H8SCOOP

BITS & PIECES

The first item I want to bring up in this issue is a correction I should have mentioned in last month's H8SCOOP. The video layout sheets from Minit-Man printing, 211 E. Allegan St., Otsego, MI 49078 mentioned in September's H8SCOOP were incorrectly priced. They were listed as $5 for 5 pads. This was changed to $1.50 per pad, 5 pads minimum order, plus $1.50 shipping and handling.

In case you are a new subscriber and missed that, these are sheets designed to make graphic programming on the H19/H89 easier as these video layout sheets are divided into grids, 25 lines by 80 columns with line and column number, Decimal and ASCII equivalents, and all the graphic symbols listed with their ASCII and DEC value. These sheets are quite nice for anybody working with graphics on the H19 or H89.

UPDATE ON SCOPE DELIVERY

Just wanted to keep you up to date on Heath's service on promised delivery of the scope as mentioned in last month H8SCOOP. On September 22 I received my 6th delay card saying the unit will ship by October 17. Lo and Behold, I now received my 7th, yes count them 1, 2, 3, 4, 5, 6, 7 delay card on October 20 telling me the shipping will be by October 31. VERY SAD INDEED!! If I were a betting man, I'd take stakes on when I will get my 10th delay card. Keep it up Heath, and in the meantime, get the scope out of the new catalog!!!!!

TALKING H8 UPDATE

As Ted Benglen awaits for interested H8 owners to contact him and make some commitments on his talking H8 (see OCTOBER H8SCOOP) he is already putting together some pretty powerful software for its use, so once you have it, you will have lot of good software to make it "talk".

What he has already developed with the help of Sam Cox, is a program whereby anything you type on the screen will be spoken. Fill the screen and the talker will say it. Another program will allow the user to add voice response to any program by adding simple PRINT statements to the program listing. So far Ted says they plan to price the software about $10 on disk or cassette plus media, will include the talker device driver.

Ted needs a deposit of $100 from a minimum of 100 individuals to go ahead with his production. If he cannot order all parts in minimum of 100 lots, the cost would go up tremendously, and the project would have to be scrapped. So far, about 30 have sent a deposit. If you want to see an excellent product for the H8 and H89 and have wanted a talker for your computer for about as long as you've owned it, act now. I believe if we can give Ted support, we will see this excellent product on the market fast, and more to come in the future. To order, or for information on the V-8 Voice Synthesizer, write (or make check payable) to M.I.-8, 822 E. County Rd. 30, Ft. Collins, CO 80525. For a cost of $5 Ted will send you a flyer with photo of finished product and a cassette audio tape of the thing talking. I will report more on this next month.

ON THE BSR HOME CONTROL INTERFACE

Ted is also selling for $5, plans to use the BSR Home Control interface (see September H8SCOOP). You will get hardware documentation, interface description, and a BASIC program listing to turn on/off up to 16 remote channels. The interface can be constructed for about $30 and requires a parallel port.

NEW COMPUTER CLUB

TRIAD HEATH USERS GROUP (THUG) is meeting the second Saturday each month at the Sears Activity Room at Hanes Mall in Winston-Salem, North Carolina at 1:00 PM. For more information, conatct Huges Hoyle in Greensboro at (919) 378-1050, or Steve Minor (Secretary-Treasurer), in Winston-Salem at (919) 765-7717, who can also be reach at 424 Cliffdale Dr., Winston-Salem, NC 27104.

SUBSCRIPTION RENEWALS?

Questions have come up as to how the subscriber can tell if it's time to renew subscription to H8SCOOP. Don't worry about it yet. Nobody's subscriptions are expiring for awhile. Your mailing label contains a number next your name, such as "381". This means your last issue will be the third month in 1981, or March 1981. I am not yet accepting renewals because I have not yet established new price rates and direction for next year. I'll let you all know the scoop on renewals sometime next year.

NEW STUFF

Malcolm Aukerman sent me a clipping from the Friday September 15 Wall Street Journal, the heading "Typewriter Advances. . . Tracers And Bubbles. . . Talented Tools"

"A PORTABLE ELECTRONIC TYPEWRITER, designed

to sell for less than $300 but with the editing power and print quality of today's $1,100-to-$8,000 machines, is being developed at SRI International, the Menlo Park, Calif., consulting company. "The product is one of several efforts to devise less expensive typewriters using the so-called print wheel technology found in the popular Qyx, Olivetti, and Olympia machines. Their type is on flat spokes instead of on a ball or at the ends of tiny hammers. Japan's Brother Industries Ltd. plans to start selling two print-wheel typewriters in the U.S. early next year. The Royal and Adler units of Volkswagenwerk AG have similar intentions. And Italy's Olivetti has shown a $495 machine.

"But the most novel approach is the SRI work, being done for a small, private company, Microtype Corp., of Mill Valley, Calif. In place of motors that drive the print-wheel in other machines, Microtype uses a clock-like gear and spring arrangement. The company believes its product could be on the market within two years. Outsiders are skeptical but say such a machine is likely within three to four years."

I have read awhile back, a $1000 letter quality printer will be available for computer use soon, and I believe we will see this next year. So for now I'll hang on to my selectic, waiting to buy the more advanced lower priced goodies that are coming rather than going out and blow $3K on a Diablo or equivalent.

--- - PILOT LANGUAGE MANUAL - ---

An excellent manual for HUG's PILOT language will soon be available from HUG for $8.95 written by Fred Pospeschill which covers the Tape system released by HUG P/N 885-1040 and the Disk system P/N 885-1042. The HUG P/N for this manual is 885/1085.

PILOT (Programmed Inquiry Learning or Teaching) is a language designed specifically for Computer Aided Instruction and is a very easy language to use for this purpose. Since it is an interpreter, PILOT must reside during runtime, but memory use is minimal when compared to BASIC. An excellent language for your library, this manual is very thorough. I recommend it to all who have, or are considering PILOT or those just curious.

The manual covers both Tape and Disk systems, and will give you background in PILOT and gives you examples in the language, for your benefit.

Now my 2 cents worth. I feel it's the pits, and super low down to sell a disk like PILOT for $18 with absolutely no documentation. Then you have to go out and spend another $9 to learn how to use it. This is a perfect example of the almighty buck syndrome. Release it half done at first for a price which should be for the complete thing, and then MAKE them come back for more to use it. I give HUG the golden fleece award for this--which borders on being a BAD GUY!

FLOPPY DISK DRIVES

Floppy Disk Services, INC., C.N. 5212, Princeton, NJ 08540 (609) 771-0374 offers Siemens Disk Drives at low prices. I know nothing of the company's reliability or service, you'll have to check that for yourself. The FDD-100-5 is the 5-1/4" drive and it sells for $230, while the FDD-100-8 is the 8" drive which sells for $355. The FDD-100-5 is supposed to be a direct replacement for the drive in the H17 and H89, the WANGCO 82.

CP/M VEDIT

VEDIT is available for CP/M users from CumpuView Products, Inc., 1531 Jones Dr., Ann Arbor, MI 48105 (313) 996-1299--Ted Green. This is a superset of CP/M's ED, offering many more functions and features, most particularly, full screen editing with addressable cursor, etc.

MORE SOFTWARE FROM WALT

Walt Bilofsky, of The Software Toolworks, 14478 Glorietta Dr., Sherman Oaks, CA 91423 now has available two new software graphics programs for the H19/H89. ED-A-SKETCH, a Full Screen Graphics Editor is a tool for the creation and editing of pictures and graphics displays using the H19/H89/Z89 graphics character set. Cursor motion keys position the cursor at any position on the screen allowing typing of regular or graphics characters in normal or inverse video. Powerful area operations may be preformed on any rectangular area of the screen: operation such as erase, fill with any character, inverse video, and pick up and move. Eight disk formats make displaying saved pictures easy from programs written in BASIC, MBASIC, assembler, C, or any other language. The price on this is $29.95.

For the chess players, MYCHESS, a Championship Chess Player program is tops in its field! MYCHESS, best micro in the 1979 ACM North American Computer Chess Championship, and winner of the 1980 West Coast Computer Faire is now available under HDOS. It includes 9 skill levels, playing varying openings from a "book" of over 850 moves, optional tournament time control. Can display suggested best line of play, and record moves on a printer. This program requires a Z80, which leaves the unmodified H8 out, and costs $34.95.

MISCELLANEOUS SOFTWARE

From Ronald Baker, 6102 Crockett Dr., Louisville, KY 40258 offers various software for the H8/H89 disk system written in Extended Basic and MBASIC. Ron has available a PAGE EDITOR, INFORMATION DISPLAY SYSTEM, HOME FINANCE, HOME PROPERTY, CLUB FILE, BSA TROUP, PARTS INVENTORY, and ADDRESS LABELS. The programs sell for $10 each, and $6 additional for each program included at the time of sale on the same disk. For more information, contact Ronald.

From Colonial Enterprises, POB 206, Waterford, CT 06385 (203) 442-2798 comes software support for the Zenith Data Systems. They will have prepackaged and custom software ranging from personal to business and scientific with "the best in professional documentation". Their customers "will have the convenience of a FREE BULLETIN BOARD SERVICE, that will be included in our mailouts. To take advantage of this FREE SERVICE:

"If you are selling a piece of hardware or software, or are looking for a particular item yourself, send us the details and they will be printed in our mailer and sent out each month." For more info, write them for a free catalog, and/or details.

MT MicroSYSTEMS, 1562 Kings Cross Drive, Cardiff, CA 92007 (714) 753-4856 as reported on page 221 of September BYTE is coming out with Pascal/MT for the HDOS operating system. The current price for other systems is $250. Contact them for more information.

MORE FOR THE H9

Northwest Computer Services, Inc.,8503 NE 30th Ave, Vancouver, WA 98665 (206) 573-8381 has added LOWER CASE ENTRY which allows you to enter lower case characters from the H9 keyboard for $28.88 assembled. LOWER CASE DISPLAY to greatly improve the readability on terminals modified for 24 lines, $34.77 assembled, and KEY CAPS, a set of quality contour caps with molded-in alphanumerics, to give the H9 a professional feel for $12.50/set.

MORE FROM THE KEYBOARD STUDIO

The Keyboard Studio, 125 Aspen, Birmingham, MI 48009 has added new software packages to their present software list. PROBE for $29, runs under Microsoft BASIC and keeps track of records such as mailing lists, data base etc. They also have available a FINANCIAL package, GRAPHIC subroutines, MAILIST, QUIZMASTER, GRAPHICS, DATALOG, and DATABASE, too much to cover here. For more information, or for their current flyer, contact the above.

DOUBLE DECWRITER SPEED TO 600 BAUD

I have finally got around to preparing the plans to doubling the speed of your LA-36 Decwriter II to 600 baud, which I have been running in mine for the last year. The mod will cost about $5 to build, and I'm selling the plans to H8SCOOP subscribers for $6. Compare this cost to the $110 minimum advertised for similar deals! If interested, send me your check for $6 and I'll send by mail the same day (as is always my policy) your Decwriter project article.

BIBLIOGRAPHY UPDATE

Presented in September 1980 Microcomputing on page 140, "A Better Assembler/ Editor for the H8", by Chesney Twombly tells how to implement a co-resident editor/assembler for the H8 to run under Chesney's CONOPS operating system as described in previous Microcomputing articles for the TAPE system. After purchasing an editor for $12.50 from Scelbi, and an assembler from TSC for $25, the article tells how to combine them to run under CONOPS.

October was a big month for the H8 with two articles dealing with the H8 appearing in Microcomputing October 1980. Page 162 has an article "Reduce Search Time With an Index" by LeRoy E. Kolderup, dealing with fast file search software in BASIC for the H8 computer.

An article by Patric Swayne, "Upgrading the Heath H8 With a Z-80 Microprocessor" on page 50 tells how to modify the CPU board to a Z80 without actually changing the board. A plug in adaptor is all that is needed. Want to Add Z280 for about $35? This will tell you how.

REQUESTS

Jim Czebiniak, 199 Vly Road Ext, Schenectady, NY 12309 would like some feedback on the HA8-2 music board, which he reports Heath has been most uncooperative about. He would like to know how music is entered directly from sheet music. If anybody has any information on this, along with other general information on the board, contact Jim.

Jim also reports he has a hardware fix from Godbout on how to disable the 4K or 8K block on their 12K board. To disable the 4K block, tie pin 4 of IC U4, (4K block select) to ground. To disable the 8K block, tie pin 4 of IC U2 to ground. Jim tells me Godbout provides a board disable switch but not a block disable switch.

Ray Albrektson, 619 Dover, San Bernardino, CA 92407 is working on interfacing (mostly software) an H89 to read text files produced by a TRS-80 using Electric Pencil or Scripsit. If anybody has done this or has any ideas on this, contact Ray. It seems this would be a natural for a MODEM setup! See Technical Forum.

I would appreciate feedback from individuals who have good knowledge of the use and operation of the H8-2 parallel board, especially in the areas of handshaking and programming. Quite a few individuals have requested more information on this board than the scant material available in the manual from Heath. I have already worked in this area, and if there are a few more, I will eventually make a better manual for the board and make it available.

WHO'S WHO

Last month I mentioned a request for a software trader column. This will be covered under this section so as not to create new sections which there is no room for anyway. Considering feedback from readers the ground rules will be as follows. Readers informed me since HUG software is Copyrighted (HUG or Heath did not even bother to give me their views, so do what you want) it should not be openly pushed, which I will honor. I will print general interest type information _ and readers can take note.

Each submitted request or available info will be published once for each time submitted. Here is one to start.

Bill Rosen, 4334 McKee St, Covington, KY 41015, has an H8/H17/H19/H14 with 56K, and uses a MODEM, programming in MBASIC and C. He is interested in H19 graphics especially in MBASIC and UTILITY programs. If you have these to trade and would like more, contact Bill.

Get the idea? That's the kind of info I want, so the individual who looks through the column knows exactly what type of system the stuff will run on, knows what the guy wants and has. OK?

Now for more info. If you're interested in inventory programs, two excellent programs I have seen have been written by James Czebiniak, 199 Vly Road Ext., Schenectady NY 12309 and Charles Bennett, 6908 W. 98 St., Overland Park, KS 66212. Charles keeps track of his parts inventory in his service center. James uses MBASIC with the H19 using Protected Screen formats. Both use random file access techniques under MBASIC. If you're in this area or would like some

help, contact one of these guys, as they are pros at it.

William Goodwon, 312 Lamson, Grand Ledge, MI 48837--writes to tell me he has the co-resident editor/assembler that HUG has available for the TAPE system, and says "it is a very good way to learn assembly language because it is unnecessary to waste time changing from editor to assembler and vice-versa". He also tells me the program has a few bugs, and some modifications are needed, which he has available.

William is also working on a cassette-based FIG-FORTH for the H8 and would like to hear from others that have cassette-based FORTH or are interested in it.

Mike Pasquale, 13422 87th Ave N.E., Kirkland, WA 98033, has looked seriously into adding 5 to 52 Megabyte hard disk drives to the H8. Mike says "It appears that writing a device driver, designing a controller board, and using two drives (one for backup) would be a reasonable addition to the H8. The drawback would be you would still boot up on the H17 disk." If anyone has any ideas, Mike would like some feedback on the market potential. He figures around $4K for a 5 Meg drive. Contact Mike if you have any views or info on this.

Mike also has available a device driver to take advantage of the LA-36 Decwriters that have the 600 BAUD mod installed. This driver also provides vertical and horizontal tabs, page boundary skipping, line truncating, form feed and more. Included is a special feature that maintains the line counter during close and reopen (to handle Microsoft BASIC). The driver will be available for $8 if a disk is provided, or $14 if not. Two versions will be included, one for the H8-4 (port 100Q) and one for the H8-5 (port 374Q). These ports will be changed upon request. Mike says if enough requests come in, the source code will be made available.

PROGRAMMING GOODIES

An idea I had awhile back I want to pass on to interested readers. Everyone gets so paranoid about serial numbers on software to prevent pirating. Now I'm not advocating pirating, because in general I do not believe in it, but I'll throw this idea out to you. Everyone tells me there is no way to find the hidden serial numbers, I say bunk!

There are utilities out which will compare a disk, sector by sector, track by track, and flag any differences found. I think the disks should be identical except for serial numbers hidden somewhere. Take two disks of

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the same software purchased by different individuals, and run a utility like COMPARE, and note where the difference is, and that's the serial number! I don't know if this will work, as I've never tried it, I just thought I'd throw it out.

When running MBASIC, instead of using REM statements, simply use a quote ('), and anything that follows will be taken as a REMark statement. That one by Tom Kyle.

OFFERS

I have made software disk offers in past H8SCOOP's, usually near cost, and will continue to do so. For the benefit of new subscribers I will list the previous offers, and the new offers. Old offers go up in price when the current month the offer was made is past by over 2 months. The listed prices reflect these changes.

PAST OFFERS

TINY PASCAL	$10
MISC DISK FILE DUMPS	$ 7
CP/M COBOL SET (2 DISK)	$25

For this month, I offer a new language translator, called RATFOR which runs under HDOS. Don't ask me, all I know is it is supposed to be a subset of FORTRAN. I will offer without any support, the disk to those interested for $7. Also comming in the near future is a CAI disk with programs I have written to run under BH EXT BASIC to sell for $15. Also this month is the November disk for $15, worth at least 3 times that price. It contains a program to type big letters on a printer which are typed normal on a console, a .PIC file which is a data file you simply copy to a printer for a picture, a ReSTore program to undelete any deleted files on a disk, provided they haven't been written over yet, DOCUFORM, contributed by Rich Green--a word processing package which justifies, writen in Microsoft Basic, a Mailing list program by George Thompson, and several utilities. The entire disk is full, and well worth the price.

I also offer this month QUICKMAIL, the mailing list/label printer I wrote under MBASIC which is what I use to handle the subscriptions for this newsletter. It is self explanitory, quite fast, and easy to use.

QUICKMAIL uses sequential disk I/O and will store over 1000 names per disk. It should run easily in a 48K system, in less if REMark statements are deleted and other changes made. It contains fields for Name, Company, Address, City and State, Zip, and Last subscription. These could be easily changed or added to.

It sorts quite fast and alphabetizes. Although not the greatest in the world, I'm asking $15 for this disk, which I feel is worth it. It makes use of limited H19 graphics and some special features of MBASIC, although this could easily be deleted or added to. It is presently set up for a two disk system, with the QUICKMAIL disk, data and MBASIC mounted in SY1:. This could be changed if one desires. This disk also includes this identical version in BH EXT BASIC, which takes about 10K less memory, but runs slower.

Next month I hope to have out some sample programs for those who purchased the COBOL disks, and maybe the tiny pascal.

FEATURE

BOOK REVIEW

THE CP/M HANDBOOK, WITH MP/M

Because much information can be learned from reading good books, I am going to add a column in H8SCOOP dealing with book reviews, under FEATURE. This will not be a regular section under feature, but as good reviews are available from others or myself, and space permits, I will publish them.

Because of the extremely poor documentation on the CP/M operating system, many are trying to find books to help them out on this subject. Let me first say, I will be doing a review in the future on HDOS vs CP/M, and I'll tell you right now, HDOS is winning strongly! But for those CP/Mers wanting more documentation, the following review by D.C. Shoemaker tells you which book not to get too excited about.

"Just thought I'd drop you a note and share my impressions of Rodnay Zaks' latest effort, "The CP/M Handbook, with MP/M (Sybex, C300, $13.95). As the first of at least two known introductory/tutorial texts on CP/M (the other is due from dilithium Press sometime within the next two years, along with their books on H-8 assembly language programing), this book is bound to attract an undue amount of interest, and undoubtedly will sell thousands. Any CP/M user who has struggled through Digital Research's manuals has longed for something to make the effort less and the rewards greater, but unfortunately, for a variety of reasons, this isn't it.

A part of the blame must be directed to the range of versions that now exist. CP/M versions before 1.4 are quite different from 1.4 and later derivatives like Heath's version 1.41, and the newer versions like 2.0 and 2.2 are even more different. And then there's MP/M, the multi-user version

of CP/M 2.2, which is almost a new system. This assortment of features makes it difficult to keep the versions seperate, and this leads to Rodnay's biggest problem. In all too many cases, the features he describes as applicable to, say, Ver 1.4, really aren't. When you use his text as a tutorial, trying to learn a new feature, it often won't work as described, and sometimes won't work at all. For instance, don't try STAT VAL (to see what devices are available for assignment) or STAT DEV (to see what devices are actually assigned) because they don't function under Ver 1.4. They may under 2.0 and above, but that's not what the book says.

Given the differences in versions, it would have made more sense and less confusion to pick a version at a time, or write a smaller book on each. The combination of all these versions is nothing but confusing. Of course, at $13.95 a copy, it may be better in the long run, since when (and if) you upgrade, you won't have to buy another volume. Personally, I'd rather have a book that deals with the version I have and operate. MP/M is interesting, but only from a theoretical perspective. I really only want to know how to get the most out of Ver 1.4.

Several pages are devoted to "cute" cartoon drawings that add nothing. Perhaps there was a need for filler material. I'd have preferred more examples or table summarizing commands. Or possibly more information on customizing versions to your own computer.

On the plus side, beyond the fact that any amplification on Digital Research's manuals has to be an improvement, there is a nice summary at the back of the book, in the style of David Lien's "BASIC Handbook," which lists all the commands, the applicable versions, what they do, and a brief example. This is, after all, the real meat of the book.

One other plus that deserves mention is the fact that the book is written to be used by a complete novice. As such, it could be used to help someone like your secretary, who may have no knowledge and little love of computers, in bringing up CP/M and operating a word-processing package. In this respect, there's really nothing better (by default.) You certainly couldn't use the regular manuals.

All in all, on a scale of 1-10, Rodnay Zaks' "CP/M Handbook" rates about a 3. The promise was there, but the definitive guide to CP/M has yet to be written. If, and when, Heath begins to support CP/M, we may get a really good user's manual. Until then, all my hopes are on the dilithium press volume. I'm still not ready to give up HDOS."

Thank you D.C. Next month I will review "How to Make Money with your Microcomputer", an excellent book.--Henry.

CLASSIFIEDS

FOR SALE--SUMMARY SHEETS FOR H19/H89, summarizing main functions of the terminal. Includes switch or software settings for the 19,200 BAUD available on earlier models. The two page summary in plastic is $5.00 from Bill Hall. See below.

FOR SALE--Cassette Extended Benton Harbor Basic--cassette and documentation, $15 from Bill Hall. See below

FOR SALE--TDC Data Splitter. A simple hardware method using diodes to run two terminals or a terminal and a printer in parallel with a modem or computer. One available for $35 postpaid. Bill Hall, 5621 Maple Heights Court, Pittsburgh, PA 15232.

FOR SALE--H8 Main Frame $150, 3-8K memory boards at $60 each, 16K Memory board $150, Four port Serial board $90, H-5 serial interface $55, H-5 serial interface with bug in cassett port ($45), H-9 Terminal (works OK when connectors are kept clean $150 (you pay shipping on H9). Donald Gerue, 3700 Anson Rd, Greensboro, N.C. 27407 (919) 852-6764.

WANTED--Trionyx 48K memory board, will pay $300. H14 with H8-4 board, will pay $750. H17 second drive which steps at 12 $300. FOR SALE--H8, H8-5, cassette, 12K and 16K memory boards, with full manual set and tape operating system, $475 I pay shipping. Ted Benglen II, 822 E. Contry Rd. 30, Ft. Collins, CO 80525.

FOR SALE--H89 with 48K memory, 3 drives, and CPM 0 org mod board. $2500. Ted Mieske, 741 Oakwood Ave, Hurst TX (76053). By the way, Ted is back in Texas again. Next month, I will publish Ted's offerings--Hardware software. For Those interested, he has the 24 line mod board kit complete for $55.

TECHNICAL FORUM

MODEM INFORMATION

Operating the computer with a MODEM allows computer or terminal communication over regular phone lines, usually up to 300 BAUD. It opens a whole new area for the computer, expanding it's usefulness, and making software exchange over the phone possible.

Computer Bulletin Boards are popping up all over, the most popular exchange boards being THE SOURCE and MICRONET, although they each have advantages and disadvantages. The purpose of this article is not to try to sell one over the other, only to tell you the "how to's". One thing I have found out, unless you live in a larger city where direct local lines are available for these purposes, phone time can be quite costly, over standard charges of the bulletin board services. Even for non bulletin board use, exchanging simple programs can get quite costly. You'll have to take that into consideration if you live in Hicksville like I do, before you decide to purchase a MODEM.

If you are going to run a modem, be sure the phone does not have features on which are today available sometimes called "call waiting". Call waiting will alert you of another caller trying to call you by a click in the phone. If you are about at the end of a long program exchange and this happens, bye- bye program, all may be lost. The same thing may happen if an extension phone located elsewhere in the home is lifted, so beware!

Most software for MODEM use, especially that available for the H8 uses the H8-4, four port serial board, which must be set to address 330Q, and uses interrupt 5, not 6 as sometimes stated. The following diagrams assume you are using the Novation CAT modem, which is the one Heath and many others sell, and have the H8-4 board. In the diagram, the (*) indicates these lines are needed for running the H8COM software, and not for the MCS software.

To operate a MODEM, which is short for Modulator--Demodulator, you will need programs such as the above mentioned.

On actual wiring with the H8-4 to CAT, you will need a cable with a RS-232 male on one end which goes to the CAT, and a Heath 15 pin shell (supplied with H8-4 board) which connects to the H8-4 on the DTE (bottom) connector. Either a 6 or 8 conductor wire is needed between the two, per diagram, depending on the software you are using.

MODEM	SIGNAL		H8-4	
1	Prot Gnd	⟷	1	*
2	Data out	⟵	3	
3	Data in	⟶	5	
4	Req to send	⟶	7	*
5	Clear to send	⟶	9	
6	Data Set Rdy	⟶	11	
7	Sig. Gnd		13	
8	Carrier Detect	⟶	15	

Operate the MODEM set at half duplex, and the modes must be opposite in the unit called and calling unit. For example, if the person you are calling has his set on

ORIGINATE, yours must be set on ANSWER, and vice versa. This is what sets the tones for communicating back and forth without getting mixed up. When operating the MODEM, the ASCII information going to the port (taken care of in software) is converted to tones to be transmitted over the phone lines.

Another use for MODEM software is to tie two non compatible computers together to upload/download software between them.

Still related to this topic is the transmission of ASCII over the air waves. Milton Krauthoff sent me the following information:

Radio Hams can now use video teletype on the air with the rules as follows:

On frequencies 3.5 Mhrz thru 21.25 - speeds not to exceed 300 Baud. On freqfencies between 28 and 255 Mhrz not to exceed 1200 Baud. On frequencies above 420 Mhrz not to exceed 19.6 Kilobaud.

Full data on these rules are outlined on page 74 of the April 1980 issue of QST magazine.

Non Hams can easily obtain an Amateur License to make use of this new ruling. For the VHF and the UHF frequencies only a Technician license is needed. A relatively easy technical exam and a morse code speed of only five words per minute is required for this license. Page 60 of the April issue of HAM RADIO magazine lists the rules and regulations for this simple license.

The equipment for VHF Ham Radio Communications is not expensive, for the cost of a memory board you should be able to buy a FM transceiver that will do the job.

One note of caution, ham radio is not for commercial use. The exchange of programs between friends is already taking place on the air, along with advice on other bits of info on computer use. This is what the use of ASCII is to be for on the Ham bands.

Thank you for that contribution, Milt. This may be some information to seriously consider, as modem use is possible without the bother of long distance phone bills. If enough are into this area, it would be a worthwhile consideration.

There is no way I can cover much in this article about modems, I just wanted to present the basic essentials to help those who already have them, and to help those make decisions who do not have them. Next month I will follow this article up by printing some phone numbers of bulletin boards.

PEEKING & POKING

MASS STORAGE

As you all know by now, Heath is coming out with dual 8" drives for the H8/H89 in the near future. A good move, but about 3 years too late and a thousand dollars too expensive!

Hard disk technology is advancing at a rapid pace, and it appears that the Winchester type drives in the near future will be in the same price range as Heath's dual 8" drives, only store 5-10 MEGS in comparison to about 2 for the dual 8's. Why buy dual 8's when you can double or quadruple your storage for about the same price?

Magnolia Microsystems, 2812 Thorndyke Ave. W, Seattle, WA 98199 (206) 285- 7266 already have the CORVUS I0 Megabyte hard disk (Wihchester IMI7710) with power supply, interface board, and CP/M interface software available for the H89! Price? $5350 for the whole works. Wait a few months, and you're likely to see similar systems for much better prices. I hope someone undertakes this venture for the H8 and HDOS, since Magnolia only works with the H89 and CP/M. There will be a big market here, if the price is right.

My point? What about the 5-1/4" existing drives? The majority of H8ers are mainly using the H8 for hobby applications and would be happy with a dual density 5-1/4 drive. Very few individuals need the storage offered by a hard disk drive, or dual 8" drives. So why pay about $3K?

Thus far, all the H8ers I correspond with indicate the desire for a mod to the existing H17 to go dual density, thus saving money and utilizing to the fullest that which they already have. I understand CHUG is working with Shurgaut and Western Digital on a 5-1/4" 6.5 MEG hard disk and controller in the $2,000 price range.

I also understand Heath is currently evaluating various possibilities on higher capacity 5-1/4" drives, as the present H17 controller and drives WILL support double density disks without changes! At this point, however, there is a major software change and re-development to be made, along with reliability problems, but it seems to me, it is still the way to go.

I would not rush to buy the 8" drives till we see what the future will bring from Heath and others. In the meantime, write Heath and let them know you are more interested in the dual density 5-1/4 inch drives.

Henry

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