

Heathkit®

**SENSATIONAL SPRING/SUMMER
STEREO RECEIVER/SPEAKER SALE!**
SAVE UP TO \$290—See page 32 in the catalog!

SEE THE NEWEST IN KITS

Dual-Drive Floppy Disk
System for the
H89 Computer — page 74

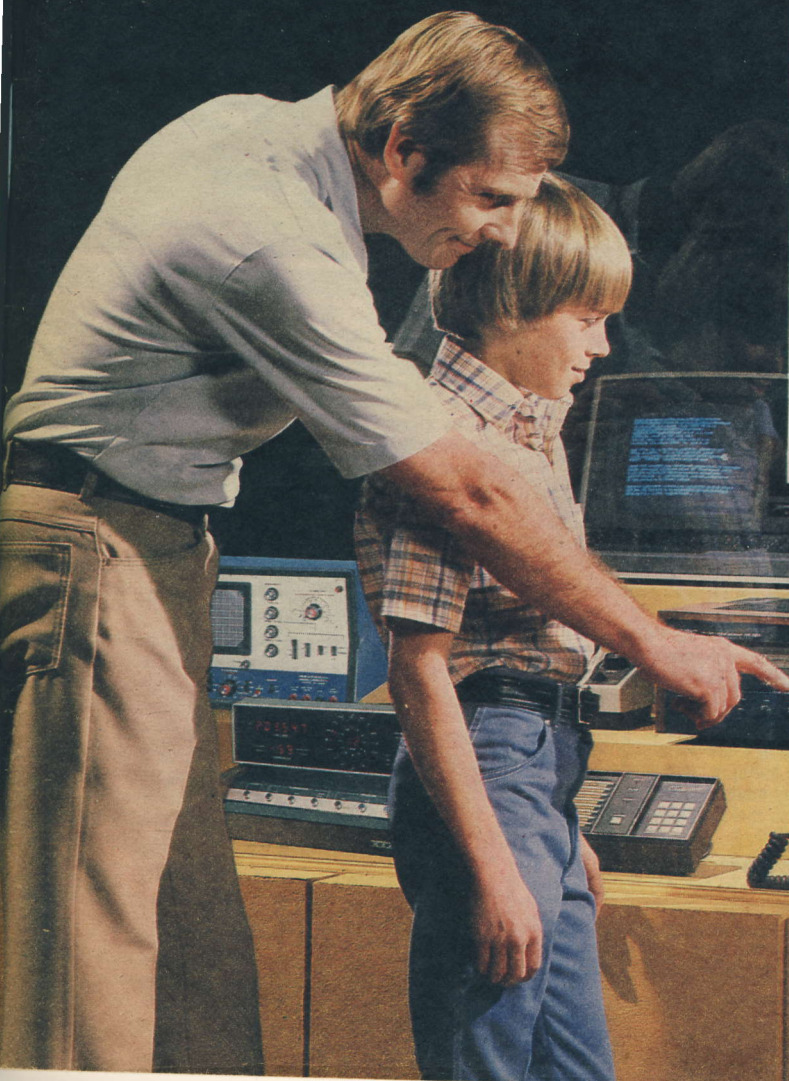
Letter Quality Printer for
top-quality computer-
generated paperwork —
page 81

2-Meter FM Digital Scanning
Transceiver, Power Supply
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Automotive Ignition Tune-Up
Self-Instruction Program
helps you do it yourself
and save — page 49

Value-packed Strip Chart
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RETAIL CATALOG 849R



Heathkit Computer Systems put you in control



**H8 8-Bit
Personal
Computer**

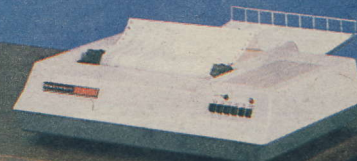


**H89 All-In-
One Computer
with Floppy
Disk Storage**



**H19 Smart
Video Terminal**

**H14 Hard Copy
Line Printer**



Save 5% when
you buy a system!

**H27 Floppy Disk System
for the H11A Computer**

**Powerful H11A 16-Bit
Personal Computer**

The world's leader in quality electronic kits leads the way in personal computers and computer systems that give you more value and features while saving you money

For over 30 years, Heath Company has been at the forefront of consumer electronics, most recently in computers. Since introducing the first personal computer in 1957, Heath has continued to develop one of the most complete and innovative lines of personal computers and computer systems anywhere! Whether you purchase Heathkit computer products in economical, easy-to-build kits or as fully assembled units, you get more value for your computer dollar!

- Three computer families to fill any need
- Video terminals and hard copy printers
- Floppy disk memory storage systems
- Operating and applications software
- Memory and interfacing to make your computer more versatile
- A complete line of quality peripherals
- Thorough and accurate Heath Documentation
- Complete nationwide service support

Three very different computers for very different people

Heath designs computers for people, and because people want very different things from computers, Heath has designed three different computers.

For convenience — the All-In-One H89. If you want a complete, balanced computer system in one convenient package, the H89 All-In-One Computer is your choice. It includes computer, terminal, floppy, 16K RAM, keyboard and keypad. Just add software and you're ready to run (See next page).

For flexibility — the H8. If you enjoy the ins and outs of computers, the H8 is your choice. With seven plug-in board positions for memory and I/O, you have the flexibility to design your own system (See page 76).

For power — the 16-bit H11A. If you're an advanced computerite ready to step up to the big power needed to run your complex programs, the H11A is your choice. It features 16-bit power plus seven plug-in board positions for memory and I/O (See page 78).

Value-packed Heathkit software includes programs written for MICRO-SOFT™ BASIC and Assembly languages for home and business applications. Our complete software line can help you write your own programs easily. And we won't let your disk-based Heathkit software go out of date—for one year after purchase, we'll send you, free of charge, any changes (see page 82).



Heath documentation is the best in the computer industry. If you want to build a Heathkit Computer System yourself, it is made easy with complete, easy-to-follow assembly manuals which take you, step-by-step, from unpacking to plugging it in. You'll understand your computer from the inside out. And in both kit and assembled forms, Heathkit operating and instructional manuals are fully detailed and thorough. When it comes to documentation, you'll begin to realize the full value of a Heathkit computer.

Complete Heathkit service support.

Technical expertise, advice and service for your Heathkit Computer System is always available! Experts at the Heath factory or at the 55 Heathkit Electronic Centers nationwide can help you keep your computer system working right. That's an important advantage of buying from a company with 30 years' experience.



5% System Discount: When you buy the H8, H88, H89 or H11A computer, one major peripheral and any I/O devices and accessories you need to complete your computer system, you can deduct 5 percent from the total price (excluding shipping and handling charges).

The All-In-One Computer: everything in one compact unit

Get professional features and power in a compact, low-priced computer

\$1695⁰⁰

The features that will work for you

- Heavy-duty professional keyboard
- Numeric keypad in calculator format
- Smart video terminal
- Two Z-80 microprocessors
- 16K RAM, expandable to 48K
- Built-in floppy disk storage
- Easy-to-read 12" CRT



Two independent Z80 microprocessors enable terminal and computer to act independently. CPU is completely wired and tested.

Two-port serial I/O interface hooks up to time-share systems and printers. H89 includes cassette interface.

Your All-In-One Computer includes built-in floppy disk storage.

To add memory simply plug ICs into sockets. No soldering necessary.

Numeric keypad in calculator format permits faster, easier arithmetic entries.

High-resolution CRT with P4 phosphor produces sharp, clear images.

Video screen displays 1,920 easy-on-the-eyes characters at one time.

Professional electronic keyboard features eight user-function keys.

Rugged structural foam cabinet protects your All-In-One Computer.

This 8-bit computer features keyboard-selectable baud rates up to 9,600, direct cursor addressing. Shifted functions give cursor control for insertions, deletions. Upper and lower case letters are formed by a 5 x 7 dot matrix in 24 lines by 80 character format (with special non-scrolling 25th line). Lower case letters with descenders use 5 x 9 matrix. Also has 33 line graphics characters using 8 x 10 matrix. Has 16K RAM, expandable to 48K. Built-in memory diagnostics. All communications EIA RS-232 Standard. Built-in single-drive floppy disk system. Each 5¼" diskette stores 100K bytes. Requires HDOS or equivalent systems software for normal operation.

H89 All-In-One Computer, with floppy disk system. Includes H88-5 Audio Cassette Interface.

Kit H89, Shpg. wt. 86 lbs. \$1695.00

WH89-CA Completely Assembled All-In-One Computer, with floppy disk system, 48K memory, serial I/O. Does not include H88-5 Audio Cassette Interface.

WH89-CA, Shpg. wt. 54 lbs., Mtr. Frt. \$2895.00

SPECIFICATIONS: Processor: Z-80. Clock: 2,048 mHz. Memory: 16K bytes user RAM (expandable to 48K). Video Terminal: High-resolution CRT with P4 phosphor. Keyboard: 80 keys, typewriter format, with numeric keypad in calculator format. Cursor: Blinking, non-destructive underline or block. Cursor Controls: Up, down, left, right, home, CR, LF, back space and tab. Cursor Addressing: Relative and direct. Tab: Standard eight-column tab. Refresh Rate: 60 Hz at 60 Hz line frequency, 50 Hz at 50 Hz line frequency. Edit Functions: Insert and delete character or line. Erase Functions: Erase from beginning of line, erase to end of line, erase from beginning of page, erase to end of page, erase line and erase page. Power Requirement: 120/240 VAC, 50/100 Hz at 90 W. max. Dimensions: 13" H x 17" W x 20" D.

Shown with optional second drive



NEW

\$595⁰⁰

More floppy disk capability for the All-In-One Computer

- Give your All-In-One Computer two or three-drive capability
- Additional data storage capacity, easier copying of programs

Designed especially for the Heathkit All-In-One Computer, the H77 Floppy Disk System gives you all the storage and programming capacity you need for most applications. When you use the H77 Floppy Disk with your All-In-One Computer, you have room for up to three disk drives. You can run your operating system and program disks at the same time to get instant access to programs and data.

Floppy disk storage is far more versatile and reliable than paper tape or cassette storage systems. You'll be able to load programs in seconds, access and update data fast. And because the H77 Floppy Disk is designed with the All-In-One Computer in mind, you'll have a harmonious computer system.

The storage media for the H77 is the standard, hard-sectored 40-track diskette. Each track has ten sectors, capable of storing 256 bytes of data each.

Measuring just 5.25 inches in diameter, each oxide-coated floppy disk offers access to 100K bytes of program and data storage area.

- Each disk drive installs vertically to take up less space
- Easy kit assembly — disk drive is fully assembled and tested

For two-drive capability (200K bytes) on the H89, buy the H77, which includes one drive in a dual-drive housing. When you connect your finished H77 to the H89, you'll be ready to run on two. And the H77 comes with a diskette storage box which goes into the second drive housing, so your system looks neat and efficient.

For three-drive capability (300K bytes) on the H89, buy the H77 and the optional H17-1 Second Drive (page 77). Add the H17-1 to your H77 — and you're ready to run on three disk drives.

If you want instant three-drive capability, the factory assembled and tested WH87, which includes two drives in the dual-drive housing, factory assembled and tested, can be used in place of the H77/H17-1.

For two-drive capability on the H88, purchase the H77 and the H88-4 Drive (opposite page). The H88-4 includes required interface. Add the H88-4 to the H88 housing and you're ready to run on two.

For three-drive capability on the H88, purchase the H8-4 Drive and add it to your H88 console. Then add either the H77/H17-1 combination or the WH87.

You'll have immediate access to more data — any time you want it.

Expand the capability of your All-In-One Computer System today — with the H77/WH87 System.

Kit H77, with 1 drive, 23 lbs. \$595.00

Assembled Dual-Drive Floppy, with 2 drives.

Requires H88-6 for installation.

WH87, Shpg. wt. 28 lbs. \$1195.00

H88-6 Modification Kit. Required for WH87 installation. Not required for H77.

H88-6, Shpg. wt. 5 lbs. \$50.00

H77/WH87 SPECIFICATIONS: Number of Tracks per Diskette: 40. Number of Sectors per Track: 10. Formatted Bytes per Sector: 256. Spindle Motor Speed: 300 rpm, ± 1 percent. Data Transfer Rate: 128 kiloHertz. Motor Start Time: 1 second. Operating Temperature Range: 32°F to 104°F (0°C to 40°C). Power Requirement: 120/240 VAC, 50/60 Hz, 75 watts. Dimensions: 6 1/8" H x 13 1/4" W x 13 1/4" D (15.6 cm H x 33.7 cm W x 33.7 cm D). Net Weight: 25.25 lbs. (11.45 kg).

Get much more computer-and save with the All-In-One

Heath builds so much computing power and so many features in one computer for this low price:

Only **\$1695⁰⁰** for H89

Are you looking for all the computing power and built-in peripherals you need, in one compact desk-top computer — but your computer budget doesn't allow for extravagance? Make the Heathkit All-In-One Computer your choice. The All-In-One has the power, built-in peripherals and convenience features you need, for less than you think — little more than "bare-bones" models.

This easy-to-program, easy-to-operate 8-bit computer features extra power. The computer and terminal both have their own separate Z80 microprocessors, so the computer never has to share processing power with the terminal. This means the Heathkit All-In-One Computer can perform a variety of high-speed functions — which makes the All-In-One more versatile than most other desk-top computers and computer systems.

A 12-inch (diagonal measurement) cathode-ray tube monitor combines extremely wide bandwidth with outstanding resolution for a brighter, clearer read-out. Special P4 phosphor helps the CRT display crisper, sharper, easier-to-read characters. Upper and lower case letters are formed by a 5 x 7 dot matrix, while lower case letters with descenders use a 5 x 9 dot matrix format.

This professional video terminal displays information in the format of 24 lines by 80 characters per line. That means the CRT can display up to 1,920 easy-on-the-eyes characters at any one time. The terminal

- A real computer value — more versatility for little more than basic models
- Heavy-duty professional keyboard
- Numeric keypad in calculator format
- Professional video terminal
- Easy-to-read 12" CRT

• Kit versions include audio cassette interface

also features a special-purpose, non-scrolling 25th line, which is software-controlled. Characters on the CRT screen are approximately 0.2" high by 0.1" wide. The All-In-One's heavy-duty professional keyboard, designed in typewriter format, can control all video terminal functions. The keyboard prints the entire 28-character ASCII set, including both upper and lower case letters. The All-In-One's keyboard also features 33 special graphics symbols, part of the 128-character set — and eight user-function keys, to give you an extra measure of flexibility.

You can select baud rates of up to 9,600 through the keyboard. Direct cursor addressing lets you insert or delete characters anywhere on the screen. And the terminal's 32 separate functions, including the line graphics characters, can all be controlled from the keyboard or the computer. And reverse video lets you emphasize any portion of the screen by reversing white on black.

Designed in calculator format, the 12-key numeric keypad makes entering arithmetic programs faster and easier than before. Shifted functions give you cursor control to make insertions or deletions.

The Heathkit All-In-One Computer comes with more memory power. 16K of random access memory (RAM) is supplied with the All-In-One. And memory diagnostics are built-in to make memory checks easier and faster.

You can expand the All-In-One Computer to meet your

- Two Z-80 microprocessors — one for computer, one for video terminal
- 16K random access memory, expandable to 48K
- Built-in floppy disk storage
- Rugged construction

specific needs. The Heathkit All-In-One will accept up to a total of 48K random access memory (RAM). To add memory, all you need to do is plug integrated circuits into sockets. No soldering is necessary.

The built-in floppy disk system makes this a true All-In-One Computer, giving you tremendous storage capacity for programs and data. Each 5¼-inch standard, hard-sectored 40-track diskette stores up to 100K bytes of data and information. The diskettes are easier to handle — and load — than paper tape or cassette systems.

The WANGCO/Siemens 82 single-drive system is a proven system which gives you accurate, instant access to data. You'll be able to load programs in seconds, access and update data fast. And the floppy disk drive is factory assembled and tested for easier kitbuilding.

If you need even more data storage, buy the H77 Floppy Disk System (at left). Designed with the All-In-One Computer in mind, the H77 (with appropriate accessories) can give your All-In-One system up to three-drive capability.

You get more flexibility with the All-In-One Computer. An audio cassette interface, standard with kit versions of the All-In-One, lets you communicate with cassette storage systems. And with other accessory interfaces, you can communicate with printers or time-share systems (all with appropriate software). All communication is EIA RS-232.

The All-In-One Computer is built to withstand the toughest working environments, with a tough, rugged structural foam cabinet protecting its circuitry. And a convenient lift-off top gives you easy access to the components and circuitry.

Order your Heathkit All-In-One Computer today. With so much power and so many features built in, this desktop computer brings exceptional value within your reach. Put it to work for you now. Requires HDOS or similar systems software for normal operation.

H89 All-In-One Computer, with floppy disk system. Includes H88-5 Audio Cassette Interface.

Kit H89, Shpg. wt. 86 lbs.1695.00

WH89-CA Completely Assembled All-In-One Computer, with floppy disk system, 48K memory and serial I/O. Does not include Audio Cassette Interface.

WH89-CA, Shpg. wt. 54 lbs.2895.00

H88 All-In-One Computer, without floppy disk system. Includes H88-5 Audio Cassette Interface.

Kit H88, Shpg. wt. 59 lbs.1350.00

Accessories and software for more versatility from your All-In-One

Cassette Systems Software for the All-In-One Computer. Includes extended Benton Harbor BASIC,™ an easy-to-learn-and-use conversational language which uses simple English statements and algebraic equations; Assembly (HASL-8), a language which assembles source code and produces object code, utilizing all the standard 8080 mnemonics, extended mnemonics and numerous pseudo-instructions; Text Editor (TED-8), used primarily to prepare source code that can be assembled using the HASL-8 Assembly Language above, but can also be useful for letter writing, manuscript editing and preparation of newsletters; and a Console Debugger (BUG-8), which you can use to load, execute and debug machine language programs in your computer.

H88-18, Shpg. wt. 5 lbs.30.00

Systems Software for the All-In-One's Floppy Disk System. Includes a diskette containing extended Benton Harbor BASIC; a two-pass absolute 8080 assembler; a text editor to prepare source code; a full set of disk utility programs for convenient file manipulation and a console debugger. Dynamic File Allocation eliminates time-consuming disk-compacting. Supplied on standard diskette.

H89-17, Shpg. wt. 5 lbs.150.00

Popular MICROSOFT™ BASIC Computer Language. Direct access to CPU ports and memory locations, more highly-structured programming, string processing, double precision math and more. Requires floppy and 32K min. memory (48K recommended).

H8-21, Shpg. wt. 3 lbs.150.00

16K Random Access Memory Expansion Chip Set.

H88-2, Shpg. wt. 1 lb.150.00

Two-Port Serial I/O Interface Accessory.

H88-3, Shpg. wt. 2 lb.100.00

Cassette Interface for WH89-CS All-In-One Computer.

H88-5, Shpg. wt. 2 lbs.75.00

NEW! Three-Port Serial I/O Interface for use with the Heathkit All-In-One Computer. Lets the All-In-One Computer communicate with the H14 Line Printer, time-share systems or any other serial peripheral (with appropriate software). Three serial ports support a Standard RS-232C interface.

HA88-3, Shpg. wt. 3 lbs.85.00

H88 SPECIFICATIONS: Clock: 2.048 MHz. Cursor: Blinking, non-destructive underline or block. Cursor Controls: Up, down, left, right, home, CR, LF, back space and tab. Cursor Addressing: Relative and direct. Tab: Standard eight-column tab. Refresh Rate: 60 Hz at 60 Hz line frequency; 50 Hz at 50 Hz line frequency. Edit Functions: Insert and delete character or line. Erase Functions: Erase from beginning of line, erase to end of line, erase from beginning of page, erase to end of page, erase line and erase page. Power Requirement: 120/240 VAC, 50/60 Hz. Dimensions: 13" H x 17" W x 20" D.

Heathkit H8 Personal Computer gives you plug-in



8080A-based computer with front keyboard, digital readout and 7 plug-in board positions

- Built-in ROM monitor controls front panel program
- Heavy-duty power supply handles to 65K memory
- Get both hardware and software support from the same reputable source

The Heathkit H8 — the computer that grows as you grow. You get the flexibility to design your computer system just the way you want it. With seven positions for plug-in modules, you can put together any combination of memory and I/Os. Our large selection of H8 peripherals, accessories and software give you unmatched versatility.

Novices can use the H8 as a computer trainer by adding 4K of memory. The 16-key front panel keyboard provides octal data entry, direct access to registers and memory, one-button program load and dump, and input/output keys to directly communicate with any port. And you can directly monitor program activity with the H8's nine-digit octal readout, which provides much more information than conventional computers.

The features we pack into the H8 Computer mean more value to you. A heavy-

duty power supply lets the H8 handle up to 65K of memory (including I/O), while convection cooling means no fan is needed to prevent overheating.

The CPU board, including the 8080A chip, clock, systems controller and ROM monitor, is fully assembled, wired and tested for easier kit assembly and faster system setup. An exclusive Heath-designed 50-pin fully-buffered bus gives you more room for memory and I/Os. The H8's built-in speaker gives you audible feedback and special effects. Front panel status lights keep you up to date on your computer's status. With all these features and more, the Heathkit H8 Computer is an excellent choice to be the heart of your computer system.

When you add more memory, interfaces and peripherals, your H8 System can become even more powerful and versatile. You'll be able to write more highly sophisticated, higher-level programs. The optional H17 Floppy Disk System gives you even greater storage capacity, and the capability to load programs and update files instantly.

The unique flexibility of the H8 means you can design an H8 Computer System from a vast selection of peripherals and accessories — including additional memory, cassette data storage, CRT terminals, hard copy printers and an acoustic modem — to meet your unique computing needs. And because the H8 is based on the popular 8080A CPU, the amount of existing software makes your system immediately practical.

Design your own H8 Computer System

With seven plug-in board positions for memory and input/output devices, your Heathkit H8 Computer System can grow as your needs grow. Some of your options are described on the chart below. Each box represents a plug-in module.

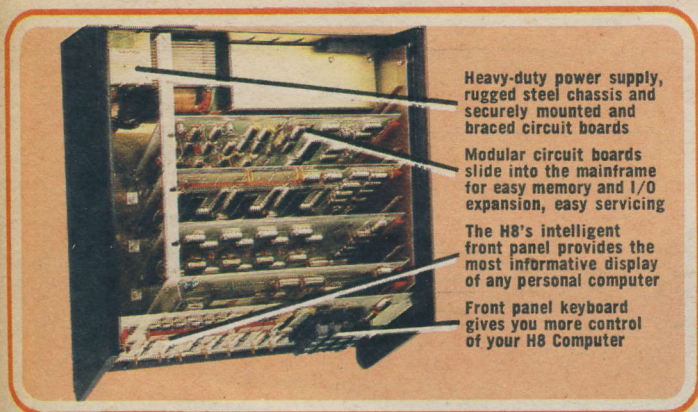
Memory		16K WH8-16	
Mass Storage	Cassette ECP-3801A	Floppy with controller H17	
Interface	Serial/ Cassette 1-port H8-5	Serial 4-port H8-4	Parallel 3-port H8-2
Peripherals	Terminal H9, H19	Printers H14, WH34, H36	Modem WH-13

Or save with one of our complete H8 Systems

HKS82 Advanced H8 System. A powerful, versatile H8 System for the advanced computerite. Includes H8 Computer, H8-4 Four-Port Serial I/O to interface with line printers, WH8-16 16K Wired Memory Board for more computing power, H17 Floppy Disk System for more program and data storage capabilities, H19 CRT Terminal and H8-17 HDOS Operating Software. \$2239.00 if purchased separately. **Save \$244.00** when you buy the system. HKS82, Shpg. wt. 143 lbs. **1995.00**

WHS83 Assembled Advanced System. Includes WH8 Assembled Computer, WH8-4 Assembled Four-Port Serial I/O, WH8-16 16K Wired Memory Board, WH17 Assembled Floppy Disk System and H8-17 HDOS Operating Software. If purchased separately, \$1789.00. **Save \$194.00** when you buy the system. WHS83, Shpg. wt. 81 lbs. **1595.00**

flexibility at an affordable price—and floppy disk capability



Heavy-duty power supply, rugged steel chassis and securely mounted and braced circuit boards

Modular circuit boards slide into the mainframe for easy memory and I/O expansion, easy servicing

The H8's intelligent front panel provides the most informative display of any personal computer

Front panel keyboard gives you more control of your H8 Computer

Use the H8 as the heart of your computer system

- When you buy the Heathkit H8 Computer, you get the flexibility and versatility you need to really personalize your computer system — at a price that fits your budget. Whether you buy one of our complete systems or design your own, you can build an H8 System to suit your needs.

Memory and I/O accessories are offered separately from the computer itself, so you have complete freedom to assemble a computer system that meets your specific computing needs. To build a complete system using the H8 you'll need both memory and interface accessory cards. The type and number of memory and interface accessories you'll need will be determined by your application.

The H8's optional software is supplied in 1200 baud audio cassette or diskette forms to help get you up and running faster. You can begin communicating with the H8 right away, with Benton Harbor, BASIC, the HASL-8 2-pass absolute assembler, the TED-8 line-oriented text editor and the BUG-8 terminal console debugging program. For complete details on H8 software, see page 82. When you buy an H8 Computer, you'll also be eligible for membership in HUG, the Heath Users' Group, which maintains a growing program library. Details on page 84.

The value-priced H8 is housed in a heavy-duty metal cabinet with modern, high-impact structural foam side panels. Operates on switch-selected 120/240 VAC, 50/60 Hz. Dimensions, 6½" H x 16¼" W x 17" D. Requires at least 4K of memory to operate. (See page 83).

Kit H8, Shpg. wt. 31 lbs. **299.95**

Factory Assembled and Tested H8 Computer.

WH8, Shpg. wt. 30 lbs. **399.00**

Examine the manuals before you buy. Here's your chance to look before you buy, and with no risk. The HM800 Manual Set includes complete assembly and operations manuals for the H8 Computer, H8-4 Interface, H14 Printer, WH8-16 Memory Board, and H19 CRT. When you order the H8 Computer, deduct \$25.00 from the purchase price (not including shipping and handling charges).

HM800, Shpg. wt. 13 lbs. **30.00**

NOTE: Individual product manuals are included with each kit.



H17 Floppy Disk makes your H8 System ever more versatile

- You get vast storage and programming capacity, instant access to any program and easy loading with the H17 Floppy Disk System. You'll really see the power of your computer once you add a floppy disk system. And with the optional second drive, you can profit from added dual-drive versatility and capacity.

The H17 Floppy Disk System gives you the storage and programming capacity you need to load programs instantly. Store hundreds of programs on a single disk and have immediate access to any one of them, anytime you need it. And you can update your data instantly. The H17 makes your H8 Computer System a "total versatility" system.

Designed exclusively for use with the H8, the H17 stores up to 100K bytes of data on a standard, hard-sectored 40-track diskette which measures just 5¼" in diameter. The disks are easier to handle — and easier to load — than paper tape or cassettes.

The H17 uses the famous WANGCO/SIEMENS 82 single drive system, a performance-proven disk drive which provides accurate high-speed access to data. The WANGCO/SIEMENS 82 drive performs much better than most equivalent competitive drive systems. And it's supplied fully assembled and tested for the H17.

To get even more data and program storage area, add the optional H17-1 Second Drive and make your H17 a versatile dual-drive floppy disk system.

To use the H17 effectively, you need at least 16K RAM for the H8 and the H8-17 Operating Systems Software (see p. 82). A single blank diskette is included.

Kit H17, Shpg. wt. 28 lbs. **575.00**

WH17, Factory assembled and tested H17. Shpg. wt. 28 lbs. **645.00**

Optional Second Drive. Adds dual-drive versatility to the H17. Get a total of 200K bytes of available data and program storage area.

H17-1, Shpg. wt. 5 lbs. **345.00**

SAVE \$5. Package of 5 Blank Diskettes for use with the H17 Floppy Disk System. H17-2, Shpg. wt. 1 lb. **Was \$25, Now Only 20.00**

H17 Floppy Disk Operating Software gets you running fast

- Get your floppy disk system up and running fast with specially engineered systems software — loaded with convenience features

The Operating Systems Software for the H17 Floppy Disk System includes a diskette containing the standard H8 software. This includes Extended Benton Harbor BASIC, a 2-pass absolute assembler, a text editor to prepare source code for BASIC, Assembly and other languages, a console debugger for easy debugging of user machine language programs and a full set of disk utility programs to make file manipulation more convenient for you.

Special features of the operating software include

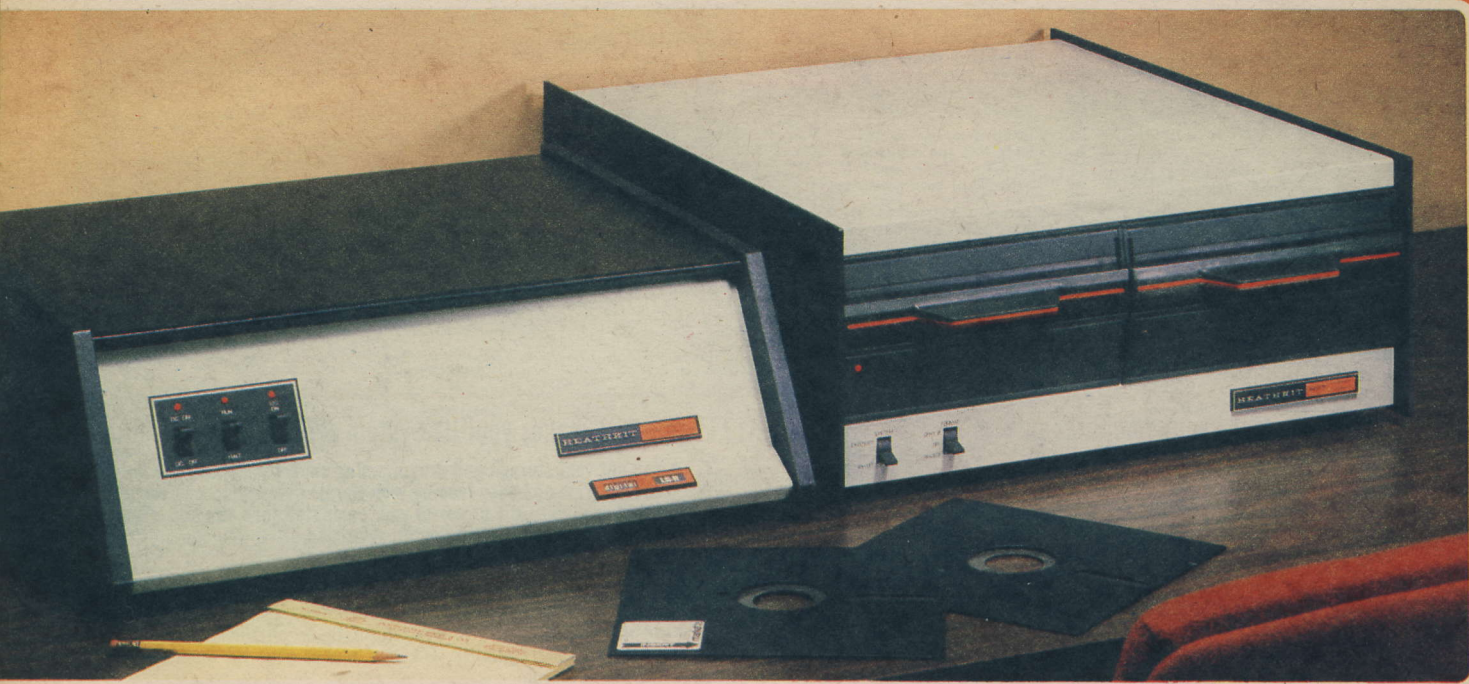
Dynamic File Allocation, which automatically keeps free space available to permit unlimited file size and prevent squeezing of disks. Special facilities support running and backup of single-drive configurations to permit copying and transferring between disks, even with a single-drive system. Device independence permits direct communication between any program and any device. A file utility program allows bulk manipulation of files.

Get the most from your H8 Computer and H17 Floppy Disk System with H8-17 Operating Software. Supplied on a standard diskette.

H8-17, Shpg. wt. 14 lbs. **150.00**



Heathkit H11A Computer brings 16-bit power



The most popular business/science computer on the market is now available at a price you can afford

Designed for the more serious computerite, the Heathkit H11A Computer offers the power and potential you need to implement more sophisticated computing applications. Most computerites find that their problem-solving and programming capabilities grow quickly, and before long, they run out of computing power. The H11A is the computer that meets the demand for superior performance in scientific, educational and small business applications. When you buy the H11A Computer, you get real computing potential.

The H11A gives you all of the power, speed and flexibility you'll ever need in a microcomputer. It uses the same powerful microprocessor and runs all software designed for the DEC® PDP-11/03. You can choose from a vast selection of practical programs to run your home more efficiently, to reduce the clerical costs of your business and to process all types of data more efficiently than before. If you've been around computers and your computing needs require extra power, the H11A Computer is designed for you.

The 16-bit vs. 8-bit issue: Your choice of a 16-bit or 8-bit computer depends

upon your needs. If you're an advanced hobbyist or professional with demanding computing applications, the 16-bit H11 is your best choice. The H11A has adequate computing power, even for the more complex and sophisticated jobs that you will be tackling later. When you buy the H11A, you are purchasing ultimate immediate performance and maximum future potential.

The H11A features the new, physically smaller KD11-HA microcomputer (half-size LSI-11/2). This makes the Heathkit H11A identical to the DEC PDP-11/03, but at a fraction of the cost. This smaller configuration allows you to put more computing power and versatility into the H11A by providing an extra plug-in slot for additional memory or I/O interface.

You get the flexibility to configure the exact computer system you require with the H11A. Seven plug-in slots let you add any combination of I/Os and a maximum of 60K bytes memory. The basic Heathkit H11A Computer is supplied with a handsome cabinet, heavy-duty power supply, and a backplane that includes bus and a fully assembled CPU board. You can add your selection of optional memory and I/O accessories to the mainframe. A wide selection of software is also available. (See pages 82 and 83 for accessories and software to make your H11A Computer System even more versatile. Complete H11A Systems Software for the H27 Floppy Disk System is available below).

Heart of the H11A — the KD11-HA Microcomputer

The KD11-HA 16-bit Microcomputer Module forms the heart of the H11A Computer. It's only half the size of the KD-11F (LSI-11), but you get more flexibility when you configure your H11A System.

There is no on-board memory, so you can match your RAM/ROM requirements to meet your particular needs. And full compatibility with the LSI-11 family means you can combine components from both the LSI-11 and LSI-11/2 families.

Features of the KD11-HA include a PDP-11/34 instruction set, a raw computer speed of 380 nS microcycle time, resident firmware debugging (ODT) and ASCII console routines, as well as single and double operand instructions. The KD11-HA gives you the power and flexibility you need for advanced system configurations.

H11A Operating Systems Software for the

The HT-11 Systems Software lets you immediately enjoy the full benefits of a rapid-access floppy disk system. You get easy-to-use programs, including:

EDIT: A text editor to create or modify files for programs and documentation.

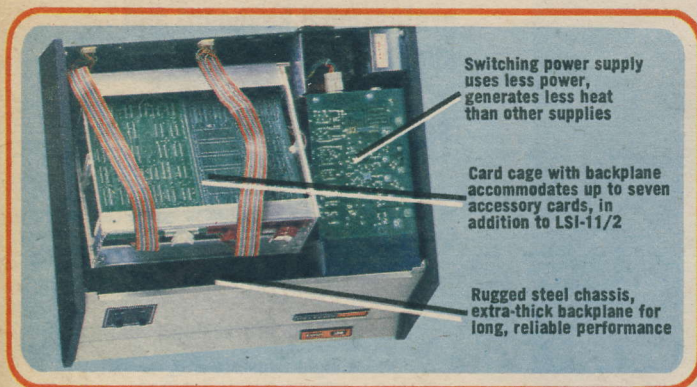
EXPAND, ASMBLE AND CREF: Utility programs for macro-expansion, Assembly Language processing and cross-reference listings. Supports the entire PDP-11 instruction set and several pseudo-operators.

LINKER: Converts object modules produced by the assembler or the FORTRAN compiler into a run time format. Services include relocation of code, linking of global references and the creation of a runnable program file for use by the rest of the system.

LIBRARIAN: Creates and maintains libraries of subroutines for use by the linker.

PIP: The Peripheral Interchange Program is the file maintenance and transfer utility program of the HT-11. It has commands for moving, copying and renaming files, plus other commonly-used file operations.

to the advanced computerite—at an affordable price



Switching power supply uses less power, generates less heat than other supplies

Card cage with backplane accommodates up to seven accessory cards, in addition to LSI-11/2

Rugged steel chassis, extra-thick backplane for long, reliable performance

Get the power and versatility you need in the H11A Computer

- 16-bit computing power with up to 60K words of memory
- DEC® half-size KD11-HA (LSI-11/2) CPU
- Compatible with DEC PDP-11/03
- Plug-in flexibility for memory and I/Os

Learn by building it yourself. What better way is there to know your computer than by building it yourself? The Heathkit H11A Computer lets you understand it better. You can build it yourself and benefit from the knowledge—and the savings. Like all Heathkit designs, the H11A comes with an easy-to-follow assembly manual—and a nationwide network of service centers to help you, should a problem arise. And when you build it yourself, you can also perform more of the service steps yourself, to keep your computer in top operating form.

Whether you buy an H11A Computer System or the computer itself, compare the price of the H11A with comparable 16-bit computers. Buy this extra-powerful Heathkit computer and find out why the combination of advanced design and quality components make the Heathkit H11A Computer one of the best 16-bit computer values anywhere. Compare the price of the H11A with comparable 16-bit computers and you'll agree.

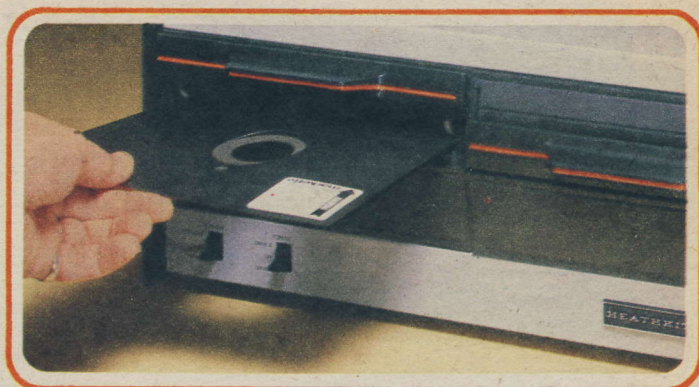
Kit H11A, Shpg. wt. 43 lbs.1295.00

Factory Assembled and Tested H11A Computer.

WH11A, Shpg. wt. 43 lbs.1995.00

SPECIFICATIONS: Central Processing Unit: Uses DEC KD11-HA CPU. Word Length: 16 bits. Instruction Set: PDP-1103. Memory: Directly addresses 32 K. I/O Addressed: 28 K to 32 K. RAM/ROM: 0 to 28 K. Backplane: Eight 2-wide module slots. Power Supply: Overcurrent and overvoltage protected, switching regulator. Internal fan for cooling. Inputs: 120/240 VAC; 60/50 Hz, at 200 watts maximum. Outputs: +5 VDC at 15 amperes maximum and +12 VDC at 3 amperes maximum. Cabinet Dimensions (overall): 6½" H x 19" W x 17" D. (16.5 x 48.3 x 43.2 cm).

DEC, DIGITAL and PDP are registered trademarks of Digital Equipment Corporation.



H27 Floppy Disk gives you instant access to data

- Z80 Microprocessor-based controller
- Full compatibility with DEC RX01® (PDP-11/03)
- Fast head step time of 8 ms
- Dual-drive capability for a total capacity of ½ Meg bytes

The H27 gives you dual-drive versatility, with a total of ½ Meg bytes of program and data storage to give you enough room for most of your general-purpose application needs. The Z80 Micro-controller in the H27 provides an average access time of 252 ms. You'll have virtually immediate access to all your files and programs.

You get full compatibility with DEC® RXV11® (PDP-11/03) hardware and software, to give you the capability of using the hundreds of applications programs written by users of the DEC PDP-11/03, the world's most popular microcomputer. Performance-proven hardware and software base provides outstanding computer power. While compatible with the RX01 system, the H27 gives you more. A built-in self-test diagnostic on power-up protects existing programs on your disks. A mechanical interlock prevents accidental media damage (if the floppy is not seated properly, the door will not close and the H27 will not operate). A write-protect function protects important files and programs from being written over inadvertently. And a reformatting procedure gives you the capability of writing in the IBM 3740 standard format.

A single-board interface/bootstrap uses one backplane slot, leaving more space for memory and I/O additions to your H11A Computer System. The H27 Floppy Disk System measures 8" H x 18" W x 20" D. It operates on 120 or 240 VAC, 60 Hz power. To use the full capabilities of the HT-11 Operating Systems Software, designed for use with the H27 Floppy Disk System, you need at least 16K words of memory.

Kit H27, Shpg. wt. 93 lbs., Motor Freight1995.00

WH27 Dual-Drive Floppy Disk System. Fully assembled and tested

WH27, Shpg. wt. 69 lbs., Motor Freight2595.00

H27-2, Pkg. of 5 Blank Disks. IBM 3740 format. Shpg. wt. 2 lbs.30.00

H27 Floppy Disk System to help you get your computer system operating quickly and efficiently

ODT: The HT-11's On-line Debugging Technique aids in debugging user programs by providing commands to display and alter the state of a running program.

BASIC INTERPRETER: This high-level conversational programming language offers access to the HT-11 I/O system and file structure through the BASIC Language. Extensions to standard BASIC include variable-length strings, sequential files, virtual memory arrays, chaining and overlay capability. A "desk calculator" mode can perform once-only calculations or serve as an aid in debugging.

MISCELLANEOUS PROGRAMS: Dump prints contents of files in any of several useful formats. SRCOM compares two files, prints summary of differences.

The easy-to-use HT-11 Operating System for the H27 Floppy Disk System extends the H11/H11A's capabilities. Minimum requirements include an H11 or H11A Computer with at least 16K words of main memory, a console terminal and interface, and a Heathkit floppy disk drive, controller and interface.

*HT-11 Operating System with BASIC, Shpg. wt. 12 lbs.350.00

FORTRAN for HT-11 System. Binary software features complete ANSI standard 1966 FORTRAN IV with extensions for increased speed. Some of the extensions include: relaxation of statement ordering, use of expressions nearly anywhere, direct access I/O, TYPE ACCEPT and PRINT I/O statements, ENCODE and DECODE statements, END and ERR parameters, random number generator, IMPLICIT statement, more.

*HT-11-1, Shpg. wt. 9 lbs.250.00

*NOTE: The HT-11 Disk Operating System and HT-11-1 FORTRAN are compatible only with the Heath H27 or WH27 Floppy Disk Systems. To obtain this software, the Customer Software Sublicense Grant must be signed and you must include the make, model and serial number of your CPU in the blank provided on page 82 and include the Grant with your order.

See pages 82 and 83 for our full selection of operating applications software



Powerful Heathkit H19 "Smart" Video Terminal for a multitude of high-speed functions

The H19 Video Terminal is a top-of-the-line general-purpose peripheral designed for use with the Heathkit H8 and H11A computers or with any EIA RS-232 Standard interface. Its powerful Z80 microprocessor makes it ideal for high-speed data handling.

The typewriter format lets you start right in programming from the keyboard. The terminal's 32 separate functions can be controlled from keyboard or computer. A 12-key numeric pad in calculator format makes entry of arithmetic programs fast and easy. Baud rates of up to 9,600 are keyboard selectable for easy changes. Eight user-function keys give you an extra measure of flexibility. The H19 prints the entire ASCII character set, including upper and

lower case letters. The print format is 24 lines by 80 characters (with software controlled 25th line). Addressable blinking cursor lets you make corrections or edit anywhere on the screen. Reverse video lets you emphasize any portion of the screen by reversing white on black.

The big 12" diagonal CRT has outstanding resolution for a bright, clear readout. The terminal also displays 33 different graphic characters that can be arranged for a variety of graphic displays and effects.

Kit H19, Shpg. wt. 49 lbs. \$695.00

Factory Assembled and Tested Version of above.

WH19, Shpg. wt. 43 lbs. \$995.00

The Heathkit H19 Smart Terminal features full ASCII set, professional keyboard and super-sharp CRT display

\$695.00 Kit • Z80 microprocessor-based for fast, efficient data handling
• Extremely wide bandwidth monitor for easy-to-read images

- Full professional keyboard in typewriter format
- Prints complete ASCII set including upper and lower case characters, and special graphic symbols

Look at these professional features:

- Eight separate user-definable function keys
- Separate numeric keypad
- Standard typewriter format
- Heavy-duty keyboard
- Addressable blinking cursor
- Bright, easy-to-read 12" diagonal CRT
- DEC VT-52™ compatible

H19 SPECIFICATIONS: CRT: 12" Diagonal, P4 phosphor. Display Size: 6½" high x 8½" wide. Character Size: 0.2" high x 0.1" wide (approx.). Character Set: 128 characters (95 ASCII and 33 graphic). Character Type: 5x7 dot matrix (upper case), 5x9 dot matrix (lower case with descenders). Keyboard: 80 keys (60 alphanumeric, 12 function) plus a 12-key numeric pad. Cursor: Blinking, non-destructive underline. Cursor Controls: Up, down, left, right, home, CR, LF and tab. Cursor Addressing: relative and direct. Tab: standard 8-column tab. Refresh Rate: 60 Hz. Erase Functions: erase page, erase to end of line, erase to end of page. Scroll: auto or line/page freeze. Bell: audible alarm on receipt of control G. Video: normal and reverse using an escape sequence. Interface: EIA RS-232C at 110 to 9,600 baud. Communications Mode: full or half duplex. Parity: even, odd, stick or none. Power: 120/240 VAC, 60/50 Hz, 45 W. Dimensions: 13" H x 17" W x 20" D.



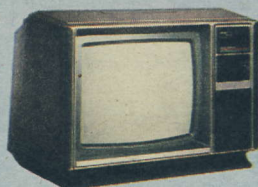
Save like never before on our versatile H9 CRT Video Terminal

Marked down \$199.05 from our Fall catalog. Displays twelve 80-character lines. Has auto-scrolling, plot and erase modes, automatic line carryover, cursor, built-in speaker. Serial interface provides EIA RS-232C levels, 20 mA current loop, TTL levels. Parallel interfacing includes TTL levels, 8 bits input, 8 bits output, 4 handshaking lines. For 120/240 VAC, 50/60 Hz. 12½" H x 15¾" W x 20¾" D.

Kit H9, 50 lbs., Was \$499.00 in Cat. 846R, Now 299.95
Adapter Cable. Interface H9 with other devices.

WH9-1, Shpg. wt. 1 lb. \$15.00
80

New Heath/Zenith color monitor



- Accepts composite color video from your computer, VCR or camera

The new Heath/Zenith 13" (diagonal measure) Color Video Monitor is the ideal choice to complement your computer, video cassette recorder or color camera. It accepts composite NTSC color video and Hi-Z audio input to produce a high resolution color picture and features a built-in audio amplifier and speaker. Includes RCA-type phono jacks for both audio and video input. Cabinet measures 14" H x 20¾" W x 14¾". Fully assembled.

GDZ-1320, Shpg. wt. 42 lbs. \$379.95

CAT™



Acoustic Modem

- Save — now get \$20 off
- Ideal for any telephone

Lets your computer talk to other computers over standard telephone lines. Features selectable originate and answer modes. LED display of unit status and special acoustic self-testing. Compact, powerful. Plugs directly into wall sockets. Data exchange occurs at any speed up to 30 characters per second, via standard EIA-RS-232C interface. Many practical and fun applications. Fully assembled.

WH13, Shpg. wt. 3 lbs. ... Was \$195.00, Now 175.00

A full line of printers for a variety of applications

Low-cost H14 Line Printer gives you permanent copies of your programs

\$635⁰⁰

- One of the lowest-cost microprocessor-based printers
- Use with most computers

The H14 prints the standard 96-character ASCII set (upper and lower case) on a 5 x 7 dot matrix print head. Uses readily available 0.5" wide nylon inked ribbon on 2" spools. Maximum throughput rate is 75 cps, with selectable 80, 96 or 132 character line length. 6 lines per inch line spacing; 8 lines per inch software selectable. 110-4800 baud rates. Adjustable width sprocket feed handles edge-punched fan-fold paper from 2.5" to 9.5" wide.

Connects to H8, H11A computers with standard RS-232C serial interface or 20 mA current loop. Handshaking provided by busy control signal. Includes 25-pin male EIA connector and matching paper catch. 4 7/8" H x 18 1/2" W x 14 1/2" D. 120/240 VAC, 50/60 Hz. Requires H8-17, H8-18 or HC8-14 software for H8; HT-11 or H11-18 software for H11 or H11A.

Kit H14, Shpg. wt. 30 lbs. **635.00**

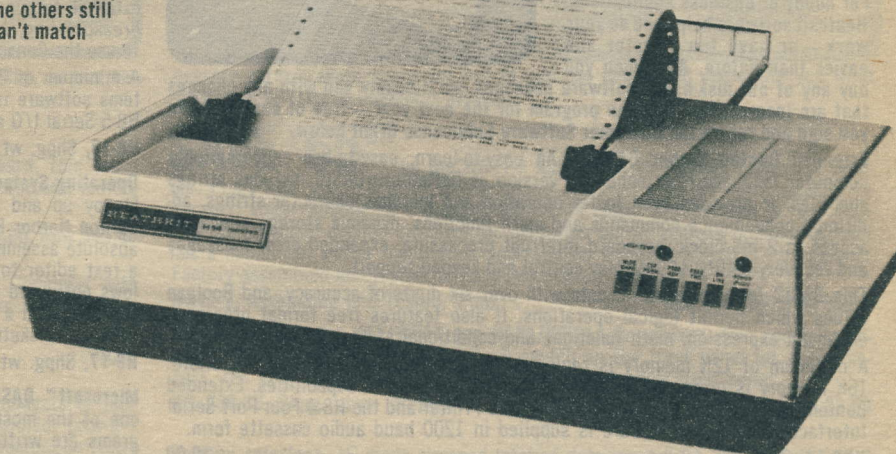
Assembled WH14, Shpg. wt. 27 lbs. **895.00**

3200 sheets 9 1/2" x 11" Fan-Fold Paper for H14.

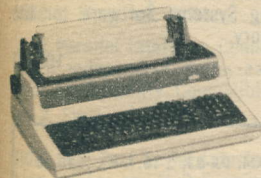
HCS-2, Shpg. wt. 31 lbs. **30.00**

Get the extra features you need from a line printer — at a price the others still can't match

Available in economical, easy-to-build kit form or fully assembled and factory tested



Compact, versatile, easy-to-use
DEC Desktop Computer Teleprinter



Cut \$100
Was
\$1295⁰⁰
NOW ONLY
\$1195⁰⁰

• Convenient desktop design makes the WH34 ideal for office uses

Prints full 96-character ASCII set with switch selectable 110, 300 baud rates. True 30 cps print speed, adjustable character widths and line spacing, clear 9 x 7 dot matrix print head. Features sculptured keyboard, cartridge ribbon change, auto. line feed. With EIA RS-232C interface cable, ribbon, paper. 120 VAC. 7" H x 22" W x 15 1/2" D.

Assembled WH34, 40 lbs. ... Was \$1295, Now **1195.00**

3 Ribbon Cartridges. HCS-54, 1 lb. **25.00**

Tractor Feed Accessory. WHA34-2, 3 lbs. ... **150.00**

YOU SAVE \$120 NOW

LAST CALL on Acoustic Coupler for the H36 Printer. Provides hookup to phone lines for time-sharing. Save \$110.00.

H36-3, 10 lbs. Was \$260, Now **150.00**

Fan-Fold Paper for the H36 Printer. 3200 sheets of 14 7/8" x 11" white/green, one-part, lined paper. HCS-3, Shpg. wt. 47 lbs. **35.00**

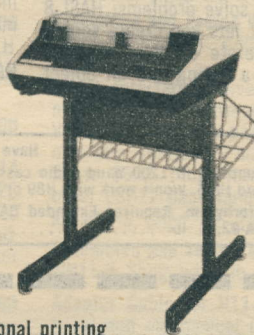
Ribbon Accessory for the H36 and WH24 Printers. HCS-53, Shpg. wt. 1 lb. Pkg. of 3, **15.00**

The Heathkit WH24/TI810 Line Printer —
the complete line printer

Unlike others, we include upper and lower cases, floor stand, paper catch tray — and an extra \$100 savings

NOW ONLY
\$1795⁰⁰

- Fully assembled and tested
- Optimized bi-directional printing



Now marked down an extra \$100, the WH24/TI810's optimized 150 cps bi-directional printing minimizes printhead travel time and maximizes efficiency. Vertical and horizontal tabbing help produce maximized data, regardless of format.

A 256-character FIFO buffer lets you receive data at speeds from 110 to 9600 baud. Programmable forms length and a wide carriage handle multiple-part forms, tickets and reports from 3" to 15" wide. A 9 x 7 dot matrix character font prints up to 5 clear copies. Adjustable tractor drives mean alignment of forms can be made at the front panel.

Includes upper/lower cases, floor stand, paper catch tray. 120/240 VAC. 8" H x 25 3/4" W x 20" D. Needs WHA11-5 Serial I/O Card for H11/H11A only. Not required with other Heathkit systems.

WH24, 97 lbs., Mtr. Frt. ... Was \$1895, Now **1795.00**

Printer without floor stand.

WH24-1, Shpg. wt. 66 lbs., Mtr. Frt. **1695.00**

WHA11-5, Serial I/O Card, 1 lb. **150.00**

Beautiful letter quality
printing for your word
processing system

\$2995⁰⁰

The factory assembled and tested WH44 Diablo Printer features famous daisy wheel printing quality



Prints std. 96-character ASCII set, max. 45 cps. Bi-directional printing. Adjustable horizontal and vertical tabs, setable in all positions. 1/120" horizontal, 1/48" vertical incremental motion, 2-color printing for graphics, ETX/ATC protocol. With RS-232C Interface, HCS-22 Printwheel (Elite 12) and HCS-51 Film Ribbon. For 120/240 VAC. Dimensions, 9 1/4" H x 23 1/2" W x 15 3/4" D.

WH44, Assembled and Tested, 60 lbs. **2995.00**

Diablo Teleprinter Accessories

HCS-50, 3 Cloth Ribbons, Shpg. wt. 1 lb. **18.00**

HCS-51, 3 Film Ribbons, Shpg. wt. 1 lb. **18.00**

HCA-1, Tractor Feed Accessory, Wt. 8 lbs. **259.00**

Diablo Teleprinter Printwheels

HCS-20, Courier 10. Pica w/slashed zero. 1 lb. **8.00**

HCS-21, Courier 72. Pica w/unslashed zero. 1 lb. **8.00**

HCS-23, Gen. Scientific. Greek letters, superscripts math symbols. Shpg. wt. 1 lb. **8.00**

HCS-24, APL Computer Language. 1 lb. **8.00**

HCS-25, ANSI std. OCR-A format. 1 lb. **8.00**

HCS-26, Prestige Elite Legal 12A. Elite with legal symbols. Shpg. wt. 1 lb. **8.00**

HCS-27, Courier Legal 10. Pica with legal symbols. Shpg. wt. 1 lb. **8.00**

HCS-28, Courier Legal 10. Pica with legal symbols. Shpg. wt. 1 lb. **8.00**

Full line of accessories and software gives your

H8/H88/H89 software gives you more ways to use your computer system

For hobby or business applications, Heathkit software helps you do your work — or have fun — faster and easier than before. And when you buy any of our disk-based software packages, we'll supply you with any changes that are incorporated into the program for the next year — free of charge, when you sign and return the Customer Software Sublicense Grant below.

Extended Benton Harbor BASIC™. An easy-to-learn, easy-to-use conversational computer language, this enhanced version of Dartmouth BASIC includes strings and files. It provides even faster operation and includes character strings, additional convenience commands and math functions, dynamic storage allocation access to 2 mS clock, keyboard interrupt processing, expanded error messages and recovery ability, LED display control and keypad support.

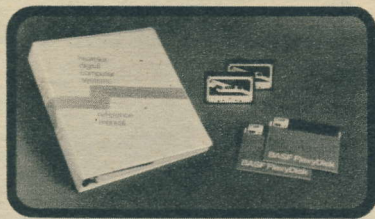
This BASIC features numeric data with over six digits of accuracy, and Boolean values which permit logical operations. It also features free format programs, enhanced expression, math functions and conditional statement facilities.

A minimum of 12K memory is required to run Extended Benton Harbor BASIC. 16K memory is preferred if full use is to be made of its capabilities. Extended Benton Harbor BASIC supports the H14 Line Printer and the H8-4 Four-Port Serial Interface Board. The software is supplied in 1200 baud audio cassette form.

HC8-14, Shpg. wt. 13 lbs.30.00

Operating Systems Software Designed Especially for the H8 Computer. Helps you get ready to program your H8 quickly and easily, with features that make it easier to use and more practical than other systems. Automatic command completion simplifies typing, dynamic syntax checking instantly alerts you to errors and a special user configuration lets you personalize your system.

This operating systems software includes: Benton Harbor BASIC, a conversational programming language which makes use of simple English statements and familiar algebraic equations to perform operations and solve problems; HASL-8 Assembly Language, a two-pass absolute assembler that lets you create source programs using letters, numbers and symbols to generate efficient machine language code. It assembles the source program into a listing and an object



program in binary format executable by the H8; TED-8 Text Editor, which converts the H8 Computer and terminal into a powerful typewriter for generating text and editing. It prepares the source code for H8 Assembly language and can be used to prepare reports, write letters and edit manuscripts; and BUG-8 Console Debugger, an enhanced and extended version of the front panel monitor which allows entry and debugging of user machine language programs via an external terminal. It features single or multiple stepping through programs, breakpointing, load and dump from tape storage. (A user program is required to use the Console Debugger); and a full set of utility programs.

A minimum of 8K memory is required to run this software. This operating systems software is supplied in 1200 baud audio cassette form, which requires an H8-5 Serial I/O and Cassette Interface to load.

H8-18, Shpg. wt. 11 lbs.20.00

Operating Systems Software for the H17 Floppy Disk System. Helps get your H17 Floppy up and running fast. Includes all the standard H8 software (Extended Benton Harbor BASIC — an easier conversational computer language, a two-pass absolute assembler which helps you create efficient machine language programs, a text editor to help you generate and edit text; a console debugger which allows entry and debugging of user machine language programs from an external terminal, and a full set of disk utility programs. This software is supplied on a standard diskette.

H8-17, Shpg. wt. 14 lbs.100.00

Microsoft™ BASIC™: the most popular computer language. Microsoft BASIC is one of the most versatile languages for the personal computer. Scores of programs are written in this BASIC. Microsoft BASIC features the following capabilities: Direct access to CPU ports and memory locations (INP, OUT, PEEK, POKE); IF—THEN—ELSE control structure for more highly-structured programming, including editing during programming and random or sequential filing capabilities; Powerful program edit and file management facilities; Powerful string processing functions, including LEFTS, RIGHTS, MIDS, ASC, CHR\$ and concatenation; Automatic line numbering and renumbering; PRINT USING for control of output formats; ON ERROR command for control of errors.

This software includes a variety of mathematical and logical functions as well, including double precision floating point number and double precision mathematics. Microsoft BASIC requires H8-17 Operating Systems Software for the H17 Floppy Disk System and a minimum of 32K memory.

H8-21, Shpg. wt. 3 lbs.100.00

Paper Tape for your H10 Reader/Punch	
Three 8" dia. 900' Rolls Blank Tape.	
HCS-10, Shpg. wt. 5 lbs.	10.00
Three 1000' Boxes Fan-Fold Tape.	
HCS-11, Shpg. wt. 5 lbs.	15.00

Have hours of excitement and fun with H8 Computer Games	
Supplied in 1200 baud audio cassette form, requires H8 and H8-5. Won't work with H89 or H8-4.	
Biorhythm. Requires Extended BASIC, 16K RAM.	
PA-82, 1 lb.	10.00
Space War. Requires 24K RAM. PA-83, 1 lb.	10.00
Game Set #1. 8 games. Requires 8K RAM.	
PA-84, 1 lb.	10.00

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This form **MUST** accompany your **SOFTWARE** order for:

Digital Equipment Corporation:

☐ HT-11 Operating System with BASIC ☐ HT-11-1 FORTRAN

Check box for each software program purchased with this order only. Sign and send to HEATH another sublicense grant form with future SOFTWARE orders.

Write in the blank your CPU make, model and serial number:

(Fill in blank)

(If CPU is purchased with this order, HEATH will fill in the blank.)

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HEATH COMPANY

By _____

CUSTOMER

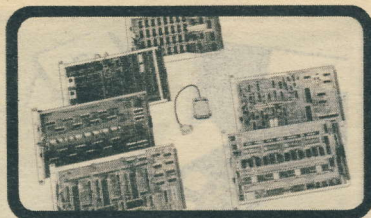
By _____

Customer's Signature

Heathkit computer system new versatility

H8 Accessories give your computer system more capability

Use any or all of these accessories to expand the capability of your H8 Computer and make your system even more versatile. Many of these accessories plug right into the H8 Computer for fast, easy hookup, so you can design a system to fit your specific computing needs.



SAVE \$50⁰⁰

on the WH8-16 16K Wired Memory Board. This board lets you expand your H8 Computer's memory power. Fully assembled and tested, and factory burned-in to eliminate memory problems.

WH8-16, Shpg. wt. 2 lbs. Was \$395.00, Now 345.00

NEW! the HA8-1 Extender Board. Lets you operate your H8 Computer with accessory boards outside the "card cage" to allow easy access for servicing, prototyping or debugging.

HA8-1, Shpg. wt. 1 lb. 40.00

NEW! HA8-2 Music Synthesizer System. Synthesizer board connects to your stereo system with two shielded cables (included). True D/A converter provides excellent 27.5-6,600 Hz frequency response, with up to 9 harmonics. Software lets you enter any song — right from conventional sheet music. Complete documentation shows how to use the synthesizer system for your maximum enjoyment. Software supplied on disk. Requires 24K min. memory, H17 Floppy Disk System and terminal. Available May 15.

HA8-2, Shpg. wt. 2 lbs. 169.00

WH8-8 8K Wired Memory Board. 8K x 8 memory card, supplied with 8K memory. Plugs directly into H8 bus. Max. storage capacity, 8192 8-bit words. With on-board regulators, heat sinks and full buffering. Fully assembled and tested.

WH8-8, Shpg. wt. 2 lbs. 175.00

H8-2 Parallel Interface. Connect your H8 to any parallel device, such as printers. Three independent ports, each with 8 bits input and output, universal hand-shaking capability. Compatible with all Heathkit software.

H8-2, Shpg. wt. 3 lbs. 150.00

H8-4 Four-Port Serial Interface. Recommended to interface your H8 to the H14 Line Printer and H19 Terminal. All four serial ports support a standard RS-232C interface, including MODEM controls. One port is switch programmable for a 20 mA serial loop. Software programmable baud rate. All ports have solderless addressing and vector interrupt jumpers for easy setting. Has interface connector for DCE and DTE modes. Includes WH8-41 cable for connection to line printer.

Kit H8-4, Shpg. wt. 2 lbs. 175.00

WH8-4, Assembled and Tested, Shpg. wt. 3 lbs. 250.00

Adapter Cable for Use with H8-4 Serial Interface. Provides EIA std. electrical, mechanical connections between interface, other peripherals.

WH8-41, Assembled, Shpg. wt. 1 lb. 15.00

H8-5 Serial I/O and Cassette Interface. Cassette interface with 1 serial I/O port for control terminal. Connects the H8 to serial devices and to cassette mass storage devices, like the ECP-3801A. Jumper selectable data rate from 110-9600 baud. Common I/O interfaces, including 20 mA current loop and RS-232C compatible levels. Cassette interface uses Byte/Manchester format, but runs at 1200 baud. NOTE: A second H8-5 Interface cannot be used to connect the H8 to the H14 Line Printer. The H8-4 Four-Port Serial Interface is recommended for H8 systems not using cassette mass data storage.

H8-5, Shpg. wt. 3 lbs. 95.00

WH8-5, Assembled and Tested, Shpg. wt. 2 lbs. 120.00

Adapter Cable for use with H8-5 Serial I/O and Cassette Interface. Connects H8-5 with other peripherals. Use with H8 Computer.

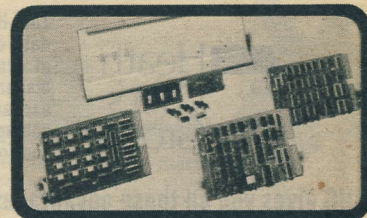
WH8-51, Assembled, Shpg. wt. 1 lb. 15.00

H8-7 Circuit Design Breadboard Card. Custom design your own analog or digital circuits for the H8. 5 VDC power supply included. Reuseable.

Kit H8-7, Shpg. wt. 2 lbs. 90.00

H11A Accessories and Interfaces give you added flexibility

Increase your computing power and performance by adding one or several H11A accessories. The H11A Computer accepts up to seven accessory cards — more space for you to add the power and versatility you want from your H11/H11A Computer System.



SAVE \$65⁰⁰

on the WH11-1 Assembled 4K Memory Expansion Module. Plugs into the H11 or H11A backplane. Adds 4K x 16-bit word capacity to memory. Uses reliable 1K x 4 static MOS RAM chips. Access time is less than 500 nS. Contains decode circuitry for operation on 4K address boundaries, and has a handle for easier installation and removal from the H11/H11A backplane. Factory assembled and tested for easy installation.

WH11-1, Assembled and Tested, 2 lbs. Was \$160.00, Now 95.00

Modification Kit for H11/WH11 and H11A/WH11A Computers. This special modification kit places the line time clock switch on the front panel for easier access. It's easy to assemble and includes an entirely new front panel.

Kit 830-35, Shpg. chgs. prepaid 53.50

Parallel Interface. 16 diode-clamped latched data input lines, 16 latched output lines, 16-bit word or 8-bit byte data transfers. LSI-11 bus interface and control logic for interrupt processing and vectored addressing. Control status registers are compatible with PDP-11 software routines. 4 control lines: output data ready, output data accepted, input data ready and input data accepted logic operations. Maximum data transfer rate, 90K words/second under program control. Maximum drive capability, 25 ft. cable. This parallel interface is compatible with TTL and DTL logic devices.

Kit H11-2, Shpg. wt. 2 lbs. 100.00

Assembled and Tested Version of Above.

WH11-2, Shpg. wt. 1 lb. 160.00

Serial Interface. Universal asynchronous receiver/transmitter serial interface module for use between LSI-11 bus and serial devices, such as the Heathkit H9 Video Terminal (see page 80) or the WH34 DEC Teleprinter (see page 81). Has an optically isolated 20 mA current loop or EIA interfaces, selectable baud rates of 50 to 9600. Plugs into H11 backplane, fully compatible with PDP-11/03 and other LSI-11 backplane machines. Supplied with all mating connectors.

Kit H11-5, Shpg. wt. 2 lbs. 115.00

Assembled and Tested Version of Above.

WH11-5, Shpg. wt. 1 lb. 160.00

Adapter Cable for H11-5 Serial Interface. Provides EIA industry standard electrical and mechanical interface between H11-5 Serial Interface and other computer system peripherals. For use with H11/H11A Computers.

WH11-51, Assembled and Tested, Shpg. wt. 1 lb. 15.00

16K Memory Module. 16K dynamic MOS RAM on a 5" x 8½" board. On-board refresh, 570 nS cycle time and 250 nS access time. Fully expand memory with only two of these boards. Maximum memory capacity of H11A is 30K words.

WH11-16, Shpg. wt. 2 lbs. 480.00

Extended Arithmetic Chip. Adds powerful arithmetic instructions to the LSI-11, including fixed point multiply, divide and extended shifts, plus full floating point add, subtract, multiply and divide. Helps minimize arithmetic subroutines and saves memory space. This extended arithmetic chip, a 40-pin dual in-line IC, plugs into H11/H11A board.

H11-6, Shpg. wt. 1 lb. 190.00

Look over the Manuals before you buy. Complete manuals for H11A Computer, H11-2 Parallel Interface, H11-5 Serial Interface and H9 Video Terminal. Get a first-hand look at the accurate, easy-to-follow Heathkit assembly manuals that take you, step-by-step, from unpacking to final plug-in. Know your H11A Computer inside out before buying. And when you do buy the H11A Computer, we'll deduct \$25.00 from the purchase price.

HM-1100 Manual Set, Shpg. wt. 12 lbs. 30.00

HUG has over 500 exciting programs for your computer



The Heath Users' Group keeps you up to date on happenings in the Heathkit personal computing world. There's an informative magazine, a complete program library and exchange, new product information and new computing ideas — all at your disposal when you join HUG!

HUG gives you all these advantages:

- A one-year subscription to REMark, the quarterly HUG magazine
- An attractive three-ring HUG binder to hold your magazines, software documentation and other materials
- Forms to submit your own programs to HUG
- The official HUG Identification Card
- Access to the HUG Software Library, which includes over 500 user-submitted H8, H88 and H89 programs — including special utility routines, computer-aided instruction, financial packages, amateur radio applications programs, games and much more! See a more complete list of HUG programs below, right.

Only HUG — the Heath Users' Group — can give you all the advantages above and much, much more! HUG puts you in contact with other Heathkit computer owners. In fact, many HUG members are forming local groups to increase the benefits of belonging to HUG. These benefits include:

Your own one-year subscription to REMark, the quarterly magazine of HUG that updates you on the latest Heathkit computer product developments and lets HUG members share new hardware modifications, software enhancements, applications programs and other materials with other HUG members.

A three-ring, loose-leaf HUG binder loaded with information that helps you get the most from your membership in HUG, and gives you a place to store software documentation and back issues of REMark magazine, as well as other materials. HUG program submittal forms that enable you to share your unique programs with other HUG members by submitting them to the HUG Software Library.

An opportunity to compete for valuable prizes in HUG software contests.

The official HUG Identification Card, which entitles you to all of the special benefits that are available only to HUG members.

And access to the huge HUG Software Library, a constantly updated and expanded library which now has more than 500 user-submitted programs. Imagine between 30 and 80 programs on a tape for nominal reproduction and distribution cost. Software documentation and disks are also available. The HUG Software Library includes a diversified collection of programs, subroutines and procedures written by members of the Heath Users' Group. Whether you're an amateur radio buff, a businessman or just interested in playing games, you find a program for you in the HUG Software Library. The contents of the HUG Software Library, including computer-assisted instruction, business applications, personal finance programs, amateur radio programs and games, are described in the HUG Software Library Catalog, which is part of the initial HUG membership package. Each HUG Software Library program is listed by its author, program name, a short description of the program, language, version and equipment required to run the program.



If you like what you've seen of HUG so far, check out this partial list of program titles from the HUG Software Library:

- Accounts Receivable
- Payroll
- Inventory
- Tax Program
- Declining Interest
- Mortgage Tables
- Loan Amortization
- Accounts Payable
- Real Estate Depreciation
- Small Business Package
- Home Budget Maintenance
- Personal Accounts Payable
- Checkbook Programs
- Finance
- Credit Card Management
- Peak Budget Demand
- Depreciation Calendar
- Stock Reporter
- Stock Market Game
- BASIC Tutor
- Space Wars
- Star Trek
- Biorhythms
- QSL File Maintenance
- Loop Antenna Designer
- Antenna Designer
- Handy Ham Problem Solvers
- Power Supply Design
- Op-Amp Circuit Design
- Morse Code Review
- RTTY Send/Receive
- Solid-State Amplifier Design
- Weather Forecasting
- Disk Transfer Systems
- BASIC Renumbering Programs
- Create-A-Program
- Interactive Data Base
- Word Processor
- 8080 Emulator
- CHI Square Multisort
- Octal/ASCII Dump
- File Maintenance
- Modem Drivers
- Pilot
- Blackjack
- Football

HUG membership application information and details are included with your Heath computer — or pick up an application at any store. H11 owners are also eligible for membership in DECUS, the Digital Equipment Computer User's Society.

COMPLETE THIS SPECIAL ORDER FORM AND BRING TO YOUR LOCAL HEATHKIT ELECTRONIC CENTER. PLEASE PRINT YOUR NAME PLAINLY IN CAPITAL LETTERS, USING A MAXIMUM 14 CHARACTERS (INCLUDING SPACES) IN THE BOXES PROVIDED BELOW.

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Please enter my order for ___ GDP-1225 name plates. The price is \$2.00 for one, \$1.60 each for two or more (including postage and handling to your Heathkit Electronic Center).

Name _____

Address _____

City _____

State _____ Zip Code _____

CUT OUT ENTIRE FORM ON DOTTED LINE AND ATTACH TO YOUR KIT ORDER

Personalize your kits with this Engraved Brass Name Plate



\$160 each for
2 or more

\$200 for one

Personalize each Heathkit project with one of these handsome, engraved name plates. Each is done in solid brass with brushed jeweler's finish and is self-adhesive backed for easy application. To order, simply complete form at left and give to the Heathkit Electronic Center clerk when you purchase any regular kit from this catalog.

Accessories make computing easier

This space-saving Computer Work Station organizes your system for attractive, rugged operating efficiency

\$295⁰⁰

- Organizes your computer system in less space
- Components are easily accessible
- Easy-to-clean desk top
- Rugged metal construction



Heath's Computer Work Station organizes your computer system in less space — yet all components are easily accessible! Designed to Heath specifications, the 60" x 30" easy-to-clean formica desk top places I/O's at a comfortable height for seated operators. The lower shelf holds horizontal components. The upper shelf is 8½" H x 20" W x 19¼" D, while the lower shelf is 7" H x 20" W x 19¼" D.

Built to last for years, the PD-11 features rugged black steel legs and black sheet metal shelving, which

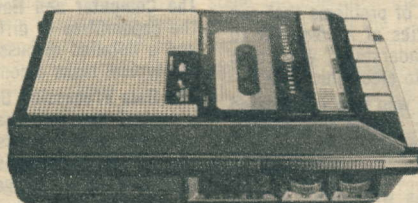
are designed to last under constant use. Casters make it easy to roll the Computer Work Station from place to place, while caster locks prevent the work station — and your computer system — from rolling away by accident. The PD-11 Computer Work Station keeps your operator comfortable and efficient — puts every one of your computer system components within easy reach — and its rugged but handsome appearance make it an attractive addition to every office environment. Partially assembled; not a kit.

PD-11, Shpg. wt. 95 lbs., Motor Frt.,
FOB El Segundo, CA **295.00**

Assembled Cassette Recorder/Player is ideal for data storage

This Heath-recommended assembled Cassette Recorder/Player is a quality unit that's the ideal choice for data storage use with computers. Ruggedly constructed, it features separate volume and tone controls, pushbutton select of record, play, rewind, fast forward, stop and tape eject. It also features a convenient built-in 3-digit counter with reset button that enables you to locate specific information on a tape quickly and easily. Built-in microphone and quality speaker also make it perfect for general recording and playback use. Factory wired; not a kit.

ECP-3801A, Shpg. wt. 4 lbs. **60.00**



Heath-recommended high output, low noise, premium grade audio recording tape. Pack of three 30-minute blank cassettes.

ECP-3802, Shpg. wt. 1 lb. **per pack 6.00**

Multi-function calculator for the computer hobbyist

- Versatile three-key independent memory for complex problems
- Special logic operation for computer applications
- Fifteen levels of parentheses for involved calculations

Designed especially for the computer hobbyist, this fully assembled Texas Instruments Programmer/Calculator features fast conversions between octal, decimal and hexadecimal number systems; logic operations; versatile 3-key independent memory and 15 levels of parentheses for complex problems; constant mode to simplify repetitive calculations; and an 8-digit LED display. Lightweight, ideal for any computer application. Rechargeable battery and AC adapter/charger are included. Factory tested. 5½" H x 3" W x 1¼" D.

PC-11, Shpg. wt. 2 lbs. **59.95**



Learn more about your computer system with these books



Introduction to Microprocessors, Volume I. An introduction to the basic microprocessor.

EDP-224 **9.50**

Getting Acquainted With Microcomputers. A basic guide to what microcomputers can do. 288 pages.

EDP-275 **6.95**

8080 Machine Language Programming for Beginners. A comprehensive guide to 8080 machine language programming, written for beginners.

EDP-272 **7.95**

PDP-11 Programming Fundamentals. How to program your PDP-11 computer with Assembly language and get the most out of it.

EDP-239 **10.00**



FORTRAN IV Self-Teaching Guide. High-level computer programming in FORTRAN.

EDP-279 **5.95**

101 Basic Computer Games. New computer game ideas — all in BASIC — fun for the entire family. Only collection containing a complete listing, sample run, description of each game. 250 pages.

EDP-237 **7.50**

8080 Software Gourmet Guide and Cookbook. Interesting new ideas for your 8080A computer. Over 200 pages. General purpose routines, programming time delays, random number generators, six appendices. 218 pages.

EDP-228 **10.95**



BASIC Software Library, Vol. I. Business and recreational programs for your computer. 300 pages.

EDP-240 **24.95**

BASIC Software Library, Vol. II. Special BASIC programs in engineering and statistics. 250 pages.

EDP-241 **24.95**

BASIC Software Library, Vol. III. Advanced business programs to cut clerical costs. 150 pages.

EDP-242 **39.95**

BASIC Software Library, Vol. IV. General purpose programs with scores of applications.

EDP-243 **9.95**

BASIC Software Library, Vol. V. Programs for the experimenter who enjoys learning.

EDP-251 **9.95**

Personal or business computing—made simpler



Gain the basic knowledge needed to begin a computer hobby with our new program

• Do you own a computer — or are you considering buying one? The Heathkit Personal Computing Program can help. It introduces you to the fundamental concepts, capabilities and terminology of personal computing. With our new program, you'll learn some of the ways you can benefit from a computer.

Designed for the curious, motivated individual who is uninitiated to computing, the Personal Computing Program shows you how a computer can serve you.

You'll be able to determine if your particular problem can be solved by a computer, because you will understand what a computer can do. You'll be able to cut through the technical fog, and understand what different computer system components do — in easier, simpler terms.

The Heathkit Personal Computing Program is divided into five easy-to-understand units, which explain different parts of the personal computing system and put the system into perspective, so you can make an informed decision. You'll learn:

The Fundamentals of Computers: You'll examine the types of problems that can be solved by a computer, and how to apply the capabilities of a computer to your specific problems. You'll find out how computers "understand" electronic data. Then, you will learn how to convert written words into electronic data.

Computer Hardware: When you complete this section, you won't be intimidated by long lists of specifications when you shop for computer system components. You'll be able to easily and simply compare different computers — because you will understand how each performs.

Interfacing: You'll learn how the computer communicates with other system components. You'll also be able to distinguish between analog data and digital data.

Personal Computing Systems: You will learn how to evaluate various types of small computer systems, by understanding how different combinations of components function.

Computer Software: When you read this section, you'll learn about different types of software, and how each type can solve different types of problems.

Instructing the Machine: The final section of the program shows you how you can control the computer system, by introducing you to BASIC Language Programming.

You don't need an extensive math, electronics or computer background to learn about personal computing with our new program. The easy-to-read 400-page text, supported and reinforced by three audio cassettes, makes personal computing clear and understandable to most individuals with high school backgrounds. The language used in the self-instruction program is carefully chosen to be informal, conversational and easy to understand. And we guarantee that you'll be satisfied with Personal Computing. If you're not, we'll refund the purchase price.

When you complete your introduction to Personal Computing, pass the optional final examination with a score of 70 percent or better, and you'll earn 1 CEU and a Certificate of Achievement.

EC-1000, Shpg. wt. 5 lbs. **39.95**

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Is your business ready for a computer system?

The Heathkit Self-Instruction Program can help you decide

• The Heathkit Computer Concepts for Small Business Program is designed to give you the information and understanding you need to evaluate the usefulness of a computer in your business. Are the benefits of a computer worth the cost? Here's an easy way to find out the answer.

If you're a businessman who's thinking about using a computer in your business, the Heathkit Computer Concepts for Small Business Self-Instruction Program is for you. Designed for the businessman who knows little or nothing about computers, this program shows you how a computer can serve your business needs.

When you consider making a computer investment that can run into thousands of dollars, you need to know as much about computers as possible — before making the investment. Our program gives you everything you need to intelligently evaluate the ways in which a computer can benefit your business. It covers:

The Computer and How It Works: Including types of memory; comparisons of the capabilities of different types of storage media and different types of I/O; and a detailed discussion of different types of applications software, covering the typical tasks a computer system can perform for a small business.

The Data Processing Department and Personnel: This covers the organization of a typical data processing (DP) department; the roles of the data processing manager, data processing engineer, systems analyst, operator and other personnel; and a comparison of permanent employees versus free-lance personnel, including the advantages of each type of employee.

Alternatives in Computer Services: This section of the Heathkit Computer Concepts for Small Business Self-Instruction Program includes a comparison of the advantages of owning your own computer system, versus entering into a time-sharing arrangement or using a computer service bureau. This section includes a discussion of the typical problems which confront each type of arrangement.

How To Select a Computer: This section discusses how to define your data processing requirements. Once your data processing requirements are known, the final section of our program shows you how to put together the computer system that's right for you, including the right combination of hardware, peripherals and software. This section also discusses how to get the most from outside data processing services.

The program includes a 160-page self-instruction text with three appendices. You can read at your own pace in step-by-step, easy-to-understand segments. Our attention to detail assures complete understanding of the text material. And three audio cassettes are included with the program, to reinforce the material presented in the self-instruction text and make learning even easier.

Completion of the final examination, with a passing grade of 70% or more, earns you 1 CEU and a Certificate of Achievement.

A computer is a big investment. Our Computer Concepts for Small Business Program is a small investment to get the understanding you need to make an informed decision.

EC-1103, Shpg. wt. 5 lbs. **49.95**

MONEY-BACK GUARANTEE

If you're not satisfied with any Heathkit Self-Instruction program, we'll completely refund the purchase price.

Learn to communicate in the language of your computer

Heathkit Self-Instruction Program for Assembly Language computing

\$49⁹⁵

- Use the full capacity of your computer system
- Execute your computer programs faster
- Store more information in less space



Heathkit Self-Instruction Program for BASIC Language computing

\$39⁹⁵

- BASIC — the easiest of all languages to write
- Now BASIC is one of the easiest languages to learn
- Hundreds of programs are available in BASIC

Assembly Language is the most powerful language that can be used on any computer. Anything that can be done in any other language on a particular computer system can be done in Assembly Language.

Assembly is a true programming language, not just a convenient notation for machine code. The use of labels, computed operands, comments and assembler directives allows the Assembly Language programmer to create a source code that is adaptable to the system and easily read. Assembly includes a mnemonic for every machine operation. There is no need for programmed memory, no time wasted in interpreting. So your programs run much faster.

You can use your computer system's memory more efficiently when you use Assembly Language. It stores more data in less space because codes are shorter and more explicit. By using computed origin statements and other assembler directives, you can make an Assembly Language program operate wherever the computer has space. The use of meaningful labels for subroutines, along with as many remarks or comments as you desire, make a program listing quite readable in Assembly Language.

One of the most important and useful requisites of a programming language is that it be flexible, not dependent upon specific addresses and hardware of the computer. In an Assembly Language program, hardware specifications can be made at the beginning of the program and referred to symbolically through the rest of the program. In this way, changes can be located together — easily.

The **Heathkit Assembly Language Self-Instruction Program** teaches you to program your computer in Assembly Language. You learn the details at your own pace, through a special 400-page text designed for self-study. An exercise workbook provides hands-on experience with programming exercises — you perform each exercise on your own computer system. The programmed instruction text and workbook are so thorough that you can learn to program your computer by studying the text and test questions. To perform the optional experiments, which are necessary for gaining the full benefit of the Heathkit Assembly Language Self-Instruction Program, you must have a computer and for Z80 computers (the 8080 instruction set is essentially a subset of the Z80 instruction set).

The **Heathkit Assembly Language Self-Instruction Program** is designed for computers using the popular 8080/8085 microprocessor series, which uses standard Intel 8080 mnemonics. This includes the Heathkit H8, H88 and H89 Computers.

Along with the programmed instruction text and workbook, the Assembly Language Program also includes a special Reference Placard, which contains all 244 assembly instructions for easy reference. The other side of the Reference Placard contains the ASCII code chart. If you decide to take the optional final examination and pass with a score of 70 percent or better, you will earn a Certificate of Achievement and 6.0 Continuing Education Units (CEUs).

With the **Heathkit Assembly Language Self-Instruction Program**, it's never been easier or more fun to learn the most versatile, most powerful computer language.

Now is the time to learn the computer language that puts you in command of your computer's full potential.

Stop at a Heathkit Electronic Center today and ask about the Assembly Language Self-Instruction Program.

EC-1108, Shpg. wt. 7 lbs. **49.95**

More computer programs are written in BASIC Language than any other computer language. It's the easiest computer language to write — and the easiest computer language to learn.

BASIC — uses familiar English words which cause the computer to perform standardized operations. When a number of these words are strung together to form a program, the computer performs each of the specified operations in turn to complete whatever task the operator desires.

When you know BASIC Language, you can adapt and run hundreds of existing computer programs to meet your specific needs. You can exchange computer programs with others. And you can write your own original programs.

The **Heathkit BASIC Language Self-Instruction Program** covers all BASIC Language versions, formats, commands, statements and procedures, plus special problem-solving tips that you can use when you write your own computer programs. In the two sections of the Heathkit BASIC Language Program, which are divided into a total of 14 easy-to-follow programmed instruction segments, you will learn all of the standardized words of the BASIC Language, and you'll understand the operation that each word causes the computer to perform. You will get a grasp upon the tools of BASIC Language computer programming, including the numbers, statements, functions, loops, lists, arrays and strings.

The **Heathkit Self-Instruction Program** will help you understand the importance of proper syntax in BASIC programming, and why the computer needs another program that can interpret the words it reads and perform the desired operations.

The **second part of the Heathkit BASIC Language Self-Instruction Program** teaches you the creative aspect of writing a computer program. Using the tools you learn in the first section, you'll participate in the decision-making factors that are part of writing a meaningful computer program, one that really does something. The Program will teach you useful computer programming techniques, such as how to define and plan a program, how to format and write a computer program in BASIC Language and how to adapt existing programs to suit your needs.

The **course material** includes a textbook which explains the BASIC Language, using a technique called programmed instruction. This teaching method makes sure you completely understand the information presented in the text. A special workbook provides programming instructions and experiments that you can perform on your own computer.

Also included with the Program are handy reference cards for Benton Harbor BASIC Statements, ASCII number codes, BASIC direct command statements and a reference chart for math and Boolean algebra operations.

While the BASIC program is keyed to Heathkit computers, it's equally applicable to any computer system using BASIC. And with our BASIC Language Program, a computer language has never been easier or more fun to learn.

Passing the Program's final exam (70% or better score) will earn you a Certificate of Achievement and 3.0 Continuing Education Units (CEUs).

Until you know BASIC, you're missing the full selection of computer programs available to you. Begin the Heathkit BASIC Language Self-Instruction Program today.

EC-1100, Shpg. wt. 7 lbs. **39.95**

Money-Back Guarantee

The programs on this page carry a complete refund of the purchase price.

If you're not satisfied, return all program materials and your receipt.