

**Saving Our CLASSIC Heath 8-Bit Machines!**

# SEBHO JOURNAL

*The Society of Eight Bit Heath Computerists' Monthly Newsletter*

Volume V, Number 3

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*See Catalogue Page For Renewal & New Subscription Details*



# SEBHC JOURNAL

Volume V, Number 3, Page 2

## The READER'S MAILBOX

Dear Mr Geisler:

I read with interest Oscar Yohai's letter (Aug-1990 SEBHC Journal). Apparently you were discussing my company's (Lindley Systems) product, the Ultimate Driver. I was saddened to read that neither he or you could get the driver to work; installation of the driver is fairly simple, and requires neither hardware or software patching if a standard setup is used. The distribution disc contains ready-to-install files for the standard serial and parallel interfaces. Further, if your hardware is not 'standard', we will provide at no extra charge a ready-to-install version for your hardware. Just tell us the printer type and interface specifics.

Lindley Systems offers free telephone support and an update policy. We always do our utmost to ensure that all our customers are satisfied ones, and will always respond to telephone or written enquiries.

If you are still interested in this package, please tell me what kind of problems you are having, and I will work on resolving them. I won't quit until I get you "up and running".

WILLIAM "BILL" LINDLEY, Lindley Systems, 4257 Berwick Place, Woodbridge, VA 22192; 703-590-8890

[Hey, Bill! Thanks for your generous offer of help and support with installation of your Ultimate Driver. Oscar has never really gotten his copy installed in his BIOS.SYS because his computer packed up and left home! He bought a new machine from us which had two 1/2-height internal drives instead of the standard Heathkit full-height single-sided drive. This machine caused poor Oscar scads of problems due to corrosion and contamination of connectors and drives. We eventually exchanged it for a virtually-new machine which he is now running with glee and delight! Since we have his original distribution disc here (but without installation instructions) we'll try installing it into a copy of his CP/M BIOS-80 modified BIOS.SYS. We believe there's enough room in it to accomodate the extra driver code, and hope we're successful with this job. Now as to our own problem, we tried to install the CP/M version of UD.DVD into the D-G Super89 BIOS without success. But since we were then ignorant of CP/M's many peculiarities, didn't know that our D-G S-89 BIOS.SYS had gobbled all the reserved 16k! Now we know a little more about that, and perhaps we'll eventually get our own version working! One of the neater things about your Driver is that it employs the same graphic control codes found in your earlier HDOS MXV44.DVD Epson-compatible printer



driver. That makes life a lot simpler for us slow learners! Do keep in touch.... -- ed]

Dear Mr Geisler:

In Volume V, Number 1, I noticed that some one was having trouble with [Skycastle Computer Products] 'Calligraphy-II' program. Actually, the program is excellent. I've enclosed a recent brochure which was produced with Calligraphy-II, an Epson LQ-800 printer, and --of course--an H89.

There's another excellent [formatter] program entitled 'Bradford'. I've [also] enclosed a recent brochure produced with Bradford, my Epson LQ-800 printer and H89.

The key--I believe--to [successfully] using both programs is to start with the author's demonstration files and then modify them to suit your own needs.

In any case, keep up the good work; I always read the JOURNAL cover-to-cover.

HERBERT GREENBERG, P O Box 23031, Washington, DC 20026-3031

[Yo, Herbie! Thanks for your valuable input! We photo-reduced and reproduced on page 3 your two graphics text formatter samples to fit into our page format. Unfortunately, some finer text details get lost when you do that, but there's enough left that our other (enquiring) readers should get the idea. We haven't heard of 'Bradford' before this; do you have any vendor information about it which we can publish Really Soon, Now? And please do excuse our not including this in last month's issue; we simply ran out of space and time! One more thing--we keep getting requests for one or more articles on exactly how to create a Graphics Text file page. Here at the JOURNAL we've been using Calligraphy-II so long that it has become second nature to us, and if we write an article it's quite possible that we'll either gloss over or leave out something very important. Skycastle's original set of distribution discs has numerous working examples of how to incorporate graphic symbols into straight text. These symbols are stored in files with usually quite descriptive names, such as "3H1890.NS3" (1890s style alpha-numerics) or "3HPIC1.NS3" (a bunch of little pictures) and so on. Skycastle even includes an editor with which you may change any of their distribution character sets, or more importantly, create your own. For example, we made up a new "3HPIC2.NS3" file which contains the little computer symbol you see on our back page. They also have a "BIGED" symbol editor (available on special request only) with which you may create "6H" fonts or whatever to use with their "BANNER.GTF" printer utility. Calligraphy-II instructions are quite detailed and easy to follow. See our "8-Bit Vendors" section for Skycastle's phone number and address. -- ed]

## More READER'S MAILBOX

[Enclosures from Herbert Greenberg's letter. Note: Originals are much cleaner than these reduced-size reproductions! - ed]

### ☆ Temple B'nai Shalom's Brotherhood ☆

P.O. Box 10661, Burke, Va. 22009-0661

President - Marc Goldman  
1st V.P. - Gary Shostet  
2nd V.P. - Herbert Greenberg

Phone 425-3991  
Phone 228-0133  
Phone 378-4337

Sept. 19, 1990

Mrs. Hildin Brahms  
5021 Piney Branch Rd.,  
Fairfax, Va. 22030

Dear Mrs. Brahms:

Please print the following article, in the KOL, for our first Brotherhood Brunch of the 1990-91 season:

The Temple B'nai Shalom Brotherhood will hold its first brunch of the season on October 21, 1990 at 9:00 am. Our traditional Bagel & Lox Brunch will take place at the Kings Park Community Center, featuring Stewart Mendelsohn, Representative from the Chamber of Commerce, as our speaker, to discuss the upcoming Bond Referendums. There will be a small charge. Please attend! For additional information call Marc Goldman, 425-7881 or Herb Greenberg, 378-4577.

Thanks for your efforts.

Sincerely,

Herb Greenberg

*CALLIGRAPHY*

### Join Us For Our Sunday Brunch

#### TEMPLE B'NAI SHALOM BROTHERHOOD PRESENTS: OUR FIRST BRUNCH for 1990-91 SEASON!

Featuring Stewart Mendelsohn from the  
Chamber of Commerce as our Speaker to  
Discuss the Bond Referendums!

Date: October 21, 1990  
Place: Kings Park Community Center  
Time: 9:00 A.M.

HERE IT IS! OUR FIRST BRUNCH OF THE 1990-91 SEASON!  
Not only will we have our Traditional Bagel & Lox  
Brunch but we will have STEWART MENDELSON as our  
Guest Speaker to discuss the important up & coming  
BOND REFERENDUM which we will be Voting on Soon!

Mark your calendar for Oct. 21 ... Call Marc or  
Herb with questions.  
Marc Goldman, 425-7881  
Herb Greenberg, 378-4577

THE COST IS \$5 PER PERSON FOR A MEMBER OR \$8 FOR A NON-MEMBER, AT THE DOOR.  
BROTHERHOOD MEMBERSHIP IS NOT REQUIRED TO ATTEND, BUT PLEASE JOIN, WE NEED  
YOUR SUPPORT!

<<< MEMBERS & GUESTS ARE BELIEVED! COME ONE! COME ALL! THANKS! >>>

*BRADFORD*

\*\* NON CARBORUNDUM ILLEGITIMI! \*\*

[Parks Watson sez, "Don't let the bastriches wear you down!"]

[We stumbled upon this short note which Richard Turk sent us last January which we forgot to print! Oops! -- ed]

Dear Lenny,

Just repaired a failure in my H89. Diode bridge BR-1 failed. It started as an intermittent problem but eventually settled into a good [?!] solid failure which was then easy to identify. The original symptom was a sixty-cycle interference [bar] floating down the screen which went away after things warmed up. The next symptom was a spurious reset of both terminal and CPU. This was caused by BR-1 briefly opening the supply line to the TLB which interpreted that as a power turnon and passed it on to the CPU. When BR-1 finally died, I replaced it with a larger and heavier Radio-Shack 25-amp, 50-PIV unit--bigger than the original part, so it took some perspiration to get it to fit!

After making that repair, I then did the H89 cooling enhancement described some time back in the JOURNAL. There is a definite reduction in heat-sink temperature now that the fan is blowing down on it, and the longer cabinet slots really help in taking more heat out of the cabinet.

I hope that this information may be of some use to others with similar heat, interference patterns, or those mysterious intermittent problems.

RICHARD TURK, 274 Lakeshore Drive, Warner Robins, GA 31088

[Hey, Dick! Thanks for your input. We're sure others'll be grateful for hearing how you cured a nasty problem! -- ed]

Dear Mr Geisler,

I'm overloaded with '89 computers and components. We are moving and I've been instructed by "you know who" to reduce my inventory. So the following are available:

- \* H89 w/64k, 1 internal hard-sector drive, H/267 10MB hard disc drive interface card. FREE H67 drive needs repairs
- \* H89 w/64k, two 1/2ht 96tpi internal drives, runs at 4mHz and currently in use
- \* 2 working, excellent-condition H77 2-drive external units
- \* Diablo 1640 daisy-wheel printer. Dandy, heavy-duty unit in excellent condition--lots of life left in it.

Anybody who's interested can either call or write the below-listed address and numbers. Make me a good one and I'll throw in a lot of software, too!

DICK SHOTWELL, 546 Grandview Drive North, Twin Falls, ID 83301; 208-733-7774 days, 208-733-7815 evenings.

[Well Dick, there's your letter. Now let's see if any of our other "hard-line 8-bitters" will take up your hardware offer! Wonder what that software is which you're offering? -- ed]

[Many thanks to Bayard Badenhause for his most generous gift of a "virgin" copy of CP/M BASIC-85 for the Z100. We'll r it in with our "other" for-sale Z100, Real Soon Now! -- e

# SEBHC JOURNAL

Volume V, Number 3, Page 4

## READER'S MAILBOX end / ASK RICK

Dear Lenny,

I seem to be the only H89 user in this area--that I know of. I have three of them, one which is in use all the time as a Bulletin Board (Honah Lee RBBS, 300/1200 baud, 219-255-4980--2400 baud soon, I hope, if I can get the patches in BYE510.ASM to work!).

This BBS is a CP/M system, about the only one I know of. It has low activity, and very few regular users. There are 9 message sections: General, Astronomy, CP/M, Commodore, Science Fiction, Science, ibm, MIHUG (Michigan Heath User's Group), and HICHE (Northern Indiana Computer Hobbyist Exchange). Upload and Download are available on the system but there's not much presently available, and we're reorganising it at the moment.

It uses a CDR soft-sector floppy controller card and a CDR hard-drive interface card serving a Seagate ST-255 20-meg divided into 3 partitions of 7340k each (3 x 7340k = 22020k or 22.02 meg total). The directory shows the smallest file size as 4k. This interface also has a battery-backed real-time clock. There's also one meg of RAM in this machine, with 64k used by the operating system, the rest as a RAM drive. (I removed the standard Heath 64k memory chips to permit installing the 1-meg memory upgrade.)

The hard-drive controller board is supposedly able to run two hard drives--0 and 1--but I can't get the software to recognise both at the same time, that is it's either Unit 0 as A-B-C, or Unit 1 as A-B-C, not Unit 0--A-B-C and Unit 1--D-E-F! [I guess] the easy thing to do is to get a larger hard drive and make more partitions on a single unit. [Maybe it's an ASSIGN utility user malfunction? -- ed]

I also have a Z100 using Z-DOS (MS-DOS), but mostly ZCP/M-86 with remote terminals, and a peesee clone. I need the Z100 to transfer software from the BBS onto ZCP/M-86-formatted discs (304k). The BBS has a program to read Z100 CCP/M-formatted discs to MS-DOS discs. ZCP/M-86 will read and write both Z100 discs and the hard drive, but when booted under MS-DOS will read MS-DOS only. [Hey--I've got an MS-DOS utility called RDCPM which might help there! -- ed]

There's a ZCP/M-86 utility which will run 8-bit programs in the 16-bit mode--such as WordStar 3.3 for the H89. I don't have a WordStar version for ZCP/M-86, so that's handy.

A final note: I turn off the video display on the BBS H89 most of the time. This way the machine runs much cooler, especially in the summer. I put an external switch in the 65-volt supply feeding the video board, so the CRT filament isn't drawing power [unless I turn it on]. I also put an external switch in the speaker line so I don't have to listen to it beeping whenever someone's using the BBS.

MARK L MEIDEL, 620 S Logan St, Mishawaka, IN 46544-4834; 219-255-3923

[Hey, Mark! Looks as if you have everything except that hard drive partitioning mess pretty well in hand. Associate Editor Rick Swenton usually reads all the letters we get, so

maybe he can lead you through the maze of CDR interface logic (or is it ILL-logic?). But we're VERY curious about that BYE510.ASM PBBS listing! Where'd you get it? Is it still available--with full documentation, Y/N? How about filling us in on it, please?! We have a very full set of Z100 BBS software which was donated by a former A\*SQR\*HUG (Ann Arbor HUG--dissolved in '87) member a while back. It runs under ZBASIC and apparently was used by folks who used Z100s while employed by an entity labelled "DCASAR". We plan on Real Soon Now to go through this BBS code and tighten it up, then try compiling it so it'll take up less disc space--and maybe run faster. Presently it occupies nearly 75k. That's a one big plate--a spaghetti--and no sauce in sight! Please keep us informed. -- ed]

=====

ASK RICK -- OUR REGULAR "HELP-ME" FEATURE

Conducted by

Associate Editor, RICK SWENTON,  
106 Melinda Lane, Bristol, CT 06010--7176

To: Steven Holle, Minneapolis, MN

Dear Steve,

Saw your letter in the SEBHC JOURNAL about the difficulties you're having in trying to figure out how to properly jumper the Tandon TM100-4 disc drive. I've enclosed a reprint of a page from Tandon's owner's manual which shows the locations of configuration jumper and terminating resistor pack sockets. The jumper plug goes into DIP socket 1E and resistor pack in socket 2F--shown in the drawing I sent you.

You guessed correctly that the TM100-4 is an 80-track, 96-tpi, double-sided drive. For normal H37 controller operation, you only need two jumpers, one of which (HS) should be permanently installed. The other jumper should be installed into the appropriate DS location, DS0, DS1, or DS2. These jumpers determine the drive's assignment, that is, whether it will be physical drive unit zero, one, or two. Remember that only ONE terminating resistor pack should be installed, and that it is in the drive at the 34-conductor ribbon cable end farthest away from the interface card.

There's another drive configure illustration in the Heath Configuration Guide (p/n597-2571-02), Pictorial 3 for the Z-89-37. Good luck with your new drive!

/s/RICK

From: Bob Evans, Hemet, CA

Howdy Rick,

Got yours of Sept. 8, and thanks for the info. Also heard from Henry, and he basically indicated the reason for not having to change the I/O decode ROM was the same as you gave. But the documents didn't mention anything like that, so I



## More ASK RICK

would have known about it only if I'd had the complete MM system....

So now here's my latest tale of woe.... This one might be conducive to a bit of head scratching (all my hair is pulled out already).

1 - I wanted 6 partitions--as I mentioned on the phone--as I have severa; application programs which require several partitions--A:, B:, C:, etc., NO user areas permitted (at least I've never gotten them to work that way). So you can see that five or 6 partitions would be quite nice.

2 - The SASIX seems to work the same way, patched or not--as far as I got, that is.

3 - I go through the SASIX program thusly:

- a. Check the hardware with "Chk cntrlr" (it reads ok)
- b. Second Screen, put in drive parameters (used Wcomp and Wreduc with no discernable difference)
- c. Format the entire drive

4 - After formatting the drive, use "check drive", no error message.

5 - Make partition table, second screen. (Went to 4 partitions, the last try.

Now we're at pg 3-12 in Henry's documents which says "Boot off QuikStor - Boot Screen". Now this seems rather previous since we have not yet assigned any partitions. Or am I reading this thing wrongly?

It makes no sense to me, so I now go to pg 5-20, which is headed "Putting CP/M on QuikStor". Here we find information on QASIGN, so the partitions--listed in the table I wrote--are assigned to D:, E:, F:, and G:, and the program reports that they are all ok (oh, yeah?!).

Meanwhile...back at pg 5-2, we find "Installation". In the installation--of what? Oh, yes, previous page, "QSBIOS"--got to have a modified BIOS! Having already done this little chore without mishap, according to the installation program, I now go to item 3, "Putting CP/M on QS".

6 - It says: "FORMAT all CP/M partitions on the QS, using QFORMAT". Now, here's where all hell breaks loose. I start the format program, "QFORMAT D:--whereupon it goes a few drive circles and comes up with the startling message (one I'd NEVER seen before--only 9 times a day, that is): "BDOS error bad sector, continue,...", and so on, ad nauseum. I say to the block out bad sectors and continue, but it says, "Track 28 thatNG"...and goes on forever; same story with ALL partitions.

7 - I think, "OK, you beast, maybe you did block out those tracks, blocks, or whatever, so will you take the OP SYS?" Nope...no go! I did get it once to accept D.COM and give me a partition size reading, but even that went sour!

I tried it without attempting to format the partitions (CDR doesn't format partitions, only the entire drive) but that didn't work AT ALL. Obviously, I'm not doing it correctly, or the fool SASIX is no good, or??? The absurdly ridiculous part of this entire situation is that I removed the hard drive from this system and put it back on the CDR, reformatting it with their program, set up my five partitions and away we went, no problems whatever! I can't see how it could be

the drive.... I never did get to try booting the system from the boot screen because it never let me get that far. (ugh)

I was planning to go to the Computer Marketplace next month and get me another hard drive, probably a Seagate. I wonder if that would be smart now--yet I do need a hard drive in order to keep checking the lousy thing out. I've read Henry's manual twenty times and can't seem to find where I'm goofing up (it is rather a bit hard to follow and then)....

Well, summer is about gone here, and I imagine fall is on you there in Connecticut. Hope you've had a good summer, despite characters like me bothering you every day! Best to you and yours....

/s/BOB

Hi, Bob,

I think I understand why you're confused. As I read the documentation, I see terminology which means somewhat different things, depending upon where you are in the process. For example, "FORMAT the entire disc", is quite different than "FORMAT the CP/M Partition".

Here's the drill: First set up the disc specifications AND the CP/M partitions on the SASIX main screen (see page 3-8). This is where you define the names of your CP/M partitions. Be sure to select the correct category code (2 = Heath CP/M) and the correct WP code (0 = Read/Write). Use the 615 for Wcomp and Wreduc. After finishing entering data you should THEN format the entire disc, using Function 2, Format Options, then Option 3 (see page 3-11) followed by Function 6 (to actually start it). After the disc is formatted, return to the main screen with a Function 7, and then use Function 1 to Write Track. This will write your selections to the disc. The next time you run SASIX, the saved selections will come up instead of the default values.

Now your disc is ready for CP/M "installation" and loading of files. Just like all [other] discs, [hard discs] must be formatted before they can be used.

"But", you say, "I already formatted the entire drive under SASIX!"

Well, that can be thought of as a low-level format which writes the most basic timing information, and slices the disc surfaces into tracks and sectors. CP/M needs to see that disc as individual (logical) drives of no more than 8MB each. SASIX did the physical formatting. Now, QFORMAT will do the logical formatting and directory building. First, your CP/M must be running the QSBIOS on the floppy disc you're now using (see page 5-2). You run QASIGN to bring up to four partitions online. Since you booted from the floppy, the partitions will be D:, E:, F:, and G:. Go ahead and format them with QFORMAT. Finally, transfer the CP/M system over to the hard disc with the QSPUTSYS utility (see page 5-8).

It's really hard to say what's causing your problem. The fact that your hard drive works on the CDR system does suggest that it's probably just fine. Also, the fact that the

# SEBHC JOURNAL

Volume V, Number 3, Page 6

## "ASK RICK" [eof]

Check Controller and Check Drive commands are successful confirms that a hardware problem is unlikely. It sounds almost as if the QSFORMAT step wasn't successful and the system is trying to access and unformatted (logical) disc. QSFORMAT itself shouldn't come up with a "BDOS error - bad sector". You do have the option of having it find and mark bad blocks after the format is done. The BDOS bad-sector error will only come up when CP/M tries to read from or write to a bad sector, not when trying to format a bad sector.

I could [have] suggested that you re-read the QS manual, but after having personally struggled through it, I realised just how intimidating it can be. I remember how much head scratching I did on the first, second, third, "nnn" times I went through it! But do keep trying, and keep me posted. I'm hopeful that something will trigger your mind into an avalanche of success!

/s/RICK

From Bob Evans, Hemet, CA

Howdy again--

I'll bet you'll be so happy to get rid of me that you'll never volunteer to help some dummy, ever again--that is, if you ever DO get rid of me! I'm back with the latest tale of woe, this verse almost the same as the first (we're discussing QuikStor again).

I followed your outline from your last letter and, of course, I had reversed a couple of steps. So I had high hopes [but] to no avail.

- 1 - Set up spec. table, codes 2 & 0, same as before; four partitions, 615 for Wcomp & Wreducl.
- 2 - Function 2, FORMAT option 3, option 6 to start it. Format OK.
- 3 - Function 7, return to main screen, use Function 1, Write track. (Incidentally, I'm using SASIX this time, not the patched version.)
- 4 - QBIOS up and running--boot-up message ok. Run QASSIGN & name the 4 partitions. Run QSFORMAT--same as before--it balks. Runs about 20 seconds, then: "Disk Read Error on Drive D: (or whatever one it is)  
Track 0 Sector 28 Status 11  
A(bort) R(etry) D(efer) or I(gnore)  
A retry repeats the message,  
Defer--s \*Error\* Unable to write partition directory-

This partition cannot be formatted A>

No change--I re-copied the whole ball of wax from Henry's distribution disc again--same results. I really think that the QSFORMAT [utility] is screwed up somehow.

I tried G:--(QSFORMAT) track 0, 1, 2, 3, 4, bad, but I get a message, "Format Completed successfully". I tried QSPUTSYS and it says it is successful. I tried copying D.COM, and STAT.COM and it seems to take them, but they won't run--gives another error message, "Track 7, 8, 9, etc.", ALL are on sector 28! FBAD called from the A: boot disc gives me "BDOS Er-

ror on G:"!

I'm about to throw this one out! I intended to write to Henry, but doubt if he'll be of much help as he doesn't seem to want to give much time to self-integrators. I'm sure I'm running at 2MHz [clock speed] and I've triple-checked all switches and programming plugs, etc.. The SASIX program says the controller is fine, also that the drive is OK...????? I have to believe that it is, especially since I've put the [hard disc] drive back on the CDR system and it works fine.

I've tried every conceivable combination of steps, but all ways end up the same--it just will not format, and I can't figure out why. I'll wait to see if Henry will be kind enough to give me a bit of advice or information. Thanks for all of your [past] help; I know you don't have time for such nonsense--enough is enough.

/s/BOB

To: Bob Evans

Hi, Bob,

Sorry to see that you're still having QuikStor problems. Something seems fishy. When you run QSFORMAT, you shouldn't get any READ errors until the program asks you if you want to verify the disc. Formatting should go on blindly ignoring any possible disc errors until the verify process.

It IS possible that the drive does have a problem, the nature of which does not show up as readily on the CDR system. If you want to go to the trouble, send me the drive and I can install and test it on one of my working QuikStor systems to see if I experience the same problems that you're having.

If you want to go through with this, we can wait for the outcome of the testing.

By the way, remember that the patches to SASIX.COM affect only QuikStor's ability to bring up the boot partition screen from a cold start when you're using a non-standard H19 TLB upgrade such as SuperSet. Even without the patches, QuikStor will still boot with the B(oot):0 command.

/s/RICK

[Editor's note: This hard-drive installation problem seems quite daunting, but if anyone can make it come out so that Bob gets his '89 up-n-running Really Soon Now, it's Rick!]

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ATTENTION SUBSCRIBERS... ATTENTION SUBSCRIBERS... ATTENTION

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Effective this edition (Volume 5, Number 3 -- October, 1990): ALL renewals and new subscriptions (foreign and domestic) are \$25/year or \$45/2 years, First Class Mail ONLY. This unwelcome change was forced upon us by our shrinking mailing list. We do hope you understand and bear with us.

-----<[[ 8-Bits 4-Ever! ]]>-----

=====

## BARGAINS/SPECIAL INFORMATION

==> ABSOLUTELY LAST-CALL SALE (ONCE GONE, THAT'S IT!) <==

OUR LAST COMPUTER IN STOCK!!! Refurbished to "like new" condition and bench-check-run for 72 non-stop hours. 2-89 w/64k RAM, one internal ss, sd 40-trk drive, 3-port serial I/O.

\* Order Item #64-1W (white screen) Item #64-1G (green screen)  
Price, less shipping..... \$125

Same computer w/TWO internal 1/2-height double-sided drives, (one 40trk, one 80trk) installed and operation verified good.

\* Order Item #64-2W (white screen) Item #64-2G (green screen)  
Price, less shipping..... \$175

EXTRA SPECIAL! WH89-37 & MTR-90 ROM installed in Item #64-1 with standard 40trk-ss, sd hard-sector drive PLUS MTR-90 ROM & external H77 w/2 40trk ss, dd soft-sector drives. Entire system bench-tested before being shipped in two containers.

\* Order Item #89PLUSW (white screen) Item #89PLUSG (grn scrn)  
Price, less shipping..... \$225

SUPER-EXTRA SPECIAL! CP/M-80 operating system and manuals, plus MBASIC v5.2 & manual, Heath's Continuing Education "Programming in MicroSoft BASIC" Course (w/final exam).

\* Order Item #EX-SOFT Price, shipping included..... \$ 50

\* Order Item #EX-SOFT/W together with above computer.... \$ 45

We'll ship computer (choose way) by UPS in double-padded card board cartons or by motor freight in hard container described in July-90 JOURNAL. UPS: Between \$25 to \$50--zone dependent or motor freight in continental US at about \$45 - \$75. We'll bill you for shipping. H77 and EX-PLUS shipped in appropriate corrugated cardboard box(s) via UPS.

PLEASE HELP US EMPTY OUR SHELVES OF THESE FEW REMNANTS:

#6 -- H/Z89A WORKING Terminal Logic Board (TLB), may use as-is for replacement, or parts salvage.... \$ 45

#7 -- H/Z89/90A WORKING Central Processing Board (CPU) w/64k RAM; use as-is for replacement or parts.. \$ 55  
NOTE: Make this CPU into a stand-alone-"Heart-Beat" style computer with the componets below!

#10 - H/Z89/90 Working 2-port serial I/O card w/back panel cables & DB25 jacks..... \$ 25  
Plug this into the CPU above & make a printer buffer!

#12 - Z19 Working Terminal w/grn scrn, 5' I/O cable... \$ 75  
Use your imagination to make something GOOD of these!

Payment by Money Order or Cheque payable only to L E Geisler, 895 Starwick Drive, Ann Arbor, MI 48105. Phone, 313-662-0750 --Eastern Time Zone--9am - 5pm M-F only, please.

==> EIGHT-BIT VENDOR DIRECTORY <==

CDR SYSTEMS, Inc., 7210 Clairemont Mesa Blvd., San Diego, CA 92111; phone 619-560-1272

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/Z89 hardware at clearance prices! Certified GOOD GUYS.

DISK MOVERS, 8534 McCormick Blvd, Skokie, IL 60076; phone 708-679-3727--ask for Miriam Campbell. Carry HARD SECTOR discs for our H/Z89s. Bulk quantities at low prices! VERY NICE, HELPFUL PEOPLE.

MAGNOLIA MICROSYSTEMS, 2818 Thorndyke Avenue West, Seattle, WA 98199; phone 206-285-7266 (Pacific Time Zone)  
Special memory upgrades and op-systems for H/Z89, 90s

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. "GOOD GUYS".

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 busi- but will provide tech advice. ANOTHER GOOD GUY!

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

SIGMASOFT & SYSTEMS, 17000 Dallas Parkway #207, Dallas, TX 75248; phone 214-380-6187  
hardware/peripherals mfrg, software publisher, hardware & tech support, RAM drives, hi-res grafix add-ons for '89/90s. Catalog & help by this GOOD GUY!

SKYCASTLE COMPUTER PRODUCTS, Box 1412, San Carlos, CA 94070; 415-254-3931 after 6pm Pacific Coast time--ask for Mike. Calligraphy-II, grafix products. A REALLY GOOD GUY!

TMSI/LEE HART, 323 West 19th Street, Holland, MI 49423  
"Inovative Products for the H/Z89"

Misc. 8-bit hardware items, hardware/software support of '89/90s; write for catalogue, help. "NICE GUY"

# SEBHC JOURNAL

Volume V, Number 3, Page 8

## Our GENERAL 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, no updates, but usually don't matter. All Continuing Education (EC) courses provide college-acceptable credits and are complete w/lecture cassettes and final examination.

Item	H/Z cat #	Description	Price
----	-----	-----	-----
SJ-XTRA CP/M-80 for WH47 8" drive--we'll transfer for you to hard or soft sector 5-1/4-in discs for \$8 a/r			
			\$19.95
SJ-1	EC-1101	Programming in FORTRAN	* 39.95
SJ-2	173-57-1	MICROSOFT FORTRAN v3.4 (demo)	* 29.95
SJ-3	173-66-1	Programming in COBOL	* 19.95
SJ-4	173-58-1	COBOL-80 v4.0 Demo w/documents	* 10.95
SJ-5	EC-1110	Programming in Microsoft BASIC	* 29.95
SJ-6	HMS 837-1	CP/M MBASIC-80 softsector (wty)	* 29.95
SJ-7	HMS 817-1	CP/M MBASIC-80, hardsector "	* 29.95
SJ-8	173-56-1	MBASIC-80 (CP/M) demo w/manual	* 10.95
SJ-12	173-60-1	Softstuff CPS modem pgm (demo)	2.96
SJ-13	173-67-1	"Micropro" SUPERSORT for Wordstar	9.95
SJ-14	173-91-1	MicroPro MAIL MERGE w/warranty	9.95
SJ-15	HDR-837-3	MicroPro DESPOOLER w/warranty	9.95
SJ-16	173-201-1	MICROSTAT database wty, manual	49.95
SJ-22	173-61-1	SoftStuff GENERAL LEDGER w/wty	10.95
SJ-23	173-62-1	SoftStuff INVENTORY w/warranty	10.95
SJ-24	173-70-1	DATASTAR w/warranty	10.95

1 - Prices include shipping inside continental U.S.A. only.  
2 - We WILL NOT accept opened returns.  
3 - All "Demo" software packages work EXACTLY as warrantied versions except manual pages are red over-stamped. (They're easy to read through red cellophane laid over the page.)

4 - Some CP/M programs may not work on non-Heath machines, but usually can be patched with DDT (or equal) to run ok.

5 - On request we'll convert software files between hard- and soft-sector formats, 8-bit H/Z 5.25" and 8" discs, H/Z100-series, or non-system KAYPRO ss, sd 5.25" discs at \$5 each 5.25" target disc. Original distribution disc(s) will be shipped together with converted discs. (Caveat: Some Heath H19 Terminal escape codes are not H/Z100 or Kaypro 8-bit-machine-specific compatible.)

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 1 - An asterisk (\*) means take 10% off the paired package prices when ordering with matching course. Example: MBASIC & Programming in MBASIC, COBOL & Programming in COBOL, etc.

Note 2 - Most CP/M-80 software runs on H/Z100s under CP/M-85, and may be converted to MS-DOS with READCPM.COM utility.

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The SEBHC JOURNAL RESERVES THE RIGHT TO REFUSE TO PRINT any letter containing profanity, derogatory racist, or sexist remarks, specific political or libelous statements of any nature directed toward any individual or organisation. The JOURNAL will not knowingly publish malicious fabrications, lies, or distortions of fact, but will take appropriate legal action against any individual(s) uttering them.

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