

Saving Our CLASSIC Heath 8-Bit Machines!

SETHO JOURNAL

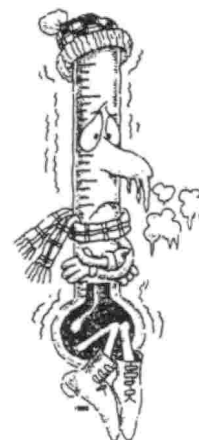
The Society of Eight Bit Heath Computerists' Monthly Newsletter

Volume V, Number 8

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March, 1991

Subscription & Order Blank on Page 9



The READER'S MAILBOX

Dear Lenny,

Got the JOURNALS you sent. Thanks!

I tinkered with that plug as you suggested on the phone. Only helped temporarily. Then I got mad, removed the damned thing and soldered the flyback leads directly into the [video] board. No more troubles. Considering you could always cut the wires and splice in a new flyback very easily, it makes you wonder why the plug in the first place. Oh, well, no one said you have to be smart to be an engineer, just that you have to own a piece of paper (sheepskin in the old days).

Still not working--at least for money, but I do keep trying to write. Have a short fantasy out: "Wizard's Apprentice". Not perfect, but if I waited 'til then I'd never have sent it out. Am working on another short SF item, a private-detective novel, and a short book on my view of metaphysics, so I'm keeping busy....

Miss visiting you and working on the JOURNAL, also tinkering on things. Except for you and a couple of other friends, I've no real regrets about my decision to drop out of the main stream....

I hope you're well and that things are going the way you'd like them to....

TOM RITTENHOUSE, P O Box 279, Monroe, VA 24574-0279; 804-929-4741

[Hey, Tom! Glad to hear that you got your back issues ok and that you're still in there a-strugglin' and all that stuff! We have scaled back our operation here somewhat since our last phone conversation--you've probably read about it in one of those old JOURNALS we sent you. Your 'permanent solution' of the fading raster problem is pretty good. (Wonder why I didn't think of that. Worked on that bad power supply a-c-connector problem, didn't it?!) Incidentally, I have a pair of 1/2-height drives with vast data capacity you might like to use instead of that old half-vast internal drive. You'd still use the same type discs, but your storage space will grow almost geometrically. Let me know, soonest. Nice to hear that you're knocking out Science Fiction & Other Neat Stuff. It takes a while to really hit one's stride in the writing field, and sometimes longer to sell anything, but not for you to despair! Eventuality carries its own reward, so you will soon arrive intact and reap prosperity. -- ed]



Dear Lenny,

This is in response to your question of "why does the '.ABS' or '.COM' file end up nearly twice as big as the original MBASIC program." There are two parts to the answer of your question which is part of the essential difference between a compiler and an interpreter.

Let's first consider what is taking place when you use an interpreter. Each instruction line is read by the interpreter and converted to code executable by the CPU (Z80 micro-processor on the H89). The amount of memory used includes the BASIC program source code AND the BASIC language program itself! Without the BASIC interpreter, your program could not run. When a compiler converts your program into machine code, it must include many routines along with it to make it run. Any compiled program generally HAS to be larger than the source code because each high level command (such as PRINT) involves a compound sequence of steps. If you compare the size of a compiled program with the COMBINED size of the source program AND the BASIC interpreter, the resulting code sizes are not so much apart anymore.

The second part of the problem has to do with a step called LINKING. This is the part of converting a source program into object code where various support routines are included. How much EXTRA is thrown in depends on the efficiency of the compiler package. Unfortunately, it is common for the link step to include everything, including the proverbial kitchen sink whether your program needs it or not. For example, your program only has the statement: PRINT "hello". The compiler and linker include not only the program steps to do the printing, but also included is checking of the operating system, routines for keyboard input, error checking routines and much, much more! By the end, what should have been a 200 byte program has grown to 20K in size. But do note that not all compiler packages do this. Some are ever so much more efficient than others.

BASIC is not the only program that suffers from this. "C" compilers suffer the same fate. When I program in Z80 for CP/M, I use the Toolworks C compiler and get short, efficient programs. On the other hand, Borland Turbo C for MS-DOS is a great compiler, but it doesn't know when to stop helping you. Even a trivial program becomes 20K in size. The LINK step is the culprit where needed and unneeded routines are--willy-nilly--included.

Hope this is of some use to you and your readers.

PETER SHKABARA, P O Box 1987, Blythe, CA 92226

[Yes, Pete, it is, very helpful! Now, I've run into an application program aggregation written in an unknown "generic" BASIC dialect and then compiled. There are six or seven of these (for want of a better name) "sub" programs which link with each other and the required BRUN.COM utility in the most complex manner. What I'd like to do is DISASSEMBLE each one, patch the screen routines for H89s, and reASSEMBLE them. Any helpful hints shall be most gratefully received! -- ed]

More "MAILBOX"

Dear Lenny,

Thank you for your offer to print an ad for our firm at no charge in the March '91 SEBHC JOURNAL. I've enclosed our new ad which has the most recent information about what we have for sale and are able to do for all H/Z-8-bit machine owners and users. Please note also that we have moved to a new address and that our phone number has also changed.

I mentioned to you during our recent phone conversation that I was sending you a test disc of Steve Robbin's Edit19, probably the most complete word processor ever developed for the H/Z89. Try it out and see if you think it is worth telling other SEBHCers about. If you like it, call Steve at the phone number noted and see if he'll let you distribute it. He's lost all interest in the H/Z89s, but I think he will probably let you do so.

By the way, I produced the enclosed ad using Edit19 under HDOS 3.0 and printed it on an HP Deskjet Plus via my [own] HP.DVD driver. As far as I know, this may be the only HP laserjet/inkjet driver for H/Z89s.

The next time we talk, remind me to tell you about how I'm using H/Z89s as Z80 development systems for prototyping industrial control products. Are you familiar with the Zilog Z180/Hitachi 641180? It's a new microprocessor that is fully upward compatible with the H/Z89's Z80 [CPU]. Maybe your readers would be interested [in reading an article about it]?

CLAY D MONTGOMERY, President, SigmaSoft and Systems, 2433 Winterstone Drive, Plano, TX 75023; 214-596-0116 Central Time

[Hey, Clay! Thanks for the test copy of Edit19. I've often seen it mentioned in old REMarks and other places, but being rather conservative, I've stuck with TeXT PRoCessor V4.1 because it seems to work ok for me. But what the heck, I'll give Edit19 a trial run or six & let you know how it works for me. Whatever happens, I shall definately give Steve a call and we'll see what comes of that. About your HP.DVD for HDOS 3.0; do you think it will run ok under a later version, say 3.02? Kirk Thompson ("Staunch 8/89er") sent me a Beta Test copy--which I'm ashamed to admit I haven't thoroughly gotten into, and I may eventually be forced into buying one of those expensive HP-type "toys". It'd be nice to know what you expect your HP.DVD'll sell for, and if it's compatible with all H/Z 8-bit machines, and perhaps the H/Z100 series under Z-DOS/MS-DOS. I certainly do like the excellent impact like type produced by your 'jet printer. It's the first time I've actually been fooled by a 'jet's output--usually their printout is somewhat fuzzy around sharp corners, but yours is Really Sharp! (Must be one of HP's most expensive models.) Since I've only heard rumors that the Z180 is Something Else (and have never had any input about it from our Gentle Readers), sure--an article by you about it shall be most welcome! I Really Like Your Most Reasonable Prices on H/Z-8-bit artifacts, and I hope our Readers do to--enough, that is, to contact you Real Soon Now! Please keep do us up to date on the latest news from daown thar in Tacks-sus, y'all heah?! -- ed]

Dear Lenny,

Back in the December 1989 issue, there appeared a cumulative index to the JOURNAL. Would it be possible to get a copy of it on disk? I catch myself going over back issues and always finding new bits of information. But if I have to find something specific, the job becomes much more difficult. I thought, with Gary Melander's index to start with, some sort of 'keyword' feature could be added. Ideally, one could browse through the index by subject via a word processor or a search program. Of course, it sounds like a lot of work, but the usefulness of the JOURNAL would be increased, and the time saved in looking for that 'certain' article would be substantial.

I've enclosed a couple of disks for the job. I'm using a Magnolia system, and can handle any 8" format, but my 5-1/4" drive is only single-sided. Thank you.

TIM ZMUDZINSKI, 56880 Pine Road, P O Box 73, South Bend, IN 46624

[Dear Potential Staff Member Tim Zmudzinski: You're quite correct in saying that a subject index on disc of all SEBHC JOURNAL articles would be useful. We've been trying for some time now to put something together along similar lines, but until your disc-letter arrived we had little more than a foggy idea how to carry out such a project. The fuzzy image we had in mind was to put all the back-issue text files on disc as the reader's choice between discs or printed back-issues in bound form. This would then be a natural expansion of Text, Table of Contents, and Subject Index in a much easier-to-handle form than paper. But I'll tell ya what I'm gonna do: Ship you a couple 8-inch discs full of CP/M back-issue text files which you can play around with (if you're still willing to do it) along the line you've suggested. I figure that if you have all our text files for each edition (including Gary's Table of Contents), you should be able not only to run a subject Search & Print, author, or article title operation. Might even be able to make up a better Table of Contents for years 1986 through our current edition! Now hows that strike ya? Seems that having our text files on high-capacity discs Would Be A Great Advantage to everyone. The JOURNAL archive text files I'm sending you have been reduced by NEWSWEEP's SQUEEZE function (this saves at least 40% of disc space previously occupied). I've included a working copy of NSWEEP.COM on Disc #1 of the eight-inch pair, and a backup copy on one of your 5-1/4" discs. All text pages from Volume I, Number 12 are included, right up to Vol V, No 7. We started publication under HDOS 2.0, so we shall have to convert lots of files over to CP/M and will be sending those along to you later. Also, way back when, many articles were handed to us as pasted-up originals so they must be reentered as ASCII text files. (Sigh...) But you should have the "entire schmaterati" in hand Really Soon Now. I null-modemed my CP/M-80 files over to Herman (my H120) so he could write 'em onto eight-inch CP/M-85 data-only discs. CALL ME! -- ed]

And Now A Word About...

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Spare boards are the best way to keep your H/Z89 running reliably. All of these parts have been refurbished and tested. We guarantee them for one year.

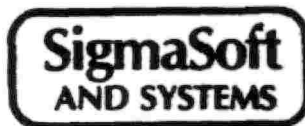
H/Z89A CPU Logic Board with MTR-90 ROM and 48K RAM	\$45.00
16K Dynamic Memory Expansion Board for CPU	\$15.00
H/Z89A Terminal Logic Board	\$45.00
Heath Z37 Soft Sected Double Density Disk Controller	\$75.00
MTR-90, 444-83, and 444-66 ROM set for Z37	\$15.00
Heath H17 Hard Sected Disk Controller	\$45.00
Heath 3 Port Serial I/O Board	\$45.00
Box of 10 Hard Sected Disks (Maxell)	\$15.00
Complete SigmaSoft IGC Graphics/256K RAM Drive System	\$300.00
Complete SigmaSoft 40 MB External Hard Disk System	\$700.00
Keyboards/CRTs/Power Supplies/Video Boards/Cables/Etc.	From \$15

H/Z89 Services

Heath/Zenith won't repair or support H/Z89 computers anymore, but we do! The prices listed are our standard repair charges. Abused equipment can cost more to repair. Our free phone consultation can usually isolate your problem to a single board, which saves you shipping costs.

Complete H/Z89 Clean Out and Repair	\$95.00
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H/Z89 Terminal Logic Board Repair	\$45.00
Disk Creation/Data Conversion Services (To/From: HDOS/CPM/MSDOS/Hard/Soft/40/80 Track)	From \$15

We accept Visa, Mastercard, check, or money order. Shipping charges are \$3 for disks, \$5 for boards, and \$50 for H/Z89s. We have over 10 years of experience solving H/Z89 problems. We can solve yours too. Give us a call now!



"Support is the most important feature."

2433 Winterstone Drive, Plano, TX 75023, (214) 596-0116

Still More MAILBOX

Dear Lenny,

We talked recently on the phone about those [Kress Engineering] speed-change discs and documentation I'd sent you and which had been damaged in transit. Will you be sending the items back soon, or did you have one of my days?! I have a new copy of Lindley Systems' Ultimate Driver and need to generate a new operating system. If you made a copy of the damaged discs, please send duplicates of those.

Here's one for Rick: I've finally found a reason to upgrade to one of those 'unmentionables' because I now have a need for a fax. An internal fax card in a new computer would fill my needs. Since fax cards haven't been developed for the H89, and apparently will not be, is it possible to build an external box with connections power and software to attach a peesee fax card to our good ole H89s?

If [such a device were] feasible, what would the cost be? Fax cards have been advertised for under \$200, and a combination for under \$350 might be a nice addition to the capabilities our beloved machines. Who knows, they might even sell!

Thanks for your time and effort in publishing the JOURNAL. It's one of my favorite publications, and it is always read. Keep up the good work.

WILLIAM A JACOB iii, 10220 66th Avenue SE, Olympia, WA 98503; 206-459-1006

[Thanks for the note! Spoke briefly with you to identify the discs you were talking about, and shall be going through that 3-foot-high stack of unidentified discs and jumbled documentation left over from our recent computer-shack cleanup here. Didn't mean to let you down, but things have been vert scrambled and the notes I'd taken "just sort of vanished"! I do have a different copy of the Kres 2-4 Mc/S distribution disc (which may be for Magnolia's version of CP/M) and some other brief notes. Remember that I'd found your originals had been dropped into something resembling rubber-cement thinner and then had been run over by some very heavy machinery. I got your original disc out of its' damaged jacket and duplicated it; believe I sent the duplicate to you. After this upper-respiratory thing which has me has gone I'll get in touch. And thanks for renewing! -- ed]

Dear Lenny,

Meant to write you sooner but kept putting it off--as I do everything else. Thanks for sending me the H19 terminal. It's a dandy and well worth the money. It's now driving an AMPRO Little-Board 8-bit computer with ZCPR3 and a 10-meg hard-disc. Also have four 96tpi floppy drives online, about the neatest setup I've played with!

I also have two Z90s and an H89A which I put together as a kit back when they [first] came out. All are working and one is dedicated to Amateur Radio on RTTY, AMTOR, and PACKET. All of them can be used for word procesing or anything else because they're all hooked to the printer through a four-way automatic switch.

One of the things we discussed on the phone was some way which I could help out in publishing the SEBHC JOURNAL. I've the COLUMNS program, but haven't really tried to use it as yet; don't know if it will work with NEWWORD (which is a clone of WORD STAR). If you wish, I could send you camera-ready 8-1/2 x 11-inch sheets from your copy in the matter of a day or two, depending on the mail service. I'm not set up for printing, but I have a Diablo 630 which will print plain text.

Four of my grandchildren (ages 4 to 8) are after me to use the computers. I have several games which they like to play, but some educational programs would be nice too--they are learning rapidly so I believe some math and spelling programs should be of great interest to them. If you know of any such programs, I'd appreciate you letting me know where I can obtain them.

If you think [of any] way I can help [with the JOURNAL] do feel free to suggest it and I'll give it a try.

MARVIN F ROBERTS, WORQY, 4000 SW 28th Street, Topeka, KS 66614-2207; 913-272-0497

[You're a marvel, Marv! That AMPRO Little-Board computer was given a very good how-2 writeup in the now-defunct Computer Smythe magazine. I've often thought about doing something with an Ampro board, but then I acquired that Alspa 64k 'big board' on an 8-inch drive and so let the idea drop. But I do have an extra H19 which will probably end running the Alspa when I've replaced its' sick full-height drive with a nifty pair of Mitsubishi 1/2-heights. Incidentally, this computer is also capable of running with an external Corvus hard disc; I have lots of tech notes on how to do it...someday. Thanks for offering to lend us a hand in getting out the JOURNAL! It's a very big chore unless contributors send their files in on floppies, else guess who types them in?! Often thought it would be Just Great if we could rig one of those newfangled (inexpensive) peesee-type scanners to work with the 89/90s. Boy, would that save lots of finger-dancing on the keyboard! Again, now that the FCC has dropped the Morse code Ham licensing requirement I could set up a V-H-F or U-H-F Ham rig here and "Packet" stuff between you 'n me, via moon bounce, maybe? In connexion with COLUMNS, you can use it with any printer--dot or daisy--with 132 columns-width type (condensed) on 8-1/2-inch paper but you must make sure that your text is narrow enough that it will fit the paper after "columnising" and printing. That means you should take into account the spaces required for left and right margins, and the center "gutter" between columns. Count all letters and spaces across a full JOURNAL page and you'll see what I mean. Our straight text is 61 columns/spaces wide by 110 lines long. Enough left and right spaces remain from the two columns on the page to accommodate left or right-hand holes. For a typical left-punched page enter: COLUMNS I(d:)TEXT.TXT O(d:)TEXT.COL L8 W132<cr>. COLUMNS lets you check the text it processes on-screen before sending it to "diskfile", or eXiting. Do have fun! -- ed]

SEBHC JOURNAL

Volume V, Number 8, Page 6

WRITING BASIC(ally)

Part Four -- More BASIC Examples
by
Editorial Assistant A Stapher

Last month we left you with a pair of nice listings which some of our readers have probably tried out by now. The second one of those is our version of "Zeller's Congruence" which determines if the current year is a leap year. Without that yearly extra 1/4-day the life of calendar makers would be very cushy. We could almost evenly divide the year by thirteen and have that many 28-day months. Every month would then have exactly four seven-day weeks (and we'd always know when payday was due!)

We have listed below a couple more examples which may be value to you. If nothing else, you can see a few of the steps involved in designing a calendar-generating program. Don't laugh; our own first experience with computing was with Tiny BASIC on a Heathkit ET-3400 in writing a calendar program. (Calenders and calendar programs have been around for a very, very lo-o-o-ng time!)

Our first module (Listing One - WEEKDAY.BAS) finds the day of the week any given date falls on. Earliest year is limited to 1753, highest year is 9999. This is another top-down program sample, but note that the data statements come very early in the listing unlike last month's example. This makes the program run quite rapidly.

Listing One - WEEKDAY.BAS

```
100 REM          WEEKDAY.BAS  MBASIC V4.82 - 5.22
110 REM          Finds day of week from Year 1753 onward
120 DIM M$(12):REM          Limited to twelve months
130 DATA Sunday,Monday,Tuesday,Wednesday,Thursday,Friday,
Saturday
140 DATA Jan,Feb,Mar,Apr,May,Jun,Jul,Aug,Sep,Oct,Nov,Dec
150 REM          Read Days
160 FOR I=1 TO 7
170   READ D$(I)
180 NEXT I
190 REM
190 REM          Read Months
200 FOR I=1 TO 12
210   READ M$(I)
220 NEXT I
230 REM
230 REM          Get operator input
240 PRINT:INPUT "What is the day (DD) ";D
250 IF D>31 THEN 240
260 PRINT:INPUT "What is the month (MM) ";M
270 IF M>12 THEN 260
280 PRINT:INPUT "What is the year (YYYY) ";Y
290 IF Y>1752 THEN 310
300 PRINT TAB(10) "Year must be LATER than 1753!":GOTO 240
310 K=INT(.6+(1/M))
320 L=Y-K
```

```
330 Q=M+12*K
340 P=L/100
350 Z1=INT(P/4)
360 Z2=INT(P)
370 Z3=INT((5*L)/4)
380 Z4=INT(13*(Q+1)/5)
390 Z=Z4+Z3-Z2+Z1+D-1
400 Z=Z-(7*INT(Z/7))+1
410 PRINT
420 PRINT TAB(10)M$(M);D;Y;"falls on a ";D$(Z)
430 END
```

The next listing has a challenging bug in it which we leave to our readers to locate and fix. The first WORKING fix for the bug which we receive before 1 May 1991 will earn its' author a free one-year extension of his/her subscription! (Hint: Ask the program what day today is.)

LISTING TWO -- DAY & DATE CALCULATOR PROGRAMME

```
100 REM          DAYDATE.BAS          MBASIC V4.82 - 5.21
110 REM          Gives day of week and days between dates
120 CLEAR 1000:E$=CHR$(27):CS$=E$+"E":PRINT CS$
130 PRINT:PRINT:T$="DAYS BETWEEN DATES AND DAY OF WEEK"
140 T1$="Valid between 1 January 1801 thru 31 December 2099"
150 PRINT TAB(40-LEN(T$))2:T$:PRINT:PRINT
160 PRINT TAB(40-LEN(T1$))2:T1$:PRINT:PRINT
170 PRINT TAB(20)"Enter 1 for days between dates"
180 PRINT TAB(20)"Enter 2 for day of week"
190 PRINT TAB(20)"Enter 3 to QUIT"
200 PRINT TAB(40)"Your choice ";:INPUT X:PRINT
210 ON X GOTO 250,350,760
220 GOTO 200
230 REM
240 REM          DAYS BETWEEN DATES
250 PRINT:
250 PRINT TAB(10)"Enter first date";:INPUT "(DD,MM,YYYY)";D,M,Y
260 GOSUB 650:GOSUB 430:K=D1
270 PRINT TAB(10)"Enter second date";:
270 INPUT "(DD,MM,YYYY)";D,M,Y
280 GOSUB 650:GOSUB 430
290 T=D1-K+1:T=ABS(T):IF T<>1 THEN 300 ELSE 310
300 PRINT "There are ";T;" days between these two dates.":
GOTO 320
310 PRINT "There is one day between these two dates."
320 PRINT:PRINT TAB(10)"Press RETURN key to continue":
INPUT X:GOTO 130
330 REM
340 REM          DAY OF WEEK ROUTINE
350 M=1:D=1:Y=180:GOSUB 430:K=D1
360 INPUT "Day of week for which date (DD,MM,YYYY)";D,M,Y
370 GOSUB 650:M2=M:D2=D:Y2=Y:GOSUB 430:T=D1-K
380 Q=T/7:W=INT(Q):Q=Q-W:Q=Q*100:Q=INT(Q):Q=Q/7:Q=INT(Q):
GOSUB 550
390 PRINT "For the date given the day of the week is ";B$
```

BASIC(ally) [eof]

```

400 INPUT "Press RETURN key to return to menu";X:GOTO 130
410 END
420 REM
430 REM          TOTAL DAYS CALCULATOR ROUTINE
440 D1=(Y*365)+D:L=M
450 IF M<=2 THEN 490
460 L=(L*.4)+2.3
470 L=INT(L)
480 D1=D1-L:Y=Y+1
490 M=((M*31)+(Y-1)/4)
500 M=INT(M):D1=D1+M
510 IF Y=1900 THEN D1=D1+1
520 RETURN
530 END
540 REM
550 REM          DAYS OF THE WEEK
560 IF Q=0 THEN B$="Wednesday"
570 IF Q=2 THEN B$="Thursday"
580 IF Q=4 THEN B$="Friday"
590 IF Q=6 THEN B$="Saturday"
600 IF Q=8 THEN B$="Sunday"
610 IF Q=10 THEN B$="Monday"
620 IF Q=12 THEN B$="Tuesday"
630 RETURN
640 REM
650 REM          UNREAL DATE TRAP
660 IF M<=0 OR M>=13 THEN PRINT CS$:
PRINT "Unreal month ";D;M;Y;:GOTO 750
670 IF D=0 OR D>=31 THEN PRINT CS$:PRINT "Bad day ";D;M;Y;:
GOTO 750
680 IF D>=31 AND (M=4 OR M=6 OR M=9 OR M=11) THEN PRINT CS$:
PRINT "There are not that many days in that month!":GOTO 750
690 IF Y<1801 OR Y>=2100 THEN PRINT CS$:
PRINT "Year is out of range";D;M;Y;:GOTO 750
700 IF M=2 AND D>=30 THEN PRINT CS$:
PRINT "February does not have that many days":GOTO 750
710 IF M=2 AND D=29 AND Y=1900 THEN PRINT CS$:
PRINT "There was no Feb 29th in 1900.":GOTO 750
720 IF M=2 AND D=29 THEN Z=Y/4
730 IF Z-INT(Z)<>0 THEN PRINT CS$:
PRINT "There is no Feb 29th in that year.":GOTO 750
740 RETURN
750 FOR X=1 TO 2000:NEXT X:GOTO 130
760 PRINT CS$:PRINT TAB(40)"DONE!":END

```

+++++ Editorial Staff Member Allie Lingo writes us that A Stapher's LEAPYEAR.BAS program will run properly under Benton Harbor BASIC if we change line 170 and add line 175 as below:

```

170 IF (Y1=0 AND Y2<>0) OR Y3=0 THEN PRINT
          "It's a Leap Year.":GOTO 180
175 PRINT "No, it is NOT a Leap Year."

```

+++++

8-BIT SOURCES, Etc

==> EIGHT-BIT SOURCES, SERVICES, & VENDOR DIRECTORY <==

[Understand that we do our best to keep this list current!]
PLEASE NOTE CDR and SigmaSoft & Systems Address Changes

CDR SYSTEMS, Inc., 7171 Ronson Road, San Diego, CA 92111; ph: 619-560-1272, 9a-5p Pacific Time Zone--ask for Herman.

8-bit machine memory devices, software, etc.

D-G ELECTRONIC DEVELOPMENTS Co., 700 S Armstrong, Denison TX 75020; phone 214-465-7805 (Central Time Zone)

8-bit "Heartbeat" computer, 8-bit "Super89" CPU upgrade/replacement board. Bruce Denton, president; Service & advice available, also some H8 and H/289 hardware at clearance prices; contact Bruce for details. A Certified GOOD GUY.

DISK MOVERS, 8534 McCormick Blvd, Skokie, IL 60076; phone 708-679-3727--ask for Miriam Campbell. Carry HARD SECTOR discs for our H/28, '89s, also soft-sector discs in bulk quantities at very low prices! VERY NICE, VERY HELPFUL PEOPLE. (Do give them a call!)

MAGNOLIA MICROSYSTEMS, 2818 Thorndyke Avenue West, Seattle, WA 98199; phone 206-285-7266 (Pacific Time Zone)

Special memory upgrades and op-systems for H/289, 90s

MICRO COMPUTER REPAIR SERVICE, 1517 S State St, Ann Arbor, MI 48104, 313-663-3646 (Eastern Time Zone) DISC DRIVE REPAIR & SALES. Tell Mike Morris Lenny sent ya! SUPER GUY!

MICRONICS TECHNOLOGY, Suite 159, 54 Dalrada Road, Montgomery, AL 36109; phone 205-244-1597 voice, 205-244-0192 bbs, (Central Time Zone). Darrell C Pelan, president. Software, hardware--especially hard drives for '89s. Catalogue & 8-bit help available. A REALLY GOOD GUY!

New Orleans Data General Services, 7230 Chadbourne Drive, New Orleans, LA 70126; phone 504-241-9388--"Dave".

Colour and sound boards for H8, H89. Out of business, but willing to provide tech advice on their products. ANOTHER GOOD GUY!

QUICKDATA COMPUTER SERVICES, Inc., 2618 Penn Circle, Sheboygan WI 53081; phone 414-452-4172--Henry Fale (Fah-lay) Prop. Mfr, sales, service, 8-bit machine support & parts; publishes H-SCOOP Heath/Zenith user's newsletter, 24 hour H/2 user BBS. Always busy but A REAL GOOD GUY!

SIGMASOFT & SYSTEMS, 2433 Winterstone Drive, Dallas, TX 75023-7818; phone 214-596-0116--Clay Montgomery Proprietor hardware/peripherals mfr, software publisher, hardware & tech support, RAM drives, hi-res grafix add-ons for '89/90s. Catalog & help; FANTASTIC GOOD GUY!

SKYCASTLE COMPUTER PRODUCTS, Box 1412, San Carlos, CA 94070; 415-254-3931 after 6pm Pacific Coast time--ask for Mike.

Calligraphy-II and other FANTASTIC dot-matrix graphic printer software products. A REALLY, SUPER-GOOD GUY!

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SEBHC JOURNAL

Volume V, Number 8, Page 8

The JOURNAL's CATALOGUE PAGE

Discontinued ("Vintage") H/Z Eight-bit CP/M software in Original Factory-Sealed Packages. Warranties WILL BE HONORED by Heath. All "Demo" software runs EXACTLY AS WARRANTIED PACKAGES DO, but updates aren't available (usually won't matter). Continuing Education (EC) packages are complete w/lectures on cassettes & final (college-acceptable credits) examination.

Item	H/Z cat #	Description	Price
----	-----	-----	-----
SJ-XTRA		CP/M-80 for WH47--reformatted to either hard or soft sector 5.25" discs, \$8 (please specify).....	\$12.95
SJ-1	EC-1101	Programming in FORTRAN	* 19.95
SJ-2	173-57-1	MICROSOFT FORTRAN v3.4 (demo)	* 19.95
SJ-3	173-66-1	Programming in COBOL	* 9.95
SJ-4	173-58-1	COBOL-80 v4.0 Demo w/documents	* 9.95
SJ-5	EC-1110	Programming in Microsoft BASIC	* 19.95
SJ-6	HMS 837-1	CP/M MBASIC-80 softsector (wty)	* 19.95
SJ-7	HMS 817-1	CP/M MBASIC-80, hardsector "	* 19.95
SJ-8	173-56-1	MBASIC-80 (CP/M) demo w/manual	* 9.95
SJ-12	173-60-1	Softstuff CPS modem pgm (demo)	2.95
SJ-13	173-67-1	"Micropro" SUPERSORT for Wordstar	7.95
SJ-14	173-91-1	M-Pro MAIL MERGE w/warranty	7.95
SJ-15	HDR-837-3	M-Pro DESPOOLER w/warranty	7.95
SJ-16	173-201-1	MICROSTAT database wty, manual	29.95
SJ-22	173-61-1	SOFTSTUFF GENRAL LEDGER pgm	7.95
SJ-23	173-62-1	SOFTSTUFF INVENTORY pgm	7.95
SJ-24	173-70-1	DATASTAR (w/warranty)	7.95

- 1 - Prices include shipping inside continental U.S.A. only except SJ-12 modem (add 50 cents for postage).
- 2 - All "Demo" software packages work EXACTLY as warrantied versions except manual pages are red over-stamped. (They're easy to read through a red cellophane overlay.)
- 3 - Some CP/M programs may not work on non-Heath machines, but usually can be patched with DDT (or equal) & run ok. ALL will run on H/Z-100 series machines on 8-bit side.
- 4 - On request we'll convert between hard- and soft-sector formats, between H/Z 5.25" and 8" formats (KAYPRO or Magnolia ss, sd 5.25" discs on special order) at \$5 each 5.25" target disc. Original distribution disc(s) will be included with converted discs.
- 5 - These are CLOSE-OUT PRICES; once gone, that's all folks!

Contact Gus Bakalis at D:KUG.DOC, 313-755-2060, or L Geisler at SEBHC JOURNAL, 313-662-0750 if you need more information. Note: Profits from any software sales made thru D:KUG.DOC go toward D:KUG.DOC's operating expenses.

NOTE: "*" means 10% off both packages if ordered as a pair w/matching course--example: MBASIC & Programming in MBASIC, COBOL & Programming in COBOL, etc.

(Most CP/M-80 runs on H/Z100-series machines under CP/M-85, 6)

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HPCP#OS	40trk ss soft-sector HDOS 2.0 "Programmer's CARE Package" Disc #0 (Misc .ABS & .BAS utilities)...	\$ 3.00
HPCP#OH	40trk ss HARD-sector HDOS 2.0 "Prgrmr's CARE"...	\$ 3.66
WSKPS	WordStar H/Z19/89 Keypatch ==> DISCONTINUED <==	
HTXTS	40trk ss soft-sector TeXT PRoCessor DEMO disc..	\$ 2.50
	Version 4.1 for HDOS 2.0, 3.0	
HTXTH	40trk ss HARD-sector TeXT PRoCessor DEMO disc..	\$ 2.50
CTXTS	CP/M 40trk ss soft-sector TeXT PRoCessor Files with DEMO program & on-disc manual.....	\$29.95
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The SEBHC JOURNAL's Back Page



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* The SEBHC JOURNAL is composed, edited and published by L E Geisler at 895 Starwick Drive, Ann Arbor, MI 48105. Phone 313-662-0750, 9am - 6pm Eastern Time Zone, Mon thru Fri only. Other times (EMERGENCIES ONLY): 313-769-6052 (residence).

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