REMark

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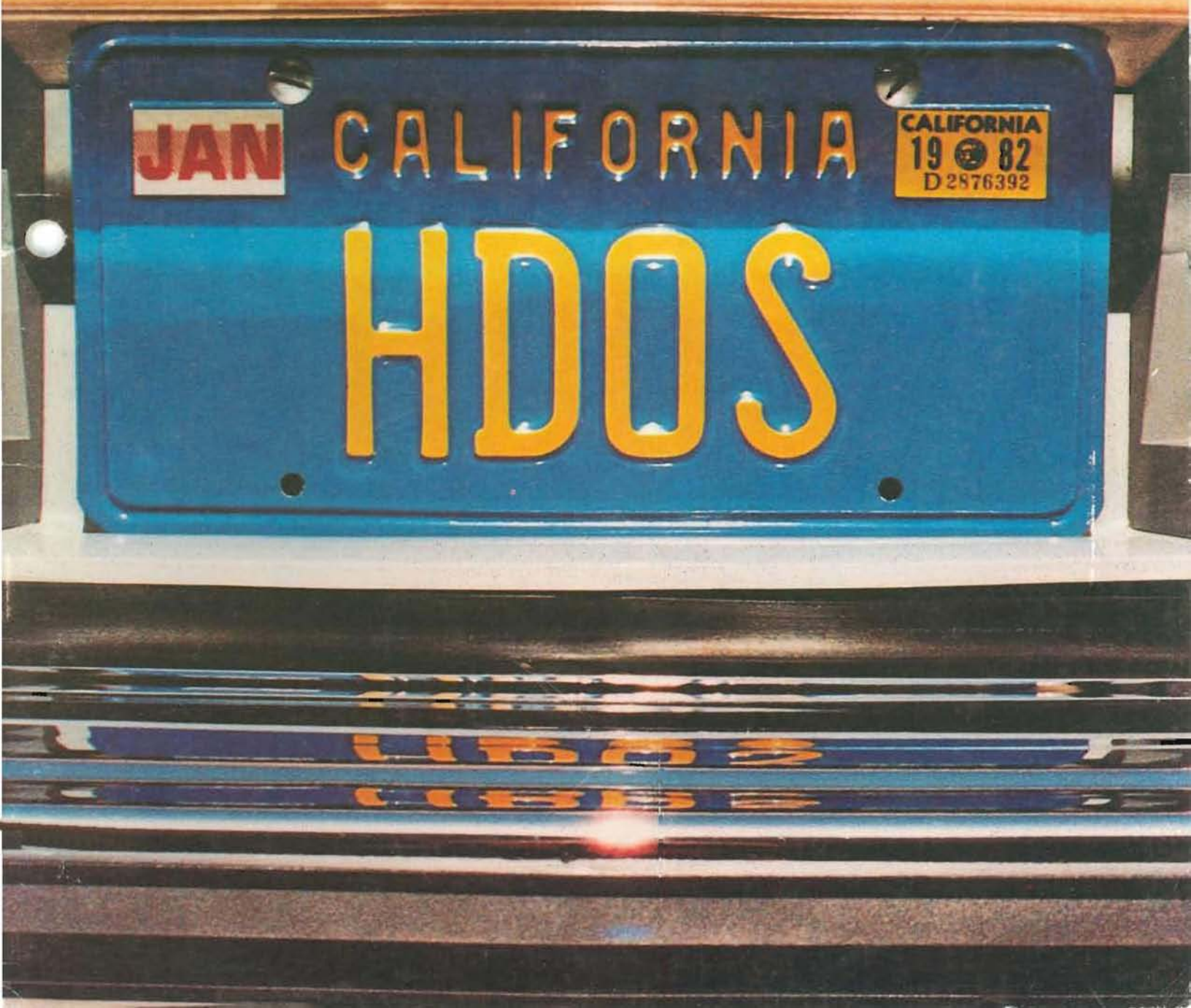
Official magazine for users of Heath computer equipment.



on the cover . . . .

HDOS '82 "mounted on a Chevy Citation.

Photo by: Jerry Zuckerman.

on the stack

>CAT

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REMark

HUG '82

This issue of REMark is indeed a landmark for the Heath Users' Group. Over the last 12 months, your HUG team has produced 10 magazines with a true variety of goodies for the membership. We have received some of the best software in HUG's brief history. With this issue of REMark, thanks to the outstanding effort of Larry Lankston, we have now a complete cross-reference to ALL articles presented in issues 1 to 23. Additionally, REMark Volume I, containing issues 1 to 13, is hot off the press with REMark Volume II, containing issues 14 to 23, to follow shortly. The cross-reference along with Volumes I and II will provide the new member a method to catch up with the rest of the fellow users and, for those of you that have been with HUG, a method to look up those articles that escape our memories as time goes on.

Also contained in this issue, you will find a complete review of the new software that many of your fellow users have submitted during the past year. Each new product is described here as it was when first introduced in 1981. It is the feeling of each of us here at the National HUG, that this software collection is some of the best that HUG has had to offer in the form of games, utilities, business and education. We hope this trend for well developed software will continue as each of you become more familiar with your computers. Our thanks goes out to those individuals who have contributed to the growth of the Heath Users' Group during the past year.

What should the HUG member expect for 1982? HUG is now preparing a new (and sorely needed) SOFTWARE CATALOG with more complete abstracts for programs in the HUG Library. We are currently reviewing our software offering to remove or rewrite those programs that are either of little value or have become obsolete with changes in the software required to support them. Therefore, the software you will receive in the future will be typical of software being developed and used daily by fellow members.

TWELVE ISSUES OF REMark is another goal of HUG. During 1981, we delivered 10 issues and we now want to provide the current membership and future members with an entire year of REMark. To accomplish this goal, and to further support the Local HUGs all over the country, we intend to publish a complete listing of all HUGs to ensure the best possible support for the individual user. We are now in the process of compiling current club information and would hope that each of your club officers would respond to this request. Also, HUG will need more of the valuable information that you as users of Heath/Zenith computers have supplied over the past year. With the input from the Local HUGs and with additional articles supplied for fellow users, we can work together to make REMark more useful than ever before. Remember, an article does not have to be complex to be worthy of print. Many of our friends are just beginning to explore the power of the personal computer.

MORE SOFTWARE to use with the Heath/Zenith computer is another goal of HUG. To accomplish this particular goal, HUG will be looking to add more full-time staff members to do nothing but look at and review the software that you wish to contribute for the membership. HUG will then select those programs which will help other users to better understand or use the computer for specific purposes. All of us have been very fortunate to have available to us the type, quantity, and quality software submitted in the past. By expanding the HUG staff, we hope to offer even more software in the future.

Obviously, we have been looking into even better ways to improve the offerings of the Heath Users' Group to the membership. As we proceed into this new year, we will be making various announcements of special programs that will be available to the members as details are worked out. Your HUG team is working very hard to ensure that the membership is well supported and extends an invitation for each of you to give us a call if you should have questions that we can possibly help you with. It is our goal to give the best possible support we can during 1982.

Friends and fellow HUG members, 1982, looks very promising for new developments in Heath/Zenith software and hardware, support articles and user software, as well as a continued growth of HUG. HUG hopes that each of you will help us as we look forward to the expansion of the Heath/Zenith computer product line. Your HUG team, as always, wishes you a HAPPY NEW YEAR!

BE:

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4.000 Related Products

HUG Products for '81

Games

885-1088 MBASIC GAMES DISK $20.00

The newest of HUG's games disks will include excitement for all! This disk, designed mainly to the "kid" in all of us, contains an excellent video graphics version of the ever popular LUNAR. This game requires that you land your lunar "module" at 3ft./sec. or suffer the consequences. On a successful landing, contact with Houston is established just before your "ship" is launched from the surface of the craterous moon.

Las Vegas style Blackjack is a game designed for two players. This game also features video graphics for dealing the cards. You have your choice of the amount of $ you wish and the amount of the bet up to $500.00 (table limit).

Two interesting games are included for the kids! However, both are fully documented to allow programmers to "play". Nit (Nelan Is Thirsty) and DTC (Deposit The Chair) are small adventure type games written for MBASIC. The reference files included with these games allow construction of your own "Adventure"! Both games use video graphics to display a "Magic Map" that allows you to track your movement as you play.

Bowling is a display of the computers capability to keep score for a typical game of random "rolls" of the bowling ball. The game handles up to five players and uses video graphics to simulate the normal score sheet used by most bowling establishments. Guess is another random game where players are asked to choose a number between 1 and 100. The computer then tells the player if the number selected was higher or lower. Video graphics, averaging and totals are all components of this package.

ROBOT CHASE is an extensive graphics game which includes "electric fences", a teleportation device and lots of action. Skill levels are selected by the player from 1 to 9. As you become accomplished at "getting away" from the robots, the skill level automatically advances. Also,

if you fail, the skill will decrease for your next attempt.

This game package is fun for all, even the programmer! The games are designed for an H-8, with the H-17 and H-19, or the H-89 using MBASIC (48K RAM required).

885-1093 DND HDOS DISK $20.00

DND.BAS is the HUG version of the popular game "DUNGEONS AND DRAGONS". The object of DND is to find the lord master of the 50 level Heathkit Dungeon by exploring it. You will begin your search on level 1 where there are taverns in which you may cash any gold you find for experience points. Accumulated experience points will allow you to become a higher level character.

During your quest you will encounter many obstacles and find objects that may at sometime help you in your search. The deeper you go into the dungeon the harder it will be to survive as a low level character. The lord of the dungeon will be found in a HEATHKIT VAULT. As the game progresses you will be given the combination. The lord may or may not be there -- other mysterious things may be in a vault -- so beware!

The minimum system requirement is a 56K machine, H19 or H89, HDOS Microsoft BASIC, and two drives. You will use ALL available memory so you will not be able to load any device drivers.

The instuctions are very brief. There are many aspects of the game to explore. Be adventurous, be careful and have fun!!!

885-1096 MBASIC Action Games $20.00

Take a scenic drive, destroy your opponent's tank, shoot the enemy planes down, surround your opponent, blast your way out or just doodle a while with this MENU driven HDOS MBASIC games disk.

The 885-1096 disk comes with its own PROLOGUE.SYS and a linking MENU.BAS to allow Turn-Key type operation. You will have to supply HDOS and MBASIC.ABS. You also need the H89 computer or H8 computer with the H-17 disk drive and H19 terminal.

The action with several of the games included on this disk is created by a real-time user-defined function. This user-defined function is explained on page 24 of Issue 18 of REMark.

The action games are Tanks, Planes, Surround and Scenic Drive.

Don't be fooled by the SCENIC DRIVE, as you will have to remain on one of the most crooked roads in AMERICA. This road is almost as bad as the world famous Lombard Street of San Francisco. Try negotiating this road at 55 miles per hour, many have tried but few have made it past the hair-pin curves.

The AIRPLANE game has enemy planes flying overhead and your mission is to shoot as many as possible with your gun and guided missle.

The TANK game is for two players and the object is to shoot the other's tank and to avoid the large mine field.

The BLAST game is also for two players. Each trying to blast his way out without being blown up by getting too close to one of the mines when they explode.

The SURROUND game is a really tough one in that the two opponents are trying to get the other into a corner causing their opponent to destroy him/herself.

The DOODLE program is just that, doodling. You can draw pictures on the terminal and then save them to disk. Retrieval is done in HDOS by typing the file to the terminal.

885-1103 SEA BATTLE Game for HDOS $20.00
885-1211 SEA BATTLE Game for CP/M $20.00

Move over, Space Invaders! Here comes SEA BATTLE, a fast action graphics game for HDOS or CP/M on an H89 or H8 with H19. Imagine that you are the captain of a single high speed destroyer with two guns, and you face an armada of a huge carrier with fighters, bombers, and escorting submarines. You maneuver your ship into position to fire. Watch out! Those fighters and bombers are attacking! Your ship can take a few fighter hits, but one bomb and your sunk! If you are sunk, your radioman has time to get off a quick SOS and the Admiral gives you another ship, but he only had 5 to start with, so be careful. Finally you manage to cripple a few of the fighters and bombers and score a hit on the carrier, but what's that on the horizon? A periscope! Quick! your only defense against submarines is evasion. And you have to score 14 more hits on the carrier to sink it. And if you do sink it, his radioman sends an SOS as the ship sinks into the waves, and soon another carrier, armed more powerfully than before is sending waves of fighters and bombers after your ship!

This game features scoring, bonus points, and records your name and score if you

score the highest. A freeze mode lets you answer the phone (or whatever) right in the middle of a game. SEA BATTLE was written by Victor A. Abell, author of Pinball and Reversi on HUG disk 885-1067, and requires a 32k system. The complete source code is included!

885-1111 HDOS MBASIC GRAPHIC GAMES $20.00

All of the games on this disk require Microsoft BASIC and 48k of memory, except WORD, which requires 56k. For the H89 or H8/H19.

WORD -- This is a computer version of Parker Brother's "Probe" (TM) word search game. One to 3 people can play against each other and the computer. The computer has a library of 500 words to choose from. This game is educational as well as fun.

SECTOR -- In this game you try to defend up to 5 sectors of the galaxy against invading aliens. You try to shoot the aliens and aviod hitting the allies.

MASTRMND -- This is an excellent graphics version of the traditional "Mastermind" game, in which you try to guess a coded series of colors.

POKER -- This game simulates the coin operated poker machines found in some casinos.

WINNING -- This is the child's game of "paper scissors rock" in H19 Graphics.

ACEY -- "Red Dog" or Acey-Deucy in H19 Graphics.

CHECKERS -- If you like to play checkers, now you can do it with a computer.

ONECHECK -- A variation of checkers in which you try to jump as many pieces as possible.

885-1112 HDOS GRAPHIC GAMES $20.00

This disk contains BASIC and machine code games. The BASIC games will run in either B H BASIC or MBASIC without modification. For the H89 or H8/H19.

KENO -- This game simulates Las Vegas style Keno using H19 graphics for the playing card and for drawing balls. It requires 48k if you use B H BASIC or 56k if you use MBASIC.

HORSES -- This is a horse race simulation game that several people can play together. It maintains a disk library of several "horses" from which horses are picked for each race. Payoffs are based on the horses past records, which are recorded at the end of each playing session. The name of the highest winner is also recorded. Simple animation makes the game more interesting. Requires 32k with B H BASIC, or 48k with MBASIC.

SPY -- This is a game of industrial espionage. A rival company has stolen plans from your company, and it is your job to break in and retrieve them. H19 graphics are used to show floor plans, etc. Requires 48k (B H BASIC or MBASIC).

CRAPS -- The traditional dice game -- in graphics. Requires 32k.

FANTAN -- Fan-Tan is a card game for 4 players. In this version, the computer plays 3 of the hands and you play the 4th. Can you beat 3 computer players? Requires 32k for B H BASIC, or 48k for MBASIC.

ACKACK -- This is a machine language action game in which you try to shoot down "airplanes" before they shoot you. Requires 32k, and the source is included.

BRKOUT -- Here is another variation of the "Breakout" TV game. You are scored by the number of "bricks" you knock out. No source is available for this program, which requires 32k.

885-1113 HDOS FAST ACTION GAMES $20.00

How fast do you react? These games will help you find out. They will all run on an H89 or H8 with H19, and require 32k of RAM. Source code is included.

BREAK19 -- This is a variation of the "Breakout" TV game in which you try to break through barriers with a ball hit from a paddle. It features user selectable playing speed, bonus points, and weighted scoring.

SKI -- This game simulates a slalom ski race. You try to control your "skier" as he races down a zig-zag course. It has user selectable playing speed and scoring.

SNAKE -- In this game, you control the movements of a snake as he crawls around your screen. You try to reach the "food" without hitting a barrier or looping back on the snake, and the snake keeps growing! With user selectable speed and scoring.

BUGS -- This is the traditional "Life" game in which "cells" react to produce interesting patterns on the screen. This version uses H19 graphics and runs

extremely fast. It will not work on an H8 that uses the H8-5 card for the console.

885-1209 DND Game for CP/M $ 20.00

This is a CP/M version of HUG's popular Dungeons and Dragons game. This game is virtually identical to the HDOS version (885-1093) described in REMark #16. As with the HDOS version, the object of the game is to find the Lord Master of the 50-level Heathkit Dungeon. There is a never-ending supply of Monsters you must fight and other obstacles to overcome as you make your way deeper and deeper into the huge dungeon. One item we forgot to mention in the REMark #16 description is that this is a real-time game. This means that you have only a short time in which to decide what to do. If you wait too long, a monster could appear, or you could get teleported (ZAP!) to another part of the dungeon.

This program requires 64k of memory, an H19 or H89, Heath CP/M, MBASIC 5.2, and two drives. Even though this is a BASIC program, it plays very fast. A Dungeons and Dragons master player told us that it is the best computer implementation of the game that he has seen.

Color Graphics

885-1098 H8 Color Graphic .ABS/.ASM $20.00

This is a collection of color graphic software for the HA-8-3 Color Graphic Board for the H8. The following programs are included:

MUSICK -- This program paints a colorful kaleidoscope on your color monitor while playing music through the HA-8-3's Sound Generator. It plays the same song files as the HA-8-2 Music Board except that only 3 channels are available. One sample song is included.

COMPOSE -- This program is part of the software for the Music board. It allows you to enter songs from conventional sheet music and compile them into files required by the MUSICK program.

GLOBE -- This program draws a rotating line drawing of a globe.

BLKJCK -- A standard computer blackjack game with the cards drawn in color.

DOODLE -- A program for the kids that lets them draw simple pictures using the arrow and function keys on an H19.

AFLAG -- This program paints an American flag on the color monitor.

The source listing for all programs is included, as well as all necessary .ACM files. Requires at least 32k, HDOS, and an H8 with the HA-8-3.

885-1099 H8 Color in Tiny Pascal $20.00

These programs show one of the best uses for HUG's Tiny Pascal (885-1086), that is, to write graphic software. This disk includes the following:

STRING -- This program draws interesting line patterns on the screen that resemble "string art". It includes some procedures that may be useful in other programs, such as one to draw a line from any one point on the screen to any other point. NOTE: This program requires the 9918A color processor.

TEST -- This program provides an easy way of determining the values being loaded onto the HA-8-3 board by joysticks and pushbuttons. These values are displayed on the H19 terminal and are loaded into the various graphic and sound chips. The author, Fred Pospeschil, presents in his documentation a proposed standard for joysticks so that software can be easily traded.

JIM -- This is a game (named after Fred Pospeschil's son) in which you must shoot down a Darth Vader like ship as it moves across the screen. There are sound effects, scoring, and a wide range of user selectable speeds. Two versions are provided. One requires a joystick to move and fire the "Phasor cannon", while the other allows you to do it from a terminal.

These programs require 32k of memory (48k if you want to re-compile them), HDOS, and an H8 with the HA-8-3. Some require an H19. You will need Tiny Pascal if you want to compile the programs.

NOTE: HUG is presenting this software mainly to help you write other color graphic software. The games have little aesthetic value when compared to something like DND, but should help you understand how the color board works.

885-1114 -- COLOR RAIDERS AND GOOP $20.00

These games are for the HA-8-3 Color

Graphics board for the H8 computer. Requires HDOS, 32k of RAM. Source is included.

RAIDERS -- In this game, the color monitor is the view from your space ship into space. You are persuing an enemy space ship. Suddenly a small fireball of energy appears to come from the enemy ship. It grows larger and larger, and finally an explosion rocks your ship. You steer towards him and fire your phasers. Missed! Fire again! Got him! You see his ship break up into pieces, then another enemy ship appears. This game features realistic star field movement, sound, scoring, user selectable speed, and H19 keypad control.

GOOP -- In this game, you shoot at decending space creatures. It can be played from a joystick (contact type, or pushbuttons), from the H8 keypad, or from the H19 keypad. Your hit count is maintained on the color screen.

HDOS Utilities

885-1022 HUG EDitor V 2.0 $20.00

The HUG Program Development Editor (ED), a fast character editor, has been improved. Version 2.0 offers all of the previous version's features plus the following enhancements. It now can delete (backspace) correctly through tabs and even through a carriage return or new-line (does an automatic control-R on the previous line if you delete a new-line). You can insert escape characters into the text and view them in two ways: as true escapes for graphic effects, etc., and as " [" so that you can see where they are. A command has been added to put a line gauge on the 25th line of H19/H89's and to remove it. Version 2.0 is compatible with all mass storages devices supported by HDOS (SY:, DK:, or custom). It has a CP/M style printer toggle that lets you send any part of a file to a printer while you are editing. It will run on any version of HDOS since 1.5 and requires only a minimum system. Source code is included.

SOFTWARE UPDATE

885-1078 HDOS Z80 ASSEMBLER $ 25.00

The HUG Z80 Assembler has been updated to a completely new version. It is now fully compatible with the HDOS 2.0 Assembler, including cross reference capability and PIC code handling. The disk includes two versions: one with octal output and one with hex output. This assembler uses extended Intel mnemonics, which means that all 8080 instructions use the same mnemonics as the Heath assembler, and all Z80 instructions are like 8080 mnemonics. This allows you to assemble existing programs with this assembler without modification. The documentation included cross references this assembler's mnemonics to Zilog mnemonics. This program requires HDOS and at leas 32k of memory.

885-1089 MACRO, CTOH, and Utilities $20.00

This disk is a new collection of HDOS utilities, and contains the following:

MACRO -- This is a macro pre-processor for the standard HDOS assembler. It provides full macro capabilities to the ASM user, including nested macros and nested definitions. It can link to ASM and pass a command line to it so the two appear to the user as one macro assembler.

CTOH -- This is the complement to H8COPY on disk 885-1207. It allows you to copy CP/M programs to HDOS (5-inch CP/M only). It runs under HDOS and can display the CP/M directory.

HTERM -- This program turns an H89 or H8 with H8-4 and H19 into a terminal for use with another computer. It allows all escape codes and normal control characters to be transmitted and recieved, and can send breaks. It can transmit files from disk to the external device and can store and save or print incoming data. Although it was designed as a terminal for other computers, it also can be used as a modem program for MicroNET, etc.

IHEX and IABS -- These programs convert files from .ABS format to Intel HEX format and vice versa. The Intel HEX format is ideal for sending machine code programs over a modem, because it provides load address and entry point information and a checksum for every 16 bytes of data. The IABS program reports any checksum errors by address when loading a HEX file so you can quickly locate errors and make a good file from two bad ones. IHEX lets you develop programs for CP/M with the HDOS assembler, convert them to HEX, then copy them over and LOAD them.

TAB2SPC -- This program was written in answer to those &%$#@!!! editors that replace spaces with tabs in text files. It replaces those tabs with the correct number of spaces so that the appearance of the file is maintained.

These programs require HDOS and at least 32k of memory.

885-1090 MISC. HDOS UTILITIES $20.00

This disk is a collection of utilities for HDOS. It contains the following:

CCAT -- This is the HDOS version of the CAT program on 885-1213. It is an alphabetizing disk directory that can display up to 66 files on your terminal without scrolling. Files are alphabetized by column for easier reading. The size in sectors and flags of each file are shown. The program also displays the disk volume number, label, the number of files, and free sectors. Three switches are provided to control the display. They are /S to show system files, /A to show allocated sectors, and /P, which causes the directory to go to LP:.

HPLINK -- This is an HDOS version of the MPLINK program on HUG disk 885-1212. It is a modem communication program that provides for file transmit and receive, automatic log-on, and optional XON recognition. It uses the function keys and 25th line, and maintains a buffer free space indicator.

MBSORT -- This is a Schell-Metzner sort program designed to be called as a USR subroutine from MBASIC for fast sorting. Two versions are provided for general or keyed sorting.

RELOC -- This program can be appended to other programs to create a program that can be loaded anywhere in memory. It is used with MBSORT to put it in high memory, above MBASIC and your programs.

ENABLE -- If you have an H8 with the Extended Configuration Option, you can use this program to enable the low RAM in your system and use it to store USR programs for MBASIC, etc. Not for use with H89's.

AH -- With this program you can transfer programs from HDOS to Autoscribe and from Autoscribe to HDOS. When you go from HDOS to Autoscribe, you can instruct AH to force an End of Line (<) for each HDOS New-line character, or you can tell it to leave them off so Autoscribe can justify the file. In this mode, AH will insert End of Line characters when there are skipped lines in your text, to preserve paragraph separation. AH creates a new entry in the Autoscribe directory for files transferred from HDOS, counts the characters in the file, and places the name, count, and current HDOS date in the directory.

885-1092 RDT Debugging Tool $ 30.00

Here at last is a really useful debugging tool for HDOS users. RDT (self-Relocating Debugging Tool) automatically moves itself up to high memory when it loads, allowing you to debug programs in the normal user memory area. It gives you control of all memory locations, ports, and 8080 registers. It lets you set breakpoints or single step through your program, and it prints out register values after each step while single stepping so you can trace every action taken by your program.

RDT can work in either the octal (split octal) or hex base, can convert between bases, and can add and subtract in both bases. It includes a mnemonic disassembler that prints out hex or octal addresses and data, mnemonics, and ASCII equivalents. RDT has printer commands that let you send memory dumps, disassemblies, etc. to a hardcopy device. Its disk commands let you load or save files anywhere in free user memory, and it even has cassette tape load and save commands (tape commands will not work on an H89 modified for ORG 0 CP/M).

RDT also makes an excellent patch utility, and can load user or system files for patching. You can patch in hex, octal, or ASCII, and you can check your work with the built in disassembler. Patched files can be given a different name and/or saved on a different drive, providing protection of the original.

RDT includes the complete source code and a printed user manual. It requires an HDOS computer system with at least 32k RAM (to allow sufficient space for debugging). With 48k, RDT can load MBASIC for patching or whatever.

885-1095 HUG SY: Device Driver $30.00

The HUG SY: Device Driver is a replacement for the standard Heath SY: device driver for H17/H77/H87 mini-floppies written for HUG by UltiMeth Corporation. It offers the following features:

1) A 35% reduction in time to load large programs (e.g. MBASIC) and in copying large files using PIP.

2) Individually SETtable step times for SY0:, SY1:, and SY2:.

3) The ability to SET the time interval after a disk I/O operation that the read/write head stays loaded. This allows the head to remain loaded between rapid I/O operations (as when loading MBASIC programs or when editing files), reducing

head and media wear.

4) The ability to SET the time interval the motor stays on after disk I/O.

5) The ability to perform a media check during INIT, eliminating the need for TEST17 except for drive check-out.

6) Recording of the step time in the boot track during INIT, resulting in up to a 50% reduction in boot time for fast drives.

7) Improved error recovery which temporarily increases the seek step time during the error retry of a disk operation. This allows the step time to be SET to give the fastest usable seek rate, and still handle an occasional error.

8) Circumvention of a bug in the H17 ROM disk read routines.

9) An attempt to initialize a write protected diskette is detected when the disk is inserted in the drive during INIT, not when initialization is complete.

All of the above are supported under HDOS 2.0 without any hardware or software changes except for the replacement of SY.DVD on your system disks. This device driver also supports increased disk capacity as follows:

1) Support for dual-sided drives (the H8 requires the extended configuration option to run dual-sided drives), including the ability to detect, read, boot, and write a single sided diskette on a double sided drive.

2) Support for 80-track per side drives, including the ability to detect, read, and boot (but not write) a 40-track diskette in an 80-track drive.

As above, these features do not require any hardware or software changes except the replacement of SY.DVD, along with the replacement of one or more of your drives. An 80-track double sided drive can store 4 times as much data as the 5-inch drives now equipped in your computer. Three of them will give you 1.2 megabytes of on-line storage on inexpensive 5-inch diskettes. The pin-outs and screw holes on most 5-inch drives are the same, so replacement is fast and easy.

NOTE: More specific information on drives is supplied with the documentation included with the HUG SY: Device Driver, but if you wish to purchase drives while waiting for your copy, the following information is given. If you buy 80-track drives, they must be the 96 TPI (Tracks Per Inch) type. Some 80 track drives are 100 TPI, and some 96 TPI drives are only rated at 77 tracks. Tandon Magnetics and Micro Periferals, Inc. manufacture 80-track 96 TPI drives, single and double sided.

The HUG SY: Device Driver comes complete with the source listing and instructions for re-assembling the driver if you wish to make changes. Complete documentation is also provided. If you have technical questions concerning this device driver, direct them to:

Dean K. Gibson
UltiMeth Corporation
24025 Fernlake Drive
Harbor City, CA 90710
(213) 539-4276 (9 AM to Noon Pacific Time)

CP/M Utilities

885-1207 TERM and H8COPY $20.00

TERM was developed for HUG by Jim Buszkiewicz of the Heath Technical Consultation Group as a CP/M answer to CPS. It is capable of providing the following features:

1. Full or half duplex operation
2. It can send or receive disk files.
3. It works on H8's and H89's.
4. It can automatically log on to TIMENET or MicroNET

TERM comes with full documentation on disk. It is designed to work with CP/M version 2.0 or higher.

H8COPY allows you to copy files from HDOS to CP/M. The program comes in assembly source and can be assembled for either ORG 4200H CP/M or ORG 0 CP/M by changing an EQUate. It has two modes of operation, direct and ASCII. In the direct mode, a file is copied as is. In the ASCII mode, HDOS newline characters are replaced with the carriage return-line feed sequence used in CP/M as the file is copied. The ASCII mode also can convert the @ sign used to extend logical lines in HDOS MBASIC to the reverse carriage return-line feed sequence used in CP/M MBASIC if you wish.

885-1210 HUG CP/M Editor $20.00

Now you can have the popular HUG Editor

with all of the enhancements described above for CP/M. EDIT.COM is a fast character editor with single letter commands and automatic backup file creation. It can edit files of any size up to a disk full, and you can specify different input and output drives. It comes with source code and complete documentation. This version requires CP/M 2.0 or higher (ORG-0) and a minimum system.

885-1212 CP/M Utilities I $ 20.00

This disk is a collection of programs for the Heath/Zenith CP/M user. It contains the following:

DISASM -- This is an intelligent 2-pass 8080/Z80 disassembler. It makes labels at all jumps and calls within the program, and can optionally add "comments" based on the ASCII value of the data being disassembled. Its output can go to your console or printer, or to a disk file. It requires a HEX file for input, which you can make with the UNLOAD program described below. You can also convert an HDOS program to hex using IHEX from 885-1089, transfer the result to CP/M with HTOC (below), and disassemble it.

UNLOAD -- This program is the opposite of the CP/M LOAD program. It converts a COM file to an Intel-type HEX file. You can use UNLOAD to prepare files for DISASM, or for making ASCII files from COM files for transmission over a modem. The CP/M LOAD program can be used to convert the hex files back to COM files.

HTOC -- This is an improved version of the H8COPY program (for copying files from HDOS to CP/M) that was released on disk no. 885-1207. It has been modified to read 8-inch (single side single density) HDOS disks as well as 5-inch HDOS disks. You can specify any drive B through E for the HDOS disk, and any drive A through E for the CP/M disk, so you can copy files from 5-inch HDOS to 8-inch CP/M and vice-versa. Note: the source for this program is not included on this disk due to lack of space, but 885-1207 has been updated, and has the HTOC source.

MPLINK -- This is an H19/H89 version of a popular public domain modem program. It features automatic log-on, file save and transmit, and optional XON recognition. It makes use of the H19/H89 function keys and the 25th line.

HSORT -- This is a CP/M version of the popular HUG SORTER program from 885-1044. It reads in an ASCII file, alphabetically sorts it by lines, and writes the result to an output file.

ONECOPY -- This is a single drive copy utility for CP/M. Although Heath CP/M provides for single drive copying, you can only do it if your system is configured for one drive. With ONECOPY, you can copy with one drive even though your system has several drives. It allows you to copy files larger than memory by prompting you to swap disks.

ERRORS -- This program reports the number of soft errors on your 5-inch disks since the last cold boot. It helps you monitor the condition of your drives.

All of the above programs require CP/M version 2.0 or higher, and at least 32k of memory. All programs include source except DISASM and HTOC.

885-1213 HUG CP/M DISK UTILITIES $20.00

This disk contains utilities to help you catalogue, test, identify, and patch your CP/M disks. It has the following programs.

SDUMP -- This is an expanded version of the DUMP program that was released on HUG disk 885-1201. It has been modified to run under Heath/Zenith CP/M, and to work on any size and density of CP/M floppy disk. It allows you to dump (in hex and ASCII) any file on the disk, and any sector, track, or group on the disk. You can also patch any sector. It can display the directory or the group allocation map on a disk, and can perform a non-destructive media check to locate bad sectors. A HELP command displays the available options while you are running SDUMP. Note: This program was written with Digital Research's MAC macro assembler (available from Heath), which you will need if you wish to re-assemble it.

CAT -- This is an alphabetizing disk directory for CP/M. It can display up to 66 files on the terminal without scrolling. Files are displayed in one to three columns and are alphabetized by column instead of by row for easier reading. CAT displays file attributes, user numbers, and the size in K for each file. The number of files and free space is shown, and if an ID number and label exist (see DISKID, below), they are displayed.

DISKID -- This program creates a disk ID number and label and writes them to the specified disk in a file called IDENT.SYS with the system attribute set.

LAB -- With this program you can display the disk ID number and label as created

by DISKID. If you CONFIGUR CP/M to run LAB on cold boot, it will print the label information when you boot.

These programs require standard CP/M version 2.0 or higher and 32k of RAM. Source code is included.

Business and Education

885-1071 SBP III $75.00

The NEW 885-1071 Small Business Package III (SBP III) is now available running under the Heath Disk Operating System (HDOS) and Microsoft BASIC (MBASIC). This new SBP III sells for $75.00.

The SBP III consists of three 5-1/4 inch disks requiring use of ONLY one drive. The package, however, runs much faster with two drives and even faster with three drives. HUG recommends three drives for ideal operation. A minimum of 48K of memory is required and the SBP III will run with either the H8 or the H89 (Z89). If using an H8, the H17 and H19 are required. A printer is required for all hardcopy reports.

The SBP III is set to handle 60 customer accounts.

The following features are included for the ACCOUNTS RECEIVABLES:

1. Print mailing labels for all accounts.
2. Print invoices, credit memos and statements.
3. Print accounts receivable balance only, aging report and total receivable.
4. Print bargraph of sales.
5. Sales and invoice summary.

The SBP III contains the following features for the ACCOUNTS PAYABLE:

1. Print general expense ledger.
2. Print profit-loss statement for the month or year to date.
3. Print checks.

This package has been in development over the last year and has been used by several businesses from coast to coast. The users' feel that this package is ideal for the SMALL business as it provides the needed daily, monthly and yearly reports.

Also included in this package is a conversion routine to allow the owners of the Small Business Package II (885-1054) to convert to the SBP III without having to reenter each transaction.

885-1091 GRADE AND SCORE KEEPING $30.00

An all new grading and score keeping system is now available for the H89 or H8 (with H19 terminal) computer systems. This new disk product requires HDOS, MBASIC, 48k of memory and only one disk drive.

The system will maintain score sheets of up to fifteen grades for forty different students or contestants and up to to twenty classes or events on a single disk.

A minor modification to the actual program will allow the grader system to measure any averaging event, i.e. temperature, speed, etc.

A new score sheet may be started at anytime and students may be added or deleted from the roster. This allows students to join a class late or dropout early. If a student does not complete, or have all scores, his total score is not figured into the class average.

Scores may be entered for all students at once or added individually at a later time. All scores may also be changed at anytime.

Weighting of all scores is available to allow more points for a final than for a weekly quiz. Weights are selectable from 0.1 to 9.9 times the valve of each score and may be changed at anytime to give emphasis on a particular score (final).

When quiz scores are entered a distribution (order) of the scores is provided, this may be either on the screen or a hardcopy may be used for plotting a class curve.

Other printouts include all student scores, with their averages and the class average. A final printout is also provided with the student totals and the class distribution.

885-1097 Educational Quiz Disk $20.00

ATTENTION: Educators, students and those interested in learning from their computer:

Your computer can teach addition, subtraction, multiplication, division,

ratios, spelling and word usage with the 885-1097 Educational Quiz Disk.

This disk includes programs which teach the above subjects and includes a special reward if the student gets a passing grade.

The word usage, spelling and ratios quizzes are written in a format that allows changing or adding to the quiz with little programming knowledge.

The 885-1097 disk requires HDOS, MBASIC and an H-89 computer or H-8 computer with the H-17 disk drive and the H-19 terminal.

A PROLOGUE.SYS and MENU.ABS are included with this disk to make the disk accessible to the youngest user.

The quizzes included on this disk are intended for students in the grades one to four except the word usage and the ratio quizzes. These two quizzes are on the level of sixth or seventh grade.

Amateur Radio

885-1106 MORSE 89 (H8/H19 or H89) $ 20.00

Send and receive Morse code on your Heath H89 computer. Morse 89 is intended to facilitate communication by Morse code over a wide range of code speeds, dot/dash ratios, signal strengths and noise conditions. The program is a modification to P/N 885-1052 adapted for use on the H89 (or H8/H19) including these added features: all operating control functions from special control keys; split screen operation with R/T data displayed on upper 2/3 of screen, two pretype buffers, and stored message buffer displayed on lower 1/3 of screen. Terminal runs at full 9600 baud allowing pretype or message buffer load to be accomplished and displayed on a character-by-character basis during and without missing receiver data; call from and exit to HDOS without any other operations; selection of manual, semi or fully automatic receive/transmit mode switch functions; continuous status display on Line 25 of: receive and transmit mode switch modes, receive mode (lock, track, hold) received speed WPM, transmit speed WPM, number of characters in pretype/type-a-head and message buffers, message buffer status display. The source (.ASM) is included.

Requires station interface hardware. (See "Adapting Morse 8 to H89", page 18 of this issue of REMark for design data and construction suggestions.)

Languages HDOS-CP/M

885-1094 HDOS Fig-FORTH 2 disks $40.00

885-1208 CP/M Fig-FORTH 2 disks $40.00

HUG FORTH is an implementation of the Forth Interest Group's FORTH for the 8080. The HDOS and CP/M versions are virtually identical. Both use track-sector disk access that is independent of the operating system, so that HDOS FORTH can read "screens" (FORTH files) written by CP/M FORTH and vice versa. (This does not mean that you can use FORTH to copy regular HDOS and CP/M files between operating systems, though.) HUG FORTH includes an 8080 assembler for including assembly code in FORTH definitions, and a complete version of the Fig Editor, including MATCH in high level FORTH and all string commands. A SAVE command lets you save any words you add to the protected dictionary as part of FORTH itself on disk. Both versions support output to a printer.

HUG FORTH requires an HDOS or CP/M system with at least 32k RAM and at least 1 5-inch disk drive (2 on CP/M). For more information on FORTH, see the article Comments on the FORTH Language.

DBMS

DATA BASE MANAGEMENT SYSTEMS (DBMS):

For an explanation of the DBMS', refer to the indicated page of Issue 23 of REMark.

The prices of these items are contained in the current list of HUG products.

H11

885-1053 H11 TSTE MODEM PACKAGE $20.00

This modem package for the H-11 system requires the Heath Serial I/O Board, H-11-5, and will operate on HT-11 or RT-11 Disk Operating Systems with a normal telephone modem and console device. TSTE uses a series of control keys to direct the functions of the modem package. Some options include opening and closing the printer port and transmitting, receiving and closing of files. One of the control functions sends a "BREAK" to the host. Another control key sequence will allow you to send special characters to the remote. TSTE will need to be reassembled for the HT-11 operating system and the source code is provided.

REMark Volume 1

885-4001 REMark VOLUME I $20.00

INTRODUCING REMark VOLUME I ! One of the major difficulties for the newcomer to the HUG community is catching up with the rest of the gang who have a complete collection of the REMark Library. By popular demand, HUG is now offering Issues 1 to 13 of REMark bound in a handsome single book at an introductory price of $20.00. This limited edition will be followed by REMark VOLUME II which will include Issues 14 to 23.

HUG Product List

Part Number	Description	Selling Price
	CASSETTE SOFTWARE (H8 and H88)	
885-1008	Volume I Documentation and Program Listings (some for H11)	$ 9.00
885-1009	Tape I Cassette	$ 7.00
885-1012	Tape II BASIC Cassette	$ 9.00
885-1013	Volume II Documentation and Program Listings	$ 12.00
885-1014	Tape II ASM Cassette H8 Only	$ 9.00
885-1015	Volume III Documentation and Program Listings	$ 12.00
885-1026	Tape III Cassette	$ 9.00
885-1036	Tape IV Cassette	$ 9.00
885-1037	Volume IV Documentation and Program Listings	$ 12.00
885-1039	WISE on Cassette H8 Only	$ 9.00
885-1057	Tape V Cassette	$ 9.00
885-1058	Volume V Documentation and Program Listings	$ 12.00
	HDOS SOFTWARE (H8/H17 or H89 -- 5-inch only)	
	MISCELLANEOUS COLLECTIONS	
885-1024	Disk I H8/H89	$ 18.00
885-1032	Disk V H8/H89	$ 18.00
885-1044	Disk VI H8/H89	$ 18.00
885-1064	Disk IX H8/H89	$ 18.00
885-1066	Disk X H8/H89	$ 18.00
885-1069	Disk XIII Misc H8/H89	$ 18.00
	GAMES	
885-1010	Adventure Disk H8/H89	$ 10.00
885-1029	Disk II Games 1 H8/H89	$ 18.00
885-1030	Disk III Games 2 H8/H89	$ 18.00
885-1031	Disk IV Music H8 Only	$ 23.00
885-1067	Disk XI Graphic Games .ABS and B H BASIC (H19/H89)	$ 18.00
885-1068	Graphic Games (H19/H89) *	$ 18.00
885-1088	Graphic Games (H19/H89) *	$ 20.00
885-1093	Dungeons and Dragons Game * Requires H89 or H8/H19	$ 20.00
885-1096	Action Games (H19/H89) *	$ 20.00
885-1103	Sea Battle Game (H19/H89)	$ 20.00
885-1111	HDOS MBASIC Graphic Games *	$ 20.00
885-1112	HDOS Graphic Games	$ 20.00
885-1113	HDOS Fast Action Games	$ 20.00
885-1114	Color Raiders and Goop (HA-8-3)	$ 20.00
	UTILITIES	
885-1019	Device Drivers (HDOS 1.6)	$ 10.00
885-1022	HUG Editor (ED) Disk H8/H89	$ 15.00
885-1025	Runoff Disk H8/H89	$ 35.00
885-1043	MODEM Heath to Heath H8/H89	$ 21.00
885-1050	M.C.S. Modem for H8/H89	$ 18.00
885-1060	Disk VII H8/H89 SUBMIT, CLIST, FDUMP, ABSDUMP, etc.	$ 18.00
885-1061	TMI Cassette to Disk H8 only	$ 18.00
885-1062	Disk VIII H8/H89 (2 disks) MEMTEST, DUP, DUMP, DSM	$ 25.00
885-1063	Floating Point Disk H8/H89	$ 18.00
885-1065	Fixed Point Package H8/H89	$ 18.00
885-1075	HDOS Support Package H8/H89	$ 60.00
885-1077	TXTCON/BASCON H8/H89	$ 18.00
885-1079	HDOS Page Editor	$ 25.00
885-1080	EDITX H8/H19/H89	$ 20.00
885-1082	Programs for Printers H8/H89	$ 20.00
885-1083	Disk XVI RECOVER, etc.	$ 20.00
885-1089	MACRO, CTOH, and misc Utilities	$ 20.00
885-1090	Misc. HDOS Utilities CCAT, HPLINK, AH, MBSORT, etc.	$ 20.00
885-1092	RDT Debugging Tool H8/H89	$ 30.00
885-1095	HUG SY: Device Driver HDOS 2.0	$ 30.00
885-1098	H8/HA-8-3 Color .ABS/.ASM	$ 20.00
885-1099	H8/HA-8-3 Color in Tiny Pascal	$ 20.00

PROGRAMMING LANGUAGES

885-1038	WISE on Disk H8/H89	$ 18.00
885-1042	PILOT H8/H89	$ 19.00
885-1059	FOCAL-8 H8/H89	$ 25.00
885-1078	HDOS Z80 Assembler	$ 25.00
885-1085	PILOT Documentation	$ 9.00
885-1086	Tiny Pascal H8/H89	$ 20.00
885-1094	HUG Fig-Forth H8/H89 2 Disks	$ 40.00

BUSINESS, FINANCE AND EDUCATION

885-1047	Stocks H8/H89	$ 18.00
885-1048	Personal Account H8/H89	$ 18.00
885-1049	Income Tax Records H8/H89	$ 18.00
885-1051	Payroll H8/H89	$ 50.00
885-1055	Inventory H8/H89 *	$ 30.00
885-1056	Mail List H8/H89 *	$ 30.00
885-1070	Disk XIV Home Finance H8/H89	$ 18.00
885-1071	SmBusPkg III 3 Disks * H8/H19 or H89	$ 75.00
885-1091	Grade and Score Keeping *	$ 30.00
885-1097	Educational Quiz Disk * H89 or H8/H19	$ 20.00

DATA BASE MANAGEMENT SYSTEMS (DBMS)

885-1107	Amateur Radio Logbook and TMS	$ 30.00
885-1108	Telephone/Mail Info. System *	$ 30.00
885-1109	Retriever (2 disks)	$ 40.00
885-1110	Autofile	$ 30.00

AMATEUR RADIO

885-1023	RTTY Disk H8 Only	$ 22.00
883-1106	Morse-89 H8/H19 or H89	$ 20.00

* Means MBASIC is required

H11 SOFTWARE

885-1008	Volume I Documentation and Program Listings (some for H11)	$ 9.00
885-1033	HT-11 Disk I	$ 19.00

CP/M SOFTWARE (5-inch only)

885-1201	CP/M (TM) Volumes H1 and H2 %	$ 21.00
885-1202	CP/M Volumes 4 and 21-C %%	$ 21.00
885-1203	CP/M Volumes 21-A and B %%	$ 21.00
885-1204	CP/M Volumes 26/27-A and B %%	$ 21.00
885-1205	CP/M Volumes 26/27-C and D %%	$ 21.00
885-1206	CP/M Games Disk %%	$ 21.00
The above CP/M products are 2 disks each.		
885-1207	TERM and H8COPY	$ 20.00
885-1208	HUG Fig-Forth H8/H89 2 Disks	$ 40.00
885-1209	Dungeons and Dragons Game MBASIC and H89 or H8/H19	$ 20.00
885-1210	HUG Editor	$ 20.00
885-1211	Sea Battle Game for CP/M	$ 20.00
885-1212	CP/M Utilities I	$ 20.00
885-1213	CP/M Disk Utilities	$ 20.00
885-1214	Amateur Radio Logbook	$ 30.00

% Means CP/M 1.43 only (ORG-4200)
%% Means CP/M 1.43 or 2.2 (Heath)
Other CP/M disks are for 2.2

MISCELLANEOUS

885-0017	H8 Poster	$ 2.95
885-0018	H89 Poster	$ 2.95
885-0019	Color Graphics Poster	$ 2.95
885-4	HUG Binder	$ 5.75
885-4001	REMark VOLUME I	$ 20.00

CP/M is a registered trademark of Digital Research Corp.

New HUG Software

885-1105 HDOS 2.0 DEVICE DRIVERS $20.00

This disk contains three printer drivers and the screen clock driver presented in REMark #22. These drivers will operate under HDOS 2.0 or 1.6, but the HDOS 2.0 Assembler is required if you wish to re-assemble the sources. The following programs are included.

LPMX80 -- This is a device driver for the Epson MX-80 printer. It allows the MX-80 to be connected to a Heath computer without worrying about crossing pins on the connector or changing the JNOR/JREV jumpers, etc. It has SET options for normal or compressed print, normal, double strike, or emphasized characters, and lines per inch, in addition to the usual options. It allows use of all MX-80 features, including graphics. A demonstration program in MBASIC is included.

PT560 -- This is a device driver for the IDS 560 and 460 "Paper Tiger" printers. It allows full use of the Paper Tiger's features, including graphics and justification of text. Two demonstration programs in MBASIC are included.

LADVD -- This is a write only device driver for the LA-36 Decwriter, for those who use it as a printer. It has SET options similar to those in other printer drivers, and a special option that lets you stop and start printing from the keyboard.

CKDVD -- This is the screen clock driver described in REMark #22. It maintains a digital time display in the upper right corner of your H89/H19 screen. It has been modified to allow the clock to be turned off after the driver has been loaded. The time can be read from user programs, including BASIC programs.

OCKDVD -- For those who would like a clock that can be read from user programs but does not maintain a screen display, we have included the original clock program described in REMark #20, from which the screen clock was derived.

SETTIME -- This program makes it easy for you to set the time in CKDVD or OCKDVD. It can be used as a prologue to set the time at boot-up.

These programs require HDOS and a minimum system (24K or 32K of RAM). The source for all programs except OCKDVD is included.

NOTES AND COMMENTS

The following pages are supplied for your own personal reference materials not found in the REMark INDEX. We hope that you will find this area sufficient for additional information you may require to use this issue efficiently in the future.

NOTES AND COMMENTS

Additional REMark Materials

By: David J. Powers

Dear Bob,

The October 1981, issue of H8SCOOP indicated that "the entire REMark index will be printed" in a future REMark. The same issue of H8SCOOP also contains a write-up on REMREF, a data file containing author, title and keyword information for all articles appearing in REMark issues 1 to 20.

REMREF is more than just the merging of the table of contents from the inside covers of the REMark issues. REMREF is a complete data file of titles, authors and significant keywords from all REMark articles, large and small. For HDOS, REMREF is 91 sectors of data, or almost 24,000 characters.

The real usefulness of REMREF is not attained by just manually scanning the data file. However, when used with KEY-IT, REMREF provides a quick and automatic method to find an article or set of articles which match a user-specified keyword. I have also included some benchmark data for REMREF/KEY-IT which indicates how "quick" information can be found.

The REMREF/KEY-IT combination could be a useful tool for your staff at REMark/HUG as well as to other HUG members who subscribe to REMark.

KEY-IT is a Keyword In Context program available at most Heathkit Electronic Centers or from KEYBOARD STUDIO. REMREF is only available thru the author (myself). Further information on REMREF can be obtained from BUSS #41, the October issue of H8SCOOP, MicroNET, or by contacting me directly.

David J. Powers
P.O. Box 1154
Troy, Michigan 48099

Changing your address? Be sure and let us know since the software catalog and REMark are mailed bulk rate and it is not forwarded or returned.

CUT ALONG THIS LINE

HUG MEMBERSHIP RENEWAL FORM

When was the last time you renewed?

Check your ID card for your expiration date.

IS THE INFORMATION ON THE REVERSE SIDE CORRECT?
IF NOT FILL IN BELOW.

Name _____

Address _____

City-State _____

Zip _____

REMEMBER — ENCLOSE CHECK OR MONEY ORDER

CHECK THE APPROPRIATE BOX AND RETURN TO HUG

		NEW MEMBERSHIP FEE IS:
RENEWAL RATES		
US DOMESTIC	$15 ☐	$18 ☐
CANADA	$17 ☐ US FUNDS	$20 ☐
INTERNAT'L*	$22 ☐ US FUNDS	$28 ☐

* Membership in England, France, Germany, Belgium, Holland, Sweden and Switzerland is acquired through the local distributor at the prevailing rate.

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12	$18 ($25 overseas)
18	$25 ($35 overseas)
24	$30 ($45 overseas)

NOTE: Charlie indicates that these prices will be going up in the near future. However, if you mention that you received these prices from REMark, he will honor the information listed above.

H8SCOOP

Henry Fale (Editor)
2918 South 7th Street
Sheyboygan, WI 53081

Rates: $20/Yr. ($27/Yr. overseas)

NOTE: Henry just informed me that H8SCOOP will be called H-SCOOP beginning January 1, 1982. He stated that the main reason for the change was to eliminate some confusion since H8SCOOP DOES support the H89 owner too.

SEXTANT

Charlie Floto (Editor)
325 Pennsylvania Avenue, S.E.
Washington, DC 20003

Rates: $9.75/Yr. (-domestic-)
$11.50/Yr. (--Canada--)
$14.00/Yr. (-overseas-)

NOTE: SEXTANT is a new quarterly publication designed to include more advertising and detailed articles for users of Heath/Zenith computer products. The first issue will be mailed in February of 1982.

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