

Saving Our CLASSIC Heath 8-Bit Machines!

SEBHO JOURNAL

The Society of Eight Bit Heath Computerists' Monthly Newsletter

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This Edition Marks Our
FIFTH YEAR of Publication!
So Wish Us a Happy Birthday!



The READER'S MAILBOX

Dear Len,

Hope you've received my renewal by now--maybe it went faster than the last JOURNAL got to me; good ole yew-ess-shall took from June 30 to July 23 to get it here--Pony Express did better than that. I can't believe the postal employees work all that hard doing their job right, Mr Olson's comments to the contrary notwithstanding! Oh well--perhaps we are lucky to get the stuff at all....

I've been re-reading my Journal issues from the first to the latest, trying to assimilate more of the good stuff that they contain--making a few notes as I went along. Thought I'd just include them here for what they are worth; if anything. So, here goes...

o Some time back we were promised a run-down on Skycastle Computer Products' "Calligraphy"--[but] I ain't seen it! I have that program, and am having plenty of problems with it, even after a call to them trying to get some idea of how the beast works. Does anyone have it and have [they] been able to get the thing to work correctly? Sure would appreciate a thorough run-down!

o Another question which has been asked a couple times, and no answer has been forthcoming: Where, if at all, can the "UPCM" manual be obtained? I think several of us [subscribers] would be happy to find one of those.

o I assume that the "BackRest" program (hard-disc backup [utility]) is no longer in production. If so, does anyone have a copy that they'd be willing to sell? Let me know, as I'd like to obtain it.

o One more [item]; we were promised a review of Heath's SK-203 printer buffer, "real soon now" about a year ago. I've been waiting, and would probably buy one if I could get any pertinent info about the thing!

Hey, Lenny, how about a listing of current sources of Public Domain software? I don't have such information, and would sure like to try getting a couple of the latest PD programs such as HMODEM-II.

NZCOM--I have it going on both H89s but my main problem is trying to figure out how to use some of the features, such as ARUNZ, etc.. What we need (us dummies, that is) is a tutorial on such programs [or utilities] with a few examples we can try out to see if they work. Maybe then we can figure out how to write our own. I've gone over the NZCOM controversy (if it can be called such) between Rick [Swenton] and Ludo [van Hemelryck] and have really gotten a lot from their

articles. But I still have a long way to go before I'm able to say that I can use NZCOM effectively.

I finally got ZDOS up on my [CP/M] V2.2.04 machine--probably had it going before, but didn't know it [as] there's no specific sign-on that I can see. I would still be fooling around with it if I hadn't inadvertently hit a drive with no disc in it and got the ZSDOS error message! The manual fails to indicate that sign-on is [in] plain ole CP/M A>. That system may turn out to be very useful as its' TPA is the same as CP/M's but its' features are many. (I realise Ludo van H. thinks that anyone without a degree in computer engineering, complete mastery of assembly language, and twenty years' experience should be fooling with NZCOM or and ZCPR stuff. [May] I presume that he was born with a computer in one hand and a degree in the other?! Some of us are not so lucky--we must dig it out the hard way--'nuff said?)

I've finally conquered (I think) the ungodly complicated system of H/Z89 configuration, that is, disc drives, and so on. I [now] have three drives going, all soft-sector; one SS double-density internal, two double-sided DD external. Question: Everything I read shouts that only one termination resistor shall be installed [with more than two drives "daisy-chained"]. OK, I assume that's with an H89-37 board, one for the internal drive, and one for the external drive[s]? I now have one installed on the internal H17 drive, and one on the external H17-4 (96tpi) drive. My other external drive is a TEAC 48tpi drive--and it doesn't seem to have any terminating resistor pack. [But] if it does, I sure have enough terminating resistors--say at least one too many! (See "JOURNAL", III:5, pg 9.)

I've one more little item; in JOURNAL, III:9, pg 2, bottom of column one, [Tom] Rittenhouse talks about high-priced memory [expansion] boards. I can't for the life of me why any '89 owner ever put out money for Heath's 16k expansion. All one has to do is buy eight more 16k chips and piggy-back them onto the top row of [memory] chips on the CPU card. One tiny wire [linking chip-select pins] soldered from chip-to-chip and to a pin on P509 completes the job. I've been using that [scheme] for seven years now. No extra parts to use juice, and the left-hand slots are free. If anyone is interested, I have a 16k board which came in the unit I got from Pete Shkabara; you can have it CHEAP. In the same vein, why install a board to get parallel I/O? Takes up room badly needed by hard-disc interfaces, RAM boards, etc.! For about fifty bucks--plus or minus a buck or two--you can get an out-board serial to parallel converter which does the job, no problems! I must disagree with Tom Rittenhouse on needing a combo 2-port serial, 1-port parallel (H89-11) I/O card. I'm sure the converter would be less money. (Pete gets credit for this one.) Or, if we get to making PD hardware, a converter would surely be easier to fabricate than an I/O card.

Someone a while back wanted instructions for the no-longer-available Software ToolWorks "MYCHESS" program. Just happen to have a copy, and, for copy and postage costs, I'll be happy to send a copy to anyone asking for it.



More READER'S MAILBOX

One last item: Rick, whatever happened to your X10 CP290 software? Sure would be interested in getting a copy of it!

STANFORD R (BOB) EVANS, 44115 Palm Avenue, Hemet, CA 92344

[Hey there Bob! Glad you wrote! We exercised our editor's prerogative and put part of your letter into our "Ask Rick" column so that he could directly address your questions. But about your three drives and terminating resistors on a WH89-37 card, that's easy. Either of the card's two 34-pin header connectors expects to see a 150-ohm pull-up resistor on the address and data lines when drives are connected to them. If both an internal drive and one or two external drives are connected to the two headers, the LAST drive at the external drive line end must have the pull-up resistor pack installed. These resistors are required because squared-wave signals on these lines reflect from the ends if there are no resistors there to "damp" or absorb them, else disc I/O card and drives can go into virtually-instant burnout mode! Some Tokyo Electro-Acoustical Company (TEAC--pronounced just like teak wood) drives come with seven little green shorting jumpers which put a 7-pin dip resistor block in circuit. Others have only a dip resistor block plugged into a dip socket. If your 40trk unit has an empty dip socket near the circuit-board's drive-selector programming area, or there are less than seven shorting jumpers, you're ok. Otherwise you may have 75 ohms pull-up on line, and you know what that means! But if card or drives are working ok and you don't get BDOS errors, your computer may be all ok. But check it out anyway. Now about your mem-chip piggyback technique: That's been around for a long time--saw it in REMark "way back when". But there's NO power saving because the memory expansion has the same number of RAM chips on it as your method uses. But it DOES save money and space, provided you don't fry any chips while soldering them together. Bob, we use good old Calligraphy-II here all the time. We did have a few problems at first, but after CAREFULLY Reading The Instructions, everything slowly came into focus. We suggest you try reading them too! You might like to know that our editorial assistant (A Stapher) is now writing a "how-2" article on using it, and we think it'll be in our September or October issue. Incidentally, we've been having trouble with our Nippon Electric Company (NEC) P2200 printer and have been transferring JOURNAL text and graphics files to our H120 for printout without trouble. Since everything's in CP/M text format, there's no conflict between Heather's CP/M80 discs and H-looie's CP/M-85 op sys. (H-looie is our name for our H120; thus far he seems to like it....) Thanks for writing and do keep in touch! -- ed]

Dear Leonard,

Ok, I'll bite and purchase one of the "Programming in Cobol" packages (SJ-3, 173-66-1). I already have the COBOL compiler, so I might as well learn how to use COBOL.

Do you know of anyone selling the "Programming in Assembly Language" course? I borrowed one from a friend a long time

ago, but he moved, and I moved...etc..

Hope you are enjoying your summer. Keep up the good work.

JIM MINSTERL, 8637 Woodview Drive, Springfield, VA 22153

[Oy! Jim, you should have gotten your COBOL material by now and be well into it. Please send us a copy of anything you write in this venerable language--somebody else might like to see what it does! Incidentally, we have only one copy of the "Programming in COBOL" course left. Once that's gone, th-th-tha-That's All, Folks! But we do have four or 5 demo copies of the COBOL compiler left, if anyone's interested.... And there are at least a half-dozen sets of "Programming in MBASIC" left, plus twice that number of MBASIC V5.2 demos at hand. But we didn't latch onto "Programming in Assembly", and don't know if there's anyone "out there" who still has it for sale. But we'll keep on trying.... -- ed]

Dear Len,

Thanks for your phone call yesterday afternoon [28-Apr-90; this letter should have been printed in our June edition! -- ed] I've enclosed a half-dozen H100 (KO -100) overlays at no charge for you to play with. As you mentioned, there isn't much room along the top of the keyboard, but I was still able to squeeze something in, as you can see.

We discussed the "FlipFast" guides by William Adney. Last August I wrote to S-A Design to see if they still had stock of those for CP/M-80/85 and the somewhat older "How to Use: Zenith/Heath Computers" by Hal Glatzer, but they were out! But you might ask if they have anything left of those for Z-DOS and MS-DOS. Their address is: S-A Design, 515 W Lambert Bldg E, Brea, CA 92621-3991. It IS possible that these [guides] were specifically prepared for Sextant, but I doubt it. The back of their guide for CP/M-80/85 lists books for CP/M on the Kaypro, C language, dBASE-II, and Condor.

Finally, I dug out my documentation for SuperCalc to check for the original manufacturer. This was SORCIM Corp., 405 Aldo Ave, Santa Clara, CA 95050. But the copyright notice on the quick reference is 1981, and--if memory serves--I think rights on the package were sold to another outfit (but NOT Microsoft) which developed a version for pc-compatibles. Almost any public library references could identify the latter company.

I ran into a bug in dBASE-II which I'd bought last summer and I discovered that Ashton-Tate had moved after they'd printed the manual for the version I have. A little hunting at my local library uncovered their new address. At least my second letter [to them] hasn't come back, but I also haven't received a reply. And I certainly wouldn't presume that SuperCalc is public domain, just because Microsoft (which didn't manufacture it) knows nothing about it!

KIRK L THOMPSON, Editor, The Staunch 8/89er, P O Box 548, West Branch, IA 52358

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Still More READER'S MAILBOX

[Yo, Kirk! Sorry to have lost this letter in our slush pile! But it was too good to let it languish, so here 'tis. We put one of those overlays on our H120 and it fits Really Peachy Keen. Now my 2nd daughter can't whine about how she doesn't know which special-function key to hit when running our Lotus 1-2-3 tutorial on that machine, because I wrote their titles into the overlay's little boxes. Thanks for the samples, and thanks too for the Flip-Fast guide information. I'm going to get in touch with all those folks Real Soon Now.... And good luck with Ashton-Tate! -- ed]

Dear Len,

Enclosed please find a copy of Ultimate Driver. Note the date I purchased it, six months before the big meltdown on Wall Street. Worked at it that long, trying to install it, and [finally] gave up. It sounds like a great program--think it can work on the new operating system of mine?

Sure hope you give it a try; the program sounds great, but it seems to require assembly code and hardware modification--ugh! I sure wish I had a way to communicate with my printer when using WordStar. With SuperCalc I can choose regular print, or punch in a CTRL-O and I get condensed print.

I like the new system you set up for me, but the machine is noisy and rattles like a runaway train. The fan really keeps everyone awake. But I'm glad to be able to use my machine [again] after three months.

What is the WordStar KeyPatch program advertised in the Journal (IV:4)? Also Text Processor?

Does anyone have a later version of SuperCalc, and--if so, what enhancements have been made?

OSCAR YOHA1, 83 Captain's Row, RFD Buzzard's Bay, MA 02532

[Oscar, your letter should have made our June edition, but it got lost in the slush pile as did Kurt's above! We'd better let everyone know that you now have an entirely different machine with a whisper-quiet fan. We sent this one because the '89 you had returned for repairs was in such Very Curiously Bad Condition! But you shouldn't be having such a bad time with this one; we had it on the bench running an HDOS drive-testing program continuously for 72 hours without any problems whatever. Now about patching your Ultimate Driver software; we had a copy of the same program and couldn't get it to work properly on our own '89. In our case, there wasn't enough room in the D-G Electronics' Super89 BIOS for the UV.DVD code to fit in! The WS KEYPATCH utility lets you re-assign WordStar codes to the '89's special function keys so that you don't have to insert them when working with WS. Some people like it, others bought it and we've not heard from them since! TeXt PRoCessor is a very neat "what-you-see-is-what-you-get" text editor. It has a nifty HELP file which you may call at any time while in TXTPRO, page through it until you find the function you need, then hit the ERASE function key and pick up where you left off. We use both the HDOS and CP/M versions although we have MAGIC WAND, WordStar,

and MIXTED. We think TXTPRO's GREAT! Its' only drawback--according to some users--is that it doesn't automatically attach line numbers to text. But why not write a file, then let PIP number the lines when you're done? That's much easier and perhaps less error-prone. Good '89 Luck! -- ed]

Dear Len,

Thanks for shipping the COBOL compiler and continuing-ed. package so promptly. I've begun digging my way through the course and found it somewhat disappointing. But it appears to be the first home-study course on computer programming that Heath put together, dating as it does to 1977! COBOL has a lot of features not covered in the course and it also has a distinct main-frame flavour, probably to be expected, given its' age. But the course should still provide the fundamentals, although one topic definitely missing is how to key data into a program from the keyboard. [Wonder if one might study that COBOL listing in our June issue for that technique? -- ed]

Once I finish it, I plan to move on to H. W. Bauman's 15-part tutorial in REMark magazine (it ran between Oct-83 & Apr-86). That series has the advantage of dealing directly with the Microsoft compiler you provide, and should supply a lot of "hands-on" experience in the language, and compiler/linker usage. Unfortunately, it too doesn't appear to cover data entry, although it does a lot with reading and writing data files (COBOL's strong points). So I plan to hunt for a suitable book. Once I locate one, I'll pass along the reference.

Finally, when I set up the compiler and linker and used them for the first time last night, I stumbled across a quirk your readers should know about. The package includes a CRT driver for the H/219/89 terminal (CDWH19.REL) and this should be copied to the disc containing the linker (L80) and runtime library (COBLIB.REL) as CRTDRV.REL. The driver will be automatically linked into programs. Further, one of the demo's programs provided with the COBOL package is CRTEST for checking out the terminal. Keys expected by the latter are not the "conventional" ones we've come to expect for on-screen editing! CRTEST simply beeps at you when you press keypad keys, whether [they're] shifted or un-shifted.

The table of EXPECTED keys is near the beginning of the assembly-language file--CDWH19.MAC, in a section titled "Keyboard Code Definitions". New users should print [out] this table for their reference. Of course the driver could be modified to bring up the keypad [if desired].

Again, thanks for offering and shipping the COBOL package. I'm sure knowledge of this language will assist me at work. And I suspect COBOL programmers will continue to be in demand as long as IBM continues to manufacture mainframe computers!

KIRK L THOMPSON, Editor, The Staunch 8/89er, P O Box 548, West Branch, IA 52358

[Wall, sheekins Kirk! Glad tew be of servus t'yall! (That's my "Gabby Hayes" speech mode...) Our daughter-in-law has our

More READER'S MAILBOX

"spare" Z90, the COBOL course, and COBOL-80 demo package. She's been trying quite hard to understand the course, but I didn't know that it was so obscure and difficult. Better get it back from her right away and help her work with SuperCalc instead! That's closer to the Lotus 1-2-3 software she had been using at her old job (before falling downstairs at work and ruining one knee--required surgery and p-r-o-t-r-a-c-t-ed therapy!). Maybe she could use SuperCalc on her family budget? In any case, please keep us informed! -- ed]

Hi, Lenny,

Your H47 CP/M problems are typical and understandable. There are a few things to consider, and perhaps more importantly, to understand.

Two things are needed to get a bootable CP/M disc on a Heath system. First, the disc's boot tracks need to have a CP/M system on them. This is sometimes called a "SYSGENed" disc. In a Heath system the boot tracks consist of the bootstrap loader, two major parts of CP/M (the CCP and BDOS) and a BIOS loader. In standard--non-Heath systems--the real BIOS would be last, instead of the BIOS loader.

The bootstrap loader is a simple program which is barely smart enough to load the boot tracks into memory. An important item to understand here is that the bootstrap loader is DEVICE DEPENDENT--that is, it is hard-coded with the hardware addresses of a particular disc controller board. On a distribution disc, say an 8-inch H47 disc, the bootstrap loader has addresses to do I/O with the H47 controller. On an H17 hard-sector distribution disc the bootstrap loader has addresses to do I/O with the H17 controller board.

The SYSGEN utility is used to copy boot tracks from one disc to another, or from memory to disc. Let's say you have a running system with 8-inch H47 and 5-1/4" H17 discs. Let's also assume that you boot from the 8-inch drive. Now you want to make an H17 disc into a bootable disc using SYSGEN. If you use SYSGEN to copy the 8-inch disc's boot tracks onto the 5-1/4" disc you will NOT create a bootable disc. This is because you copied an H47 bootstrap loader onto an H17 disc. If you try to boot the H17 disc it will seem to start booting momentarily, then suddenly activity will shift over to the H47 drive, looking to load the rest of CP/M.

The way to create a bootable H17 disc on the H47 system is to first start with MOVCPM17. This utility has a complete, re-locatable system inside. When you run MOVCPM17, the image of a complete H17 bootable system remains in memory. As long as you immediately run SYSGEN following MOVCPM17, you can transfer the complete system memory image onto the H17 disc's boot tracks. But, if you run another program in between MOVCPM and SYSGEN, that program will clobber the system image and SYSGEN transfers only junk to the boot tracks. Note: The MOVCPMnn programs also contain their respective H17, H37, H47, and H67 BIOS loaders, in addition to the corresponding bootstrap loaders.

In general, no matter what you started with, if you type MOVCPMnn (nn is the disc type--17, 37, or 47) and immediately

run SYSGEN (be careful to NOT specify a source disc--else you won't transfer the memory system image) you will create a bootable disc--almost!

There is that problem of BIOS.SYS. Like the bootstrap loader, BIOS.SYS is hardware dependent. Heath had four major disc systems, H17, H37, H47, and H67, but only two could be active within the BIOS simultaneously. This is why Heath created the infamous MAKEBIOS procedure. Using MAKEBIOS you can create a new BIOS.SYS with any two disc drivers you choose. So, when I said that you will create a bootable disc--almost, it means that the disc will boot if its' BIOS.SYS also supports the system's hardware that the disc is trying to boot from. In other words, if you perform a MOVCPM17 followed by SYSGEN, but the current BIOS.SYS doesn't support H17 drives, so the new H17 disc will NOT boot.

Unfortunately MAKEBIOS doesn't have helpful error messages so a MAKEBIOS failure can be caused by almost anything. The most common failure cause is insufficient disc space to hold all files, including the temporary ones which are later automatically erased.

I'm taking a best guess to say that if you are running MAKEBIOS on one disc you will need at least 40k free [or more] on it. There are two temporary HEX files of 16k each, and the new BIOS.SYS taking up as much as 8k. You could need even more. That's why the manual tells you how to run MAKEBIOS on two or three drives!

It's really not that bad, but then again, I am biased because I understand it. Too bad we weren't talking about MSDOS--I could be getting a consulting fee! But that'd take all the fun out of it, huh?!

RICK SWENTON

[Yeah, Rick, I've run up lots of computer time trying to get MAKEBIOS to work! But when you do everything precisely "by the book" and it still bombs, life becomes quite tedious! Ross Towbin--a former A*SQR*HUG member--submitted a "how-2" article on MAKEBIOS which we printed some time back. His article tells how to run the program without using MAKEBIOS.-SUB. His technique works just fine for me with CP/M 2.2.03 or '.04, but it still bombs out when you're running an H47 drive on a Z90 or H89! And there's the rub. Well, more in our next edition.... Thanks for the help! -- ed]

Dear Len,

I shall greatly appreciate it if you will let your readers know that our new 7/90 QUIKDATA COMPUTER SERVICES catalogue has been prepared and mailed out. If any of your readers are not on my mailing list, they can phone or write me and request a free, no-obligation catalogue. There's a hefty section on the H/Z89--both hardware, and software. [It's] a collection of some pretty good stuff, continuing our tradition of supporting the H/Z 8-bit machines. If they also request our liquidation list we'll gladly send that too. It lists some 8-bit stuff we're liquidating at good prices. Or

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they can call our Bulletin Board at 414-452-4345 and download the liquidation list.

HENRY E FALE, QUIKDATA COMPUTER SERVICES, Inc., 2618 Penn Circle, Sheboygan, WI 53081; 414-452-4172, 9am to 4pm CDT, Monday thru Friday only.

[OK, Henry, there's your letter, out in the open for all to see! You might like to know that "Doc" Kaiser--who'd written us last month about needing some H/289s--dropped by our "computer shack" and relieved us of all that his Edsel could hold! He wanted ONLY hard-sector systems so we're now swamped with 289-37 driver cards, their funny CPU jumper cables, and a few internal drive 34-conductor cables. (Sigh!) Unfortunately we didn't have enough MTR-89 ROMs to go around, so most of those machines he bought have the latest MTR-90 ROM installed. Now if anyone buys one of these 289-37 soft-sector driver cards, you have assured me that QUIKDATA has complete MTR-90 ROM chips in stock and for sale at reasonable prices. -- ed]

Dear Lenny,

It's been some time now since I last wrote the JOURNAL. I'm on one of the ships that's been standing off the coast of Liberia "in case we're needed". Hope you haven't been "TDY-ed" to help with that stinking mess around Eee-rock! -- ed]

Just received JOURNAL IV:10 (May '90). You have probably already received a response to your problem of running MBASIC V5.21 (CP/M) on a Z100 (non-peesee) computer. [But] the answer answer can be found in the JOURNAL, Volume III:1, page 3. I tried that patch about a year ago and MBASIC works fine on my Z120. [NOW you tell me! -- ed]

[But back to] Vol IV:10, page 5; you stated that you have a parallel port on your H8-37 card in your H8 computer. Really?! I haven't seen any evidence of it in the schematic. Are you sure you're not referring to an H8-47 card (I don't have one of those)? [This H8-37 card I bought from QUIKDATA some time back and it does have a parallel I/O connector installed. You're also correct about some H8-47 cards; they do have a parallel I/O port. -- ed]

And you mentioned in a previous reply to one of my letters that you would send me some information on a hard-disc interface card that you had plans for on the H8. I haven't gotten that--or the missing pages (9 thru end) of JOURNAL III:2. I realise you're pretty busy and it probably slipped through the cracks, [but] could you please send me a copy of these two items?

On an off-the-wall subject: If you should ever hear of a "good deal" on a Winchester controller setup for the Z120, please let me know. I successfully got a Winchester drive hooked up to this Z120 at work, and would like to do the same at home.

DSCS(SW) GARY S MELANDER, CPO Mess, USS Saipan (LHA-2), FPO New York, NY 09549-1605

[Like Wow! Long time no hear from you, Gary! About those "slipped through the cracks" items: I have two H/289/90 hard-disc interface cards which probably are for the incredibly-slow CORVUS hard disc system. No circuit diagrams or anything. I foggily recollect Henry Fale (QUIKDATA) telling me that the extra port on my H8-37 card may POSSIBLY be used for hard-disc-drive interfacing, BUT I'm not absolutely positive that's what he said! I did have grandiose plans of wire-wrapping an S50 buss HD card for the H8, but gave it up; don't want to burn out Hachibanko-san! I may eventually try running an old CORVUS 5-Mbit clunker I have on the "spare" Z90, but only when there's time to do it. It has run ok on Heather (my D-G Super89 CPUed machine) but occupies MUCH work-station space. And your replacement JOURNAL copy is "in the mail".... Do keep in touch. And all you other readers, be quick about it and let Gary know that we're all in this mess together! He NEEDS our moral support. -- ed]

This item copied from the Ann Arbor News, Thursday, August 9, 1990, TECH THURSDAY (Connection Plus) page:

"Old workhorses of the computer world still good buys

"The next six months of personal computing figure to be a classic marketing brawl, with IBM, Tandy and Apple slugging it out for the affections of the four out of five American homes that still don't have a PC.

"IBM began the donnybrook with its' PS-1, a system aimed at the home, in the retail range of \$1,000-\$2,000. Tandy has an imminent product announcement. And Apple, according to the trade press, is planning a fall release of a low-end color Macintosh for around \$1,500.

"But suppose you still think \$500 is a lot of money, let alone \$1,000, which is your absolute limit? You can still get computing--and a lot of work done--from any one of three workhorses from personal computing's earlier days.

"Take the Commodore 64, sort of the fast-food of computing, with its' very name recalling the days when 64,000 characters of memory was a lot. A mail-order house advertises a 64C color package for \$449 that includes the computer, a disc drive, a color printer and a color monitor. There are thousands of programs available for the Commodore 64, and new ones still hit the market.

"Or try an Apple][c--except don't get it from Apple. Get the Laser, which is a compatible. Advertised mail-order prices for the Laser: \$785 for the basic computer with built-in disc drive and 128,000 characters of memory, a 14-inch color monitor and a printer. The same system minus the printer is around \$550. [But] Apple software is ubiquitous, particularly in the area of education and games.

"And don't forget the low end of the MS-DOS world, IBM PC XT clones. The mail-order price for an Epson Equity 1 Plus, with 640,000 character memory and single floppy drive is \$649. A Blue Chip XT-compatible with a 20-million character hard disc, two floppy drives, monochrome [GO TO PAGE 8]

This Month's "ASK RICK" Column

Conducted by
Associate Editor N.E. Rick Swenton
106 Melinda Lane, Bristol, CT 06010-7176

Hi Rick,

Hope you are having a cooler summer than we have been subjected to here in Southern California. It's about the worst for heat and humidity combined that we've had since I've been here in Hemet. Guess I'll survive....

I've finally gotten a system of disc drives to work properly for me [because] I've learned something about Heath's I/O system and configuration thereof. The only question I now have is whether I have too many termination resistors in the circuits or not. There's one in the old H17-1 which I'm using as an internal soft-sector drive connected to [disc I/O card] P3. The two double-sided drives are outboard, with the 40-track being first. The final drive is a 90-tpi MPI, and it has a [terminating] resistor [pack]. [All] the info I can find seems to indicate only one per system, but is it connected to the complete '89-37 board, or to each of the two outputs (P3 and P4)? Everything [now] seems to work OK, but I understand that having one [resistor pack] in the wrong place could cause problems.

I have the QuikStor board in lieu of the old Heath I/O board and the cable run out to the Xebec controller mounted in the same drive cabinet as the 2 outboard floppies. Don't know for sure what I am going to use for a [hard] drive. Would like to have a 30-Meg but it costs MONEY. I'm also in a dither as [to] whether I can use Lee Hart's SuperSet with the QuikStor system. There seems to be conflicting info on that item--see Terry Hart in the Staunch 8/89er of Apr/Jun '88, and again in Oct/Dec '88, and your column in SEBHC JOURNAL III:4, pg 12. Maybe I'm trying to read something into this that isn't there. I know Lee says in an earlier info letter on his system that the answer is NO. What IS the latest?

I have ZSDOS running! Probably had it earlier and didn't realise it, as there doesn't seem to be any specific sign-on, it just comes up as 'A>'. At least I THINK I have it! When I do a baddie, such as calling a drive with no disc, I get a ZSDOS error message. Now to see how it goes with NZCOM and a few specific programs. I'd like to be proficient enough with it to be able to take advantage of some of its' features.

Rick, you can probably tell me where the best source of Z-system info is--I mean the bundle of programs available for down-loading, etc.. I haven't been able to contact anyone from the list that Jay Sage gave out with the copy of NZCOM I bought from him. Seems that several of them have jumped ship to the Bleu Beast of Boca Raton. Guess I should drop him a line and see if I can get a new list, [one that's] a bit more up to date. I did get about four discs (8", ssd) full of Z info, but most were PD program help docs, etc., not the programs themselves.

Hi, Bob,

Your configuration of H37 drives seems correct. You do need two terminating resistor packs. P3 and P4 on the H37 board have their own respective output drivers, therefore there should be only one terminating resistor pack on EACH output.

Your comments on Superset and Quikstor seem unclear to me. When Lee Hart said, "No", was he saying, "No, the Superset will not work with Quikstor", or, "No, there are no problems with Superset and Quikstor"? [Hey, Lee! How about clearing this one up? -- ed]

I've been using Superset and Quikstor on both my H8 and H-89 for years. I did have some problems, but I can't remember --it was so long ago! I remember that my problems were possibly with Quikstor and the H29 terminal. Quikstor does some fancy things with auto-baud-rate detection for the terminal. The H29 terminal was not truly H19-compatible, and Quikstor didn't properly set the terminal baud rate. I found the location to disable the auto-baud-rate detection and it seemed to fix my problem. I don't know why it was needed in the first place anyway. If the terminal starts itself at a certain baud rate and the BIOS is CONFIGURED for the same baud rate, you would expect things to work as they do under the regular systems.

Quikstor's primary requirement is the terminal's ability to use ANSI escape sequences. Superset is compatible in this respect. I'm also unsure of Quikstor's ability to properly initialise with a 38,400k-baud rate. My patches should have fixed this if it was a problem.

I applied this patch to the SASIX.COM utility (also needed it with the Watzman ROM):

Address (HEX)	Existing Data (HEX)	New Data
313	D3	00
314	EB	00
31F	D3	00
320	EB	00

This was for SASIX.COM which signs on as V5504.2222.

I know what you mean about many of the former Z-System experts bailing out for the peesee world. I admit that I now own two peesee clones and I do use them regularly. But the Z80 is still my hobby, and I greatly enjoy using my Z80 system.

There is a Z-System Software Update Service. For a yearly fee you can subscribe to the service which periodically mails you a disc. Our local CP/M club has this service available. The club subscribes to the service and members can access the discs at meetings, or request copies for a small fee. Contact Jay Sage on his BBS--617-965-7259, or voice at 617-965-3552 for price and ordering information. To be honest, I can't remember the price but I think it may have been about \$24/year.

Let me know if you need further Quikstor/Superset help....

BOB EVANS, Hemet, CA

RICK SWENTON

UNCLASSIFIED ADS and ODD BITS--NO PARITY CHECK

=====

ANCE SALE... CLEARANCE SALE... CLEARANCE SALE... CLEARA

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HELP! We're SWAMPED! We have so many H/Z89s and '90s on hand that we've run out of storage space for them! These are all NEWLY REFURBISHED and each one has been thoroughly wrung out for 72 non-stop hours of bench testing. Not ONE has gone bad! Note: These units were hardly ever used as computers, but rather as highly intelligent terminals connected to a VAX main frame. They do have a few random-but-easily-fixed surface blemishes which in NO way affects their operation. AND THEY'RE ALL WORKING! Here's a representative list of what's still available:

Item	Description	Price
#1	-Z90A w/64k RAM, sssd 40trk internal drive, 3-port serial I/O card.....	\$150
#2	-Z89A w/64k RAM, sssd 40trk internal drive, 3-port serial I/O card.....	\$135
#3	-H89 w/64k RAM, sssd 40trk internal drive, 3-port serial I/O card.....	\$125
#4	-H89 w/48k RAM, sssd 40trk internal drive, 2-port serial I/O card.....	\$100
#5	-H/Z-37/77 external drive accessory. Has two ds, 90-track drives, and may be used for either hard or soft-sector service. Cleaned, adjusted and tested good.....	\$ 90
#6	-H/Z89A Working Terminal Logic Board (TLB), can use as-is for replacement, or parts salvage....	\$ 45
#7	-H/Z89A Working Central Processing Board (CPU) & 48k RAM; use as-is for replacement or parts....	\$ 55
#8	-H/Z-37 Working soft-sector disc I/O card with jumper cables & resistor, no MTR-90 ROM chip...	\$100
#9	-H/Z89/90 Working 3-port serial I/O card w/back panel cables & DB25 jacks.....	\$ 35
#10	-H/Z89/90 Working 2-port serial I/O card w/back panel cables & DB25 jacks.....	\$ 25
#11	-Replacement keyboard for any H/Z89/90 computer, cleaned, adjusted and life-tested.....	\$ 70

Payment by Money Order or Cheque payable only to L E Geisler. Call Lenny at the SEBHC JOURNAL 313-662-0750 9am - 5pm M-F if you have any questions. Profits--if any--will help keep the SEBHC JOURNAL alive and well for another year (we hope)!

=====

Continued from page 6--

"monitor and a dot-matrix printer goes for \$899. You'll have to do some shopping and comparing of mail-order ads, and shipping and handling are most often extra.

"Those absolutely determined to compute--and willing to accept limits--should check out the Colour Computer 3 from Tandy, listed in the 1990 catalogue at \$199.95, available at mail order for \$115. The CoCo 3 can be hooked up to a colour TV for programming in BASIC or playing one of the game-packs available from Radio Shack stores at about \$30 a pop. You can add a direct-connect modem pack for \$89.95, which is pretty stiff for a 300-word-a-minute modem, and still get something that would allow you to access on-line services for an initial investment of slightly more than \$200. The catch is that upgrading the CoCo gets expensive fast, with a disc drive at almost \$300 and a colour monitor the same. And when you're done, you still have a less-than-common PC, so consider the CoCo only if you want to stick a very tentative toe into computing's waters." -- Larry Blasko, c/o CompuBug, P.O. Box 626, Summit, NJ 07901. "Questions and comments of general interest are welcome at the same address."

[Editor's note: Author Larry Blasko apparently seems to be ignorant of the fact that there are hundreds of thousands of "previously owned" computers around which can be had for the proverbial song! And if you really want to stick a "very tentative toe" into computing's waters" buying one of our venerable grey boxes gets you into computing much cheaper than buying a new "compatible" baby which you'll eventually throw out with the bath water! Readers, please write to Mr Blasko and tell him about our machines and your own SEBHC JOURNAL. He needs to be led around into seeing the light!]

=====

MOVING? DID YOU MOVE AND DON'T GET THE JOURNAL? READ ON!...

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A Message From The Publisher:

We're getting tired of paying out return postage on copies of the SEBHC JOURNAL which the Post Office brings back to us plastered over with yellow stickers saying, "Moved, Left No Forwarding Address", "Addressee Unknown" or something else just as alarming. And ALWAYS a "Postage Due" notice on it!

That's just plain dumb! We can forgive a subscriber's unexpectedly dropping dead, or not renewing for some inexplicable reason, but THAT'S ALL! Henceforth, if you're going to move, please be kind enough to send us and the Post Office a change-of-address card, else you can expect to kiss your subscription a reluctant farewell. Do you read us?!

=====

TWO BASIC PRINTER UTILITIES

Make Your Line Printer Behave!
by L E Geisler
Editor, The SEBHC JOURNAL

One of the frustrations of using a dot-matrix printer is finally learning how to make it do everything you want it to EVERY TIME, and then see it wear out. Another is not finding a replacement printer which works nearly--or exactly--like the old one, and at an affordable price.

This happened with Max, our venerable Grafrax-plus equipped Epson MX-80 9-pin printer. Rather than going printerless and spend lots of cash to have Max repaired, we elected to buy another Epson printer, the LQ-800. The salesman told us with a perfectly straight face (how else?) that the LQ-800 worked EXACTLY like the MX-80, "except that it has a few more control code sequences" and that it was "plug-compatible" with the MX-80. Also, it has a jack for plugging in any of a number of "personality modules"....

To be quite fair, we found that all our old MX-80 printer

code sequences we sent to the new printer did work identically. And we were Absolutely Delighted by its' Near Letter Quality output which we're told rivals all but the Most Expensive laser printers'. So we then tried out a number of the new sequences, such as proportional spacing, Elite and Pica type sizes, changing to foreign type fonts, and so on. Many of the examples in the instruction manual worked just fine with Benton-Harbor BASIC and HDOS MBASIC. But others simply refused to work with any Heath 8-bit basic dialect (HDOS, CP/M, whatever)! (Some DID work ok with the H120 with both CP/M-85 and ZBASIC (MS-DOS compatible).)

Further compounding our misery, we then succumbed to a different salesman's blandishments and bought a Nippon Denki P2200, 24-pin dot-matrix printer which again we were told was "completely plug-compatible with the Epson MX-80 with Grafrax Plus", a-n-d it also accepts "personality modules". (Wonder why these guys all have crooked smiles, but straight teeth?) This NEC machine had a few bells and whistles which we believed more than made up for its' odd and skimpy ribbon cartridge; it prints double and TRIPLE width, and DOUBLE HEIGHT in ANY font! Sure enough, when we tried out all the various instruction manual examples, the printer worked ok with most of them most of the time under HDOS and CP/M BASICS. To offset the absurdly-high cost of those special ribbons we bought a MacInker setup. This cost about the same as ten list-priced cartridges, but it was a once-only deal. That's another story we'll relate another day...

Fortunately, both these printers accept and hold command sequences sent from any Heath-runnable BASIC program (including Z-BASIC). So we wrote a couple '.BAS utility programs which change the printer's power-up default setting to anything we need for a specific purpose. There are one or

two machine-language menu-type utilities which do the same, but we've never had time to modify them extensively--although we intend to Real Soon Now!

Here are two listings of BASIC utilities for changing from whatever type or font to standard NLQ type, Pica width. The first will run under HDOS B. H. BASIC from the MBASIC listing below with the indicated changes. The second will run under both CP/M-80 (on 89s and 90s) and 85 MBASIC and ZDOS or MS-DOS MBASIC on H/Z100 series machines. NOTE: For HDOS users, remember to LOAD LP: before running the program!

LISTING ONE

```
10 REM SETPICA.BAS MBASIC V4.82 (HDOS) 4-JUL-90
20 PRINT CHR$(27)CHR$(69):REM Clears screen of clutter
30 OPEN "O",1,"LP:":REM FOR MBASIC
   (For B-H BASIC replace line 30 with OPEN FILE #1 FOR WRITE)
40 PRINT #1, CHR$(27);CHR$(77)
50 PRINT TAB(24)"SETTING LQ-800 FOR PICA TYPE WIDTH"
60 PRINT #1, CHR$(27);CHR$(69);TAB(11)"This is Pica Type Width:

70 PRINT #1,"0123456789012345678901234567890123456789"
80 PRINT #1,"|<-----40 CHARACTERS WIDE----->|"
90 PRINT #1,:REM Advance to next label ready for Query!2
100 PRINT:PRINT:PRINT TAB(38)"DONE!"
110 CLOSE:END:REM FOR MBASIC
   (For B-H BASIC replace line 110 with CLOSE #1:END)
```

LISTING TWO

```
10 REM SETPICA.BAS MBASIC V5.1 & 5.2 (CP/M-80, 85) 4-JUL-90
20 PRINT CHR$(27);"E":REM Clears screen of clutter
30 LPRINT CHR$(27);CHR$(77)
40 PRINT TAB(24)"SETTING LQ-800 FOR PICA WIDTH"
50 LPRINT CHR$(27);CHR$(69); TAB(11)"This is Pica Type Width"
60 LPRINT "0123456789012345678901234567890123456789"
70 LPRINT "|<-----40 CHARACTERS WIDE----->|"
80 LPRINT:REM Advance to next label ready for Query!3
90 PRINT:PRINT:PRINT:PRINT TAB(38)"DONE!"
100 CLOSE:END
```

We hope you'll try the appropriate listing above (modify it if required) with your own dot-matrix printer and report back to the JOURNAL on how it worked for you and what you did to make it work better, differently, or whatever. And, if you come up with a menu-type BASIC "set lp:" program, send it in! We will try it out and publish it--if it works properly. Note that it's our regular practice to extend the author's (your) subscription for another year as payment for submitted and published articles. (Hint: Lee Hart--once a most prolific SEBHC JOURNAL author--has what amounts to a life-time JOURNAL subscription....)

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 cassette & final (college-acceptable credits) examination.

Item	H/Z cat #	Description	Price
SJ-XTRA	CP/M-80 for WH47, re-formatted onto either hard or soft sector 5.25" discs (please specify)		29.95
SJ-1	EC-1101	Programming in FORTRAN	* 39.95
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SJ-3	173-66-1	Programming in COBOL	* 29.95
SJ-4	173-58-1	COBOL-80 v4.0 Demo w/documents	* 29.95
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SJ-7	HMS 817-1	CP/M MBASIC-80, hardsector "	* 39.95
SJ-8	173-56-1	MBASIC-80 (CP/M) demo w/manual	* 29.95
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SJ-27	SF9110	MYCHESS w/wty, manual (1 only)	19.95

- 1 - Prices include shipping inside continental U.S.A. only.
- 2 - We WILL NOT accept opened returns.
- 3 - All "Demo" software packages work EXACTLY as warrantied versions except manual pages are red over-stamped. (They're easy to read through red cellophane.)
- 4 - Some CP/M programs may not work on non-Heath machines, but usually can be patched with DDT (or equal) to run ok.
- 5 - If requested we'll convert between hard- and soft-sector formats, between H/Z 5.25" and 8" formats (KAYPRO 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. (Caveat: Some Heath Terminal escape codes aren't Kaypro 8-bit-machine compatible.)

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

NOTE: "*" 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 software runs on Z100 under CP/M-85!)

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SEBHC JOURNAL

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Our "MAIL BOX" feature has been provided as an open forum for the free exchange of H/Z 8-bit computer information between all subscribers and readers of the SEBHC JOURNAL. We ask all correspondants to keep their letters reasonably concise and preferably around 250 words maximum length (about six screens, 24 lines on screen of ASCII text). The JOURNAL shall exercise its' right to condense letters exceeding this recommended maximum unless that might destroy their intent or meaning. In such cases we shall contact the writer.

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

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The SEBHC JOURNAL's Back Page



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* The SEBHC JOURNAL is published once a month and strives to be mailed by the 20th of a month. Editorial copy deadline is the 10th of every month (weather & holidays permitting).

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* All advertising is printed Free Of Charge. Vendors: Please do submit your B&W "camera-ready" ad copy, 7" x 9" (1 page to an issue) no later than the 10th of month in which it's scheduled to appear. All Society members can run one new free 250-word (maximum) Unclassified Want Ad every month.

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

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