

Preserving Our CLASSIC Heath 8-Bit Machines!

# The SEETHO JOURNAL

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

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*Subscription & Order Form on Back Page*



# SEBHC JOURNAL

Volume VIII, Numbers 3-4, Page 2

## READER'S LETTERS

YES, THE SEBHC JOURNAL IS STILL ALIVE!

Dear Sir:

I am interested in subscribing to your publication. As you know, The Staunch 8/89er has temporarily ceased publication. I am in need of some type of continuing contact with users of the old Heath or Zenith equipment (H8, H88/89/90, H11, H11A). I've built at least one system, and in the case of the '89, three systems as well as the H100 and H386/16 and H386/25. I'm still happily using the 386/25 and have an H11 and H89 also still working.

If you are still publishing, please advise the current subscription rates and frequency of issue. Whether still publishing or not, can you advise if HDOS 3.0x is still available along with the HUG library software? I am also interested in finding sources for H89 equipment: parts, complete units, and software.

Thanks in advance for your help.

MIKE STOVER, 2155 Cordoba Drive, Florissant, MO 63033

[Yes, Mike, we're still publishing--albeit somewhat randomly --and you will find our current rates on the back page of this edition along with the order blank. We are striving to get back to our original schedule of one edition every month, but for numerous reasons, we've been unable to hold to that time table. Presently, the JOURNAL is a one-man operation--I know that word will trigger hackle-risings in our female subscribers, but I AM male, and I'm doing all the work! (Drop dead, Lydia Pinkham!) A number of subscribers have lots of surplus 8/89-type spares and are looking for anyone to take them off their hands (me included). Look through this free sample edition I've sent you to get the names & address of other sources. Hope you will add your name to our subscriber database, Real Soon Now! -- ed]

SPRING TAKES ME TO TASK...

Dear Lenny...

Just received the September edition of the "Journal".

I was surprised when I saw the [red] stamp indicating that the subscription had expired. I sent my cheque in the early part of September and according to my records, it cleared the bank about ten days later.

I know things can be hectic at times, or at its' worst, a complete catastrophe. My father passed away in July and things seemingly will never settle down.

The renewal was for one year. The [subscriber's] number above the address is 241.

'Til later....

SPRING S SMITH, 6055 Gary Place, San Luis Obispo, CA 93401

[Dear Spring, I seem to be forever getting your (and other's) expiration dates mixed up! Yes, I got the cheque; yes, I did enter the amount tendered in the database. But I must have been momentarily distracted by a domestic irregularity or the

like while working with "QUERY!", otherwise, I would have correctly entered your new expiration date. But it's all better now...I've updated your db records and you should be ok (until I do something else silly). Regret to hear that you lost your dad! These things always happen, and rarely are anticipated in time to square everything away, unlike, for example, normal childbirth. And usually far more traumatic to the "survivors" than to the deceased... But do keep your courage up; things eventually work themselves around to some kind of acceptable, rational conclusion. And, you have my deepest sympathy, Lenny]

HERE'S A WORD FROM CORKY KIRK!

Dear Lenny,

Holy Moly--Discovered I'm off the SEBHC 'Honour Roll'! I found your "last issue" date (7/96) and have enclosed what I figured it would cost from now to then (2yrs = \$44 plus \$20 for 1996). If I've figured wrong, let me know.

Haven't yet fixed the 290's H37 disc drive problem, but have fixed a 289 that was only a "one beeper"! [The cause:] A 2.2 microfarad condenser shorting out the minus five-volt bus. Now all is well [and] it DIDN'T get the U585 regulator (mounted at the top of the CPU board), but it sure was hot! All's [now] well there.

Wrote Bob Evans in Hemet, CA to see if he'd see this "one beep" problem and had a solution, but no dice. Thanks to Bob for writing [back]. I need all the help I can get.

Glad you found "DOMINO COMPUTERS" and that they DON'T do pizza....

CORKY KIRK, W60RS/NHNOORS, 270 Kapulani St., Hilo, HI 96720

[K, Corky, loud & clear! Your subscription calculation seems to be ok, according to my 4-banger button box. Certainly do appreciate your taking time and effort to work out the number of beans until July, 1996. Your cheque came at a most opportune instant; our retrograde cash flow here at Chez Lenny was making noises like an overworked (!) toilet. Now I shall not have to use infamous red "SUBSCRIPTION EXPIRED RENEW" stamp on any future editions sent you! Now about that dead 2.2uf capacitor; I've found that the "orange-drop" version of those babies will sometimes work ok for years wired bass-ackwards, then suddenly short out, sometimes violently and explosively, and almost always leave a small bead of what appears to be silver alongside one lead. Hope you put your replacement in with the plus lead to the negative supply rail--else you'll have another "one beeper" again, Real Soon Now! -- ed]

A LONG LETTER FROM LEE HART...

Hello from Minnesota...

- where many are cold, but few are frozen
- where the elite meet the sleet
- where one day it's warm, and the rest of the year it's cold
- mosquito supplier to the free world

## READER'S LETTERS, continued

- land of many cultures--mostly throat
- where they grow three things; older, colder, and fatter
- where I came, I thaw, I transferred

Much has changed since the last time I wrote. I quit my job, sold my house, and moved to Minnesota (see new address at end of this). I drove out on 3 October, in gorgeous weather, with the Fall colours at their best. Those who live in areas of our country without seasons don't know what they're missing.

Minneapolis is an amazingly high-tech area; silicon valley with the air conditioning stuck on "high". Everything's new and spread out, like California. Endless freeways--and traffic jams--with billboards promoting Intel and Microsoft. Lots of trees and water. It's a city lost in the woods.

My new job is a big step up; I've finally entered the electronic age. Instead of a '286 toy, I have a REAL computer (sic) on my desk; a Mac IIx with 8 megs of RAM and 80-meg hard disc. Four of us share a laser printer, and a FAX [machine] is about 20 feet away. I use Word, Excel, etc., for casual use, but for engineering applications (PC board layout, circuit analysis, etc.) the Mac is used as a terminal to talk to '486 PCs, Sun workstations, etc., on the network via Ethernet. E-mail is used for almost all internal memos, and there is a fancy voice mail system to fend off callers with [its'] endless menus ("press one if you don't have a touch-tone phone, press 2 for elevator music, press 3 to be put on hold, and press ? if you want to talk to a real person", etc.). I even have an Internet address:

lhart@po2.mn10.honeywell.com

though I don't have the faintest idea how to use it yet.

Does all this actually aid productivity? Probably not. But it's a lot of fun, and looks impressive. Julius Caesar once wrote, "The first thing to do when taking over a new command is to reorganise. It keeps everyone busy, and your commander will think you're getting a lot done".

So I'm living in a one-bedroom apartment with just a trunk full of essentials while I look for a house my wallet and I can agree upon. A couple suitcases, an inflatable mattress and sleeping bag, a card table and folding chair, dinnerware for one, a walkman stereo, and of course, a hundred pounds of computer stuff. Yes, I'm still hanging in there with my H89 and its' 8-bit friends.

My Holland [MI] home is up for sale, which means I've got to find places for tons of Heath paraphernalia. So if any of you readers need any H89 goodies, contact me NOW! Ask for the 6-page list of software and manuals in my lending library--borrow any item for the cost of shipping, use it for four weeks, and return it [to my new address] when you're done. Here's your chance to try out T/Maker, get Wordstar configured for your new printer, or see what's in those issues of REMark missing from your collection. And if it's an item of which I have duplicates, I'll probably let you KEEP IT at no charge! Calls and letters are being forwarded, so either [my] old or new address and phone numbers will work.

I attended this year's Z100 Get-Together, 11-12 Sept, and had a great time. I assume someone else has filled you in by now, so I won't go into any detail. But it was gratifying to see so much high-tech hardware running on "antique" Z100s. It is a tribute to the sound design of the machine, and the perseverance of those who support it.

Paul Herman is getting pretty burned out from carrying "Z100 Lifelines" all by himself. Steven Vagts [of California] has volunteered to become the new editor, to continue the only newsletter supporting the Z100. Paul is in full agreement, so it looks like a done deal.

You know, H8s, H89s, and Z100s have a lot in common. They are all orphan computers, supported only by user's groups. They are all quality machines, ahead of their time, and still in productive use today. They all run CP/M and [the 8-bit machines] HDOS, share disc formats, and so can share most software. The Z100 is unimpressive compared to a peesee clone, but it's a great CP/M computer and should not be overlooked by H8/H89 owners interested in upgrading.

I suggest that it may be time to join forces. Combine the SEBHC [JOURNAL], Z100 LIFELINE, and STAUNCH 8/89er into a single newsletter. These publications are the only source of news and information for keeping these wonderful machines alive. If they die, readers lose contact with their life-blood sources of help and parts, and our computers will die.

Combining [these publications] will reduce printing and mailing costs. Cross-fertilisation between computers [and users] will improve them all. By dividing the work, editors will have more time to devote to what they love instead of clerical chores. Having an editing "staff" encourages "the 'ol team spirit", ensures a source of qualified proofreaders, provides reporters in the field, and just someone to bounce ideas from. Editor "burnout" should be alleviated, and publication schedules can improve. Editors [may] actually take time off for personal business or vacations.

Lenny, why don't you contact Steve Vagts and see what he thinks? His address is 2215 Americana Drive, Roseville, CA 95747. And I'm sure Kirk Thompson could use some help...he's gotten really behind due to personal business....

In any case, best wishes to you and yours for the holiday season. Keep up the good work.

LEE A HART, 10111 Cedar Lake Road, #111, Minnetonka, MN 55305  
phone 612k-546-7002

[Yo, Lee! Nice to hear from you, we'd been wondering how you had been getting on. So we get the GOOD NEWS; you're getting UP IN THE WORLD! Why not send a copy of your surplus list to be published here; I'm sure many subscribers are itching to find out what's useful and still available for their machines. Although I now am buried in "antique" H/Z equipment, I do need a few things to help finish getting them in useable form; your list just may be the thing. Some time back I tried to contact Steve by telephone (got his number from the Z100 LIFELINE), but either he's never home, or doesn't have

## READER'S MAILBOX, Continued

an answering machine. Think I'll send him a copy of this edition to see if it'll rattle the bars on his cage.... I did get in touch with Kirk Thompson after seeing a note in the LIFELINE (and Mike Stover's letter, above) that he'd temporarily suspended publication of the Staunch 8/89er. He indeed has been forced to do so because of increased job pressures where he works. Also hinted that he's considering "seeking greener pastures Real Soon Now", and is in a temporary quandary about how to carry on with the '8/89er. I put a couple bugs in his ear about that--somewhat along the lines you suggested above--and there's more, I'm sure which shall come to light in the very near future. Lee, do keep tuned to this channel for fresher updates.... -- ed]

BILL, I REALLY OWE YOU ONE!

Dear Lenny,

My subscription has now expired and I have enclosed a copy of my letter sent you last May. It still applies and I would be willing to renew under the conditions stated therein.

I have an H14 printer that has good electronics but does not print the lowest row of dots on all letters and numbers. The problem appears to be in the print head. It will go to any of your subscribers that may be interested [in it] for shipping costs. If nobody shows interest by year's end, it will be deposited in the local landfill. Interested parties may contact me at the address or phone number below.

WILLIAM A JACOB iii, 10220 66th Ave SE, Olympia, WA 98513-9207; phone 206-459-1006

[Bill, I have yet to find the complete KRES package you sent me so long ago! Twice I've found the hardcopy (which I told you looked as if it had been fallen into some sheep dip, then run over by a hard-tyred hand truck), again I found the duplicate disc I'd salvaged from the damaged original sent with the hardcopy. I remember checking the replacement disc and found it ok, also found the somehow dried out hardcopy and put them aside to be packed and mailed to you. But, now that I've rearranged the computer room for better access to computers and photo-copier, I can't find ANYTHING important! But I do have very good news for you: a complete NEW disc, hardcopy directions and KRES piggyback board! They're being UPS-ed Real Soon Now at no cost to you. I hope you get them before you receive this edition! Good luck, and happy holidays. -- ed]

YES, VIRGINIA, THERE IS A MICRONICS TECHNOLOGY

Dear Lenny,

Thanks for continuing to publish the SEBHC Journal! Micronics now has a new address and phone numbers: Micronics

Technology, 410 Bellehurst Drive, Montgomery, AL 36109; voice phone, 205-244-0112; BBS phone, 205-244-9737.

Now for some exciting news! Richard Musgrave has developed HDOS support for the WIN89 hard disk. The system is bootable from the hard disk. Support is also for 10, 20, and 30-meg drives. Installation is painless and automated via batch files. Richard put a lot of work into his WIN89 HDOS support and tools and it shows! The WIN89 kit is now \$219, [was \$299] and includes hard disk, controller, interface card w/parallel port, and software to install a 20-meg hard disc in the H89 for CP/M or HDOS. I have two complete kits left. Interface card and software is \$75 [was \$175] and requires a WD1003 compatible PC controller and 10 or 20-meg hard disk. Interface card and controller set is \$129. Check my BBS for other details.

NOTE: Hard Sector Discs Still Available!

Global's latest catalogue lists Verbatim hard-sector discs for \$1.75 each. Phone number is 800-845-6225. [Call them Real Soon Now! -- ed]

I've reduced prices on the H89 4-MHz clock speedup mods to \$20, or bare p-c board and directions to just \$5. I still have 500+ of these little darlings left. All software is 50% off. [Editor's note: Running your CPU at 4 megs makes your old grey dinosaur work virtually as fast as a peesee and it's cheaper too!]

Also available (prices include shipping):

NZ.COM (ZCPR 3.4)	\$30
DateStamper (adds dates and times stamps to CP/M files)	\$15
Z100 Dual half-height 8-inch drive and case	\$60

My BBS will have the latest information in the bargain section. All cheques should be made out to Darrell Pelan.

Thanks for your support to the 8-bit community.

/s/ Darrell C Pelan

DARRELL C PELAN, 410 Bellhurst Drive, Montgomery, AL 36109

[Many thanks, Darrell! I feel our readers should contact you directly for your latest catalogue (include a #10 29-cent-stamped, self-addressed envelope). I notice you have a whole lot more 8-bit items and descriptions thereof not covered in the above letter so getting a fresh copy is better than my reproducing it here. Also, by the time they read this you probably will have sold out many goodies and we don't want to spoil their fun. Please note that we've updated our SOURCES and SERVICES directory with your new QTH/1020 for subscribers too lazy to read your letter! Happy holidays, and do keep in touch. -- ed]

## "SOURCES AND VENDORS" LIST

LATEST VERSION!

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

--> Listing last updated on 5 December, 1993 <--

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

D-G ELECTRONIC DEVELOPMENTS Co., 700 S Armstrong, Denison, TX 75020; phone 903-465-7805 (Central Time). Bruce Denton, pres. Service & advice available, also H8 and H/Z89 hardware at clearance prices; call for details.  
--> Bruce is A \* Certified \* YOU-BETCHA GOOD GUY! <--

DISK MOVERS, 8534 McCormick Blvd, Skokie, IL 60076; phone 708-679-3727 (Central Time)--ask for Miriam. Good-priced bulk 5-1/4" soft-sector discs for our H/Z 8 & 16-Bit machines. "WONDERFULLY HELPFUL PEOPLE."

\*\* GERNWARE ENTERPRISES, P O Box 1495, Rome, NY 13442  
No Phone, contact by US Snail only. Whizz-bang Z-100 guy has TONS of parts, software & whole computers. Write for newest catalogue, tell him we've listed him here because Z100 LIFELINE is soon to vanish into sunset!

GOLDSMITH SURPLUS, 2107 N Adams/PO Box 18676, Indianapolis, IN 46218; 317-545-4747, ask for Phil or Eric. Dealers in "Almost Any Surplus Material You Have (or Need)!"

HOYLE & HOYLE SOFTWARE, 111 Sparrow Drive, Isle of Palms, SC 29451. No longer in business, but SEBHC JOURNAL sells their HDOS, CP/M & MS-DOS versions of QUERY!2 & 3 at \$69/copy, postpaid. ONLY Soft or hard sector 5-1/4-inch floppies, all operating systems listed above.

LINDLEY SYSTEMS, 8139 E Mawson, Mesa, AZ 85207 -- phone: 602-380-9175. Scads of neat 8-bit software. Ask Bob or Bill Lindley for a catalogue. "REALLY FINE FELLOWS!"

MAGNOLIA MICROSYSTEMS, 2818 Thorndyke Avenue West, Seattle, WA 98199; phone 206-285-7266 (Pacific Time). Special memory upgrades and op-systems for H/Z89s & 90s. Quite trustworthy people (but somewhat slow, we've heard).

MICRO COMPUTER REPAIR SERVICE, 2308 Industrial Highway, Ste C Ann Arbor, MI 48104; ph 313-663-3646. FLOPPY DISC DRIVE REPAIRS & SALES. Ask for Mike Morris, "A SUPER GUY!"

\*\* MICRONICS TECHNOLOGY, 410 Bellehurst Drive, Montgomery, AL

36109; phone 205-244-1597 voice, 205-244-9737 bbs 24hrs  
Darrell C Pelan, pres. Soft & Hardware, '89 harddiscs 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" gives H/Z8/89 colour, sound & music board tech advice only, but he's ONE SWELL FELLOW and A GREAT PROGRAMMER!

QUIKDATA COMPUTER SERVICES, Inc., 2618 Penn Circle, Sheboygan WI 53081; 414-452-4172; Henry Fale "Folley", mfr, sales and H/Z computer parts, support, publishes "H-SCOOP" newsletter, 24-hr BBS A \*REALLY GOOD\* GUY, Hank Is!

SIGMASOFT & SYSTEMS, 2433 Winterstone Drive, Dallas TX 75023-7818; 214-596-0116 (Central Time Zone)--Clay Montgomery--hardware/peripherals mfr, software publisher, hardware & tech support, RAM drives, Hi-Res grafix addons for H/Z89s. Catalog & help; A \*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, a FANTASTIC dot-matrix grafix printer software utility. Couldn't publish the SEBHC JOURNAL without it! \*\* MIKE'S A REALLY-SUPER GOOD GUY! \*\*

\*\* SURPLUS TRADING, P O Box 1082, Benton Harbor, MI 49022; ph 616-849-1800, located at 2700 North M63, owner Les Turk. Hours 8am-5pm MTTWF, Wed 8am-12n, Sat 9:30am-12n. NOTE: Almost out of 8-bit stuff, but have a tremendous heap of components and other Heathkit stuff (including a number of working H25 printers) which will be available in unsorted bulk bid lots "sometime soon in 1994". WATCH THIS SPACE FOR ANNOUNCEMENT OF THAT SALE! Also, contact Mike if you desire more details.

\*\* TMSI/LEE HART, 10111 Cedar Lake Rd Ste 111, Minnetonka, MN 55305; phone 612-546-7002. Continuing hardware/software support for '89/90...See Lee's letter, pages 2 - 4... "LEE'S A NICE GUY & TOP-NOTCH ENGINEER!"

\*\* Patrick Swayne, 428 Cauthen Court, Ellenwood, GA 30049; ph 404-981-9245. "PS:" still supports 8-bit users with info and phone help for software he wrote while a staffer at REMark. He deserves heartfelt gratitude of ALL us H/Z computer users. Write this Wonderful Guy TODAY!

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\*\* New Names, New Addresses (and some new phone numbers)  
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## A FEW WORDS FROM LASZLO M VESEI...

THE H/Z EXPERIENCE

by

Laszlo M Vesei p e

428 Philip Road, Niles, MI 49120

Ab ovo Ledae

Ancient Romans believed that the whole world hatched from an egg of the swan, Leda. Therefore, any storyteller wanting to emphasise the age of his or her story prefaced it by saying that it came out of that egg, "ab ovo Ledae". I start my story also ab ovo Ledae.

On a beautiful winter day in '80, I walked into the Heath store fully intending to buy a computer right there and then. It was during the Christmas buying frenzy and I was dressed somewhat shabbily, so the younger clerks, assuming that I was looking for a handout, ignored me. But a rather ancient gentleman (bless his soul!) came to my rescue. He stated that the present model was sold out, and anyway, "is being discontinued". He recommended I wait a couple of months, and gave me his calling card.

Upon my return in the new year I sought him out and bought from him an H89A, and a few months later, an H125 printer.

If you expect me to describe my experiences with these dudes, you will be disappointed. It was my then thirteen-years-old son who had all the fun and experience with building and using them. Sure, I wrote some programs in CP/M MBASIC, mostly of engineering nature. Also I installed two Mitsubishi half-height drives in place of the Siemens "barn-door" drive. These drives are a bit shorter than other brands and therefore fit better. If you have access to a stock of back-issue REMarks, you'll find reports of my other experiences there....

### The Old Grey Mare

The ol' grey mare ain't what it used to be--thank heavens. It used to be an H161 and provided yeoman duty for years. One of my arms is still inches longer than the other by way of proof.

The H161 came equipped with two half-height 5-1/4" drives. To that I later installed a 3-1/2" drive into the cable storage space provided in the lid. Dante Bencivengo's speedup kit came next, with the reset button, speed selector switch and indicator LED added to the machine front, just above the sliding door. I had to modify the keyboard with holes and opening to accommodate the stick-out things. The keyboard had a rather stiff and heavy cable which I promptly discarded and replaced with a new one I fabricated from a 6-conductor flat telephone cable and two DIN plugs.

Now, at the fast setting this machine showed a very strange behaviour: after about ten to 15 minutes it hung. Various tests show that:

- 1- The power unit was not adequate. I installed a larger Zenith unit--same physical size but electrically more powerful.

- 2- The CPU board located in the second slot from the

power unit developed excessive heat. The worst offenders were the CPU, the math co-processor, and bus controller. I moved the CPU board to the first slot, necessitating enlarging the rear opening for the keyboard plug. In this location to power unit blower blows directly on the CPU board. I then moved the video logic board into the second slot. It was extremely difficult to insert there because there was no cutout for the rear connectors. To insert it I had to bend the board into an arc--not a recommended practice--before it could straighten out and go into the socket. But it did survive that ordeal, and the heat problem was cured.

Now I wanted to try out Multimate Advantage (a rather expensive but muddleheaded word processor). Unfortunately, the original issue RAM was not sufficient. FBE Research (Dave Brockman) came to the rescue with a new PAL chip. After replacing the original 64k ROM chips with 256k versions, I ended with 640k regular memory and 512k extra which I used as a virtual disc drive. (It's worth mentioning that FBE Research furnishes a short cable with mechanical clips on the ends to avoid soldering, but, expert that I am, I chose to solder a short wire in the appropriate place instead.)

Loading a rather long file into the virtual disc caused a "Parity Error" message and everything seemed to quit. Obviously one of the memory chips failed, but which one? In this case, the diagnostic programme supplied with the machine was worthless. So I loaded short ASCII files into the virtual disc, adding gradually to the RAMdisc contents, keeping track of the total. After each file was loaded I tried to read it back with the <TYPE> command until the Parity Error again manifested itself. A little mental arithmetic revealed the bank of chips where the bad one resided, and substituting chips one-by-one, I found and replaced the bad chip.

Since this machine was a (trans)portable model, I didn't think adding a hard disc was advisable (hence the Virtual Disc).

According to an old Hungarian proverb, "the ewer keeps going to the well until it breaks". My '161 broke too. Specifically, the plastic struts holding up the lid. Since these were no longer available from any source, I had to take drastic measures. No known glue or cement would hold them in one piece for any length of time. As first aid, I used to carry a cigar box (shades of Mark Twain!) as a prop-up. Then I saw someone advertising an empty '151 desktop cabinet; the '161 was moved into this cabinet and became a desktop. I also installed a pair of 3-1/2" drives. I also acquired a color monitor, and the 5-1/4" drives moved into their own apartment furnished with their own power unit and connected to the disc controller card's second connector by a long ribbon cable through a slot left open in the rear. Natcherly, the DIP switches on the CPU board had to be set for four floppy drives, and the two remote drives were then set as "drive zero" and "drive one" on their own circuit board, even though the machine recognises them as drives "C" and "D".

Anyone in need of the empty '161 cabinet or CRT (amber) plus video amplifiers?

## MORE WORDS FROM LASZLO

For good measure, I installed a 3-1/2"-20M MFM hard drive (it fits nicely under the internal floppies), along with a Western Digital RLL controller card. Contrary to general belief, the hard drive not only worked with this card, but reliably provided 32M disc space. The combination was also very fast.

This setup served me well for a couple years, but the spirit is restless (as a native Hungarian I may have some Gipsy blood in my veins). A sale of FMT 1490 monitors at the Bargain Centre seemed irresistible. This monitor, of course, didn't work with the hardware I then had, so I had to remove the original video card and replace it with a new Zenith Z-449 card. Since the original issue video card contained the scratchpad memory necessary to proper functioning of the CPU, the latter had to be modified. FBE Research again came to the rescue with a daughter board for the CPU card. At the same time I also installed FBE's Smart Watch under one of the ROM chips...and the Old Grey Mare is still in use as my back-up machine.

## The ea-2-pc Revisited

I still needed a portable; being "jung, dumm und gefräßig" (does that translate into "naive" or "inexperienced?") I noticed on the Bargain Centre's sales list the ea-2-pcs and so ordered one under the impression that it was a portable. Well, at best it was TRANS-portable. Nevertheless, I fell in love with it, explored it and wrote a report on it in a previous issue of REMark.

## The Portable

Not so long ago somebody put an ad on the COM1 BBS about a SuperSport 286 for sale. The price was unbeatable, but there was a fly in the oinkment: the screen was cracked. Regardless, we closed the deal and in due course a UPS guy delivered the package. Enquiries at the two nearest Zenith service centers resulted in a rather obscene amount of Shimoleons for the necessary repair parts. Well, it turned out there was another problem in addition to the cracked screen...it had something to do with the hard drive.

The screen was the easy part to fix. A trip to the friendly surplus store got me three screens "as is", without guarantee. Took apart the SuperSport lid and noticed how the screen was attached with six screws, one plug and two wires soldered on. Before doing anything else, made sketches and notes of things. Then out with the screws, unplug and unsolder (in that order!). Next put in the first of the "as is" screens, solder, plug in (again in that order!) and back with the screws. Turn the thing on and presto, it came to life. Worked well, except a fine dark line near the top. I tried various texts on the screen and in every instance the line fell between two rows of text. I could live with that, but could I perhaps do better? So I tried the second "as is" but unfortunately it had a great number of dark areas, so into the junkie it went.

The third one lacked the luminescent background sheet so I felt that surgery was indicated. Took apart the sandwich by carefully pushing on the rear center of the two plastic riv-

ets until they popped out of their holes. Since these rivets act as dowels lining up parts of the sandwich, they must be save and reused later. The screen is held together with small sheet metal tongues around the perimeter. They come through small slots and are twisted. It is necessary to carefully untwist them with a pair of duck-bill pliers and separate the screen layers. The hintermost layer is the circuit board itself. It is connected to the foremost layer, which is the actual liquid crystal screen, by special ribbon cables. DO NOT MESS WITH THESE CABLES! Other things where messing with is contra-indicated are the innocent-looking rubber "gaskets" on top and bottom of the screen. These "gaskets" are in reality Dagwood-type sandwiches, that is, they are made up of tiny, very thin metal rectangles separated by equally thin rubber layers--hundreds and hundreds of them. These "gaskets" serve as connectors for the screen's vertical grid lines, while the previously-mentioned ribbon cables connect up with the horizontal grid lines.

The palenescent flour--I mean the flourescent panel--is sanwided in the center between these two layers. This is the one with the two solder connections. I dug out the backlight panel from the original, cracked screen and moved it into this third screen's location. Carefully aligned the dowel holes and re-inserted the plastic dowel rivets. Pushed the sandwich together and twisted the sheet metal ears closed. Connect up everything and tried out again: success at last! This screen is now perfect. (Anybody want dibs for the other screen with the line on it?)

I shall never know the nature of the hard disc's problem. Originally, the hard disc came partitioned under MS-DOS 3+ into four logical drives, C, D, E, & F. The only one accessible was C. While SYSINFO would see all four partitions I could find no way to access the other three. PCTOOLS nor NORTON could access even the C partition. Was this a clue, maybe? I knew from bitter experience that the early edition of MS-DOS 3+ was brain damaged.

Since the Friendly Spirits of Zenith-Bull supplied me previously with an MS-DOS 4.01 upgrade, I decided for a drastic cure: PREPPed the drive. It happened on a rather blustery day and (horrors!) the power went down for a longish time. When power returned, the machine could not be booted; neither floppy nor hard disc could be accessed. What actually happened was that both the hard drive and floppy would spin for a short time, then all would stop and any one of about half a dozen error messages would show onscreen without rhyme or reason. The sensible thing to do would be to hit <Ctrl+Alt+Ins> to get to the monitor, except the keyboard was hung! "Nun is ein guter Rat teuer"--as they say in Germany. Got so discouraged that I put a Help! note on the COM1 BBS, without much response.

Finally, I got of this morass by myself. I noticed, that for abut two seconds before an error message appeared, a flashing cursor was the only thing visible onscreen. When I hit <Ctrl +Alt+Ins> while that cursor was visible, the monitor sign-on came up. Entering <BF> (boot from floppy)

## LASZLO STILL SPEAKS...

produced the sought-after result. Glory be! PREP, PARTition, FORMAT each partition, no problem. After copying some files, creating sub-directories, etc., both PCTools and Norton Utilities now work with this machine.

One of my correspondents warned that, this being an IDE drive, PREP will delete the servo track and only the factory (in this case Conner) can rebuild the drive. Well, I have PREPped a WE IDE drive, also a Seagate before, without doing any harm to the servo track. Still, it may be possible to delete the servo track on some drives....

### The Beast

Being some kind of an engineer, I was always interested in Computer Aided Drafting (CAD). To be reasonably proficient in CAD, one needs a FAST machine with Oodles and Oodles of memory and a LARGE hard disc drive. Math coprocessor is a sine qua non. (I do not mention the other paraphernalia here such as a plotter, a graphic tablet, or maybe a rodent, nor mention the CAD program itself. These are not Zenith/Heath components anyway, ergo not subjects to this here article.)

After studying numerous magazine articles and other literature and asking questions, it became apparent that the Beast must have a full-fledged '386 CPU as a minimum. Such a machine is in the multi-kilobucks range, and as such, out of my financial reach--or is it? A famous admiral once said, "Damn the martinis, full speed ahead!" Who wants to spend kilobucks anyway?!

While the Heath 386/16 machine is not exactly "le dernier cri", it must suffice for my purposes, especially in view of my finances (or rather lack thereof). One recalls another Hungarian proverb, "Thyself, Mylord, thou hast no servants!" I must build one myself from inexpensively acquired components. Many HUGgies are presently in the process of upgrading their equipment, and the COM1 BBS teems with 386/16 components for swap or sale.

But first things first. A cabinet is needed as it is against my religion to have components wave in the breeze. It may even be "Polizei-wiedrig"--meaning the FCC, of course. For some strange reason nobody is offering a cabinet or power unit for sale on the COM1 BBS. So, it's off to see the wizard--not the Wonderful Wizard of Oz--but the just as wonderful surplus dealers. One had just the right cabinet, another, a power unit. Now, these things do not get to these junque dealers because they are too good to be used for production by H/Z. Sure enough, the cabinet had a loose back-side stiffener, and the power unit was DOA, but they were cheap!

I solved the cabinet problem by drilling some holes for pop-rivets, and used gel-type Miracle Glue before applying the rivets.

The power unit was a little more of a problem. Opening these is strongly discouraged by all kinds of warning notes, but how can you fix it?! So I opening it and plugged a power cord in. I then traced the juice with a "high-precision" light bulb. The buck--I mean juice, stopped at a small fuse ingeniously hidden between a maze of components. Getting it

out of the clips was a veritable job for a prestidigitateur. Interestingly, the fuse wasn't blown, but one of the clips seemed very loose. With some difficulty I tightened it and put the fuse back in. Shazzam! The power unit now works just fine!

The above-mentioned wizards also have back planes. Regrettably, the Bults have the nasty habit of drilling a large hole in these items before discarding them as rejects. Fortunately, I found one without the hole. Careful inspection under a 3-power magnifier showed where the traces were imperfect so I patched the suspected breaks...so far so good.

The other necessary circuit cards came from HUG members advertising them for sale on the COM1 BBS. Jameco Electronics on used and reconditioned 3-1/2" floppy drives, Real Cheap. These needed only the 5-volt supply, didn't need the 12V connection. One of the surplus wizards had a used Seagate 65Meg MFM drive for a rather low price; everything was now ready for the dress rehearsal.

An undertaking of this magnitude could not go on without a hitch. For one thing, the \$65 Zenith Owner's Manual is dead wrong regarding DIP switch settings on the various circuit cards. (Heath literature is said to be OK in this respect, but alas, is no longer available.) I must schlepp the works to Heath for service as I was unable to figure out what was wrong. Had a merry wild-goose chase trying to find the new location in Benton Harbor, but upon finding it, had to admit that it is a good location and a fine new building. The Magi there did an excellent job fixing The Beast.

For about a half year I was getting used to the H386/16 when one day, instead of booting up a message came up onscreen: "CMOS FAILURE". Hitting the <ESC> button took me to the monitor message, whence <BW> (boot from Winchester) would boot up. This didn't happen every time, but frequently enough it became a nuisance. Furthermore, it seemed to grow more and more frequent. I decided it was time to replace the Tadrian battery, so acquired and installed a new one. (Boy! Cheap it ain't!)

Surprise--the hard disc wouldn't boot! <Ctrl+Alt+Ins> took me back--not to old Virginny--but to the monitor message where <BF0> booted from a floppy. Trying to access the hard disc in any way, shape, or form caused a rhythmic hunt up and down the cylinders and nothing else. But the machine worked ok from floppies.

Diagnostics insisted that I have a bum I/O board with the timing clock being off specs. Used my Demon Dialer to call Heath Tech help and the Techie I contacted thought that the floppy/HD controller had gone South. I replaced the HD with a 65Meg Mitsubishi MFM a fellow HUGgie (ZUGgie? Bullie?) had for sale. Presto! Everything was now OK.

It is difficult to accept that your HD "hat das Zeitliche gesegnet", but that was it. I believe that it wasn't a mechanical but rather an electronic failure. So I sent it to the repair service in Ann Arbor which Lenny Geisler lists else where in this Journal, hoping that they could perform miracles.



## LASZLO'S FINAL WORDS - MISC. NOTES

The long & short of this was that they indeed did so. For a very nominal sum they reconditioned the drive and it is now working fine again. The folks at MCRS couldn't save the files I had on the disc, but fortunately, I had backed up all of them.

Altogether, this was a challenging and fruitful adventure for this old dog to learn new tricks. I doubt that it could have happened with [with products of] any other company than Heathkit/Zenith. I am grateful for the experience, and hope you readers will also continue the good works [with their 8-bit machines] in the future.

[EOF]

Editor's remarks:

We are most grateful that Laszlo so graciously sent us this look at his remarkable personal history. It's too bad more subscribers haven't done something similar as we don't get much stimulus from the plethora of "slick" computer publications received via USnail here, especially in light of the abysmally-trivial corporate puffery they contain. Of all the computer-oriented publications we receive, not one contains an article about older, still functioning computers such as our Old Grey Boxes. Nor do they carry any advertisements of firms who are still capable of supplying parts, software, or service for our machines. (The silence is deafening!)

Laszlo lives close to Heath's original location and a few surplus dealers who still have oddball parts stacked around their premises. Unfortunately, geography (and possibly a lack of funds or technical knowhow--or both) prevents most of us from duplicating Laszlo's ingenuity in creating a working machine from heaps of miscellaneous parts. (Even if it isn't an 8-bit type, it's still HEATH!)

At chez Lenny, we still have a few H8 and H/Z89 parts somewhere on the premises, including a number of H/Z100s, not including my working H120-2. In fact there's a complete H89A which needs the D-G Electronics Super89 CPU card worked on--it doesn't talk to the TLB and I have yet to discover the cause. \*Someday\* I'll recover enough energy to pack and ship it to Texas for repairs. I also have an oddball single-board computer with a sick internal 8-inch floppy drive which needs lots of tender loving care (I was lucky and found a replacement full-height drive for it) but I don't have time to work on it. When I get it up and running, I shall be able to download the tons of software which came with it on otherwise unreadable 8-inch CP/M discs. Many of those unique programs can't be found anywhere else nowadays!

Also, there's Pat Swayne's H8 with many of his gee-whizzer modifications (haven't found all the dox yet) incorporated in it, plus a monstrous dual H-47 drive and other oddities which he so kindly donated to the JOURNAL. He also did throw in a whole bunch of documentation for much of the hardware, for that which we are forever grateful.

Rest assured, Laszlo, you are not alone in trying to keep

at least one electronic abaccus clicking along.... (All the dinosaurs haven't died off, they continue to live on in other shapes, disguised as futuristic forms of electro-mechanical life.)

---<<8 BITS 4 EVER>>---

TWITCHES AND BELLYACHES

by Yer Editor

Recently bought a copy of Paul Herman's JHMODEM software for the "big" computer (our H120-2). Tried to install and set it up on that machine but got bogged down with instruction book intricacies and hardware stubbornness. The Weltek modem we bought "way back when" at the "final" HUGCON we had hooked up to Heather, our DG89-H89A, and it worked ok running HDOS HTERM and MAPLE (although the latter wasn't as easy as HTERM to learn). It also worked with the CP/M versions of those two programmes, as well as Darrell Pelan's modem release. So I knew that particular peripheral was ok. It did work briefly under control of Heath's CPS-80 and '85, but those are Really Kludge Programs which leave this user chewing on the corner of the computer desk after a few hours of trying to get it formatted to one's liking.

I recently squandered (invested?) some plastic for a nice, new ZOOM modem which its' vendor promises "to work with all computers". Ah. Yes. So. I can't say if it does or doesn't do anything because I've been sweating the proverbial bullets, trying to get this edition of the JOURNAL out to you folks. But, Real Soon Now, I'll have it up & running, first on Heather, next on the "Big Computer" (H120-2) in the corner.

I presume most of you subscribers read other publications in addition to this newsletter. Here, plus exchange copies of computer newsletters such as H-SCOOP, Staunch 8/89er, the San Diego D&D Lite, and Z100 LIFELINE, we have PAID subscriptions to ANALOG Science Fact and Fiction, ASIMOV'S Science Fiction, SCIENCE FICTION AGE, and FANTASY Science Fiction magazines. Then there's CompuServe Magazine (published by the folks who run CompuServe), and PC COMPUTING. Its' sister PCmag is comprised of 97% very slick corporate bleat. (That one I definately shall never renew!) I also receive a few non-socialist, middle-right publications, plus the local daily newspaper. As you probably have guessed, we have A Whole Lot of Printed Matter to contend with at Chez Lenny!

Recently I've reduced the pile by about 15% of what it was last month, searching out missed items mailed us by you subscribers and other folk. While sorting through all that glossy and non-glossy paper, I've run across only a very few computer-oriented publications which contain educational or informational stuff pertaining to our particular machines. I did purchase every copy of SEXTANT that was ever published, almost every BUSS, all of REMark's output, and nearly all H-8 SCOOP and H-SCOOP's output. Watch for more about our "library files" in the next edition....

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