CHRISTMAS 1979

Heathkit

Brand New Gift Kits!

- Giant-screen Projection Color Television — pages 102-103
- State-of-the-art AM/FM Stereo Receiver — page 74
- Antenna Tuner is an ideal Amateur Radio gift — page 22
- Digital Engine Analyzer for better tune-ups — page 12
- Trigonometry Self-instruction Program — see page 97
- VHF Dual Wattmeter for the Ham Radio shack — page 20
- Darkroom Timer is perfect for the photo buff — page 73
- Yoke/Flyback Tester for the TV do-it-yourselfer — page 61
- The whole family will enjoy the Thomas Organ — page 72
- RF Speech Clipper for the Radio Amateur — see page 26
- High-action Pinball Game for the whole family — page 104

FREE — Get a free Remote Control — $99.95 value — with your purchase of a GR-2001, GR-2000 or GR-2050 Color TV! See pages 99, 100, 101

HEATHKIT MAIL ORDER CATALOG NO. 847

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HANDY INDEX ON BACK COVER
©1979 Heath Company
Simulated TV Picture
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

Value-packed Heathkit software includes programs written for MICROSOFT® 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 And we won’t let your disk-based Heathkit software go out of date—for one year after purchase, we’ll send you, free of charge, any changes (see page 42).

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 unboxing to plugging it in. You’ll understand your computer from the inside out. And in both kit and assembled forms, Heath's 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.

Heath offers complete 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’ computer experience.

5% System Discount: When you buy the H8, H8B, H89 or H11A computer, one major peripheral and any 1/0 devices and accessories you need to complete your computer system, you can deduct 5 percent from the total price (excluding shipping and handling charges).
All-In-One Computer: a complete system in one compact unit

- Heavy-duty professional keyboard
- Numeric keypad in calculator format
- Smart video terminal
- Two Z80 microprocessors — one for computer, one for terminal
- 16K random access memory, expandable to 48K
- Built-in floppy disk storage
- Rugged construction
- Easy-to-read 12" CRT

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

Only $1595 for H89

You can get all the power and built-in peripherals you need for any personal computing task in one compact, desk-top computer — the Heathkit All-In-One Computer! With convenience features that make it easy to program and operate, this 8-bit computer can make computing your home or business a reality.

The All-In-One's heavy-duty professional keyboard can control all video terminal functions, with eight user-definable keys available to help you program special functions. Select baud rates of up to 5,500 through the keyboard. Direct cursor addressing lets you insert and delete characters anywhere on the screen, and the terminal supports line graphics characters from keyboard or computer.

Designed in calculator format, a numeric keypad makes entering arithmetic programs faster and easier. Shifted functions give you cursor control for insertions and deletions.

The smart video terminal is one of the most sophisticated ever designed. Both the terminal and the computer have their own Z80 microprocessors. This means the All-In-One Computer can perform a multitude of high-speed functions, because the terminal never has to share processing power with the computer — not the case with most other desk-top computers and computer systems.

A 12-inch (diagonal measure) cathode ray tube produces clear, sharp, easy-to-read characters. Upper and lower case letters are formed by a 5 x 7 dot matrix in the format of 24 lines by 80 characters (with a special non-scrolling 25th line). Lower case letters with descenders use a 5 x 9 dot matrix. Also features 33 line graphics characters using 8 x 10 dot matrix.

You can expand the Heathkit All-In-One Computer to meet your needs. It comes with 16K RAM, expandable to 48K, with memory diagnostics built in to make memory checks faster and easier. Accessory interfaces let you communicate with printers, cassette or time-share systems (with appropriate software), and all communication is EIA RS-232 Standard.

The built-in floppy disk system makes this a true All-In-One Computer, giving you tremendous storage capacity for programs and data. Each 5 1/4-inch diskette has 102K bytes of storage. The WANGCO/Siemens single-drive floppy disk system gives you virtually instant access to any program. Load programs in seconds, access and update data fast with the same H71-I drive described on page 37.

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 H89 Computer's components and circuitry.

Order your Heathkit All-In-One Computer today. With so much computing power and so many features built in, this desktop computer brings exceptional value within your reach. Put this exceptional value to work for you now!

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

Kit H89, Shpg. wt. 86 lbs. .................. 1595.00

WB89 Completely Assembled All-In-One Computer, with floppy disk system. Does not include H89-5 Audio Cassette Interface.

WB89, Shpg. wt. 54 lbs. Motor Freight .... 2295.00

H89 All-In-One Computer, without floppy disk system. Includes H89-5 Audio Cassette Interface.

Kit H89, Shpg. wt. 50 lbs. .................. 1195.00

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SPECSIFICATIONS: Processor: Z-80. Clocks 2.048 mHz. Memory: 16K bytes user RAM (expandable to 48K). Video Terminal: High-resolution CRT with P4 phosphor. Screen Character Capacity: 1,920 characters. Character Type: 5 x 7 dot matrix (upper case), 5 x 9 dot matrix (lower case with descenders). 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: Standards 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 watts maximum. Dimensions: 13" H x 17" W x 20" D (33 cm x 43.2 cm x 50.8 cm).
The Heathkit All-In-One Computer runs programs written in MICROSOFT™ BASIC and Assembly languages, including scores of practical programs for your home or business. And the optional accessories enable you to perform more tasks, store more data and communicate with more peripherals, making the All-In-One even more versatile!

Cassette Systems Software for the Heathkit All-In-One Computer. Easy-to-use features include extended Benton Harbor BASIC, a modified version of Dartmouth 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), a general-purpose, line-oriented text editor that is 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 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. ................... 20.00

System Software for the All-In-One Computer's Floppy Disk Storage System. Includes a diskette containing extended Benton Harbor BASIC; a two-pass absolute assembler; a text editor to prepare source code for BASIC and other languages; a full set of disk utility programs for convenient file manipulation and a console debugger to make debugging user machine language programs easier and faster. Dynamic File Allocation permits efficient use of free disk space, eliminating time-consuming disk-compacting utilities. Supplied on a standard diskette.

H89-17, Shpg. wt. 14 lbs. .............. 100.00

16K Random Access Memory Expansion Chip Set. Expand the capability of your Heathkit All-In-One Computer by adding one or two 16K RAM chip sets. The All-In-One Computer is equipped with 16K RAM; maximum memory capacity is 48K RAM.

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

Two-Port Serial I/O Interface. Lets the All-In-One Computer communicate with the H14 Line Printer, time-share systems (with appropriate software) or any other serial peripheral. Two serial I/O ports support an EIA standard RS-232-C interface.

H88-3, Shpg. wt. 2 lbs. ................... 85.00

Popular MICROSOFT™ BASIC Computer Language. One of the most versatile languages for personal computing. Features direct access to CPU ports and memory locations, IF-THEN-ELSE control structure for more highly-structured programming, powerful program edit and file management facilities, powerful string processing functions, automatic line numbering and renumbering, double-precision floating point number and more. Requires floppy disk drive and minimum 32K memory (48K recommended).

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

Floppy Disk Storage System, Drive and Interface for the H88 All-In-One Computer. Store up to 102K bytes of information on each 5½-inch diskette. Famous WANG/SEI Stamps single-drive system for speedy access to information. (Included in H89 only). Diskettes not included.

H88-4, Shpg. wt. 22 lbs. ................... 450.00

Audio Cassette Interface for WH89 All-In-One Computer. Connects your WH89 with a cassette recorder/player, such as the Heath-recommended ECP-3801 (page 40). Allows your computer to store and use more information. Standard with H88 and H89 All-In-One Computers.

H88-5, Shpg. wt. 5 lbs. ................... 95.00

35
Heathkit H8 Personal Computer with "plug-in" flexibility

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

$289.00

Kit

Requires at least one H8-1 Memory Board to operate

- Built-in extended ROM monitor controls front panel program
- Heavy-duty power supply handles to 65K memory
- Exclusive Heath 30 line fully-buffered bus has 7 plug-in board positions for memory and I/O's
- Built-in speaker provides audible feedback for keyboard entry
- Convection cooled power supply — no fan needed
- CPU board is fully wired and tested for easy kit assembly and system setup

The computer that grows as you grow. The Heathkit H8 Computer gives you the flexibility to configure your computer just the way you want it. 7 plug-in board positions let you put together any combination of memory and I/O's. The low initial cost, along with add-on flexibility won’t strain your budget either. It’s the ideal choice for both the novice and the advanced computerite. The CPU board is fully wired and tested for easy system setup. It features the 8080A chip, clock, systems controller, ROM monitor and full bus buffering.

The H8, with the addition of 4K of memory, makes an ideal computer trainer. Its 16-key front panel keyboard provides octal data entry and gives you direct access to registers and memory, one-button program load and dump, and input/output keys for direct communication with any port. Its 9-digit octal readout provides far more information than conventional computers — memory, registers and I/O port displays are updated even while programs are running.

With the addition of more memory, peripherals and interfaces, the H8 can become even more powerful and versatile, allowing you to write highly sophisticated and practical programs. And because the H8 is based on the world-famous 8080A CPU, the amount of existing software (programs) from both Heath and other sources makes it one of the most immediately practical computers you can own.

Optional floppy disk system gives you vast storage capacity and instant access to data and programs. You’ll be able to load programs and update files instantly.

The H8's optional software is supplied in 1200 baud audio cassette form to get you up and running fast. Benton Harbor BASIC, HASL-8 2-pass absolute assembler, TED-8 line-oriented text editor, and BUG-8 terminal console debug program let you begin communicating with the H8 right away.

The H8 is housed in a heavy-duty metal cabinet with modern, high-impact structural foam side panels 6 1/2" H x 16 1/4" W x 17" D. Switch-selected 120/240 VAC, 50/60 Hz. Requires at least one H8-1 memory board to operate.

Kit H8, Shpg. wt. 31 lbs. ... 289.00

Factory Assembled and Tested H8, WKB, 30 lbs. ... 349.00

HKS81 Hobbyist Computer System. Includes H8, H8-5 Serial I/O and Cassette Interface, H8-1 8K Memory Board, H8-3 4K Chip Set, H9 CRT, ECP-3801 Cassette Recorder and HS-18 Cassette Software. $1103.00 if purchased separately. You save $108.00. HKS81, Shpg. wt. 94 lbs. ... 995.00

HKS82 Advanced Computer System. Includes H8, H8-4 Four-Port Serial I/O, WHB-16 16K Memory, H17 Floppy Disk, H19 CRT Terminal and H8-17 HDOS Software. $2104.00 if purchased separately. You save $109.00. HKS82, Shpg. wt. 143 lbs. ... 1995.00

Examine Manuals before you buy. Manuals for the H8, H8-1, H8-2, H8-3, H8-5, H9 and latest software. Deduct $25.00 when you buy an H8 Computer.

HMB82, Shpg. wt. 11 lbs. ... 25.00

NOTE: To specify a complete computer system using the H8, you will need both memory and interface accessory cards. The type and number of memory and interface accessories that you need for the H8 will be determined by your particular applications. The memory and I/O accessories are offered separately so you have complete freedom to assemble the system that meets your specific computing needs.
Floppy Disk Storage for instant data access with the H8

Vast storage. Instant access. Easy loading. You get it all with the H17 Floppy Disk

The H17 floppy disk system gives you the storage and programming capacity you need to load programs instantly. You can 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. Floppy disk storage is far more versatile and reliable than paper tape or cassette storage systems; it truly makes the H8 a "total versatility" computer system.

Designed exclusively for use with the H8, the H17 has been "systems" engineered to deliver a fully assembled package including: a disk drive, and interface disk/controller circuit board, and built in power supply. The controller circuit board plugs directly into the H8's mainframe and with the addition of the optional second drive you'll have optimum dual-drive versatility. Because the H17 is designed especially for the H8 Computer, you get a harmonious system that interfaces properly and runs smoothly.

The storage media for the H17 is the standard, hard-sector 40-track diskette. Measuring just 5.25" in diameter, each disk offers access to better than 102K bytes of available program and data storage area. Disks are easy to handle and easy to load.

The drive system used in the H17 is the famous WANGCO Model 82, a performance-proven drive providing accurate high-speed data access. Specifications of this drive include a conservative 30 mS maximum track-step time and typical random sector access times of less than 250 mS. These figures are considerably better than most equivalent competitive drives.

The WANGCO 82 drive system is supplied fully assembled and tested. It's backed by extremely reliable mechanical and electrical operation. To use the H17 effectively with the H8 computer requires at least 16K of RAM for the H8 and H8-17 operating systems software, sold separately below. The H17 includes a single blank diskette.

Add the H17 Floppy Disk System to your H8 Computer and enjoy the full capability of your computer. Take advantage of all the practical and fun programs available to you.

Kit H17, Shpg. wt. 28 lbs. ..............................................Was $575.00, Now 495.00
WH17, Factory assembled and tested. Shpg. wt. 25 lbs. .......... 550.00
Optional Second Drive. Adds dual-drive versatility to H17 for a total of over 204K bytes of available program and data storage area.
H17-1, Shpg. wt. 5 lbs. ..............................................295.00
Package of 5 Blank Diskettes.
H17-2, Shpg. wt. 1 lb. ..............................................each 25.00

Operating Software for H17 Floppy gets you up and running fast

Get your floppy system up and running fast with specially designed systems software. It's loaded with convenience features.

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

Special features of this operating software include Dynamic File Allocation which automatically keep 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 two kinds of wild cards for fast, easy bulk manipulation of files. The software is supplied on a standard diskette.

H8-17 Operating Software helps you get the most from your H17 Floppy Disk System and from your H8 Computer.

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

37
Most powerful Heathkit Computer for the advanced computerite

- 16-bit power
- DEC® K011-HA CPU
- Plug-in flexibility
- DEC PDP-11/03 Compatible
- Up to 60K bytes memory

H11A Computer runs your most complex programs efficiently

$1095.00

The H11A gives you all 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 scores of practical programs to run your home more efficiently, to reduce the clerical costs of your business and to process all types of data. If you’ve been around computers awhile and the complexity of your programs requires extra power, the H11A Computer is designed for you.

New Half-size LSI-11/2

The H11A features the new, smaller K011-HA microcomputer (LSI-11/2). That makes the H11A identical to the DEC PDP-11/03, but at a fraction of the cost. The smaller-size CPU leaves more space for computing power or I/O’s.

7 plug-in slots

The H11A gives you the flexibility to configure exactly the system you require. Seven plug-in slots let you add any combination of I/O’s and a maximum of 60K bytes memory. The basic H11A Computer is supplied with handsome cabinet, heavy duty power supply, backplane that includes bus and fully assembled CPU board. To the mainframe you add your selection of optional memory and I/O’s accessories (see page 43). Complete systems software is optionally available in floppy disk form (see page 43).

Learn by building

What better way to know your computer than by building it yourself. Like all Heath electronic kits, the H11A comes with 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 it in top operating form.

Value priced

Compare the price of the H11A with comparable 16-bit computers. The combination of advanced design and quality components make it one of the best 16-bit values anywhere.

Kit H11A, Shpg. wt. 43 lbs. ...................................................... 1095.00
WH11A, Factory Assembled and Tested version of above.
Shpg. wt. 43 lbs. .......................................................... 1895.00

Modification Kit

Special modification kit for H11/WH11 and H11A/WH11A places time clock switch on the front panel for easy access. Kit H11A $50 plus $3.50 shipping and handling.

Fully Assembled and Tested K011-HA Circuit Board

The “heart” of the new H11A is the 16-bit microcomputer module, the K011-HA. It’s only half the size of the LSI-11 (K011F), but gives you more flexibility when you configure your system.

There is no on-board memory so you can match your RAM/ROM requirements to your particular needs. And full compatibility with the LSI-11 family means you can “mix or match” by combining components from both LSI-11 and LSI-11/2 families.

Features of the K011-HA include: PDP-11/34 instruction set, raw computer speed of 380 nsec cycle time, resident firmware debugging (OTD) and ASCII console routines, and single and double operand instructions. The LSI-11/2 gives you the power and flexibility you need for virtually ANY system configuration you want!

Specifications:

Dual-Drive Floppy Disk Storage for H11A Computer

Get fast access to programs and data with DEC compatible floppy and 512K total capacity

$1895.00 kit

Now enjoy instant access to programs and data
- Z80 Microprocessor-based Controller
- Full Compatibility with DEC RX01* (PDP-11/03)
- Head Step Time of 6 ms
- Dual-drive for a total capacity of 512K bytes

You get full compatibility with DEC RX01* (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 computing power. Dual-drive versatility with a total of 512K bytes of program and data storage space gives you enough room for most all general-purpose application needs. And the Z80 micro-controller in the WH27 provides average access time of 252 ms. You'll have virtually immediate access to all your files and programs. The H27, while maintaining full compatibility with the RX01 system, also gives you some special features you won't find on other RX01 systems:

1. A built-in self-test diagnostic on power-up that protects existing programs on your disks.
2. A mechanical interlock that prevents accidental media damage. (If floppy is not seated properly, the door will not close and the H27 will not operate.)
3. A write-protect function that protects important files and programs from being written over inadvertently.
4. A reformatting procedure that gives you the capability of writing in IBM 3740 standard format.

A single board interface/bootstrap uses one backplane slot leaving more space for memory and I/O devices. 8" H x 18" W x 20" D. For 100-135 or 200-270 V, 60 Hz AC.

The Operating System Software for the H27 (HT-11) described below requires at least 16K words of memory to use its full capabilities.

Kit H27, Shpr. wt. 93 lbs. .......................................................... 1895.00
WH27 Dual-Drive Floppy Disk, Fully assembled and tested. Shpr. wt. 69 lbs. Motor Freight .......................................................... 2585.00
H27-2, Pkg. of 5 Blank Disks. IBM 3740 format. Shpr. wt. 2 lbs. .......................................................... 25.00

Operating Systems Software for the H27 gets your floppy system operating quickly and efficiently

The HT-11 Systems Software lets you immediately enjoy the full benefits of a ready access floppy disk system.

The HT-11 Operating System is a single-user, single task system for interactive program development and on-line applications for the H11 or H11A computers. Features of the HT-11 include: easy operation with NO system generation procedure; contiguous file structure for easy file manipulation; device-independent I/O programming; real-time interrupt capabilities to handle synchronous, asynchronous and event-driven I/O; low-overhead monitor with memory swapping functions for most efficient use of memory space. HT-11 Programs include:

DOT — On-line Debugging Technique aids in debugging user programs by providing commands to display and alter the state of a running program.

BASIC INTERPRETER — 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 in this program include: variable-length strings, sequential files, "virtual memory" arrays, chaining and overlay capability, "desk calculator" mode for on-line calculations or to aid in debugging.

MISCELLANEOUS PROGRAMS — Dump program prints the contents of HT-11 files in any of several useful formats; SROM compares two files and prints a summary of their differences.

Minimum requirements for operation of the HT-11 include a Heathkit 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, Shpr. 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 ERF parameters, random number generator, IMPLICIT statement, etc.

*HT-11, Shpr. wt. 9 lbs. .......................................................... 250.00

NOTE. The HT-11 Disk Operating System and HT-11 FORTRAN are compatible only with the Heath H27 or WH27 Floppy Disk Systems. To obtain this software, the Customer Software Sublicense must be signed and you must include the make, model and serial number of your CPU in the blank provided on page 42.
The Heathkit H19 Smart Video Terminal has features like professional keyboard and super-sharp CRT display.

- Z80 microprocessor-based for fast, efficient data handling
- Full professional keyboard in typewriter format
- Prints complete ASCII set including upper and lower case characters, and special graphic symbols
- Eight separate user-definable function keys
- Separate numeric keypad
- Standard typewriter format
- Heavy-duty keyboard
- Addressable blinking cursor

**$675.00**

Kit
- Extremely wide bandwidth monitor for easy-to-read images
- Z80 microprocessor-based for fast, efficient data handling
- Full professional keyboard in typewriter format
- Prints complete ASCII set including upper and lower case characters, and special graphic symbols
- Eight separate user-definable function keys
- Separate numeric keypad
- Standard typewriter format
- Heavy-duty keyboard
- Addressable blinking cursor

**H19 SPECIFICATIONS:**
- CRT: 12" Diagonal, P4 phosphor
- Display Size: 6 7/8" high x 8 9/16" wide, Character Size: 0.2" high x 0.1" wide (approx.)
- Character Set: 128 characters (96 ASCII and 32 graphic)
- Character Type: 5x7 dot matrix (upper case), 5x5 dot matrix (lower case with descenders)
- Tab: standard 8-column tab. Refresh Rate: 60 Hz
- Erase Functions: erase page, erase to end of line, erase to end of page
- Senses: auto or line/page freeze. Bell audible alarm on receipt of control Q. Videos: normal and reverse using an escape sequence. Interfaces: EIA RS-232C at 110 to 15,200 baud. Communications Mode: full or half duplex
- Parity: even, odd, none, or none
- Power: 120/240 VAC, 60/50 Hz
- Dimensions: 13" H x 17" W x 20" D.

**Powerful Heathkit H19 “Smart” Video Terminal for a multitude of high-speed functions**

The H19 Videoterminal 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 19,200 are keyboard selectable for easy changes. Eight user-definable keys let you program your own special functions. 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. 54 lbs.**

Factory Assembled and Tested Version of above...

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

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**Save $100 on H9 CRT Video Terminal and Keyboard**

Displays twelve 80-character lines. Has auto-scrolling, scroll 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, 120/240 VAC, 60/50 Hz. 12"H x 15 1/2" W x 20 3/4" D.

Kit H9, 50 lbs. ...............................................$478.00

Adapt Cable. Interface H9 with other devices.

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

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**Assembled Cassette Recorder/Player**

This Heath-recommended assembled Cassette Recorder/Player is ideal for data storage use with computers. Features volume and tone controls, push-button select of record, play, rewind, fast forward, stop, eject. Also has built-in 3-digit counter with reset button. Factory wired, not a kit.

ECP-3801, Shpg. wt. 4 lbs. ......................................$60.00

Heath-recommended high output, low noise, premium grade audio recording tape. Pack of three 90-minute blank cassettes.

ECP-3802, Shpg. wt. 1 lb. ..................................$10.00

---

**Acoustic Modem**

Cat Modem by Novation lets your computer talk to other computers over standard telephone lines. Designed especially for the small computer, it 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. The ideal computer communications link. Many practical and fun applications. Fully assembled.

WH13, Shpg. wt. 3 lbs. ........................................$195.00
Printers: from low-cost matrix to letter quality font

Popular LA36 DEC Writer II Provides Sharp, Clear "Hard Copy" Printout

Sensational Low Mail Order Price!

$1495.00
Fully Assembled! Prepaid! Shipment!

The H36 (LA36 DEC WRITER II) is shipped Motor Freight, prepaid to your nearest terminal in the Continental U.S.

The H36 DEC Writer II, For 120 VAC, 60 Hz..............1495.00
H36-1 fan-fold Paper for H36. Standard 147" x 11" white and green, single-part, lined paper, 3200 sheets per carton. H36-1, Shpg. wt. 47 lbs. ..................20.00
H36-2 EIA Interface. Provides EIA RS232C interface for LA36, 9-ft. cable with 25-pin data set type connector. H36-2, Shpg. wt. 1 lb. ..................65.00
H36-3 Acoustic Coupler. Provides hookup to phone lines for tele-sharing. Kit H36-3, 10 lbs..................250.00
H36-4, Ribbon Accessory, Shpg. wt. 7 lbs. ............15.00

DEC is a registered trademark of Digital Equipment Corporation.

Compact, Versatile DEC Desktop Computer Teleprinter

Convenient desktop design makes the LA34 ideal for office uses

Desktop teleprinter prints the full 128 character ASCII set with switch selectable 110 and 300 baud rates. Offers true 30 cps print speed, adjustable character width, adjustable line spacing, clearing print through a 9x7 dot matrix head. Designed like a standard typewriter for operator ease and convenience, the LA34 features standard scissor keyboard, cartridge ribbon change, automatic line feed and more. Includes EIA RS232C standard interface cable, tractor feed, ribbon and paper. 7" H x 23" W x 35/4" D. For 120 VAC, 60 Hz. WH34 DEC Writer IV, Fully Assembled and Tested. WH34, Shpg. wt. 40 lbs..................1295.00
WH34-1, 3 ribbon cartridges, wt. 1 lb. ...........30.00

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

$625.00

One of the lowest-cost microprocessor-based printers
Can be used with H8, H11A or most other computers

The H14 prints standard 96-character ASCII set (upper and lower case) on 5/7 dot matrix print head. The impact printer uses readily available 0.5" wide nylon ink ribbon on 2" spools. Maximum instantaneous print speed is 165 characters per second with selectable line length of 80, 96 or 132 characters. Line spacing is 6 lines per inch with 8 lines per inch software selectable. Baud rates selectable from 110-4800.

The H14 connects to the H8 or H11A computer by the use of a standard (RS-232C) serial interface or 20 mA current loop. Handshaking is provided by a busy control signal. Includes 25-pin male EIA connector and a matching paper catch.

The H14 is supplied in kit form or fully assembled and factory tested. 44½" H x 18¾" W x 14½" D. 120/240 VAC, 50/60 Hz. Requires H8-17, H8-18 or H36-14 software for H8; H8-11 or H8-111 software for H11 or H11A.

Kit H14, Shpg. wt. 33 lbs..........................625.00
WHH14, Assembled version of above. Shpg. wt. 27 lbs..................885.00
H14-1, 3200 sheets 9¾" x 11½" Fan-Fold Paper for use with H14, 31 lbs..................30.00

Heathkit WH24/T810 Line Printer is a complete unit at an affordable price

$1895.00

Includes upper/lower case, floor stand and paper catch tray

The WH24/Texas Instruments 810 Line Printer is a high-quality, low-priced line printer that can make an impact on both your printing and your printer costs. It has features you usually don't find at such a low price - like optimized 150 cps bidirectional printing, which minimizes printhead travel time and maximizes efficiency, and vertical and horizontal tabbing, which team with bidirectional printing to produce maximized data, regardless of format.

The WH24 has a 256-character FIFO buffer that lets you receive data at speeds from 110 to 9600 baud. Programmable forms length and a wide carriage can handle multiple-part forms, tickets and reports from 3 to 15 inches in width. A 9 x 7 dot matrix character font prints clearer, more legible characters of an original, and up to five high-quality copies. The WH-24's adjustable tractor drives make it easier to operate. Once a form has been engaged by the tractor drives, alignment can be made at the main control panel.

Compare with other printers - and find out just how big an impact the WH24 can make in your office! 120/240 VAC, 8½" H x 25¼" W x 20" D. Needs WHA11-5 Serial I/O Card for H11/H11A only. Not required with other Heathkit systems.

WH24, Shpg. wt. 35 lbs..................1895.00
WH11A-5, Serial I/O Card, 1 lb. ............150.00

NEW

Fully Assembled!
H8/H89 Software gives you more ways to use your computer

Whether you're a hobbyist or in business, Heath has software to help 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.

Microsoft® BASIC: the most popular computer language. Microsoft BASIC is one of the most versatile languages for the personal computer. Programs are written in this BASIC. It 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 files; Powerful program edit and file management facilities; Powerful string processing functions including: LEFTS, RIGHTS, MID, ASC, CHR$ and concatenation; Automatic line numbering and renumbering; Double precision floating point number; PRINT USING for control of output formats; Error control via ON ERROR command; Variety of mathematical and logical functions as well as double precision math. Requires H8-17 (above) and a minimum of 32K memory.

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

Extended Benton Harbor BASIC: super-fast BASIC. Extended Benton Harbor BASIC is an easy-to-learn, easy-to-use conversational language. It features two different types of data: numeric data with over six digits of accuracy and Boolean values which permit logical operations. It also features free format programs, enhanced expression and conditional statement facilities. It provides even faster operation and includes character strings, additional convenience commands and math functions. Requires a minimum of 12K memory to run this BASIC. 16K is preferred for full use. Supports WH-14 line printer and WH-8 Interface Board. Supplied in 1200 baud audio cassette format.

H8B-14, Shpg. wt. 2 lbs. .......................................................... 20.00

Operating Systems Software Designed especially for the H8 Computer. Gets you ready for programming your H8 quickly and easily. Includes Benton Harbor BASIC, Assembly 'HASL-B', Text Editor for hard copy and Console Debugger (BUG-B) for entry and debugging of programs. Get all the performance you want from your H8 Computer, Supplied in 1200 baud audio cassette format, which requires H8-5 (optional) to load.

H8-16, Shpg. wt. 11 lbs. ......................................................... 20.00

Operating Systems Software for the H17 Floppy Disk System. Includes a diskette with the standard H8 software. Extended Benton Harbor BASIC, a 2-pass absolute assembler, a text editor to prepare source code for BASIC and other languages, a console debugger for easy debugging of programs and a full set of disk utility programs. Supplied on standard diskette.

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

H8 Business Accounting Software cuts costs

This total system, designed for the H8 Computer and H17 Floppy Disk System, can save you money. Includes those parts of Microsoft® BASIC and HDOS necessary to operate. Requires H18 Video Terminal (page 40) to operate.

Familiarity with HDOS (the Heath Disk Operating System) and/or general operating system terminology is required to implement these applications software packages. If you aren’t familiar with operating system terminology, visit your nearest Heath Data Systems dealer or Heathkit Electronic Center. We’ll be glad to help you with additional information and/or training before you buy.

NOTE: Due to lengthened field testing activity and documentation schedules, we sincerely regret that delivery of these applications packages has been further delayed by several months. Our pledge to offer only well-tested and documented software takes precedence over our desire to ship. We apologize for the inconvenience, and thank you for waiting so patiently. We’re confident that when you receive these software packages, you’ll be proud to own a top-quality product.

General Ledger Package. Heart of the total accounting system. Keeps a detailed record of all financial transactions and generates the balance sheet and income statement to provide timely information on your company’s financial status. Accepts data from all other parts of the business accounting software system, described on the opposite page. 150 accounts, 450 transactions.

H8-32, Shpg. wt. 5 lbs. ....................................................... .500.00

Have hours of excitement and fun with these H8 computer games

Supplied in 1200 baud audio cassette format, requires H8-5 (optional) to load.

Biorhythm. Plot your body’s biorhythm, know when to take on the world and when to stay home. Runs under extended BASIC, requires 16K RAM.

PA-82, 1 lb. ................................................................. 10.00

Space War. Guide, control and command the starship Enterprise as it travels through the galaxy. Requires 24K RAM. PA-83, Shpg. wt. 1 lb. ...................................................... 10.00

Game Set #1. Lets you play 8 popular computer games, including Craps, Orbit, Tic-Tac-Toe, Nim, Hexapawn, Hangman, Hammer and Derby. Requires 8K or more RAM. These games will provide hours of entertainment. PA-84, 1 lb. 10.00

CUSTOMER SOFTWARE SUBLICENSE GRANT

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This form MUST accompany your SOFTWARE order for:

Digital Equipment Corporation
□ PTSP-11 Paper Tape System

FOCAL/PTS Language Processor
□ NT-11 Operating System with BASIC

Retail Sciences, Inc. (RSI) — for use ONLY with Heath Model H8
□ H8-32 General Ledger
□ H8-33 Payroll

□ H8-30 Accounts Receivable
□ H8-34 Inventory

□ H8-31 Accounts Payable

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The SOFTWARE is furnished to CUSTOMER for use on the single CPU listed above only and may be modified, or copied (with the inclusion of LICENSOR’s copyright notice) only for use on such CPU. The CUSTOMER shall not provide or otherwise make available the Software or any portion thereof in any form to any third party without the prior approval of LICENSOR. Title to the ownership of the Software shall at all times remain with LICENSOR. LICENSOR AND HEATH JOINTLY AND SEVERALLY DISCLAIM ALL IMPLIED WARRANTIES WITH REGARD TO THE SOFTWARE LICENSED HEREUNDER, INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND FITNESS; and any stated express warranties are in lieu of all obligations or liability on the part of either LICENSOR or HEATH for damages, including but not limited to special, indirect or consequential damages arising out of or in connection with the use or performance of the Software licensed hereunder. This Sublicense Grant, the licenses granted hereunder and the SOFTWARE may not be assigned by the CUSTOMER without prior written consent from LICENSOR. No right to reprint or copy the SOFTWARE, in whole or in part, is granted hereby except as otherwise provided herein.

HEATH COMPANY

By: ____________________________

CUSTOMER

By: ____________________________

Customer’s Signature

42
The ACCOUNTS RECEIVABLE package is a complete invoice and monthly statement generating package that keeps track of current and aged accounts receivable. The current status of any account is instantly available. Permits sales or dun messages to be printed on statements, facilitates posting of payments and justifies amounts due. Debts and Credits can be passed automatically to the General Ledger software above. 250 customers, 750 transactions. H8-30, Shpg. wt. 5 lbs. $350.00

The ACCOUNTS PAYABLE package keeps tabs on current and aged accounts payable and incorporates a check writing feature. Maintains complete vendor file, passes transactions to General Ledger. 220 vendors, 450 transactions. H8-31, Shpg. wt. 5 lbs. $350.00

The PAYROLL package prepares payroll for hourly, salaried and commissioned employees while accumulating necessary tax reporting information. Can automatically write payroll checks. Up to 225 employees. H8-33, Shpg. wt. 3 lbs. $350.00

The INVENTORY SYSTEM package helps you achieve effective inventory control. Provides a data base for complete records to be kept on-line, lists inventory balance and preceding events, displays status of any item and provides stock counting. H8-34, Shpg. wt. 3 lbs. $350.00

Accessories give your H8 more capability
Use any or all of these accessories to expand the capability of your H8 Computer and make your system even more versatile!

10K Wired Memory Board. Lets you expand your H8 to the full capacity of the 9090A. Fully assembled and tested. Factory-burned-in to eliminate memory problems. WH8-16, Shpg. wt. 2 lbs. $395.00

8K Memory Board. 8kx8 memory card supplied with 4K memory plugs. Maximum storage capacity of 8192 8-bit words if expanded to 8K memory with H8-3 chip set below. Kit H8-1, Shpg. wt. 2 lbs. $95.00

4K Chip Set for H8-3. Kit of eight 4K static memory ICs. Expands H8-1 to full 8K storage. With sockets. Kit H8-3, Shpg. wt. 1 lb. $65.00

Assembled and Tested 8K Memory Board, H8-1 plus H8-3. Access time better than 450 nS. WH8-8, Shpg. wt. 2 lbs. $175.00

Parallel Interface. Connects H8 to any parallel interface, like printers which accept parallel 1/O. Three parallel ports. Compatible with all Heath software. Kit H8-2, Shpg. wt. 3 lbs. $150.00

Four-Port Serial Interface. Recommended to interface your H8 and H19 CRT to the Hitachi Line Printer. All four ports support a standard RS-232C interface including MODEM controls. One port is switch programmable for 20 mA serial loop. Software programmable baud rate. Includes one WH8-41 connection cable. Kit H8-4, Shpg. wt. 2 lbs. $150.00

Factory Assembled and Tested Version of Above. WH8-4, Shpg. wt. 3 lbs. $250.00

Adapter Cable for Use with H8-4. Provides EIA standard electrical and mechanical interface between H8-4 and other peripherals. WH8-41, Shpg. wt. 1 lb. $15.00

Serial I/O and Cassette Interface. Cassette interface with one serial 1/O port for control terminal. Note: H8-4 Above is recommended for H8 Computer Systems without cassette data storage. Kit H8-5, Shpg. wt. 3 lbs. $95.00

Factory Assembled and Tested Version of Above. WH8-5, Shpg. wt. 2 lbs. $120.00

Adapter Cable for use with H8-5. Provides EIA industry standard electrical and mechanical interface between H8-5 and other peripherals. For use with H8 Computer. Factory assembled and tested. WH8-61, Shpg. wt. 1 lb. $15.00

Circuit Design Breadboard Card. Lets you custom design your own analog or digital circuits. Make additional interfacing or create your own memory boards. Uses solderless breadboard sockets. 5 VDC power supply for logic circuits is provided on the board. Kit H8-7, Shpg. wt. 2 lbs. $90.00

H11A accessories, software and interfaces add flexibility

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 entire new front panel. Kit H803-55, Shpg. shed. prepared $53.50

4K Memory Expansion Module. This module plugs into the backplane of the H11 or H11A Computers. It adds 4K x 16-bit word capacity to memory. Uses high-reliability 1K x 4 static MOS RAM chips. Access time is less than 500 nS. Module contains decode circuitry for operation on 4K address boundaries, and has a handle for easy installation and removal. Kit H11-11, Shpg. wt. 2 lbs. $125.00

Assembled and tested version of 4K Memory Expansion Module. H11-1, Shpg. wt. 2 lbs. $150.00

Parallel Interface. General-purpose parallel interface featuring 16 diode-clamped latched data input lines, 16 latched output lines, 16-bits word or 8-bit byte data transfers. Has LSI-11 bus interface and control logic for interrupt processing and vectored addressing. Control status registers compatible with POP-11 software routines. Maximum data transfer rate, 90K words per second under program control. Maximum drive capability, 25 ft. cable. Also compatible with TTL or DTL logic devices. The H11-2 Parallel Interface can be used to interface with printers or other devices which require parallel 1/O. Kit H11-2, Shpg. wt. 2 lbs. $95.00

Assembled and tested version of H11-2 Parallel Interface. H11-2, Shpg. wt. 1 lb. $150.00

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 49) and the H800 802 Writer II (see page 51). It has an optically isolated 20 mA current loop or EIA interfaces, selectable baud rates of 50 to 9600. Plug into H11 backplane, fully compatible with PDP 11/03 and other LSI-11 backplane machines. The H11-5 Serial Interface is supplied with all mating connectors. Kit H11-5, Shpg. wt. 2 lbs. $105.00

Assembled and tested version of H11-5 Serial Interface. WH8-5, Shpg. wt. 1 lb. $150.00

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/A11 Computer. Fully assembled and tested. WH8-51, Shpg. wt. 1 lb. $15.00

16K Memory Module. Provides 16K dynamic MOS random access memory on a 5" x 9 1/2" board. Has on-board refresh, cycle time of 570 nS and access time of 250 nS. Fully assembled and tested. Fully expand memory with only two of these boards! Maximum memory capacity of H11A is 30K words. WH11A16, Shpg. wt. 2 lbs. $480.00

32K Memory Module. Provides 32K words dynamic MOS random access memory, with same 570 nS cycle time and 250 nS access time as WH11A-16 16K Memory Module above. Fully assembled and tested. Fully expand memory with just a single board! Maximum memory capacity of H11A is 30K words. WH11A-32, Shpg. wt. 2 lbs. $955.00

H11-B 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 the H11-B leaves memory space, too. The 40-pin dual-in-line package integrated circuit (IC) plugs into a socket on the H11/H11A board. H11-6, Shpg. wt. 1 lb. $150.00

Look over the Manuals before you buy. Complete manuals for H11A Computer, H11-1 4K Memory Board, H11-2 Parallel Interface, H11-5 Serial Interface and H19 Video Terminal. Also includes complete software documentation. Get a first-hand look at the accurate, easy-to-follow 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 buy an H11A Computer, we'll deduct $25.00 from the purchase price. HM-1100 Manual Set, Shpg. wt. 12 lbs. $25.00
HUG has over 400 exciting programs for your computer

The Heath Users' Group keeps you up to the minute 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 400 user-submitted software programs — including special utility routines, computer-aided instruction, financial packages, amateur radio applications programs, 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 submission 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 400 user-submitted programs. Imagine between 50 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
- Stack 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 write HUG Membership, Hilltop Road, St. Joseph, Michigan 49085. H11 owners are also eligible for membership in DECUS, the Digital Equipment Computer Users' Society.

Personalize your kits with this Engraved Brass Name Plate

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$1.60 each for 2 or more $2.00 for one

Personalize each Heathkit project with one of these handsome, engraved name plates. Made of solid brass with brushed jeweler's finish, the name plate is a great way to show the world your pride in the kit you built yourself. Self-adhesive backed for easy application. To order, simply complete form below and include with any regular kit order from this catalog.
Learn the programming languages that help you get more of the full capability of your computer

Heathkit Self-Instruction Program for Assembly Language

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

Assembly Language lets you do everything your computer is capable of doing. It's the most versatile, most powerful language you can use. Assembly includes a mnemonic for every machine operation. No need for programmed memory, no time wasted interpreting. So programs run faster. Assembly makes more efficient use of memory. It stores in less space because codes are shorter, more explicit. The Heathkit Self-Instruction Program teaches you to program Assembly. You learn at your own pace through a special 400-page text designed for self-study. An exercise workbook provides hands-on experience with programming exercises performed by you on your computer. The programmed instruction is so thorough that you can learn to program a computer by studying the text and test questions. To do the optional experiments — necessary for gaining the full benefit of the Program — you must have a computer.

The Heathkit Program is designed for computers using the popular 8080/8085 microprocessor series, which uses standard Intel 8080 mnemonics. This includes the Heathkit IH8, IH88 and IH89 Computers. Upon completion of the Assembly Program, you will be able to write your own programs to serve your specific needs. And you'll be able to do it in the most flexible, most functional of all languages. The only limit to what you can do will be the capacity of your CPU.

Along with text and workbook, the Program also includes a special Reference Placard containing all 244 Assembly Instructions for easy reference. The other side of this placard contains the ASCII code chart. Passing the Program's final exam (70% or better) earns you 6 CEU's.

With Heathkit Programs, computer languages have never been easier or more fun.

Now's the time to learn the language that puts you in total command of your computer's full potential. Send today for the Heathkit Self-Instruction Program for Assembly Language. EC-1108, Shpg. wt. 7 lbs. ...49.95

Heathkit Self-Instruction Program for BASIC Language

- Easiest of all languages to write
- Now easiest of all to learn
- Hundreds of programs available in BASIC

More programs are written in BASIC than any other language. Because it uses English words, it's the easiest to learn and the easiest to write. When you know BASIC, you can adapt and run hundreds of existing programs. You can exchange programs with others. You can write your own programs. With BASIC your computer can express algebraic terms and automatically perform 1/0 operations. The Program covers all formats, commands, statements and procedures, plus special creative problem-solving tips you can use when writing your own programs.

In 14 easy-to-follow segments, you learn BASIC words, decision making, numbers, statements, functions, loops, lists and arrays, strings, programming techniques, programming tools, how to define and plan a program, how to format and write a program, and how to adapt existing programs. Each segment has its own objectives, text and review test. A special workbook provides programming instructions and experiments performed by you on your computer.

Also included 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. Three appendices provide descriptions and playing rules for computer blackjack, a summary of microprocessor number systems and codes, and an introduction to Benton Harbor BASIC and extended Benton Harbor BASIC.

While the BASIC Program is keyed to Heathkit computers, it is equally applicable to any computer system using BASIC. Passing the Program's final exam (70% or better) earns you a certificate of achievement and 3 CEU's.

With Heathkit Programs, computer languages have never been easier or more fun.

Until you know BASIC, you're missing the full selection of programs available to you. Send today for the Heathkit Self-Instruction Program for BASIC Language. EC-1100, Shpg. wt. 7 lbs. ...39.95

Money-back Guarantee
Programs on this page carry a complete refund of purchase price, if you're not satisfied.

Is your business ready for a computer? Here's an easy way to find the answer.

Heath's new "Computer Concepts for Small Business" is designed to give you the information and understanding to intelligently evaluate the uses you can make of a computer in your business. Are the benefits worth the cost? Heath's new program helps you decide.

$49.95

Designed for the businessman who knows little or nothing about computers, Heath's new Computer Concepts for Small Business shows you how a computer can serve your business. The program covers:

- The Computer and How It Works: Types of memory, types of storage media and I/Os and types of software. A detailed discussion of applications software covers the typical tasks a computer can perform for a small business.

The Data Processing Department and Personnel: Organization of a typical DP department, duties of personnel, advantages of permanent employees vs. free-lance people.

Alternatives in Computer Services: advantages of owning vs. time-sharing vs. service bureau, and the common problems of each.

How to Select a Computer: how to define your DP requirements, how to put together equipment combination of hardware, peripherals and software.

The Program includes a 160-page text with 3 appendices and 3 cassettes. Completion of the final exam with a passing grade of 70% earns you 1 CEU.

A computer is a big investment. Computer Concepts for Small Business is a small investment to acquire the understanding needed for an informed decision.

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

45
Computer Work Station organizes your computer system, adds efficiency

- 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 61/2" H x 20" W x 19 1/4" D, while the lower shelf is 7" H x 20" W x 19 1/2" D. Rugged black steel legs and black sheet metal shelving 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.

PD-11, Shpg. wt. 35 lbs., Motor Frt. ........295.00

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. 5 1/2" H x 3" W x 1 1/4" 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. EDP-275 ..............8.95
- 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

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