HP-85

The Personal Computer for Industry
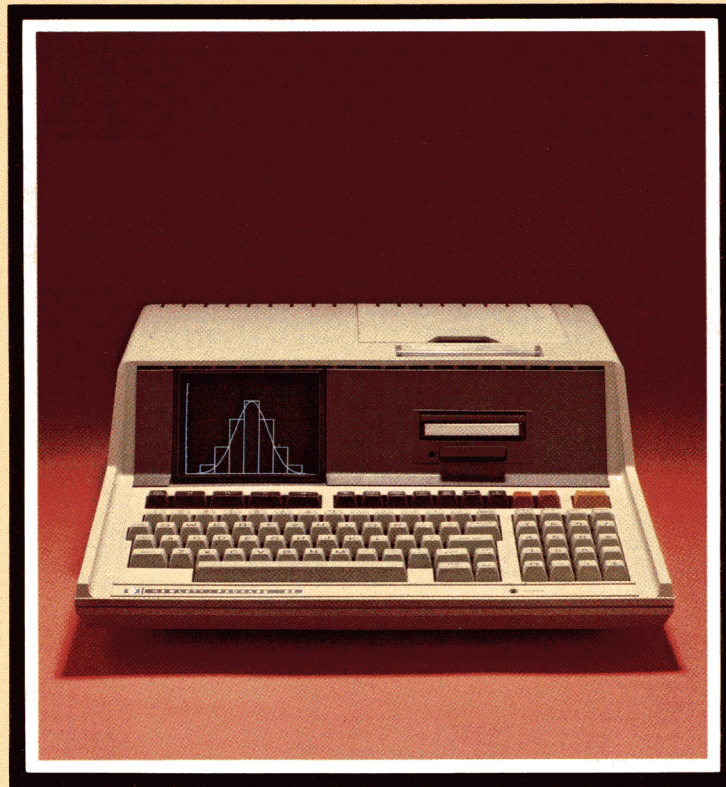
hp HEWLETT
PACKARD

A Complete Computer System in One Small Package.

All of the parts of the HP-85 are designed and built to work together. The operating system, BASIC language, graphics system, keyboard, CRT display, printer, and tape drive are all integrated into one small unit. Each part complements the others to give you an extremely efficient computer.

Turn it on and the HP-85 is ready to use.

With the HP-85 you get the convenience of a single unit with one power cord—no cables confuse and complicate the system. And you don't have to load either the operating system or the BASIC language capability in order to get started. Both are permanently stored in the HP-85.

Operation is simple with the dual-mode display.

The adjustable-intensity CRT display operates in two modes. The alphanumeric mode shows you your programs, data, error messages, system comments, and results. The special graphics mode lets you see graphics information completely separate from the normal alphanumeric display. With one command you can switch from the graphics to the alphanumeric display without losing the information on either.

The alphanumeric display shows 16 lines at a time, but display memory holds up to 64 lines. Roll up and roll down keys let you look at the lines you need from memory.

In graphics mode, the screen has 256 × 192-dot resolution allowing clear, legible images and curved lines.

The thermal printer is fast and quiet.

The new bidirectional thermal printer provides excellent print quality with adjustable intensity.

At two 32-character lines per second, the printer gives you a quick copy of the graphics or alphanumeric display, outputs from your programs, and copies of your programs. When you copy the graphics display to the printer, the printed information is oriented to allow strip-charting and continuous graphs.

Magnetic tape cartridges provide permanent storage.

Magnetic tape cartridges supply the HP-85 with high quality digital storage. The high density, large capacity tape cartridges are used for temporary or archival storage of data and programs.

High search speed and data access rates coupled with automatic tape directories give the HP-85 superior storage capabilities. Each magnetic tape cartridge can hold up to 42 separate files (210K bytes of data or 195K bytes of programs).

Designed for a variety of applications . . .
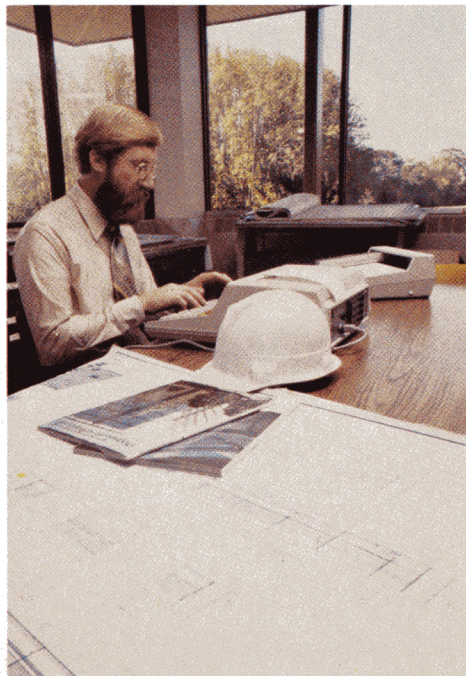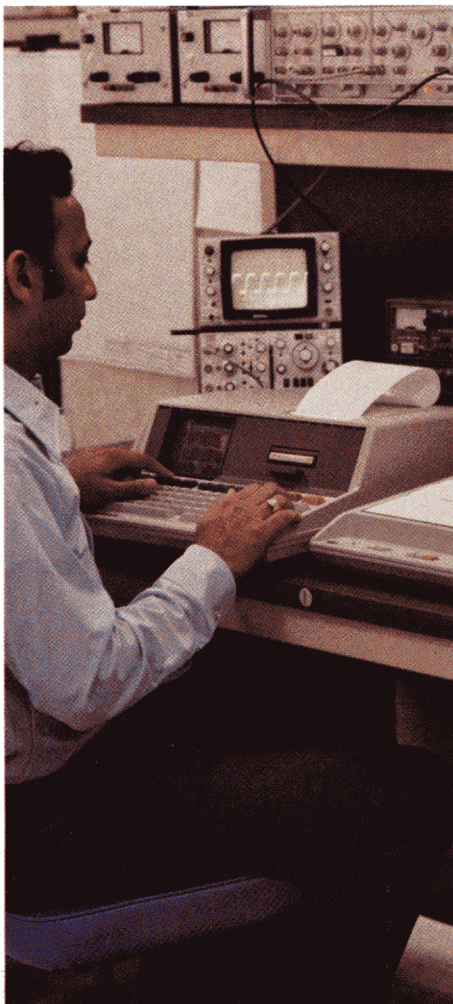
. . . an integrated system with built-in graphics and easy-to-use power for professionals.

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You can find out what is on any cartridge with the catalog command. It tells you the name, type, and length of every file on the cartridge.

Because of their reliability, these cartridges let you store your software systems and data with confidence.

Hewlett-Packard's Personal

A complete computer sys

Graphics is Standard. An impressive graphics system is integrated into the HP-85 as a standard feature — not an add-on.

Built-in Display. The bright, sharp, CRT display puts the information where you need it most — right where you are working.

Typewriter-Like Keyboard. Keys and functions are carefully positioned for quick operation. A separate numeric key pad makes keying in numbers easy.

Plug-in Modules. An optional plug-in module lets you double the size of computer memory. And you can add a line printer, plotter — even a floppy disk system.* Other optional plug-in modules let you customize and enhance your HP-85 with powerful capabilities like matrix math and advanced programming.*
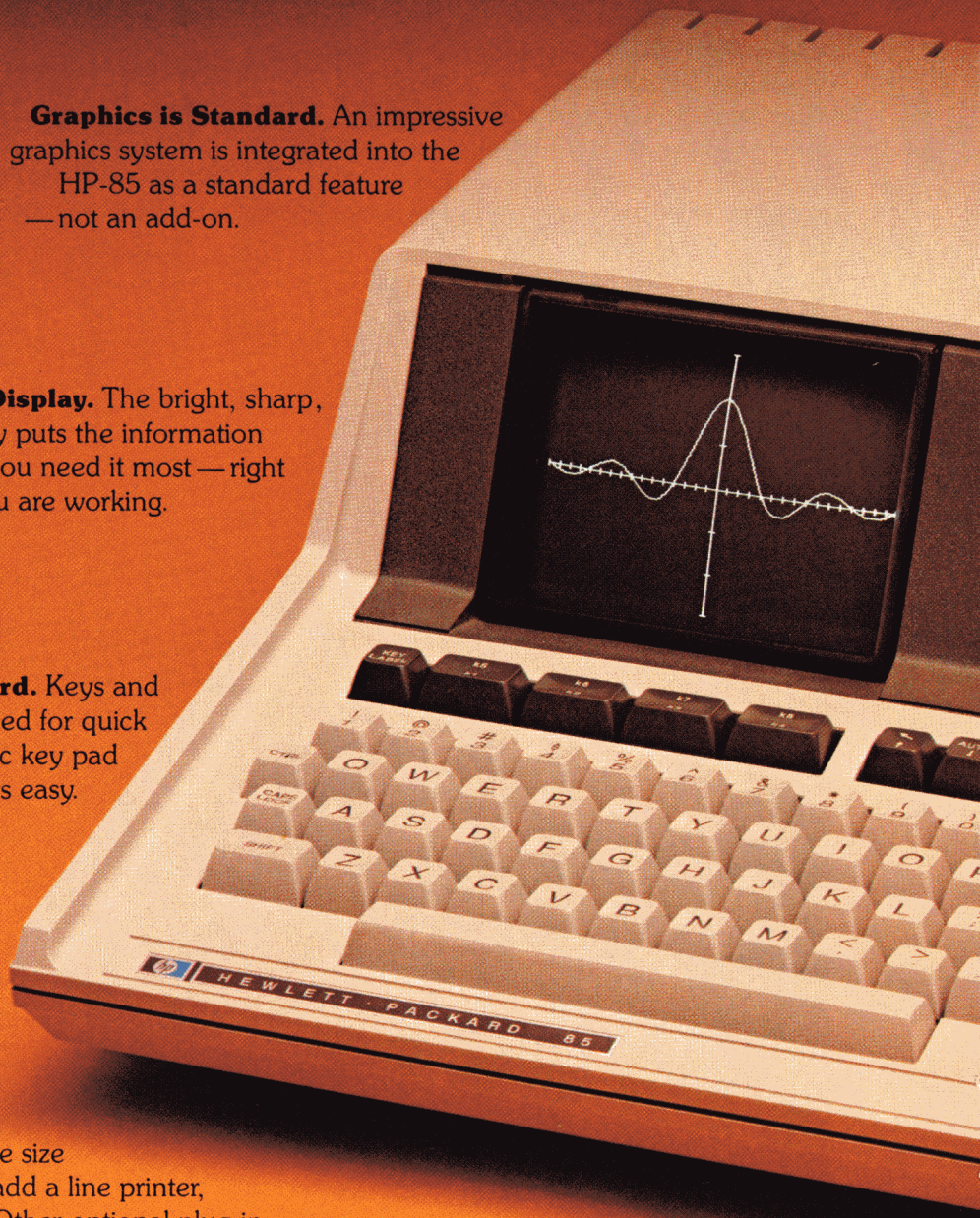
*Contact your local dealer or sales representative for availability information.

Computer for Professionals.

tem in one small package.
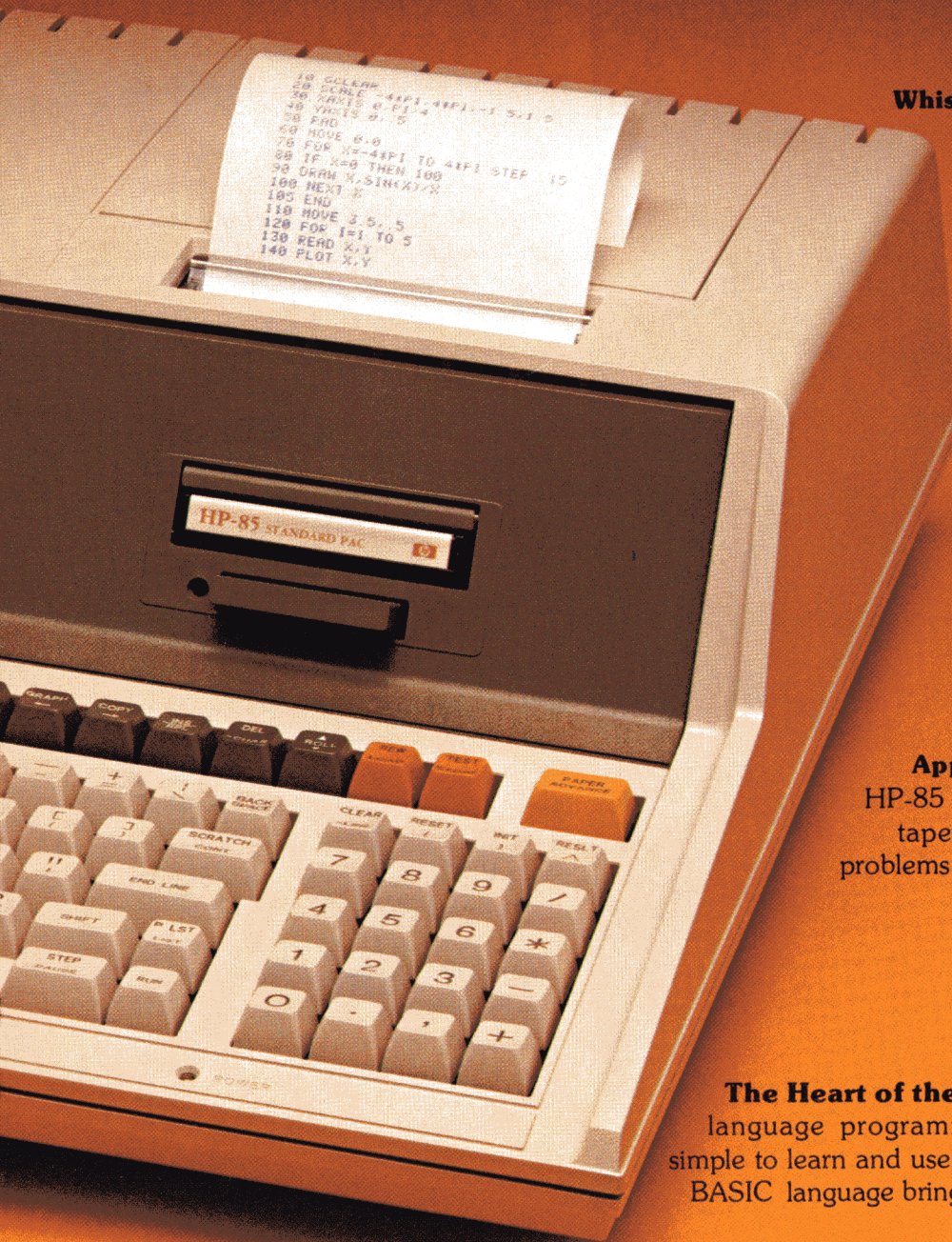
Whisper-Quiet Printer. Another advanced capability built into the HP-85. The bidirectional thermal printer is fast and convenient. You can print the contents of the display at any time with a single command.

Magnetic Tape Cartridges for Storage. Permanently store your programs and data on high-capacity magnetic tape cartridges.

Application Pacs. Customize your HP-85 with prerecorded magnetic tape cartridges. Each one solves problems in a specific discipline.

The Heart of the System. BASIC language programming—powerful yet simple to learn and use. The expanded HP-85 BASIC language brings your problems down to size.

Sophisticated Computing Power at Your Fingertips.

The entire HP-85 operating system and BASIC language, including the advanced graphics system, are permanently stored in the HP-85. This means that the power and capabilities of the HP-85 are always ready to use.

Advanced graphics provides built-in power.

Graphics helps you turn voluminous and difficult-to-analyze data into meaningful output. With the powerful HP-85 graphics statements, you can draw graphs and plots that clarify your program outputs.

Special user-defined graphics operations give you complete control over every dot on the display. Draw logos, symbols, designs, diagrams, curves, lines—any display you wish.

This display shows just how versatile and sophisticated the HP-85 graphics system can be. The staffs, clef marks, notes and rest marks were all drawn with the user-definable graphics operations.

You can take advantage of the graphics power and precision with ease. Because the 16 graphics statements are integrated into the HP-85's BASIC language, you can draw graphs, label axes, plot data, and control the graphics display either from the keyboard or in programs.

The graphics commands allow you to specify the parameters that fit your specific needs. Like the SCALE statement, that allows you to stretch or shrink the X and Y axes independently. You can even input from the keyboard while the HP-85 is in graphics mode, allowing you to enter data or adjust the graphics display until it is exactly the way you want it. Then with a single command, you can copy the graphics display onto the printer.

Extended BASIC is the key to the HP-85's capability.

Hewlett-Packard chose BASIC for the HP-85 to keep the system simple to use, yet powerful. You can learn to use the HP-85 quickly and begin solving your problems immediately.

The HP-85 BASIC language exceeds the standards set down by the American National Standards Institute (ANSI). This extended BASIC language has been enhanced with some powerful features. Such as the unique software security system that allows you to protect your data and program files from listing, editing, duplication, overwriting, or even appearing in the catalog.

Other powerful operations include CHAIN and COMMON. They allow you to write programs of unlimited size by breaking them into smaller parts. CHAIN automatically locates, loads, and transfers variables specified by the COMMON statement, and then the new program segment is executed automatically.

The PRINT USING/IMAGE statements give you total control over print and display formats, allowing you to generate output formats for dollars and cents, tabular columns, titles, and headings.

The HP-85 gives you capabilities you would expect in a large computer system. And a few capabilities that you will have trouble finding anywhere else. Here are some examples:

- High data precision and range allows for extreme accuracy. "Full" precision gives you a 12 digit mantissa, and a 3 digit exponent up to ±499. "Short" precision gives you five digits of mantissa with a two digit exponent up to ±99. Integers can be from 0 to ±99 999.

- Flexible string commands provide alphanumeric text capability.
- The internal clock and three programmable timers allow your programs to time events such as data input or to control instrument sample rates.
- Eight Special Function Keys can be defined to interrupt execution or direct program flow.
- Several statements can be joined on a single line allowing you to conserve program memory.
- The programmable beep operation with distinct, variable-duration tones can be used to signal completion of a subroutine, prompt for input, or highlight output.

With the HP-85 you can perform most of the keyboard operations available on advanced calculators. This "calculator" mode allows you to execute nearly any BASIC statement from the keyboard, rather than in a program. You can type in multiple-statement lines that perform powerful operations, outside of programs.
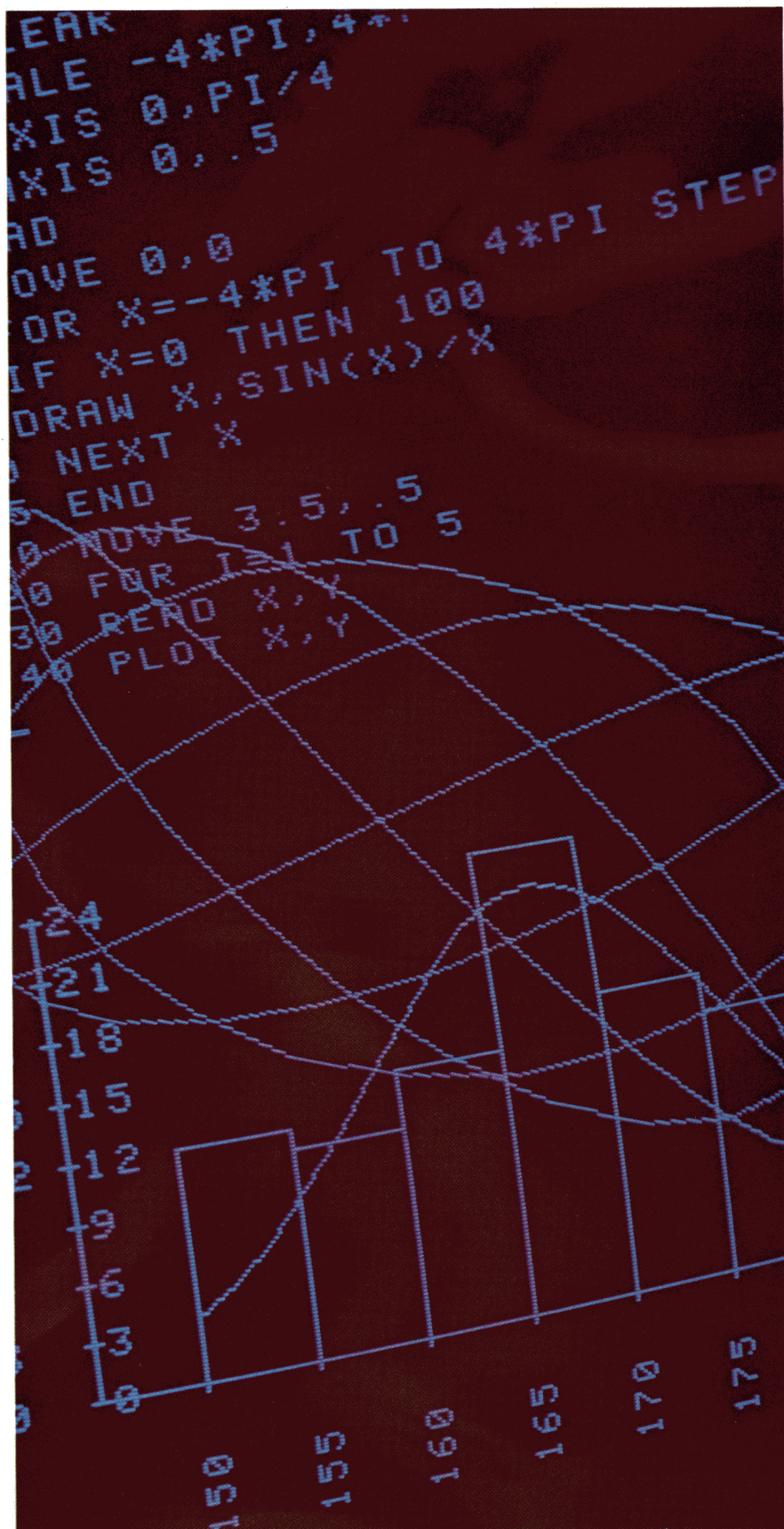
Designed for Today and Tomorrow.

A system you can depend on.

Hewlett-Packard's expertise in computers and calculators is what made the integration of the HP-85 possible. Because all of the internal parts were made to work together and complement each other, the whole system is extremely reliable and efficient. At assembly, each part is individually tested, and then the completed unit is thoroughly tested. The stringent quality assurance standards set up by Hewlett-Packard assure you that even the smallest parts of the HP-85 and all of its options and peripherals are of high quality and reliability.

The HP-85 is the newest and most economical member of Hewlett-Packard's family of powerful BASIC language computers. The family now has seven members ranging from the HP-85 to the HP 3000.

Customize the HP-85 to match your changing needs.

If you need more computer memory than is available in the standard HP-85, simply plug in an optional 16K Memory Module to double the capacity of the HP-85's memory.

Putting together a customized system is simple with the HP-85. Special ROMs* give the HP-85 additional power and capability, such as matrix math. And when your HP-85 has peripherals* like the flexible disc system, printer, and plotter, special ROMs provide all of the commands and capabilities that make the peripherals as easy to use as the HP-85.

To further customize your system, four plug-in interface modules* (HP-IB, RS-232, GP-IO, and BCD) will connect your HP-85 to a wide variety of peripherals as well as make the HP-85 an excellent low-cost instrument controller.

Peripherals* expand the system's capability.

When your application requires repeated on-line data storage or quick access to many large programs, a Hewlett-Packard disc system is appropriate for your HP-85. The discs will give you high-speed on-line storage capacity using removable flexible discs.

You can get exceptionally high quality plots when you add a Hewlett-Packard plotter to your system. The HP-85 will interface with the HP 7225A plotter to give the system excellent graphics capabilities.

And when your application requires a full-size, high-speed line printer, add the HP 2631A printer. It's a bidirectional impact printer that prints 180 characters per second on inexpensive computer paper or custom multipart forms.

Application pacs provide preprogrammed solutions.

Preprogrammed solutions to special problems help you customize your HP-85. The application pacs come on prerecorded magnetic tape cartridges and are available for a variety of applications including statistics, math, finance, circuit analysis, and waveform analysis. There are even pacs for text editing, games, BASIC training, and linear programming—more pacs in other areas are now being developed. Each pac contains professionally prepared and thoroughly tested programs and systems that provide the solutions you need. Check with your local dealer or sales representative for a complete list of all currently available application pacs.

*Contact your local dealer or sales representative for availability information.

Specifications

Total Read/Write Memory

Standard . . . . . 16K bytes
Optional . . . . . 32K bytes

Tape Cartridge

Access . . . . File by name
Typical capacity 200K bytes
Search speed . 152cm (60 in.)/s
Read/Write
speed . . . . 25.4cm (10 in.)/s
Rewind time . . 29 s

CRT

Size (diagonal) 12.7cm (5 in.)
Capacity . . . . . 32 characters x 16
                   lines
Graphics . . . . . 256 × 192-dot
                   plotting area

Thermal Printer

Line width . . . . 32 characters
Graphics . . . . . Dot-for-dot
                   reproduction of
                   CRT image

Interface

HP-IB . . . . IEEE 488-1978
Bit serial RS-232C
BCD . . . . Binary Coded
                   Decimal
General
purpose . . . . . . 16-bit parallel

Size and Weight

Height . . . . 15.9cm (6.3 in.)
Width . . . . 41.9cm (16.5 in.)
Depth . . . . 45.2cm (17.8 in.)
Weight . . . . 9.06kg (20 lb.)

For assistance call the HP regional office nearest you: Eastern 301 / 258-2000, Western 213 / 877-1282, Midwest 312 / 255-9800, Southern 404 / 955-1500, Canadian 416 / 678-9430. Ask for an HP Desktop Computer representative. Or write to Hewlett-Packard, 3404 East Harmony Road, Fort Collins, Colorado 80525.

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