.

HP 82500A or B Custom Modules (ROM's)

4K or 8K bytes of memory with each module. Nearly 21,000 program lines with up to four 8K modules.

HP 82502A Custom Magnetic Cards

Used with the HP-41C, HP-41CV, HP-67, and HP-97. Each card can be customized to load 175 to 200 instructions.

Custom Bar Code

Inexpensive way to load custom programs or data. Available from an independent vendor.

The HP-41 saves time, lowers cost, and ensures accuracy for both the technical and non-technical user. The standard HP-41 allows you to retain access to the full programmable capabilities and scientific functions of the calculator even after it has been customized.

A custom HP-41C or HP-41CV Option 001 with a blank keyboard, is made as friendly as possible. This special calculator limits use to those keys you have designated, minimizing potential user error. Custom overlays, (HP 82501A), label keys for either calculator and provide the final, professional touch.

Already many companies have improved their productivity with customized HP-41's. Proven applications, from banking to fuel savings, from media buying to heavy equipment sales and service, from circuit design to diamond sales, give the same result, increased performance and improved productivity.

Ordering Information

Quantity	Custom Modules		Custom Mag Card	Custom Bar Code
	8K	4K	4K (18 cards/set)	4K (6 cards/prog) (3 prog)
100	NA	NA	\$99/set	\$3.51/set
250	\$102	\$ 63	\$46/set	\$3.02/set
500	\$ 62	\$ 39	\$28/set	\$2.86/set
1000	\$ 42	\$ 27	\$19/set	\$2.78/set
5000	\$ 26	\$ 17	\$12/set	\$2.72/set



COMPUTERS, PERIPHERALS & CALCULATORS

Personal Computation

Comparison Chart

	Programmable									
	Financial			Advanced			Scientific			
	HP-37E	HP-12C	HP-38C	HP-67/97	HP-41C/CV	HP-34C	HP-11C	HP-33C	HP-32E	
Operating Features										
RPN logic system	•	•	•	•	•	•	•	•	•	
Automatic 4-register stack	•	•	•	•	•	•	•	•	•	
Error recovery (last x)	—	•	•	•	•	•	•	•	•	
Stack manipulation	•	•	•	•	•	•	•	•	•	
Maximum number of storage registers	7	20	20	26	319*	21	21	8	15	
Continuous Memory	—	•	•	—	•	•	•	•	—	
Maximum number of digits displayed	10	10	10	10	10	10	10	10	10	
Number of digits used in computation	10	10	10	10	10	10	10	10	10	
Rechargeable batteries/AC recharger	•	—	•	•	—	•	—	•	•	
Long-life disposable batteries	—	•	—	—	•	—	•	—	—	
Software Support										
Application Pacs (with modules)	—	—	—	—	•	—	—	—	—	
Application Pacs (with mag cards)	—	—	—	•	—	—	—	—	—	
Solutions Books	—	—	—	•	•	—	—	—	—	
Solutions Handbooks	—	•	—	—	—	—	•	—	—	
Users' Library programs	—	—	—	•	•	—	—	—	—	
Application Books	•	—	•	—	—	•	—	•	•	
Accessory Support										
Memory Modules	—	—	—	—	•+	—	—	—	—	
Reserve Power Pack	•	—	•	•	—	•	—	•	•	
Security cradle/cable	—	—	—	•	—	—	—	—	—	
Multipurpose rechargeable battery pack	—	—	—	—	•	—	—	—	—	
One-year limited warranty	•	•	•	•	•	•	•	•	•	
Display separates thousands	•	•	•	•	•	•	•	•	•	
Diagnostic self-check	•	•	•	S	—	•	•	•	•	
Error codes/messages	•	•	•	—	•	•	•	•	•	
Redefinable keyboard	—	—	—	—	•	—	—	—	—	
Alpha mode/display	—	—	—	—	•	—	—	—	—	
Alpha prompts	—	—	—	—	•	—	—	—	—	
Status annunciators	—	•	—	—	•	—	•	—	—	
Automatic power off	—	•	—	—	•	—	•	—	—	
Catalog of functions, programs and peripheral functions	—	—	—	—	•	—	—	—	—	
Audible tones	—	—	—	—	•	—	—	—	—	
Programming Features										
Maximum number of program lines	—	99	99	244	2,233*	210	203	49	—	
Shared program/storage memory	—	•	•	—	•	•	•	—	—	
Alpha program labels	—	—	—	—	•	—	—	—	—	
Single character program labels	—	—	—	10	56	2	5	—	—	
Numeric program labels	—	—	—	10	99	10	10	—	—	
Program review: (single- and back-step)	—	•	•	•	•	•	•	•	—	
Insert/delete editing	—	—	—	•	•	•	•	—	—	
Unconditional branching	—	•	•	•	•	•	•	•	—	
Levels of subroutines	—	—	—	3	6	6	4	3	—	
Conditional tests	—	2	2	8	10	8	8	8	—	
Flags	—	—	—	4	56	4	2	—	—	
Pause	—	•	•	•	•	•	•	•	—	
Looping (DSZ, ISZ)	—	—	—	•	—	—	—	—	—	
Indexed looping (DSE, ISG)	—	—	—	—	•	—	•	—	—	
Indirect control of:										
Data storage and recall	—	—	—	•	•	•	•	—	—	
Alpha storage and recall	—	—	—	—	•	—	—	—	—	
Storage register arithmetic	—	—	—	•	•	•	•	—	—	
Branching and looping	—	—	—	•	•	•	•	—	—	
Display format	—	—	—	•	•	•	•	—	—	
Flags	—	—	—	—	•	—	—	—	—	
Integer/fraction truncation	—	•	•	•	•	•	•	•	—	
Alpha string manipulation	—	—	—	—	•	—	—	—	—	
Input/Output Devices										
Card reader	—	—	—	•	P	—	—	—	—	
Battery-operable Printer/Plotter	—	—	—	97	P	—	—	—	—	

Symbols

• Built-in feature or function.

— Not available.

* The HP-41C has 441 program bytes built in (expandable to 2,233 bytes). The HP-41CV has 2,233 program bytes built in.

+ To be used with the HP-41C only.

S Available in software form

P Peripheral available

	Programmable									
	Financial			Advanced			Scientific			
	HP-37E	HP-12C	HP-38C	HP-67/97	HP-41C/CV	HP-34C	HP-11C	HP-33C	HP-32E	
Optical Wand (bar code reader)	—	—	—	—	P	—	—	—	—	
General Features										
+ , - , X , + , y ^x , √ x , 1/x , CHS	•	•	•	•	•	•	•	•	•	
Ln x , e ^x	•	•	•	•	•	•	•	•	•	
Log x , 10 ^x	—	—	—	•	•	•	•	•	•	
x ²	—	—	—	•	•	•	•	•	•	
π	—	—	—	•	•	•	•	•	•	
Absolute value	—	—	—	•	•	•	•	•	—	
Storage register arithmetic	•	•	•	•	•	•	•	•	•	
Business Features										
Maximum number of dedicated financial registers	5	5	5	—	—	—	—	—	—	
Solves for:										
Number of periods (n), compound interest	—	—	—	—	—	—	—	—	—	
(i), present value (PV), payment (PMT), future value (FV)	•	•	•	S	S	S	S	S	—	
Simple interest	—	•	•	S	S	—	—	—	—	
Accumulated interest/remaining balance (amortization)	•	•	•	S	S	S	S	S	—	
Net present value (NPV) and internal rate of return (IRR)	—	•	•	S	S	S	—	—	—	
Price	•	—	—	—	—	—	—	—	—	
Beginning/end of period selection	•	•	•	S	S	S	S	—	—	
Calendar functions	—	•	•	S	S	—	—	—	—	
Bond:										
Yield-to-maturity	—	•	—	S	S	—	—	—	—	
Price	S	•	S	S	S	—	—	—	—	
Depreciation (SL, DB, SOYD)	S	•	S	S	S	—	S	—	—	
Scientific Features										
Solve (root finder)	—	—	—	S	S	•	S	S	—	
Integrate (numerical integration)	—	—	—	S	S	•	S	S	—	
Metric conversions	—	—	—	S	S	—	—	—	•	
Trigonometric functions:										
Modes (degrees, radians, grads)	—	—	—	•	•	•	•	•	•	
Sin, Sin ⁻¹ , Cos, Cos ⁻¹ , Tan, Tan ⁻¹	—	—	—	•	•	•	•	•	•	
Hyperbolics and inverses	—	—	—	S	S	S	•	S	•	
Rectangular → polar coordinates	—	—	—	•	•	•	•	•	•	
Decimal angle → angle in degrees (hrs)/min/sec	—	—	—	•	•	•	•	•	•	
Degrees → radians	—	—	—	•	•	•	•	•	•	
Fixed and scientific notation	•	•	•	•	•	•	•	•	•	
Engineering notation	—	—	—	•	•	•	•	•	•	
Automatic over/under flow into scientific	•	•	•	•	•	•	•	•	•	
Decimal/octal conversion	—	—	—	—	•	—	—	—	—	
Statistical Functions										
Percent	•	•	•	•	•	•	•	•	•	
Percent change	•	•	•	•	•	•	•	•	•	
Percent total	•	•	•	—	—	—	—	—	•	
Mean/standard deviation (1- or 2- variable)	•	•	•	•	•	•	•	•	•	
(n, Σx, Σx ² , Σy, Σy ² , Σxy)	•	•	•	•	•	•	•	•	•	
Linear regression/estimate	•	•	•	S	S	•	•	•	•	
Correlation coefficient	•	•	•	S	S	•	•	•	•	
Normal distribution	—	S	S	S	S	S	S	S	•	
Factorial function	—	•	•	•	•	•	•	•	•	
Gamma function	—	—	—	S	S	•	•	—	—	
Permutations and combinations	—	S	S	S	—	S	•	S	—	
Random number generator	—	S	S	S	—	—	•	S	—	