

Saving Our CLASSIC Heath 8-Bit Machines!

SETHC JOURNAL

The Society of Eight Bit Heath Computerists' Monthly Newsletter

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Subscription & Software Order Blank on Inside of Last Page



SEBHC JOURNAL

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Reader's MAILBOX & For Sale

Dear Len,

Just received the June issue. The mailing label top line reads: "<174> expires 5/91 ***!" with the "s" overwritten in red with a "d" to read "expired". That's strange, because my May issue label says "...expires 5/92", which is correct as I had just sent a cheque for another year with my letter to you dated 10-May-91 in which I expressed my desire to continue my subscription.

My cheque #580 cleared so I know you have the funds. Now all that is necessary is to get your data-base up to date.

[There was] no harm done, I just wanted to get the record straight.

By the way, thanks for running my ad for my two 89s. Unfortunately, I've had absolutely zero response; it appears I can't even give them away in this area. Isn't that a crime though? Such wonderful computing machines, and no one seems to want them. We truly have throw-away society.

I did call the local Heath store some time ago (for advice) and they said they had to toss their 89s in the dumpster! It seems even the old Heath/Zenith gang has converted over to the more powerful [sic] machines. Such is life!

JOHN V WERT, 21 High Road, Levittown, PA 19056-1111; 215-945-0397

[Oy, John! We had a Real Problem while updating our backup copy of the JOURNAL's mailing list. (We have two different versions, two copies each--one working, one backup.) One of the working versions came up with an "error in GET routine" message two-thirds through the update ritual earlier this month. And none of the backups had a later date, so we went with the old date (hoping that you'd get in touch with us--and you did). But you are not alone in our mailing-list data-base disaster. Read the next letter! -- ed]

Dear Len,

Received my June issue of the SEBHC JOURNAL with an "Expired" mailing label. But I had received my May issue with a "correct" label reflecting my subscription renewal through May-92 (see enclosed copy of my cancelled cheque). I suspect you slipped in a backup copy of your mailing list. Let me know if there is a problem [which] I can help you with...I don't want to miss a single issue.

BERNARD L WALTUCK MD, 1411 N Flagler Drive, Suite 7700, West Palm Beach, FL 33401

[Yo, Bernie! My apologies to both you and John Wert (letter preceeding yours). I finally unscrewed the inscrutable data-base "error in GET routine" message cause. That particular (short-form) working database was on a disc with very few remaining spare sectors. QUERY!2 probably doesn't like that because it somehow needs more blank space while manipulating the main file and records within it, shuffling records back and forth whenever a change is made. When I made a new

disc with only the working MEMBERS.DTB, LP.DVD, VIEW.ABS, and PRINTER.ABS programs on it, the error-message problem went away. (We actually freed over half the disc's space allocation with that action!) But since the original file had been damaged, I used an older backup file (as you surmised) and that's where the trouble started! Thanks to you and John's perceptiveness, we've fixed the proble, and hope it never occurs again. We strive to please everyone (but too often don't quite make it)! -- ed]

=====

32k of RAM for H8:
2 ea 8k static RAM boards -- \$10 ea
1 ea 16k static RAM board -- \$15

These boards were removed from a working H8, and are complete with manuals. Buy all three for \$35 total and I'll pay shipping within continental U.S.

BERNARD WALTUCK md
1411 N Flagler Drive, Suite 7700
West Palm Beach, FL
33401
Phone: 407-650-6300
10am - 4pm EDT, weekdays

=====

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We're suffering from cash-flow constipation and shrinking computer space. To alleviate the discomfort we're offering a deal You Just Can't Refuse: Select Any Three Items from our General Catalogue page, the total price of which exceeds \$29, and we'll throw in one more item ABSOLUTELY FREE, plus FREE U.P.S. shipping "anywhere in the lower 48" on your purchase.

OUR PAIN IS YOUR GAIN. Don't hesitate--offer expires at midnight, 31 August, 1991, never again to be repeated (we expect to clear out ALL our remaining H/Z software by event's end).

Kindly use the order blank on page 11 (or a photo-copy), including mailing label and your payment cheque to avoid errors in filling and shipping your order.

Please note: In case we run out of any ordered item, we reserve the right to substitute an alternate--but equal value--selection. (Hey! We're virtually Giving Away Our Stock!)

NO RETURNS, REFUNDS, OR EXCHANGES
(It's All Good ORIGINAL H/Z Stuff!)

-----<[8]>-----

RICK's Q & A Department

Conducted by Staff Member Rick Swenton

Hello again, Rick,

I'm finally getting around to [do] a bit of correspondence, which has been waiting since June 6, the day we returned home from Colorado. I had a lot of work to do: newsletter, etc., and just got it done by the skin of my teeth when my #1 machine decided to kick over the traces. Started giving me all sorts of bad BDOS errors! I think I lost most of something like 760k of genealogy. Don't know if I can recover any of it or not. First must find out what's the matter with the machine. I've cleaned everything cleanable, changed disc drives, etc., to no avail. I now suspect the problem is something on the CDR disc controller. Changed one chip, which seemed to help, but it went right back to being NG!

Remember I mentioned that I'd blown a minus-12v regulator on #2? Well, that turned into a Real Hassle. I STILL don't know what was wrong in the first place. I suspected that the modified (SuperSet) TLB might have something to do with it, as the machine blew up after I'd put that board back in to try it. But with only the TLB hooked up, it seemed to work, so I said, ok, old plie of junk, either work or fry, and I plugged it all together, and No Smoke! BUT, the CPU wouldn't give me a beep nor H: [prompt]. What I [now] believe it was that I may not have had all the configuration switches and jumpers just right to work with SuperSet. I finally got them as close as I could figure out for all the extra junk I have in this thing, closed my eyes and turn it on--no bang, or smell of cooked regulator, and the thing came up normally. So, after a bit of juggling, I'm writing this letter with it.

I wrote [a letter] on the other machine a few days ago and when I went to print it out, I [found I'd] lost the whole thing--not even a directory entry [for the letter] left on the disc--but the disc shows OK! Crazy things going on....

My most non-pressing problem now, is that machine #2 won't work at 19200 baud. I've set everything settable to 19200, results: nothing! It gives me garbage, and Lee's fix (temporary set to 9600 from the keyboard) doesn't seem to work. I'm going to try configuring a disc for 19200 first, then see if that works. Then I'll have to try out the goodies on this SuperSet.

My #2 very pressing problem is to get the CDR system up again and see if I can resurrect any of my genealogy data. Loosing that would make me very angry--there's about four year's worth of work in that! I may send a query to the SEBHC JOURNAL to see if anyone [else] has had a similar experience with a CDR system. Also I know a couple guys still using that system.

Weather here turned hot after a nice cool spring. It was 103F yesterday--probably [will be] about the same today. Drop a line when you get time (I may even try the QuikStor again, if I feel lucky).

BOB EVENS, Hemet, CA

Hi Bob,

Sorry, but I won't likely be much help with the CDR controller. One has a tendency to be familiar with [only the] things one has and I don't have a CDR. Is that the FDC 880H, or is that the hard disk interface? The way things are, it could be almost anything on the board. Don't forget to measure the power supply voltages. I have seen [H89] computers do strange things with 4.6 volts coming from the [purportedly] 5-volt power supply.

On the -12V regulator problems, I recall having seen more than one H89 do this: (I seem to be the local hardware resource for H89 problems in the Hartford area!) On every machine I worked on, it was the small electrolytic capacitor connected to the regulator. This bead-like capacitor (C408, on H19) (C412 on H19A) shorted and sometimes even exploded. It sometimes didn't take out the regulator. [This always happens when tantlum electrolytics are inserted with polarity markings ignored; reversed current will blast 'em! -- ed]

Quickly looking at the schematic, there isn't too much left in an H19 that needs a minus voltage. The older EPROM chips needed -5V (which is derived from the -12V supply). I have never seen a factory-built H19 with EPROM memory but some people put the Watzman ROM into older EPROMS.

The RS-232 output chip requires + and - 12V. It's possible that you could lose the -12V and still get characters out of the H19. It is also possible that it too could stop working mysteriously some day! Use a volt meter and check for minus 12V. If it's not there, replace the regulator and the abovementioned capacitor and try again.

Baud rate problems in the H89 are always a hassle. Really --you have to understand all the variables before you can expect things to work. Keep in mind that the H89 computer contains a completely independent H19 terminal which communicates with the H89 over a serial connection. The H19 AND H89 baud rates MUST match each other in order to communicate at all.

The H19 baud rate can be set by one of two methods. The first is by changing TLB dip switch settings. You can only select 9600 or 19200 with a standard H19. The other way is to send Escape codes from the keyboard (or the host computer, the H89). To send baud rate changes from the keyboard, you must first be "Off Line", that is, the OFF LINE key is down and when you type, you see the characters being printed on the screen. If you press the escape codes exactly as shown, the baud rate will be changed. ESC r L (That's Escape, lower case "r", and upper case "L") will select 9600 baud. ESC r M selects 19200 baud. With Superset, ESC r N selects 38400.

OK. So far, so good with the H19 terminal. But, we have yet to establish communications with the host H89. With the H19 "on-line", that is, the OFF LINE key is up, you expect to get an H: prompt when you press SHIFT-RESET. In order for the H: prompt to come up, both the H19 AND the H89 baud rates have to match. The H89 baud rate is also selected by dip switches, and only 9600 or 19200 baud is available with a standard monitor ROM, MTR-90 or equal. If you get garbage on

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RICK's Q&A continued

the screen at this point, that's good! It means that you are likely communicating, but at the wrong baud rate. That's easily fixed. Just change the dip switches. But don't change both sets at the same time or you will be back to garbage again!

Now, the third stumbling block is the operating system. Up until this point, both the H19 and H89 are communicating fine. You boot the operating system and the screen goes to garbage again! Not to worry. All that happened is that the operating system baud rate did not match the existing hardware baud rate. Here's an example:

Suppose you set your H19 to 19200 with the dip switches on the TLB. Now you set the baud rate of the H89 to 19200 with the dip switch on the CPU board. If the operating system is configured to 9600 baud, as soon as it boots it will change the H89 baud rate down to 9600! It will change ONLY THE H89 CPU, not the H19 TLB.

You now have several choices. You can go back and set both sets of dip switches to 9600 and it should boot fine. However, you can also go OFF LINE, press ESC r L to temporarily change the TLB baud rate back to 9600, and then re-configure the operating system to 19200. As soon as you change the operating system to 19200, your screen will go back to garbage again! This is because the CPU was set to 19200 but the TLB is still back at 9600. You can go OFF LINE and press ESC r M to change the TLB to 19200, or you can simply re-boot. If you did everything right, it should come up just fine.

I know this can get very confusing. Just remember that three things need to be set to the same baud rate: The H19 TLB, the H89 CPU and the [Disk] Operating System.

Sorry to hear that you may have lost a considerable amount of your genealogy files. Was that on the hard disk or floppy. If you want to send me the floppy, I can try to extract the files and save them on disc in Heath format.

Be of good cheer, Bob, and let me know if I can be of further help.

RICK SWENTON

[I'm starting to feel the give & take between Bob & Rick may contain the seeds--if not the plot--of one of those "perpetual emotion" daytime soap operas! What might be a nifty title for such an epic, "Secret 8-bit CPU Vices (or How I Discovered John's Wife's Other John)"? But all kidding aside, we 8-bit users are very lucky to have someone as experienced and knowledgeable as Rick around to borrow his shoulder to cry on! The SEBHC JOURNAL couldn't be the same without his ever-so-helpful text files which he kindly sends to us in floppy disc form (all we do is edit them to fit our column layout). Now, Bob, do you have any details or purchasing information on the 8-bit family-tree software you're using? The family name on our grandfather's & mother's side is HUMESTON--not too common --and we'd like to do research thereon, find the country that name comes from, other ancestors, etc.. Help?! -- ed]

Hi Lenny,

Sorry I have been out of touch lately. In reading the journal, I haven't seen anything which needed my help. Things at work and at home have been keeping me busy. Chris McEwen at The Computer Journal has been wondering where that article on X10 was that I promised him months ago. I am quickly banging-out this letter hours before the family vacation to Maine.

Many times I see ads for H89 systems at dirt-cheap prices. The latest one was in "Z-Letter"--asking price was \$50 for an H89 with three floppies and a Magnolia controller, documentation and software. (Call Floyd Knapp at (408) 996-1444.) It's a real shame that the intrinsic value of an H89 is virtually unknown, or at least forgotten. Dave McGlone, of "Z-Letter" uses Spellbinder (supposedly better than WordStar) on an Eagle computer and an HP Laserjet+ Printer. He produces the whole newsletter with that system and it looks impressive. Dave sells Spellbinder for only \$60 and he does free disk conversions to your favorite format if you buy a product from him. [Even H/289s, '90s & 100s? -- ed]

I have IBM PC clones on which I run Windows. It's nice to have compatibility with the office hardware, especially since they depend on me for support! But I still have the most fun using the 8-bit systems.

Recently, I developed a microprocessor controller for my ham radio repeater station. I used a single-board 8085 computer of which I obtained several from work. These were being discarded during a hardware upgrade. They had a 4k RAM and 8K of EPROM. Cutting and adding two wires made the board capable of supporting 32K of EPROM.

This controller replaced a hard-wired TTL logic system contained on eighteen hand-wired prototype boards in a rack mounted card cage. This old system had been in service for over thirteen years and worked well. The controller supervised operation of receivers and transmitters which relayed incoming signals, re-broadcasting them at higher power on a different channel. We also have an interconnect to the telephone so we can place phone calls from the car or handheld radio.

The new microprocessor controller is in a cabinet about the size of a VCR and eliminated about a mile of wire. It has a time-of-day-clock and a speech synthesizer. It processes Touchtone (tm) commands over the radio or phone. I developed the software on my H89 in Z80 assembly language using the SLR180 Assembler and WordStar. The SLR180 Assembler has the option to complain if you use any Z80-specific instructions. That way, you can write 8080/8085 code in Z80 language and the assembler won't let you use any Z80 instruction which will not run on the 8080/8085. My 160-page listing assembles into 15K of EPROM. This even includes code to drive a dumb terminal (its not Heath, that's why it's dumb) for local display of all the I/O signals and to enter commands.

The nicest thing is that if you want to change the way the system works, you don't have to heat up your soldering iron.

RICK's Q&A [eof], LASZLO's LISTINGS

Just turn on your H89, modify the program and burn a new EPROM. It's fun!

Developing eight-bit software on one 8-bit machine for use on a different 8-bit machine is a fascinating experience. I could have done it on my sixteen-bit machines but writing the software on a color monitor would not have improved its performance! [So there, you peesee fanatics! -- ed]

My experiences learning about eight-bit computers, mainly with the H89, H8 and Ampro [Little Board], eventually enabled me to write software for repeater controllers--which I previously had thought was beyond my ability. The controller--described above--uses FIVE (count 'em--five) interrupts. One is derived from a software-programmed timer which generates an interrupt every millisecond. This routine goes out and updates the I/O ports (reads the input ports into memory and writes memory to the output ports) and keeps track of twenty or so timers with 10-millisecond accuracy.

During that project, I learned how to program the complete INTEL family of eight-bit support ICs--from USART to Interrupt Controller--also learned how to make speech by sending phonemes to a synthesiser IC. And it's all due to my interest in the H89. [HIP, HIP, HUZAH! -- ed]

I don't think I would have had enough perserverance to develop sufficient experience or knowledge to build the same system utilising sixteen-bit technology. Besides, I hate "C", and most likely couldn't have afforded the cost of memory sufficient to hold a "C" program!

Yes, I use Windows. Yes, I am beginning to see the advantages of the Macintosh, especially for novice computer users. And yes, I use an H8 too! It has Windows. Well, it has one window. It's red and it's on the front panel in front of the LED Display! [Funny, so's mine--and it displays fairly accurate 24-hour time from a software clock! -- ed]

Well, let's hear it from the eight-bit community. What're you interested in that some of us may be able to help you start or complete? Use your imagination, because your hardware is definately not a limiting factor!

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

[Rick, obviously, developing and writing assembly language routines for 8080 or 8088 CPUs is best done on a machine using one or the other type. Trying to debug 8-bit software with a 16-bit peesee-type machine is rather similar to trying to mount an auto's 5-hole spare wheel on a 4-lug hub! You may be able to somehow make it stay on, but it certainly will not run properly! Of course, if you're using an H/Z100-series computer, that's a different breed of cat because those machines "grew up" from our older 8-bit machines. Some day, Real Soon Now, you'll have to send us an illustrated article about your '89-as-a-dedicated-88S system controller. We have downstairs a Whole Bunch of pre-89A CPU cards and some other odd parts. Many of our hardware-hacking subscribers might find such an article (and surplus parts) inspirational. Hope to hear again from you Really Soon Now! -- ed]

LASZLO'S FINANCIAL SOFTWARE, LISTING TWO

```

10 REM  RECAL.BAS -- Cheque-recaller by Laszlo M Vesei, 1983
20 REM  May gremlins infest your ICs if you omit my name!
30 CL$=CHR$(27)+"E":PRINT CL$:PRINT:PRINT
40 LINE INPUT"Enter last two digits of year wanted ... ";YA$
50 DA$="CF"+YA$+".DAT":YR$="19"+YA$
60 LINE INPUT"Is your account over $10,000 (y/n) ... ";DOL$
70 IF DOL$<>"y" THEN 90
80 DEFDBL S,T
90 DY$=HEX$(INP(134)):MO$=HEX$(INP(135)):YE$=HEX$(INP(137))
100 DATE$=MO$+"-"+DY$+"-19"+YE$
110 PRINT:PRINT"Enter appropriate numeral from this menu:"
120 PRINT:PRINT TAB(10)"1 ...View entire file on screen."
130 PRINT TAB(10)"2 ....Select by month."
140 PRINT TAB(10)"3 ....Select by chk#, or 'd', or 'e'."
150 PRINT TAB(10)"4 ....Select by pay/er/ee."
160 PRINT TAB(10)
    "5 ....Select by category (ctr, int, tax, med, or mis)."
```

```

170 PRINT TAB(10)"6 ....Lineprint the whole file."
180 PRINT TAB(10)"7 ....Lineprint by category."
190 PRINT TAB(10)"8 ....Lineprint by pay/er/ee."
200 PRINT TAB(10)
    "9 ....Walk thru entire file and print on demand."
210 PRINT:INPUT"Enter your selection ..... ";ES
220 PRINT CL$:IF ES=0 OR ES>9 THEN 30
230 REM  .....Opening the file
240 OPEN "R", #1, DA$, 45
250 FIELD 1,3AS MF$,2AS DF$,4AS CF$,15AS PF$,3AS TF$,8AS SF$,
    8AS RF$,1AS ZF$
260 ON ES GOTO 280, 400, 430, 480, 540, 780, 1060, 1230, 270
270 WT=2:GOTO 780
280 INPUT"Enter file number you want to start with";Y
290 Y=Y-1:GOTO 330
300 GOSUB 1540
310 Y=Y-1
320 REM  .....Review the whole file
330 GOSUB 1290
340 W=W+1:Y=Y+1:IF W=21 THEN W=0:GOTO 300
350 GET #1, Y
360 S=CVS(SF$):TT=CVS(RF$):IF S=0 AND ASC(PF$)<>45 THEN 1500
370 GOSUB 1320
380 GOTO 340
390 REM  .....Review by month
400 LINE INPUT"Enter month as 3 letters (Ex: Jan) ... ";MO$
410 GOTO 630
420 REM  .....Review a check or deposit
430 LINE INPUT"Enter check No. or 'd' ..... ";C$
440 IF C$="e" THEN C$="ec":GOTO 460
450 IF C$="d" THEN C$="DP":GOTO 460
460 GOTO 630
470 REM  .....review by pay/er/ee
480 LINE INPUT"Enter name of pay/er/ee..... ";NA$
490 IF LEN(NA$)=0 THEN PRINT"No entry made. ":GOTO 480
500 IF LEN(NA$)>15 THEN PRINT"Wrong entry":GOTO 480
```

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LASZLO's LISTINGS, Continued

```
510 IF LEN(NAS)<15 THEN NAS=NAS+ "." :GOTO 510
520 GOTO 630
530 REM .....Summation by buzzword
540 LINE INPUT
    "Enter buzzword (ctr, int, tax, med, or mis) ..... ";BZ$
550 IF LEN(BZ$)=0 THEN PRINT "No entry made!":GOTO 540
560 IF BZ$="ctr" OR BZ$="int" THEN 630
570 IF BZ$="tax" OR BZ$="med" THEN 630
580 IF BZ$="mis" OR BZ$="WWW" THEN 630
590 IF BZ$="-B-" OR BZ$="-S=" THEN 630
600 PRINT "Bad entry":GOTO 540
610 REM .....Screen subroutines
620 GOSUB 1540
630 GOSUB 1290
640 W=1
650 Y=Y+1:IF W=21 THEN W=0:Y=Y-1:GOTO 620
660 GET #1, Y
670 S=CVS(SF$):IF S=0 AND ASC(PF$)<>45 THEN 1500
680 ON ES GOTO 1510, 690, 690, 700, 700
690 IF M0$=MF$ OR C$=CF$ THEN 720 ELSE 650
700 IF NAS= PF$ OR BZ$=TF$ THEN 720 ELSE 650
710 IF ES=5 THEN 730
720 IF ES=4 THEN TT=TT+S:GOTO 750
730 IF BZ$="ctr" OR BZ$="WWW" THEN TT=TT+S ELSE TT=S
740 IF BZ$="-B-" OR BZ$="-S=" THEN TT=TT+S ELSE TT=S
750 GOSUB 1320
760 REM .....Lineprint all
770 W=W+1:GOTO 650
780 INPUT "Enter starting record number ..... ";Y:Y=Y-1
790 INPUT "Enter starting page number ..... ";X:X=X-1
800 INPUT "Enter ending record number ..... ";IZ
810 INPUT "Enter ending page number ..... ";IP
820 W=1:IF ES<9 THEN WP$="Y"
830 GOSUB 1360
840 REM .....Lineprint the heading
850 Y=Y+1
860 IF IZ=0 THEN 880
870 IF Y=IZ+1 THEN 1510
880 IF W=51 THEN W=1:Y=Y-1:GOTO 1040
890 GET #1, Y
900 S=CVS(SF$):IF S=0 AND ASC(PF$)<>45 THEN 1510
910 IF ES=7 OR ES=8 THEN 1130
920 IF ES<9 THEN 1000
930 GOSUB 1290
940 REM .....Screenprint the heading
950 WP$="":PRINT USING "###";W;
960 GOSUB 1320
970 REM .....Screenprint the entry
980 LINE INPUT "Do you want this item printed (y/n)? ";WP$
990 IF WP$<>"Y" THEN 850 ELSE 1010
1000 TT=CVS(RF$)
1010 IF WP$="Y" THEN GOSUB 1420 ELSE 850
1020 REM .....Lineprint the entry
1030 W=W+1:GOTO 850
1040 FOR BK=1 TO 8:LPRINT:NEXT BK:GOTO 830

1050 REM .....Lineprint by buzzword
1060 LINE INPUT
    "Enter buzzword (ctr, int, tax, med, or mis)..... ";BZ$
1070 IF LEN(BZ$)=0 THEN PRINT "No entry made!":GOTO 1060
1080 IF BZ$="ctr" OR BZ$="int" THEN 1120
1090 IF BZ$="tax" OR BZ$="med" THEN 1120
1100 IF BZ$="-B-" OR BZ$="-S=" THEN 1120
1110 IF BZ$="mis" OR BZ$="WWW" THEN 1120
    ELSE PRINT "Bad entry":GOTO 1060
1120 GOTO 820
1130 S=CVS(SF$):IF S=0 AND ASC(PF$)<>45 THEN 1510
1140 IF BZ$=TF$ OR NAS=PF$ THEN 1150 ELSE 850
1150 S=CVS(SF$):IF TF$="ctr" OR TF$="WWW" THEN TT=TT+S
1160 IF TF$="-B-" OR TF$="-S=" THEN TT=TT+S
1170 IF TF$="med" OR TF$="tax" OR TF$="mis" THEN TT=S
1180 IF W=51 THEN W=0:Y=Y-1:GOTO 1210
1190 GOSUB 1420
1200 GOTO 850
1210 LPRINT:LPRINT:LPRINT:GOTO 820
1220 REM .....Lineprint by pay/er/ee
1230 LINE INPUT "Enter pay/er/ee ..... ";NAS
1240 IF LEN(NAS)=0 THEN PRINT "No entry made":GOTO 1230
1250 IF LEN(NAS)>15 THEN PRINT "Wrong entry":GOTO 1230
1260 IF LEN(NAS)<15 THEN NAS=NAS+ "." :GOTO 1260
1270 GOTO 820
1280 REM .....Screenprint routine
1290 PRINT CL$:PRINT TAB(9)" R#   Date   Ck#   ";
1300 PRINT "Pay/er/ee      Cat   Amount   Balance  DATE$
1310 PRINT TAB(9) STRING$(59,"="):RETURN
1320 PRINT TAB(9) USING "###";Y;
1330 PRINT "  MF$  " "DF$  " "CF$  " "PF$  " "TF$;
1340 PRINT USING "###,###.##";S;TT;
1350 PRINT "  ZF$":RETURN
1360 X=X+1:IF X=IP THEN 1510
1370 REM .....Lineprinter routines
1380 LPRINT:LPRINT:LPRINT TAB(35)"Page "YR$="-"X;
1390 LPRINT TAB(65) DATE$:LPRINT:LPRINT:LPRINT
1400 LPRINT
    TAB(10)" R#   Date   Ck#   Pay/er/ee      Cat   ";
1410 LPRINT
    "Amount   Balance":LPRINT TAB(10) STRING$(59,"="):RETURN
1420 LPRINT TAB(6) USING "##";W;
1430 LPRINT TAB(10) USING "###";Y;
1440 LPRINT "  MF$  " "DF$  " "CF$  " "PF$  " "TF$;
1450 LPRINT USING "###,###.##";S;TT;
1460 LPRINT "  ZF$
1470 IF ES<>6 THEN W=W+1
1480 RETURN
1490 REM .....Ending
1500 GOSUB 1540
1510 PRINT TAB(30)
    "***** # # *****":PRINT TAB(30)"#   ## # #";
1520 PRINT "  #":
    PRINTTAB(30)"***** # # # #   #":PRINTTAB(30)"#   ";
    [continued]
```

LASZLO'S LISTINGS, Continued

1530 PRINT

" # # # # # ":PRINT TAB(30)"#### # # ####":END

1540 PRINT SPACE\$(20);:

LINE INPUT">>>>> To continue hit [RETURN] <<<<<";H\$

1550 RETURN

LASZLO'S FINIANCIAL SOFTWARE, LISTING THREE

10 REM Check reconciliation program by Laszlo M Vesei

20 REM 2-22-84; Rev 9-28-85 Filename:"RECON"

30 REM Listing newly-negotiated checks

40 RESET:AS\$=CHR\$(27):CL\$=AS\$+"E":DIM NC\$(82):Q\$=" first "

50 DY\$=HEX\$(INP(134)):MO\$=HEX\$(INP(135)):YR\$=HEX\$(INP(137))

60 DATE\$=MO\$+"-"+DY\$+"-19"+YR\$

70 DEFINT F,G,I,J,K,L,M,N,T,Y:DIM NC(82):T\$="*":PRINT CL\$

80 LINE INPUT"Is your account over \$10,000 (y/n) ";DOL\$

90 IF DOL\$<>"y" THEN 110

100 DEFDBL S

110 I=I+1:PRINT:PRINT:PRINT CL\$

120 PRINT CL\$

"Enter serial number(s) of "Q\$"cheque(s) returned by bank"

130 IF FL<1 THEN Q\$=" next ":GOTO 160

140 PRINT

"If there are no more cheque numbers, then hit <RETURN>"

150 PRINT:PRINT USING"##";I-1;:

PRINT" Check number "NC\$(I-1)

160 PRINT USING"##";I;:

LINE INPUT" Check number ";NC\$(I):FL=1

170 NC(I)=VAL(NC\$(I)):N=I-1:G=I-1

180 IF NC\$(I)<>" " THEN 110 ELSE GOSUB 1600

190 PRINT CL\$:FOR JA=1 TO 20

200 JB=JA+20:JC=JA+40:JD=JA+60

210 IF NC\$(JA)=" " THEN 300

220 PRINT USING"##";JA;:PRINT" "NC\$(JA);

230 IF NC\$(JB)=" " THEN PRINT:GOTO 290

240 PRINT TAB(20) USING"##";JB;:PRINT" "NC\$(JB);

250 IF NC\$(JC)=" " THEN PRINT:GOTO 290

260 PRINT TAB(40) USING"##";JC;:PRINT" "NC\$(JC);

270 IF NC\$(JD)=" " THEN PRINT:GOTO 290

280 PRINT TAB(60) USING"##";JD;:PRINT" "NC\$(JD)

290 NEXT JA

300 PRINT:PRINT TAB(20);:

LINE INPUT"Is this list OK (y/n) ";FF\$

310 IF FF\$<>"y" THEN RUN 40:

REM Restarts program and erases all variables

320 REM Initialise, and define disc data storage search

330 PRINT CL\$:FL5=0

340 PRINT TAB(33);:

LINE INPUT"What year (last two digits) ";YA\$

350 DA\$="CF"+YA\$+".DAT":NA\$="NF"+YA\$+".SEQ"

360 PRINT:PRINT:PRINT:PRINT AS\$+"p"

370 PRINT TAB(30)

"TURN ON PRINTER

380 PRINT TAB(30):

LINEINPUT"Is the printer on (y/n)

";R\$

390 IF R\$<>"y" THEN 370

400 PRINT AS\$+"q"

410 REM Get starting file number from a seq. disc file

420 ON ERROR GOTO 470

430 OPEN "I", 2, NA\$

440 INPUT #2, YY

450 CLOSE 2

460 YY=YY-1:GOTO 490

470 YY=1:REM Defines start if no seq. disc file exists

480 REM Open and define fields of main data file

490 OPEN "R", #1, DA\$, 45

500 FIELD 1,

3AS M\$,2AS D\$,4AS C\$,18AS P\$,8AS S\$,8AS R\$,1AS Z\$,1AS L\$

510 REM Sort out deposits

520 Y=YY

530 Y=Y+1

540 GOSUB 1580

550 IF L\$<>" " THEN 660

560 IF Z\$="*" THEN 530

570 IF ASC(C\$)<>32 THEN 530:

REM Rejects cheques, admits deposits

580 PRINT CL\$

590 GOSUB 1370

600 GOSUB 1390

610 LINE INPUT"Is this item negotiated? (y/n) ";RT\$

620 IF RT\$="y" THEN GOSUB 1560

630 GOTO 530

640 REM Add asterisk to newly negotiated cheques

650 ON ERROR GOTO 670

660 Y=YY

670 Y=Y+1:ZA=0

680 GOSUB 1580

690 IF Z\$="*" THEN 670

700 IF ASC(C\$)=32 THEN 670:REMRejects deposits

710 FOR J=1 TO I

720 IF NC\$(J)=" " THEN 780

730 IF VAL(NC\$(J))=NC(J) THEN ZA=2

740 PRINT Y,C\$,J,NC\$(J),NC(J)

750 IF C\$<>NC\$(J) THEN 780

760 IF C\$=NC\$(J) THEN GOSUB 1560

770 IF NC\$(J)=" " THEN 670

780 NEXT J

790 IF L\$<>" " OR ZA=0 THEN 810 ELSE 670

800 REM Lineprint and add up non-negotiated cheques

810 Y=YY

820 PRINT CL\$

830 GOSUB 1420

840 Y=Y+1

850 GOSUB 1580

860 IF L\$<>" " THEN 920

870 IF Z\$="*" THEN 840:REM Rejects negotiated cheques

880 IF ASC(C\$)=32 THEN 840:

REMAdmits cheques, rejects everything else

890 ST=ST+S

900 GOSUB 1470

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LASZLO's LISTINGS, Conclusion

```
910 GOTO 840
920 PRINT CL$:
  INPUT "Amount of a cheque not shown elsewhere ";SH
930 IF SH=0 THEN 970 ELSE ST=ST+SH
940 LPRINT TAB(10)"Unlisted check ";:LPRINT STRING$(24,".");
950 LPRINT TAB(51) USING"#####.##";SH;ST
960 IF SH<>0 THEN 920
970 LPRINT TAB(10)STRING$(61,"-"):
  LPRINT TAB(15)"Cheques in transit";
980 LPRINT TAB(45) USING"#####.##";ST:LPRINT
990 REM      Lineprint and add up deposits
1000 Y=YY:SD=ST:FL=4:LPRINT TAB(30)"Non-negotiated deposits"
1010 LPRINT TAB(30)STRING$(23,""):GOSUB 1450
1020 PRINT CL$:PRINT:PRINT:PRINT:PRINT
1030 INPUT "Bank statement balance ..... ";SB:ST=SB
1040 LPRINT TAB(30)"Bank balance.....";
1050 LPRINT TAB(51)USING"#####.##";SB;SB
1060 INPUT "Deposit not listed elsewhere ..... ";SP:ST=ST+SP:
  PRINT:PRINT
1070 IF SP=0 THEN 1090 ELSE LPRINT TAB(15)
  "Deposit in transit:";
1080 LPRINT TAB(51)USING"#####.##";SP;ST:PRINT CL$:GOTO 1060
1090 Y=Y+1
1100 GOSUB 1580
1110 IF Z$="*" THEN 1090:
  REM      Rejects negotiated items
1120 IF EOF(1) THEN 1180:
  REM      Finds end of diskfile
1130 IF ASC(C$)=32 THEN 1140 ELSE 1090:
  REM      Admits deposits, rejects cheques
1140 ST=ST+S
1150 GOSUB 1470
1160 GOTO 1090
1170 REM      Calculate and lineprint balance
1180 SB=ST:ST=0:SD=SB-SD
1190 LPRINT TAB(10)STRING$(61,"-"):
  LPRINT TAB(15)"Deposits in transit";
1200 LPRINT TAB(45)USING"#####.##";SB:
  LPRINT::LPRINT TAB(15)"Deposits in ";
1210 LPRINT "transit "STRING$(9,".");:
  LPRINT TAB(45) USING"#####.##";SB
1220 LPRINT TAB(15)"Cheques not negotiated .....";
1230 LPRINT TAB(45)USING"#####.##";SD::LPRINT "-"
1240 LPRINT TAB(15)STRING$(41,"-")
1250 LPRINT TAB(15)"Balance .....";
1260 LPRINT TAB(45)USING"#####.##";SD
1270 REM      Find, revise and replace start# on seq.file
1280 Y=YY
1290 Y=Y+1
1300 GET #1,Y:ZF$=Z$
1310 IF ZF$="*" THEN 1290
1320 OPEN "O",#2,NA$
1330 PRINT #2,Y:PRINT Y
1340 CLOSE #2
1350 LPRINT:GOTO 1500

1360 REM      .....Screen routines
1370 PRINT CL$:PRINT
  TAB(9)" R#   Date   Ck#   Pay/er/ee   Cat   ";
1380 PRINT "Amount   Balance":
  PRINT TAB(9) STRING$(61,"="):RETURN
1390 PRINT TAB(9)USING"###";Y::
  PRINT "  M$   D$   C$   P$   ";
1400 PRINT USING"###,###.##";S;ST::PRINT "  Z$ L$:RETURN
1410 REM      Lineprinter routines
1420 LPRINT TAB(30)"RECONCILIATION":
  LPRINT TAB(30)STRING$(14,"=")
1430 LPRINT TAB(30)"Cheques not negotiated":
  LPRINT TAB(30)STRING$(21,"")
1440 LPRINT TAB(30)DATE$
1450 LPRINT TAB(10)
  " R#   Date   Ck#   Pay/er/ee   Cat   ";
1460 LPRINT "Amount   Balance":
  LPRINT TAB(10) STRING$(61,"="):RETURN
1470 LPRINT TAB(10)USING"###";Y::
  LPRINT "  M$   D$   C$   P$   ";
1480 LPRINT USING"###,###.##";S;ST::LPRINT Z$ L$:RETURN
1490 REM      "END" routine
1500 Q$=STRING$(4,"#"):S$=STRING$(2," "):T$=STRING$(3," ")
1510 PRINT TAB(30)Q$"  "T$"  "S$Q$":
  PRINT TAB(30)"  "T$T$"  "  ";
1520 PRINT S$S$"  ":PRINT TAB(30)Q$"  "  "  "T$S$":
  PRINT TAB(30)"  "T$T$;
1530 PRINT"  "  "  "S$S$":PRINT TAB(30)Q$"  "  "  "S$Q$"*
1540 LPRINT CHR$(12):END
1550 REM      Add asterisk to negotiated items
1560 ZF$="*:LSET Z$=ZF$:PUT #1,Y:ZF$="":NC$(J)="":RETURN
1570 REM      Recall record from disc file
1580 GET #1,Y:CF$=C$:S=CVS(S$):ZF$=Z$:LF$=L$:RETURN
1590 REM      .....Sorting cheque numbers with "the
  world's fastest MBASIC sort routine"!
1600 PRINT CL$:PRINT:PRINT:
  PRINT TAB(15)"Patience, please, I'm sorting now."
1610 IF N=1 THEN 1710
1620 G=INT(G/2)
1630 FOR J=G+1 TO N
1640 I=J-G:TR$=NC$(J):TR=NC(J)
1650 IF I<=0 THEN 1680
1660 IF TR>=NC(I) THEN 1680
1670 NC(I+G)=NC(I):NC$(I+G)=NC$(I):I=I-G:GOTO 1650
1680 NC$(I+G)=TR$:NC(I+G)=TR
1690 NEXT J
1700 IF G>1 THEN 1620
1710 RETURN

[EOF]
```

Please note: Code is truncated to fit our regular 2-column page. Watch for and allow for that if copying them. These programs must be modified if you want them to run under HDOS MBASIC (replace LPRINTs with PRINT #1,--and so on). We shall print hardcopy example runs of CHEQUES.BAS in Vol VI, No 1.

MISCELLANEOUS plus

=====

NEEDED... DOCUMENTATION NEEDED... DOCUMENTATION NEEDED...
=====

We repeat: Summer before last we bought a Whole Bunch of Software and Other Neat Stuff from Ray Dotson's Array Software Co. Almost all the software was in original factory-sealed packages, but some of the Most Interesting & Neat Stuff came from Ray's H89 operating systems discs. Although we got nearly a half-ton of manuals and other printed matter in the deal, most documentation for the Most Interesting & Neat Stuff wasn't there! Therefore, we're begging anyone who has documentation for any of the below-listed software to advise us if they are willing to provide us with photo-copies thereof. These working programmes have virtually ZERO value to us without documents. We'll be delighted to pay a Reasonable Copying & Postage Fee for one fair copy of documentation covering each one of these potentially-useful programmes!

Digital Research "CBASIC-2"*

Ecosoft "MICROSTAT"

CPU International "PEARL-III" CBASIC Program Generator*

Software Toolworks' "SPELL" Spelling Proofreader*

Micropro "MAILMERGE"

Micropro "WORDSTAR"

* = High Priority Item(s)

Please call or write to:

L E Geisler, c/o The SEBHC JOURNAL, 895 Starwick Drive, Ann Arbor, MI 48105; ph 313-662-0750-ofc, 9am - 5pm. After 5pm - 11pm, ph 313-769-6052-res. Hours are for Eastern Time Zone, Mondays thru Saturdays only.

=====

Got a phone call from Kirk Thompson (editor/publisher of "The Staunch 8/89er") in connexion with our working out a deal for him to offer photo-copies of ZDS's discontinued "secret" H/289/90 complete & illustrated service manuals.

These are Two Very Hefty Books which are of inestimable value to any serious H/Z 8-bit owner! They weigh in at about eight pounds each, and have numerous 2-sided, 2-coloured printed-circuit board illustrations. As Soon As It's Humanly Possible, and Can Find Time, I'll take them to our dependable copy shop for a price quote. I'm quite sure it shall not be cheap, what with those two-coloured illustrations--which are about twice the size of a normal page.

So, will those SEBHCers out there who are Seriously Interested in getting their very own manual set please send a post card to: Kirk L Thompson, c/o "The Staunch 8/89er", P O Box 548, West Branch, IA 52358. Be sure to let him know That You Are Serious and WILL BUY a Set--if the price is anywhere between \$90 to \$120, w/two-3-ring binders, and UPS shipping.

=> EIGHT-BIT SOURCES, SERVICES, and VENDORS DIRECTORY <=>
[We're still slaving to keep this list accurate & up-to-date!]
CDR SYSTEMS, Inc., 7171 Ronson Road, San Diego, CA 92111; ph: 619-560-1272, 9a-5p Pacific Time Zone--ask for Herman.

8-bit machine memory devices, software, etc.

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

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

DISK MOVERS, 8534 McCormick Blvd, Skokie, IL 60076; phone 708-679-3727 (Central Time Zone)--ask for Miriam. HARD-

SECTOR and soft-sector discs for H/28s, '89s in bulk quantities at very low prices! VERY NICE and HELPFUL PEOPLE. (Do give them a call and mention us!)

HOYLE & HOYLE SOFTWARE, 111 Sparrow Drive, Isle of Palms, SC 29451; 803-886-5802--ask for Hughes. "QUERY-III, a data base for the unskilled!" HDOS, CP/M, ZDOS, MS-DOS & peesee-DOS machines run it. Doc Hoyle's A GOOD GUY!

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

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

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

MICRONICS TECHNOLOGY, Suite 159, 54 Dalrada Road, Montgomery, AL 36109; phone 205-244-1597 voice, 205-244-0192 bbs, (Central Time Zone). Darrell C Pelan, president.

Software, hardware--especially hard drives for '89s. Catalogue & 8-bit help available. A REALLY GOOD GUY!

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

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

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

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/289s. Catalog & help; A *FANTASTIC* GOOD GUY!

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Misc. 8-bit hardware items, hardware/software support of '89/90s. "A NICE GUY and TOP-NOTCH ENGINEER!"

SEBHC JOURNAL

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The JOURNAL's CATALOGUE PAGE

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

Item	H/Z cat #	Description	Price
----	-----	-----	-----
SJ-XTRA	CP/M-80	for WH47--reformattd to either hard or soft sector 5.25" discs, \$8 (please specify)....	\$12.95
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SJ-4	173-58-1	COBOL-80 v4.0 Demo w/documents	* 9.95
SJ-5	EC-1110	Programming in Microsoft BASIC	* 19.95
SJ-6	HMS 837-1	CP/M MBASIC-80 softsector (wty)	* 19.95
SJ-7	HMS 817-1	CP/M MBASIC-80, hardsector "	* 19.95
SJ-8	173-56-1	MBASIC-80 (CP/M) demo w/manual	* 9.95
SJ-12	173-60-1	Softstuff CPS modem pgm (demo)	2.95
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SJ-16	173-201-1	MICROSTAT database wty, manual	29.95
SJ-22	173-61-1	SOFTSTUFF GENRAL LEDGER pgm	7.95
SJ-23	173-62-1	SOFTSTUFF INVENTORY pgm	7.95
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1 - Prices include shipping inside continental U.S.A. only except SJ-12 modem (add 50 cents for postage).

2 - All "Demo" software packages work EXACTLY as warrantied versions except manual pages are red over-stamped. (They're easy to read through a red cellophane overlay.)

3 - Some CP/M programs may not work on non-Heath machines, but usually can be patched with DDT (or equal) & run ok. ALL will run on H/Z-100 series machines on 8-bit side.

4 - On request we'll convert between hard- and soft-sector formats, between H/Z 5.25" and 8" formats (KAYPRO or Magnolia ss, sd 5.25" discs on special order) at \$5 each 5.25" target disc. Original distribution disc(s) will be included with converted discs.

5 - These are CLOSE-OUT PRICES; once gone, that's all folks! *
***SEE PAGE TWO FOR OUR BIG SALE!**

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

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

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

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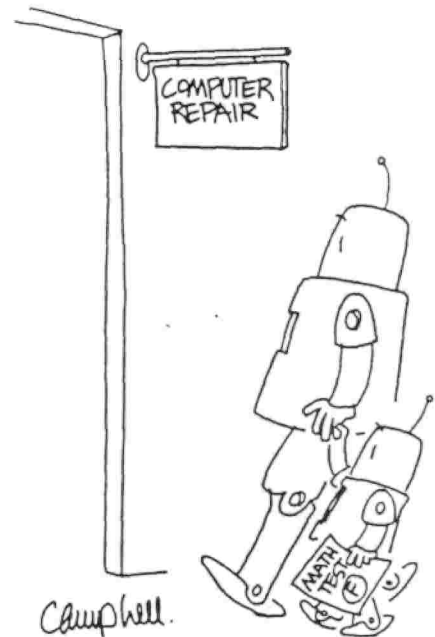
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