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OUR H/Z 8-BIT MACHINES

ARE

VIRTUALLY VIRUS IMMUNE!

This Page Was Made Using Skycastle Computer Products' Graphic Text Formatter

A peesee Ain't Always Necessary!

Experiences and Opinions Based Thereon
by Leonard E Geisler
Editor & Publisher

I've been putting together and publishing computer-user oriented newsletters for Quite Some Time Now (more than nine years, give or take a few months). And I've done it without ever having to use or buy one of those dreadfully expen$ive "politically-correct" (pc) machines.

Originally I started out equipped with a Heathkit H8 computer, Heathkit H19 terminal, external Heathkit H17 2-drive setup, and Epson Graftrax-Plus (modified) MX-80 printer. The H8's Central Processing Unit (CPU)--by yuppie standards-- "limps along at a slow" two megacycle clock speed and the computer has just 64k of memory, but it's still lustily working ten years after I assembled it. Several times a week I fire it up to run off something, and it serves as a standin whenever my Heathkit H89 all-in-one computer is being monopolised by one of my family members. Both these computers use standard Heath operating software so it's no strain for me to swap chairs and continue working whenever necessary.

Naturally there are a few evolutionary differences between the two models which sometimes confuses some novice users. The H8 is an assembly of three inter-connected parts, Terminal, Computer, and external disc drives, and it boots from a key-pad on its' front panel. (Because of this and other technical features, it is often referred to as "The Hardware Hacker's Delight".) On the other hand, the all-in-one H89 boots when a user enter letter B, followed by the RETURN key on the keyboard. Also, I modified my H89 and put two half-height disc drives in the front panel; it takes less desk space and is easier for novices to use. Another modification I made to my H89 gives an operator a choice of either two or four megacycles (MHz) CPU clock speed plus expanded 4-bank, 256k memory capacity, and three external soft-sector floppy disc drives (total, 5 drives). It is much faster running most tasks than many "eye-bee-em fanatics" believe is possible for such an "antiquated relic" (their view, not mine!) to carry out.

My enhanced H89 lets me compose and print out graphics and text reproduction originals for montly editions of this newsletter (SEBHC JOURNAL) in very short order and with little mental or physical strain. (Well I DO have to get up to stretch my legs and rest my eyes about every two hours or so, but don't you peesee users have to do that too?!) A lot of eye-bee-em compatible users delight in bragging about how they can do wonders with word processors and other gee-whizz-type software, but I get along just fine with a still working "WYSIWYG" (what you see is what you get) inexpensive text processor originally written for the H8 ages ago. And I have a superb Graphics Text Formatter which lets me make up all kinds of nifty things which exploit all my printer's graphics capabilities. I write a script with the text processor which tells my computer to get and load specified graphics letters

or symbols, and then tells my printer how to print the file. I don't need any fancy kind of fruit or rodent hardware to do all that, just patience, lots of software instruction manual study, and a little experimenting until the finished product looks right to me. It's Really Lots of Fun!

What really burns me is the stereotypical attitude of most snobbish computer publications and their readers. They turn their collective noses up and go "pooh, pooh" at anything having to do with eight-bit machines such as mine.

How can you really tolerate one who has been so thoroughly brainwashed by those "slick" publications that the person absolutely refuses to look at an older computer?! Don't be ridiculous! It's Gotta Be "Compatible" and all slicked up in a bland beige box with a keyboard full of colour-coded keys, and an a bunch of instructions manual which weigh in at over five times the computer's heft! (Not to mention tons of horribly-expen$ive software they got talked into buying by some deceased clown's clone....)

The best thing about my two vintage computers is the keyboard. They are very well designed and built, easy for most mature office workers to use because they closely resemble an expensive "electric" typewriter. One can stroke the keyboard for hours without getting carpal tunnel pain, common with the newer machines, the keyboards of which are usually spread out all over one's work surface.

The next best thing is their price. Surplus H89s and Z90 computers can be had at a tiny fraction of what you'd pay to the deepest-discounting appliance store for an eye-bee-'em or peesee clone. Alert buyers often find these old eight-bit machines listed from twenty-five to $100 in newspaper classified ads, sometimes including software and user instruction manuals. Colleges and universities also dispose of old Heath veterans at ridiculously-low prices on a where-is caveat-emptor basis. Unfortunately, if one doesn't snatch up such offers quicky, schools usually take sledgehammers to them and sell the carcasses as scrap. (A thrifty Yankee's blood boils at even the hint of such wanton destruction and waste!)

On the down side, buying a perfectly-good, surplus working computer does require a certain amount of dedication. Often you have to locate somebody who knows these machines and who can instruct you in their use--maybe even make minor repairs or adjustments to get them working properly. Even so, this rarely is very expensive because of the hundreds of thousands of H89 or Z90 owners and users scattered throughout the US and other parts of the western hemisphere. A little patience and a few phone calls will eventually result in your locating one or more of these knowledgeable people reasonably nearby.

Eventually you'll become another proud and thrifty owner of a very easy to use (hip jive translation: "user friendly") machine which didn't force you to take out a third mortgage on the old homestead. Now, how many peesee or clone owners can say that, especially in this recessionary period?!

Next time: We'll discuss The Economics of Older Americans Owning Older Computers, and make a few suggestions on how you might earn extra money with older machines. Stay tuned!

And Now A Word From Rick...

PostScript Printing

Copyright 1992 by Rick Swenton

have been so busy lately that it is amazing that I have time to write this piece. I seem to be doing less and less on the old faithful 8-bit machines. This is not because I am not interested, but because I have been doing more things that can not be done on the old machines.

For those of you who subscribe to Staunch, you will see some of my 8-bit work in the form of adding IOP support to Anapro's Bootable Z-System. This was the most 8-bit work I have done in a long time.

Lately, I have been fascinated with all the talk of PostScript and Laser printing. I have been following the "guru" Don Lancaster for some time in Radio Electronics and Computer Shopper. Don goes on and on about the benefits of PostScript printing. I wanted to see what all the fuss was about.

PostScript is actually a very powerful computer language. If you "type" a PostScript file on the screen, it looks like a complex Forth program in source code form. This means that PostScript files are much larger than their corresponding plain word-processor equivalent file.

The unusual part about PostScript is that the power of the language lies in the printer itself. Inside a PostScript printer you will find a computer which is likely more powerful than the 16-bit PC you are using to create the document. It is typically a 68000 based computer with several megabytes of memory and an on-board ROM-based PostScript Interpreter licensed from Adobe Systems, the father of the language.

It works very much like the old MBASIC system we use on the Heath systems.

You type a line at a time into MBASIC, and then you type run. If there are no errors, you get what you expect from the program. If there are mistakes, MBASIC immediately reports them to you and stops the program.

PostScript works the same way. The document is sent a line at a time. If there are no errors, the document prints. If there are mistakes, the printer sends the errors back to your PC for your action. This is a very important thing to understand since all IBM style PCs are traditionally set up for one-way parallel printing.

On a PC, the document is "dumped" over a parallel cable to the printer much like we "dump" the document over our serial lines on the H89's. This is a one-way channel from the computer to the printer.

With a PostScript printer, there is intelligent life in the printer

RICK's WORDS

waiting to talk to us! How can we know if there are any problems if we can't listen to the computer in the printer.

I have found, as a beginner, it was very effective to use a modem program (like Procomm) to send PostScript files from disk to the printer as an ASCII file transfer. As Procomm is sending the ASCII file over the serial cable, the printer's computer can simultaneously send error or status messages back to me on the PC screen.

I discovered many problems which would not have been evident without two-way communications. For example, some files printed only the first page and then the rest of the job was flushed. As the file was being send, I noticed the printer sending "!!!!!". I later learned that this was the printer's way of telling me that I was overflowing its buffer. I did not have the hardware handshaking lines wired correctly in the serial cable. After I fixed the wires, the "!!!" error disappeared and the file transfer was now under control of the printer's computer.

Most of the better PC word processors have the ability to create PostScript output. They can either create a disk file, or send the document out through a serial port. Here again, the worst thing you can do is blindly send a "dump" of the document out the serial port. I save the document as a PostScript file and print it later under Procomm in a two-way serial environment.

The word processors usually produce error-free PostScript files, but you still need to see messages from the printer such as "Add Paper", "Add Toner", and most importantly "%%[idle]%%". This message indicates that the coast is clear for a new document to be sent.

I have been enjoying the "loaner" laser printer I have here. This document was created using Microsoft Word for Windows and printed as a PostScript file on the PSjet+ laser printer.

Another plus was when I found out that my schematic program could produce PostScript files. I was able to print astoundingly beautiful schematic drawings of some of my latest projects.

As a hacker, the most fascinating part of PostScript is that it is a computer language. Most "end-users" **never** alter the PostScript files, but it is a powerful language just begging for tweaking.

PostScript is not just for printing. I have some books on order to consume more of my "free" time which is less than zero right now.

If you are thinking about purchasing a laser printer, be sure to consider seriously the necessity of having PostScript capability. Sooner or later, you will need it.

NEWEST X10.COM RELEASE!

The latest Version (3.4) of X10.COM has been released to the *SEBHC JOURNAL* by Associate Editor Rick Swenton. Here's a brief description adapted from the disc's READ.ME file:

What is X10.COM? It is a CP/M and Z-System program for use with the X10 CP-290 computer interface which allows you to control lights and appliances in your home from your H/Z computer. There presently is only one disc containing X-10.COM, but we can supply the same software on other formats upon request. The X10 disc contains Heath H8 and H89 versions. There are three programs:

X10-320.COM   X10-330.COM and X10-340.COM

Numbers 320, 330 and 340 denote which Heath 8-bit serial port (in octal) each program is specifically configured for. (The CP-290 IBM version comes equipped with a cable which can directly connect to Heath modem port 330.)

An on-disc documentation (or instruction manual) is provided in two versions named X10.WS (WordStar format) & X10.DOC (plain text ASCII), either of which may be made into a hard-copy document.

Several files with names ending in .X10 are user-created menu files. I have included my personal .X10 files on the disk to help get you started.

X10.COM works under plain CP/M on an H89 or an H8/H19 combination. If you have problems running X10 under Z-System, try using LDR or JETLDR to load the H19.Z3T TCAP file. The TCAP needs to have support for extended Z-System graphics.

Other versions of X10 can be created for different computers (Example: Kaypro, SB-180, Ampro, etc.). The overlay source code and terminal support code can be found in the library file X10MISC.LBR. Most users will not need any of the information in this file.

The source code for X10 is not included on the SEBHC disc. It's over 120k of Z80 assembly language which makes heavy use of libraries SYSLIB, VLIB, Z3LIB, ZSLIB and others. Unless you have Z80 ASM experience and have copies of the libraries and a modern assembler/linker, it's not likely you'll want the source code. But, if you do, please send me $4 to cover disc and postage and I will gladly send you the source code or versions of X10 pre-configured for your non-Heath computer.

You may write me: Rick Swenton
                    106 Melinda Lane
                    Bristol, CT 06010-7176
Phone me voice: 8pm - 12am Eastern (203) 585-9447

Or contact me via GEnie BBS 24HR/2400 Baud, (203) 673-8752 (i.d.) R.SWENTON

[Editor's note: We'll gladly fill orders for Rick's latest version of X10.COM at $10/ea. Instruction manual hard-copy, $10/ea. Use p11 order form for disc SJX10d (indicate hard or soft sector), or manual SJX10m; please include cheque.]

Here's an information listing of one of the example X10 command files on the X10.COM distribution disc. From this you should get a pretty good idea of how to write an X10 '290 command module program with your H/Z 8-bit computer, and what the X10 is expected to do, once programmed.

LSPRING.XUL Example Programing Listing

```
Clear
;This is the Late Spring upload file
;
;A1=Front Porch light
;A2=Living Room table lamp
;A3=Entry Way cabinet light
;A4=Lamp over stereo
;A7=Family Room Table Lamp
;A8=Dining Room cabinet
;A10=South wall outside light
;
;Downstairs light
001 A01 02 03 10 05:45 MTWTF-- NOR DIM 10;On early school
                                                     days
002 A01 02 03 10 06:30 MTWTFSS NOR ON
003 A01 02 03 10 07:30 MTWTFSS NOR OFF
004 A07           08:30 MTWTF-- NOR OFF
005 A07           18:15 MTWTFSS NOR ON
;
006 A01 02 03 08 10      20:30 MTWTFSS NOR ON
007 A01 02 03 04 07 08 10 23:00 MTWT--S NOR OFF
008 A01 02 03 04 07 08 10 00:00 ----FS- NOR OFF;On later on
                                                    weekends
;
;B1=Upper hallway lights
;B5=Gameroom lights
;B6=Gameroom sewing table lamp
;B9=Elaine's table lamp
;B10=Master bedroom closet
;Upstairs lights
030 B01           06:00 MTWTF-- NOR DIM 06;Getting up for
                                                    school
031 B01           06:30 MTWTF-- NOR DIM 16
032 B01 05 06 09 10 08:30 MTWTFSS NOR OFF
034 B10           12:00 MTWTFSS NOR OFF
035 B01 05 06 10  18:30 MTWTFSS NOR ON
036 B01 05 06     23:00 MTWT--S NOR OFF
037 B01 05 06     00:01 ----FS- NOR OFF
038 B01 05 06     02:00 MTWTFSS NOR OFF;Did they turn them
                                                 on again?
#
```

[Note: We truncated a few of the longest lines in the above listing to fit this page's 2-column layout. The original lines extended almost all the way across the page. -- ed]

WE DIDN'T USE A MacINTO$H FOR THIS!

This is what our "obsolete" 8-bit machine, CP/M-80, & clever graphics soft-
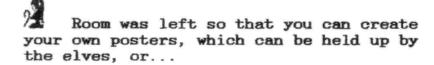ware did.   *You too* can do A Really Good Job without throwing money away!

VINES

Welcome to the world of vines!

I think you'll be pleased with this
selection of *garden* variety fonts.   I've
used this medium both as an introductory
text as well as a means of demonstrating
how these fonts can be chained together
for a variety of interesting effects.

Let's begin with the 3HVINES1 fonts.
Use this VINES.GTF file to see how vines
can be strung together horizontally and
vertically to create the desired effect.
The / and Ø characters were added so you

can do clever things like   and the
elves reading the scrolls? Why not put

them together, thusly:

Room was left so that you can create
your own posters, which can be held up by
the elves, or...

3HVINES2 and 6HVINE1 give you the
normal and large vine fonts.   The title at
the top of this page was created using the
6HVINE fonts.

Here's to your enjoyment...

Don Rohde

Font Set # 5 from
SKYCASTLE COMPUTER PRODUCTS

FOR SALE:
H/Z-89/-90 Systems & Components

Terry Hall
516 East Wakeman Avenue
Wheaton, IL 60187-3670
708-665-4594 (home and work; voice anytime or fax days)

All items except spare parts guaranteed to be working when shipped.
Make an offer on anything you're interested in.
Complete systems sold for best offer.
All items will be shipped by insured UPS ground wherever possible.
Actual shipping costs will be added to order.
Payment by VISA or MC (phone orders OK), check, MO, COD ($2 extra).
More spare parts, etc. than what's listed here.
Numbers in parenthesis indicate quantity; otherwise 1 on hand.

16K RAM expansion boards (5)
2-port serial I/O board
3-port serial I/O boards (2)
cables, internal & external
cassette I/O board w/cables, manual, and backplate
CDR 1-megabyte RAMdrive (2-board set) w/docs and software
cord cover for floor walkway (6')
CPU boards
DataPro CRT blanker (hardware)
detached keyboard in custom wood case (nice!) with ext. cable
Diablo 630 printer (exc. cond.; par or serial; cables, manuals, many wheels
Dots Perfect upgrade kit for Epson MX80 series from Dresselhaus
Epson MX-80 RS-232 interface conversion kit w/4K buffer
Flip 'N File cases for 8" disks (15)
H-17 dual 5" hard sector in ext. case w/pwr supply, cables (2)
H-17 hard-sector bare drives (7; 4 NEW, never used, still wrapped from ZDS)
H-17 hard-sector controller cards (4)
H-17 triple 5" hard sector in ext. case w/pwr supply, cables
H-37 dual 5" 40-trk in ext. case w/pwr supply, cables (1)
H-37 dual 5" 80-trk in ext. case w/pwr supply, cables (2)
H-37 soft-sector controller w/manual (3)
H-47 8" controller card and cable (3)
H-47 dual 8" external drives (DS/DD but can read/write SS)
H19 to H88 upgrade/conversion kit
H-89's for parts: 3 complete but not working
keyboards (4)
M-89 MicroFlash external expansion chasses w/docs & buss card
MacInker motorized printer ribbon reinker
Magnolia supplemental fan and strut mount (2)
Manuals: misc. operation & assembly
parts: lots of spares; call if you're looking for something in particular
Printer Optimizer 512K print buffer (Applied Creative Tech.)
Super-19 monitor ROM with docs
Terminal logic board w/Lee Hart's Superset/Superclock & docs
terminal logic boards
VersAdapter serial/parallel converter (Applied Creative Tech.)
video boards
Z89 green screen, 64K, int. HS drv, 3 serial ports (2)
Z90 amber screen, 64K, int. HS drv; 3 serial ports; H37 soft-sector cont.;
    Kres dual-speed mod
Z90 green screen, 64K, int. HS drv; 3 serial ports; H37 soft-sector cont.;
    Kres dual-speed mod; Mako 6-slot right-hand buss expansion; H-47 cont.
    H-17 cont.

ABOUT "CALLIGRAPHY-II"

A "Sort of How-2" Article
by Yer Ole Editor

An awfully long time ago one of our readers asked us to do an article on how to use Skycastle Computer Product's "Calligraphy-II" Graphics Text Formatter software. Because we used a fair amount of Skycastle's GTF fonts for illustrations in this month's edition, we thought it might be worthwhile for you to see a portion of what we did to create the front and back pages and page heads. Skycastle's instruction manual is pretty well done, and has a complete listing of all GTF's various commands, only a few of which we have included below because of space limitations. Also, we're not going to print samples of all the various graphic font sets this time, as we have too little space--and so much stuff we really want to show you. But if you do own a copy of Calligraphy-II and haven't had much luck with it, this exposition may inspire you and (we hope) should help get you properly started....

First, here's how we print our page headings (see top of page). This page's heading looks like this in .GTF script (exclamation points define non-printing memory-nudging remarks):

```
-------------------------------------------------------------
!       PUNCHRYT.GTF -- used for standard 2-sided page output
.LM 0   ! set left margin to 0
.RM 77  ! leave room for 3-hole punch in Right Margin
.L 6    ! set Line height to 6/72-inch
.S 6    ! space paper up by 6/72-inch
.G C:2HROM1    ! Go to drive C: and get 2HROM1 font
.DM     ! set printer to Double strike, Move (advance
        ! paper) by 1/216-inch to reduce image fuzziness
SEBHC JOURNAL   ! print heading in 2High ROMAN 1 characters
.F QE   ! switch printer from graphics mode to Letter Quality
.S 10   ! advance paper by 10/72-inch (one line)
Volume VI, Number 7, Page 8     ! Print 2nd line in LQ
.S 10
.F QIEX ! set printer to letter Quality, Italics, Em-
        ! phasised, Expanded mode ("Q" for LQ-800 printers,
        ! no "Q" for 9-pin printers)
.CO     ! turn on centering
        ! advance paper one line
CALLIGRAPHY-II ! print article title in expanded LQ italics
.F QE   ! back to LQ mode (.F SE for 9-pin printers)
.S 10   ! insert a blank line
.NC     ! turn off Centering
.ND     ! turn off double strike
-------------------------------------------------------------
```

We've put in a lot of remarks just so you understand what happens as each '.GTF command goes to the printer's CPU. In normal use, we leave out all but the top line of remarks because we're lazy and type only what's need. The command set used in this example is for most Epson and Epson-compatible dot-matrix printers. I don't know if it'll work with a laser printer, but somebody may set me straight Anytime Soon Now.

The standard Calligraphy-II package includes a printed manual with photo-reduced illustrations of letter and graphic image files. This minimum system was originally advertised in early '80s to sell at around $69, but there were extra bells and whistles available, such as a sideways BANNER program w/fonts, and an H19/89 screen hardcopy font set. We bought everything Skycastle had, including their latest "Vines" graphic image package (see example printout, page 6). Also included in the standard software package are these utilities: FONTEDIT with which you can either edit existing or create new fonts; FONTLIST to print out all the characters within a given image file, and GRAPHIC-TEXT FORMATTER (GTF) which prints any fname.GTF script file you write with any text processor or editior. There's also a special "BIG-ED" version of FONTEDIT available which you can use to create even bigger characters than are contained in the distribution 6Hxxxx.NS3 sets. (We haven't tried it out yet, but we're pretty sure it'll work ok.)

We all know that nothing you buy to run on your computer is ever perfect, and sadly, CALLIGRAPHY has a couple imperfections. The worst one is that GTF is a COMPILED NORTH STAR BASIC program which we can't get into to patch out the second worst imperfection--the inability to adjust output to work equally well with either 9 or 24 pin printers! On our Epson 9-pin printers, both with and without Epson's Graftrax-Plus modification, vertical image height is just right. But for 24-pin LQ-type printers, image height is too tall! An illustration which prints out in fifty 9-pin vertical lines takes almost 60% more on the 24-pin Letter Quality printers.

Yer editor has talked with Mike Khrivohlavek of SKYCASTLE several times and asked if it was possible to obtain a printout of the original North Star BASIC program. Mike is a very nice guy, and we are quite sure he understands our needs, but said the original--uncompiled--program simply is not available to him or (sigh) anybody else....

We remember having seen recently a bit of software briefly mentioned (somewhere in a magazine) which purportedly would shrink GTF-type printouts vertically on 24-pin printers, but we haven't been able to find it again anywhere. BoyOHBOY, if we could only lay our hands on that little binary gem! Would our Dear Readers please research that particular item and let us know where we can legally obtain a copy?! We shall be ever grateful to anyone who can help us in this most desperate quest...PLEASE!

Having CALLIGRAPHY-II in your H/Z 8-bit software library is better than anything we can think of (save one especially-intimate 3-letter interpersonal activity). With GTF you are enabled to design letterheads, logos, business forms--or anything else calling for unusual printer output. And we shall have more for you in our March edition on various examples of how to use CALLIGRAPHY for tasks other than the JOURNAL....

FOR SALE / MISC NOTES

```
:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
TAGE 8-BIT GOLD...   VINTAGE 8-BIT GOLD...   VINTAGE 8-BIT GO
:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
```

FOR SALE: H89A w/accessories plus lots of software including HDOS 2.0 and CP/M-80 operating systems. Built from the original Heathkit in 1982, since up graded with 64k RAM, RS232 interface, external three-drive 96tpi accessory, TMSI H-1000 switchable dual 4/8 MHz CPU board on 8-bit side, 16 MHz on 16-bit side, has the full 1-Meg RAM installed. Can also run MS-DOS on 16-bit side (after a ROM emulator is loaded). Under CP/M or HDOS a high-capacity RAM disc (called GHOST Disc G:) is available which greatly speeds up software loading from that disc; using the RAM disc also cuts out mechanical delays of floppy access. System includes the original internal hard-sector disc drive (40tpi single-sided, which may be replaced by a pair of 1/2-height drives, either 48 or 96tpi). Both the computer and external drives are in virtually-indestructable Anchor cases which prevents most, if not all shipping damage (this system made several trips with me on military assignments to Korea and Berlin). Complete with all original documentation and distribution discs. This system cost me well over $5000, but I'm asking only $150 plus shipping for the entire schmateratti, (about $500 too low) since I need the space it occupies! Call or write me:

LAWRENCE K WHITE jr
401 Baltzell Avenue
Fort Benning, GA 31905
phone 404-689-5301

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:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
OOP NEWS...   QUIKDATA/H-SCOOP NEWS...   QUIKDATA/H-SCOOP NEW
:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
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Henry Fale, THE Man at Quikdata Inc., announced in H-SCOOP #144, March, 1992 a Really Big Clearance Sale of H8/H89-related products! Quikdata, is now virtually the ONLY supplier of 8-bit components and software. Order items from the list below by phone (414-452-4172), fax (414-452-4344) or bulletin board (414-452-4345), or mail to QUIKDATA INC, 2618 Penn Circle, Sheboygan, WI 53081-4250. A full Catalogue is sent with all orders. Here is a partial list of items:

* WH8-37 soft-sector disc controller/winchester interface board for H-8 computer, fully assembled, tested, w/PAM-37 ROM, 16-conductor jumper cable, software discs, documentation..... $125
* WH8-37B bare board only....... $ 39
* H89 H-37 soft-sector disc controller interface boards fully assembled, ready to plug in and run. Requires MTR 90 ROM or equal (available from QD). H37....... $125
* H37ROM set inclu MTR-90, 444-83(7516), 444-61(U550).. $ 39
* H37BB bare circuit board only..... $ 45
* H89 Power supply upgrade kit available to purchasers of H89 H37 Controller includes 3 regulator heat sinks, one heavy-duty 5-volt regulator. H89PUG..... $ 45

* TMSI H89 FLICKER-FREE MODIFICATION kit for H19/89/90 Terminal Logic Board cuts power, speeds operation & eliminates "black flecks" appearing in reverse video and during fast up-dating. Includes fast, low-power CMOS replacement RAMs, ROMs, increases TLP clock from 2MHz to 3MHz and provides reliable 19.2kilobaud operation. Some soldering required. p/n H89FF...... $ 29

* TMSI H89 SUPERSET MODIFICATION for H19/89/90 Terminal Logic Board vastly improves screen, keyboard operation. Combines above Flicker-Free features with HUG/Watzman, Super-19, and Ultra-ROMs all at once. Features superfast operation (to 38000 baud), on-screen clock and calendar, "paper white" screen, interlace mode, blink attribute, four mode-programmable function keys, pop-up menus, native keyboard, and transparent display modes. Screen saver blanks screen after 15 minutes inactivity. Provides VT-52 emulation (NOT VT-100). Supports below-listed Superfont, Superclock, and Superkey. Soldering and trace-cutting required. p/n H89SS............................ $ 49

* TMSI H19/89/90 SUPERFONT kit vastly improves screen, keyboard operation. Combines flicker free operation and adds eight Text Fonts, including H191, H29, Z100, VT100, NORCOM TPROM, and IBM-PC. Graphics includes enhanced H19, Greek & math symbols, NORCOM GPROM, DEC tech fineline graphics, 160 x 100 all-point-addressable graphics. Makes characters super- or subscript, bold, dim, blinking, or reverse video. p/n H89SF $ 29

* TMSI H89 SUPERCLOCK adds battery backup to Superset clock/calendar, plus 2k non-volatile RAM to store a second screen. Does "Windows" on the H89! Save, restore, or swap any portion of screen with off-screen memory. AAAdd user-defined pop-up menus and "help" screens to your existing programs easily. Adds user-programmable function keys, transparent or opaque sprites for games, etc.. p/n H89SC...................... $ 39

* TMSI H89 SUPERKEY adds auto-repeat and "typewriter" shift to above Superset. Provides smart-shift operation with CAPS-LOCK key down. Enter commands like PIP A:=G:LETTER?.*[V or LET A$=CHR$(27):PRINT A$,"H" w/o using any shift keys. Smart-shift inverts SHIFT key with CAPS-LOCK key down. p/n H89SK............. $ 19

AND MANY, MANY MORE 8-BIT ITEMS WE DON'T HAVE SPACE FOR. DO CALL FOR YOUR CATALOGUE!

* One-year H-SCOOP subscription starts w/Jan-92 ed.... $ 28 (Free 1-year extension if your order is over $500!)

ORDERS AND PAYMENT:

School or vendor's Purchase orders, VISA, MC, Cheque, Money Order or CODs accepted.

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EIGHT—BIT & "OTHER" VENDOR LIST
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==) EIGHT-BIT SOURCES, SERVICES, and VENDOR DIRECTORY <==

Listing last updated on 24 February 1992

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

Chalfant, Rick, 100 Bayberry Drive, Springboro, OH 45066; ph 513-748-1344 Stocks H/Z89s, parts, software. Check him out; you might be pleasantly surprised!

D-G ELECTRONIC DEVELOPMENTS Co., 700 S Armstrong, Denison TX 75020; ** phone 903-465-7805 (Central Time Zone) ** 8-bit "Heartbeat" computer, 8-bit "Super89" CPU upgrade/replacement board. Bruce Denton, president; Service & advice available, also GOOD H8 and H/Z89 hardware at clearance prices; contact Bruce for details. A *Certified* YOU-BETCHA GOOD GUY!

DISK MOVERS, 8534 McCormick Blvd, Skokie, IL 66076; phone 708-679-3727 (Central Time Zone)--ask for Miriam. HARD-SECTOR and soft-sector discs for H/Z8s, '89s in bulk quantities at very low prices! "VERY NICE and HELP-FUL PEOPLE." (Do give them a call and mention us!)

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)"! (Please mention that you found them listed here!)

HOYLE & HOYLE SOFTWARE, 111 Sparrow Drive, Isle of Palms, SC 29451. (Answer mailed enquiries only.) Their QUERY-III database runs on H8s thru Z120s. "REALLY GOOD GUYS"!

LINDLEY SYSTEMS, 8139 E Mawson, Mesa, AZ 85207 -- phone: 602-380-9175. All kinds of neat-OH 8-bit software such as PC89LINK--lets you transfer 8-bit stuff to H/Z100s and peesees over a null-modem cable. Ask either Bob or Bill for a catalogue, they're Really Fine Fellows!

MAGNOLIA MICROSYSTEMS, 2818 Thorndyke Avenue West, Seattle, WA 98199; phone 206-285-7266 (Pacific Time Zone). Ask for "Mark". Special memory upgrades and op-systems for H/Z89s & 90s. Trustworthy but slow people.

MICRO COMPUTER REPAIR SERVICE, 2308 Industrial Highway, Ste C Ann Arbor, MI 48104; phone 313-663-3646. D-DRIVE REPAIRS & SALES. Ask for Mike Morris, he's "A SUPER GUY"! (DO Tell him Lenny sent you.)

MICRONICS TECHNOLOGY, Suite 159, 54 Dalrada Road, Montgomery, AL 36109; phone 205-244-1597 voice, 205-244-0192 bbs CTZ Darrell C Pelan, pres. Soft & Hardware, '89 hardiscs 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 do provide tech advice on their products. Dave's ANOTHER GOOD GUY!

QUIKDATA COMPUTER SERVICES, Inc., 2618 Penn Circle, Sheboygan WI 53081; phone 414-452-4172--Henry Fale (Fah-lay) Prop. Mfgr, sales, service, 8-bit machine support & parts; publishes H-SCOOP Heath/Zenith user's newsletter, 24-hour H/Z user BBS. Ever busy but "A REAL GOOD GUY!" (See page nine, this issue for special bulletin!)

SIGMASOFT & SYSTEMS, 2433 Winterstone Drive, Dallas TX 75023-7818; 214-596-0116 (Central Time Zone)--Clay Montgomery--hardware/peripherals mfgr, 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 94076; 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! (See page six, this issue for illustration!)

TMSI/LEE HART, 323 West 19th Street, Holland, MI 49423 616-396-5085 (evenings, weekends--usually) Their motto: "Inovative Products for the H/Z89" Misc. 8-bit hardware items, hardware/software support for '89/90 users. "A NICE GUY & TOP-NOTCH ENGINEER!" (See a partial listing on page nine, this edition!)

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Contact GERNWARE ENTERPRISES, PO Box 1495, Rome NY 13440; ask "Gern" for his latest product catalogue. You'll find listed a Whole Bunch of Neat Z100 Hardware and Public Domain software at most reasonable prices. For example, the INFO-HZ100 PD LIBRARY SET of 15 discs 15 sells for only $30! Please note that "Gern" accepts only cash or cheques--no plastic. And do tell him you saw GERNWARE mentioned here in the SEBHC JOURNAL....

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