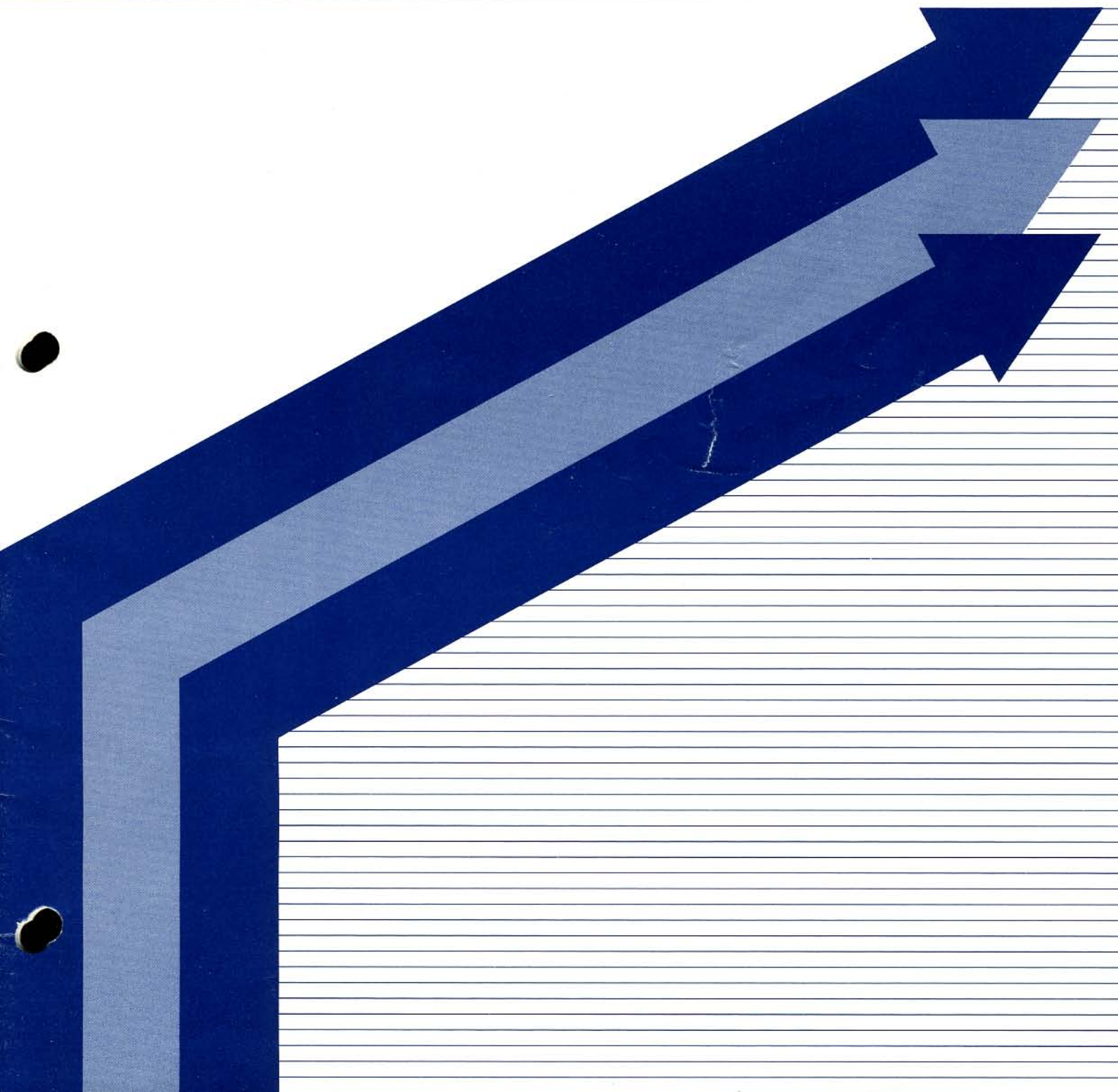
Series 40
Sales Guide

HEWLETT PACKARD



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INTRODUCING THE HP-41CX

The HP-41C is the first member of the powerful Series 40 Family of Advanced Programmable Calculators, and is a subset of...

The HP-41CV, which has five times the memory of the HP-41C, thus freeing up valuable port space for application modules and peripherals. It is a subset of...

The HP-41CX, which is the most powerful handheld calculator in the world! It has all the features of the HP-41CV, plus built-in time, text-editing and extended-programming functions that will fit any professional's needs, and is a subset of...

A total computational and/or data collection system for portable field operation!

The HP-41CX differs from the HP-41C and HP-41CV in terms of built-in functionality, built-in extended memory, and potential expandability. The following table highlights the differences.

	HP-41CX	HP-41CV	HP-41C
Built-in functions	223	128	128
Built-in memory:			
Main			
Bytes	2,237	2,237	441
Registers	319	319	67
Extended			
Bytes	868	(optional)	(optional)
Registers	124	(optional)	(optional)
Maximum memory:			
Bytes	6,437	6,437	6,437
Registers	919	919	919
Keyboard modes	5: Normal, User, Alpha, Editor, Stopwatch	3: Normal, User, Alpha	3: Normal, User, Alpha
Built-in ROM (bytes)	24K	12K	12K
Timer Module	Built-in	Optional	Optional
5 new functions	Built-in	N/A	N/A
Extended Functions/Memory Module	Built-in	Optional	Optional
14 new functions	Built-in	N/A	N/A
Text-File Editor	Built-in	N/A	N/A
18 new editor control features	Built-in	N/A	N/A
Catalogs			
CAT 1-User programs	Built-in	Built-in	Built-in
Program byte count	Built-in	N/A	N/A
CAT 2-External functions	Built-in	Built-in	Built-in
Preview scan & enter	Built-in	N/A	N/A
CAT 3-Standard functions	Built-in	Built-in	Built-in
CAT 4-Extended memory directory	Built-in	N/A (except thru EMDIR)	N/A (except thru EMDIR)
CAT 5-alarm	Built-in	N/A (except thru ALMCAT)	N/A (except thru ALMCAT)
CAT 6-User key	Built-in	N/A	N/A

N/A = Not Available

In addition to the Time and Extended Functions capabilities which are built in, the following functions are unique to the HP-41CX:

New HP-41CX Time Functions

CLALMA - Clears the first alarm whose Alpha string matches the Alpha register (programmable).
CLALMX - Deletes the alarm specified by a number in the X-register (e.g., 5 → delete 5th alarm)(programmable).
CLRALMS - Deletes all alarms from memory (programmable).
RCLALM - Recalls parameters of a stored alarm to the stack and Alpha registers.
SWPT - Sets stopwatch keyboard and sets the pointers as specified by user (activates stopwatch keyboard).

New HP-41CX Extended Functions

ASROOM - Indicates the number of bytes available in a text file.
CLRGX - Clears a specified block of registers.
ED - Enters text editor at the file named in the Alpha register (activates Text editor keyboard).
EMDIRX - For the nth file (n in X-register), returns file name to Alpha register and file type to X-register.
EMROOM - Indicates number of available registers in extended memory.
GETKEYX - Delays program execution until a key is pressed. Returns character code to X-register and keycode to Y-register.
RESZFL - Changes the site of a data or text file.
ΣREG? - Returns number of the first statistics register to the X-register.
x = NN?
x ≠ NN?
x < NN? - Compare any combination of Alpha and numeric data. Alpha strings are compared on the basis of character code, allowing Alpha data to be alphabetized.
x ≤ NN?
x > NN?
x ≥ NN?

New HP-41CX Text Editor control features

Keyboard:

EXIT - Exit from Editor mode.
← 1 - Moves cursor left one character.
1 → - Moves cursor right one character.
← 12 - Moves cursor left 12 characters (shifts display).
12 → - Moves cursor right 12 characters (shifts display).
INSERT - Toggles Insert/Replace modes.
GTO nnn - Sends cursor to first character of record nnn.
REC↑ - Go to first character of previous record.
REC↓ - Go to first character of next record.
- REC - Delete record.
← - Delete character.
+ REC↑ - Insert new record before current record.
+ REC↓ - Insert new record after current record.
ALPHA - Toggles Alpha/Numeric keypads.

Display:

00 - Record number indicator.
I - Empty record indicator with cursor.
1 - Flag 1 annunciator means Insert mode active.
ALPHA - Indicates Alpha keypad active.

SUCCESS RUNS IN THE FAMILY

The HP-41CX, HP-41CV, and HP-41C make up the powerful Series 40 Family. Each is pocket sized, powered by four "N" sized batteries, and features:

- RPN logic
- Four I/O ports
- Vertical-format keyboard
- Full alphanumeric, redefinable keyboard
- 12-character display, scrollable to 24 characters with Alpha keypad active
- Continuous memory, and
- Thousands of ready-to-use software solutions!

The Series 40 Family has a proven record of success in the marketplace with over 600,000 sold worldwide. The HP-41CV is the "proven performer" among advanced programmable calculators. It has a long history of providing solutions for world-class events and for the everyday problems encountered by businesses and individuals around the world. For example:

Company Name	Application
NASA	Back-up for main computers on the Space Shuttles
Fairfield Mfg. Co.	Differential Gear Ratio Design
GMS	Calculations of Explosive Craters
3M Corp	Calculating Exposure Time in Camera Depths
ECOM Associates, Inc.	Medical
Rhodesystems, Inc.	Video Industry
Petrophysical Data	Well Logging Analysis
Demopoulas	Topography and Geodsey
Markert-Welfens	Heating and Ventilation
Husdjursskotsel	Cattle Feeding
Haskoning	Traffic Noise Level

With the introduction of the powerful HP-41CX, Series 40 will be able to meet an even wider range of customer needs involving computation, instrument control and data collection, particularly those requiring remote operations.

EXTENSION MODULES AND PERIPHERALS

The "in-hand" power of the HP-41 expands with the addition of versatile extension modules and plug-in peripherals.

Dedicated plug-ins:

Extended Functions/Memory Module	HP 82180A (built into HP-41CX)
Extended Memory Module	HP 82181A
Time Module	HP 82182A (built into HP-41CX)
Extended I/O Module	HP 82183A
Plotter Module	HP 82184A
Plug-in Card Reader	HP 82104A
Plug-in Printer/Plotter	HP 82143A
Plug-in Optical Wand	HP 82153A
HP-IL Module	HP 82160A

With the HP-IL Module, the HP-41 can control up to 30 HP-IL peripherals at any one time.

HP-IL plug-ins:

Digital Cassette Drive	HP 82161A
Thermal Printer/Plotter	HP 82162A
9" Monitor	HP 82912A
12" Monitor	HP 82913A
Digital Multimeter	HP 3468A
Two Pen Plotter	HP 7470A Opt. 003
80-Column Video Interface (U.S.)	HP 82163A
Video Interface (Europe)	HP 82163B
HP-IL/RS-232C Interface	HP 82164A
HP-IL/GPIO Interface	HP 82165A
HP-IL Converter Kit	HP 82166C
HP-IL/HP-IB Interface	HP 82169A
HP-IL Acoustic Coupler	HP 82168A
HP-IL/Series 80 Interface	HP 82938A
80-Column Impact Printer	HP 82905B, Options 248, 348, and 448
Data Acquisition and Control	HP 3421A

A growing selection of HP-IL peripherals developed by third-party vendors further enhances the versatility of the HP-41 Family. Together all offer great flexibility, and can be used with HP-IL-compatible calculators and computers.

For more detailed information about the products discussed above, see the Series 40 Advanced Programmable Calculators brochure (Data Book), 5953-5579.

SERIES 40 SOFTWARE

Thousands of programs are available for the HP-41C, HP-41CV, and HP-41CX. The programs come in a variety of forms:

Application Pacs, 00041-150XX--Cover 19 technical and financial subjects, including mathematics, circuit analysis, statistics, financial decisions, navigation and petroleum fluids. The programs of each pac are contained in a plug-in module (ROM).

Solutions Books, 00041-90XXX--Include 27 economical collections of bar coded programs covering a range of technical and financial subjects. Both program listings and bar code listings are included. Solutions books also can be ordered on mini-cassettes at an additional cost.

Over 2,500 Series 40 Software Library Programs--High quality programs covering hundreds of different applications. Library programs come complete with documentation, program listings and bar code. The programs also are available on prerecorded magnetic cards, at additional cost, for use with the HP 82104A Card Reader.

Users' Library Promotion

For a limited time, a 50% saving is being offered on the Series 40 Users' Library membership fee with HP-41's that come in specially marked boxes. Beginning November 1, 1983 and while supplies last, your customers can get the $45.00 membership package for only $10.00. (It is anticipated that supplies will be exhausted by about January 31, 1984.)

See the Users' Library card which comes in the specially marked boxes for Library ordering and offering details.

FEATURES AND BENEFITS

Features	Benefits
HP-41C/CV/CX:	
• Built-in Functions (HP-41C/CV: 128 HP-41CX: 223)	Increase productivity--The most comprehensive function sets ever offered in programmable calculators make Series 40 easy and fast to use.
• Expandable Memory (HP-41C: .44K HP-41CV: 2.2K HP-41CX: 3.1K)	Gives you extensive computing power--Expandable to 6.4K bytes, so your capabilities grow as your needs grow.
• RPN Logic System	Saves time and is easy to use--Keystroke programming that requires fewer keystrokes than algebraic operating systems. You can see intermediate results, and easily recover from errors too!
• Durable Keyboard	Quality you can count on--Keeps on working under even the most arduous conditions.
• Redefinable Keyboard	Lets you customize to your specific needs--Provides three (HP-41C/CV) or five (HP-41CX) potential keyboards which make it easy to use in a variety of applications.
• Expandable System	Increases flexibility--Up to 30 peripherals in one HP-IL system let you build the system that meets your needs. Saves money--Gives you a low-cost, battery-operable controller which is unmatched by other calculators.
• Continuous Memory	Saves time--All programs, data, and system assignments are retained when the HP-41 is turned off, so you don't have to re-enter your data.
HP-41CX:	
• Built-in Alarm Functions	Keep you on time--Provide a convenient reminder of appointments and messages.

Features	Benefits
• Built-in Time and Calendar Functions	Save money--Allow remote operation without the need for human intervention.
• Built-in Stopwatch Functions	Increase your accuracy--Get accurate time measurements for activities from scientific research to sporting events.
• Built-in Text File Editor	Enhances your productivity--Provides a convenient way to store notes, lists, names and addresses or any other types of written messages.
• Alphabetizing Capability	Saves time--Lets you organize text information easily.

There are many more strengths of the HP-41 in addition to the powerful features outlined above. Among these strengths are:

Software Programs	Save time--There are 19 software pacs, 28 solutions books, and over 2,500 Users' Library Programs available to choose from.
	Increase productivity--Provide proven performance in thousands of applications from around the world.
Custom Products	Save time and money--Software is customized to meet specific needs.
	Increase accuracy, efficiency and effectiveness--Provide the speed, power and accuracy of a customized computer.
World-class Performance	Quality you can count on--The HP-41CV proves itself on every space shuttle. The HP-41C/CV, and now the HP-41CX can do any in-hand calculating job!
Everyday Application	Versatile--Use it in any occupation...surveying, farming, medical research, student use, navigation...
Rugged	Protects your work--Made to take a beating in the work environment. Lasts in the classroom, in space, or anywhere in between.

CUSTOM PRODUCTS

Besides the thousands of ready-to-use solutions mentioned previously, the HP-41 can be customized to solve the special problems of volume purchasers.

Available custom solutions:

- Plug-in ROMs
- Magnetic cards
- Bar code

Features for customization:

- Redefinable keyboard
- Auto/Start ROM
- Timers/clock
- Keyboard overlays
- Touchpad keyboards

See the Custom Products Sales Guide (5953-5541) for a more complete description of the products and software customization process.

SERIES 40 TARGET MARKETS

The HP-41 Advanced Programmable Calculator is the "proven performer" in the advanced programmable calculator market. From in-hand use to systems control, the HP-41 offers the widest choice of hardware and software solutions at competitive prices.

Satisfied owners include scientific, engineering and business professionals as well as undergraduate and graduate level students aspiring to these fields. Individual professionals and students typically purchase single HP-41s and expand them into small systems.

Three general applications for the OEM/VEU marketplace offer multi-unit and large system sales opportunities. These application areas are:

- Portable on-the-job computation
- Instrument control and data acquisition
- Remote transaction processing

Often, these volume orders depend on user-written customized software. HP provides OEMs and VEUs with four different media that may be used to distribute their software:

- Cassettes
- Custom modules (plug-in ROMs)
- Magnetic cards
- Bar code

Together with the wide selection of dedicated and HP-IL peripherals, the HP-41 is unrivaled in terms of versatility and expandability in the low-cost, battery powered marketplace where high-level languages such as BASIC are not required.

THE MULTI-UNIT CUSTOMER--NEEDS AND SOLUTIONS

Potential large volume customers are a major target market for Series 40 products. There are three major markets for large volume sales: portable computation, instrument control/data acquisition, and remote transaction processing. The chart below shows typical customer requirements.

Portable Computation

Customer	Applications	Customer Needs	HP's Solution
Individual Manager	Aircraft flight planning	Customization	Custom products
	Computational projects		Extensive programmability
	Field engineer tool	Portability	Extensive function set
	Incoming inspection		Portability
	Military logistics support		Durability
	Navigation		
	Premiums for managers/ sales reps (rewards, incentives)		
	Sales tool (quotes, special calculations)		
	Surveying		

Instrument Control/Data Acquisition

Customers	Applications	Customer Needs	HP's Solution
Project, program, or product managers, such as lab engineers	Assembly line product test	Communications capability	HP-IL Module
	Bench test		HP-IL/RS-232C Interface
	Environmental test		HP-IL/HP-IB Interface
	Field test		HP-IL Interface Kit
	Incoming inspection		HP-IL/GPIO Interface
			HP-IL Acoustic Coupler
Product test engineers		Data collection	Remote operation
			Range of systems configurations
Q/A engineers			Battery powered
		Low cost interfacing	HP-41 with HP-IL peripherals

Remote Transaction Processing

Customers	Applications	Customer Needs	HP's Solution
Field test engineers	Assembly line product testing	Communications capability	HP-IL Module
			HP-IL/RS-232C Interface
Inventory managers	Field station data acquisition		HP-IL/HP-IB Interface
			HP-IL Interface Kit
Product line test engineers	Incoming inspection		HP-IL/GPIO Interface
	Inventory control		HP-IL Acoustic Coupler
		Data collection	Remote operation
Q/A engineers			Range of systems configurations
			Battery powered
		Low cost interfacing	HP-41 with HP-IL peripherals

PRODUCT LITERATURE AND SALES AIDS

Sales aids are available to help sell Series 40 systems effectively.

Title and Description	Part Number
Series 40 Advanced Programmable Calculators (32-page, comprehensive Data Book.)	5953-5579
Series 10/40 Inquiry Flyer	For use in U.S.: 5953-5580(D) For use outside U.S.: 5953-5580(F)
Series 10/40/70 Price List	For use in U.S.: 5953-5588(D)
Series 40 Poster	6128
Series 10/40 Demo Guide (Flip chart with sample problems and programs.)	5953-5601
Series 10/40 Demo Stand (24" x 11" x 8 7/8", smoke-colored, plexiglass, holds up to six products securely.)	6113
HP-41CX Statement Stuffer	5953-5584
Series 40 Co-op Ad Kit (Ad slicks, ad building elements, radio scripts.)	5953-5606

To order any of the above materials, contact:

800-FOR-HPPC (800-367-4772) toll free, OR

Hewlett-Packard
ATTN: MARCOM Department
1000 N.E. Circle Blvd.
Corvallis, OR 97330

PRODUCT ORDERING INFORMATION

The HP-41CX is available November 1, 1983. See price list for details.

ADMINISTRATION

Contracts

Series 40 Advanced Programmable Calculators are on the following contracts:

- Exhibit A1
- Exhibit A9
- Hewlett-Packard Handheld Calculator Agreement

Functional Units

The HP-41 is 0.01 functional units.

Warranty

The HP-41 and its accessories (except software, batteries and damage caused by batteries) are warranted by Hewlett-Packard against defects in materials and workmanship for one year from the date of original purchase.

Service and Repair

The HP-41 will be repaired in the same manner as other handheld calculators. For all U.S. owners, repairs will be made at the Corvallis Repair Center; otherwise, repairs will be made at authorized repair centers throughout the world. Refer to the service card that comes with Series 40 Advanced Programmable Calculators for a list of worldwide service centers.

The Standard Repair Cost (STREP) is $70.

SUPPORT: Who to Call?

Types of Questions	Customer	Dealer	Sales Representative
Prices Availability Configuration Dealer Locations General Product Info. Light technical	PCG Customer Communications (800) FOR-HPPC (800-367-4772)	PCG Sales Center 800- TBA (dealer hotline)	PCG Sales Center (408) 257-7000
Service/ Repair	PCD Service (503) 757-2000	PCD Service (503) 757-2000	PCD Service (503) 757-2000
Technical Software Detailed Product Info. After-sale Interfacing	PCG Technical Support (408) 725-2600	PCG Sales Center 800- TBA (dealer hotline)	PCG Sales Center (408) 257-7000
Custom Products Customization	Local HP Sales Office	PCD Custom Products Major Accounts Dept. (503) 757-2000	
Users' Library (U.S.)	PCD Users' Library (503) 757-2000		
Quotes Large Volume Sales	Local HP Sales Office	Local HP Sales Office	DM, who contacts PCD Account Development Department (503) 757-2000

TBA = To Be Announced

QUESTIONS AND ANSWERS

WHAT DO WE CALL THE HP-41?

The HP-41 Advanced Programmable Calculator. Our ad campaigns and sales materials feature this name. We call it an advanced calculator to differentiate it from our BASIC language handheld computers.

CAN THE HP-41 COMMUNICATE IN ASCII?

Yes. The HP-41 can communicate bidirectionally in ASCII with any appropriate device equipped with the:

- HP 82166C Interface,
- HP 82164A RS-232C Interface,
- HP 82165A GPIO Interface,
- HP 82168A Acoustic Coupler, or
- HP 82169A HP-IB Interface

WHAT IS THE MAXIMUM MEMORY CONFIGURATION POSSIBLE IN THE HP-41?

6.4K bytes of user RAM. The HP-41CX requires two Extended Memory Modules to achieve 6.4K bytes of user RAM. The HP-41CV with one Extended Functions/Memory Module and two Extended Memory Modules contains roughly 6.4K bytes of user programmable RAM. The HP-41C can also achieve 6.4K bytes of total memory by using an HP 82170 Quad RAM Module. Recognizing RPN's efficiency advantage over BASIC, the 6.4K bytes convert to approximately 18K bytes in BASIC.

WHY DOESN'T THE HP-41 WAND READ COMMON BAR CODES?

The bar code which the HP-41 Optical Wand reads was optimized to provide a low cost method of reading and duplicating software for the HP-41; the HP-41 was not to be used as a universal bar code device.

IS HEWLETT-PACKARD LOOKING AT OTHER BAR CODES?

HP is looking at other bar codes, but there are no plans to develop another HP-41 compatible wand at this time.

WHAT ABOUT GRAPHICS CAPABILITIES FOR THE HP-41?

The HP 82184A Plotter Module, when combined with the HP 7470A Opt. 003 two-pen plotter, offers full-page color graphics and HP bar code capabilities. (It is not possible, however, to use an RS-232C option of the HP 7470A plotter via the HP 82164A HP-IL/RS-232C Interface due to error trapping routines built into the plotter module.) Bar code can also be printed using the HP 82184A Plotter Module and HP 82162A HP-IL Thermal Printer/Plotter.

WHAT DO I NEED TO USE THE HP-41 WITH THE HP 82168A ACOUSTIC COUPLER?

To use the asynchronous acoustic coupler with the HP-41, the HP 82183A Extended I/O Module and the HP 82160A HP-IL Module are required. Other asynchronous acoustic couplers can also be used via the HP 82164A HP-IL/RS-232C Interface.

WHAT SOFTWARE IS AVAILABLE TO LINK THE HP-41 TO THE REST OF THE ASYNCHRONOUS COMPUTER WORLD, SUCH AS THE HP 3000?

The HP-41 and HP 82160A HP-IL Module coupled to the:

- HP 82938A HP-IL/Series 80 Interface,
- HP 82164A HP-IL/RS-232C Interface, or
- HP 82167A HP-IL/HP-IB Interface

offers unparalleled system flexibility for advanced programmable calculators.

WILL THE HP-41 REMAIN AN ACTIVE PRODUCT FOR SOME TIME TO COME?

Yes. The HP-41 is well accepted in the marketplace. The HP-41C, HP-41CV, and HP-41CX solve new applications virtually every day. The introduction of the powerful HP-41CX reflects Hewlett-Packard's commitment to the HP-41 Family and commitment to meet the needs of those markets seeking low cost, battery-powered solutions.

WHY DO ALL OTHER SALES MATERIALS FOCUS ON THE HP-41CX AND HP-41CV, BUT NOT THE HP-41C?

Customers of Hewlett-Packard calculator products have traditionally bought the calculator which provided the greatest performance. For that reason we focused on the two most powerful machines in the Series 40 Family. The HP-41C, however, will remain a lower cost alternative for some months to come.

WHERE CAN I GET MORE INFORMATION ON CUSTOM PRODUCTS?

The following literature is available from the contacts listed in the Sales Aid section of this guide:

- Custom Products Price List (5953-5529)
- Custom Products Sales Guide (5953-5541)
- Procedural Information Sheet (Series 40: 5953-5543; Series 70: 5953-5544)
- Custom Products Brochure (5953-5533)

Or if you prefer, all the items listed above plus several others are available as one unit:

- Custom Products Folder (5953-5540)

SELL PORTABLES!

HEWLETT PACKARD

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