Saving Our CLASSIC Heath 8-Bit Machines!

SEHAC JOURNAL

The Society of Eight Bit Heath Computerists’ Monthly Newsletter

Volume V, Number 11 $2.50 a copy, $24.00 a year June, 1991

Subscription & Software Order Blank on Inside of Last Page

Heath / Zenith H89 Computer $1895

Hard to believe... but we found a stash of brand new Zenith/Heath Kit Model H89 computers. These eight bit machines feature the Zilog Z-80 CPU and operate under Digital Research’s CP/M operating system. The computer incorporates a 12 inch green screen monitor, three serial ports (one RS/232 two TTL levels) and one 5 1/4” disk drive. Zenith’s original price was $1895. California Digital has 200 computers in inventory and available for immediate delivery.

LEADING EDGE

D2 286, 12Mhz, 40MB HDD, cir, D2665WV .... 469-4979
10Mhz 5.25 FDD, D2640NC

California Digital, Inc. • 17700 Figueroa Street • Gardena, California 90248
Dear Lenny,

The past eleven months have been a little hectic for me, what with retiring from the Navy after twenty four years, moving to another state, and [lastly] my personal favorite: job hunting. But now that's all behind me, it's time to get caught up on my correspondence.

First off, enclosed is my subscription renewal. Next is a copy of a cheque from a year ago where I ordered three back issues (yes, I used my present address) which I've yet to receive.

I am sorry to see Gary Melander giving up his H8 system. Gary and I were stationed together, and during that time our system configurations changed considerably. He got me started with CP/M, and I introduced him to a couple of relatively-new publications (Staunch 8/89er and the SEBHC Journal). I've enclosed a photo of my lashup on board the USS MacDonough (DDG39) during 1984 thru 1987 in the missile radar equipment room. I used QUERY!3 most of the time to maintain a rather large database on the crew and their families, PIE for watch bills and training material.

Old business: BRADFORD, the printing program can be found on Chris McEwen's BBS; 908-754-9067. Files you should download are:

- BFUPDAT1.LBR  A CP/M-only COM file using less memory
- BRADCON .LBR  Creates new fonts
- BRAD2-A .ARK  COM file and fonts
- BRAD2-B .ARK  Fonts

BFUPDAT1.LBR contains a smaller version of BRADFORD.COM and works only under CP/M but not ZCPR3 or NZ.COM on my H8. The full-size .COM file in BRAD2-A.ARK will not work at all in my system.

If you're trying to keep track of all your MASTER discs under CP/M, ZCPR, or NZ.COM, I believe your best bet is FATCAT24.LBR. It's a lot easier to grab a [3-ring] binder that you update every two months rather than trying to find what disc a seldom-used program is on. Between hardcopy updates I just pencil in any new downloads.

Are there any Trionyx 168-H8 users out there? I'm looking for the schematics and a copy of the July 11, 1986 bootable update disc. Mine was defective, and, in accord with Bill Perry's instructions, I returned it, never to hear from him again....

WAYNE R MUNZ, 3509 Village Drive, Fayetteville, NC 28304

[Wayne--your back-issues are on the way! Your request and ordered copies were accidentally misplaced, never did come to light--what with all our cleaning and re-aligning of the computer shack. Hope you'll forgive our negligence! And thanks for the photo, sure do hope our other subscribers'll send in pix of their setups! I'll log onto that BBS and download The BRADFORD files, Real Soon Now--thanks for the tip! -- ed]

Wayne Munz' H8 "lashup" aboard the USS MacDonough, 1984 - '87

Dear Len,

I received my [April] Journal on 10 May, 1991. [Not bad; we'd mailed it on 5-May! - ed] Keep up the good work--I find all the articles good reading, and some [even] apply to my setup and [hence] are invaluable.

I need the updated address and telephone number for HOYLE & HOYLE [because] I'm in need of a copy of their CP/M version of QUERY!3 for my H120. Presently I have QUERY!2 AND QUERY!3--which runs ok on my H95. I've called their number and was told that it's temporarily out of service--this condition has lasted for nearly a year now [and I need] HELP!

Please note in your database that my zip code changes as of 1 Jul-91.

WALTER W PEARSON, 403 Third Street, P O Box 485, Graham, TX (76046 old) 76450-1139; 817-549-2331

[Hey, Walt! Send us your hard-sector QUERY!3 discs and we'll change 'em over to soft-sector so's you can run 'em in your H120 5-1/4" floppy drive. You can also run your CP/M QUERY!2 in the H120. If it's in HDOS, you can get the HRUN utility from HUG to make a CP/M-running HDOS emulator disc which will then make your H120 think it's running Real CP/M! Here we run both HDOS QUERY!2 and CP/M QUERY!3, on our H120 under CP/M-85 (with HRUN)--No Problems. Just H120-format the same number of CP/M-85 soft-sector discs your QUERY!3 came on, send 'em to us, and we'll make the transfer for you at $2ea disc (includes return postage). We will send all back to you by return post, Post Haste! -- ed]

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Dear Lenny,

... 

[...continue with Lenny's letter]

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WALTER W PEARSON, 403 Third Street, P O Box 485, Graham, TX (76046 old) 76450-1139; 817-549-2331

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Dear Lenny,

Just a note to let you know that I’ve been "out of circulation" for the last two months, helping my son build a house in Colorado. Home again, and hope to continue my correspondence with Rick and others. I've plenty of problems which need solving!

I think that Clay Montgomery's idea of a "note-book H/289" in the last issue is good, and I would have a good use for such a critter. BUT someone smarter than I will have to do the designing. Even so, I shall be there, ready to buy circuit boards, parts, diagrams, whatever! I imagine Pete Shkabara will have some ideas about Clay's proposition, too.

Tom Rittenhouse's article on MAKEBOS in the same issue was very nice. I'm collecting everything I can find on this subject, hoping to assemble it into one small manual. If any one wants a copy they can have it for copy-and-postage costs. Maybe will get this done some time this Fall.

[Do] keep up the good work--us Grey-Box types need all the help we can get!

808 EVANS, 44115 Palm Avenue, Hemet, CA (old 92344) 92544 on 1 July.

[Yes indeedy--putting up a house does take time! Thanks for your kind words about Clay's and Tom's article. They Really Need Encouragement from our Dear Readers! By the way, American Design Components, 815 Fairview Avenue, PO Box 520, Fairview, NJ 07022, toll-free 800-776-3700, has new, unused Texas Instrument TI99A keyboards for $5.95 ea (Item #6712)-- schematic included, and another outfit down Houston, TX way has assorted liquid-crystal displays ranging from about $10 to $125 each. If anyone's interested enough to write us, we shall be delighted to dig up some more parts catalogue names, addresses and phone numbers and publish them in the Jul-91 edition. Y'all write, hear?! -- ed]

Dear Lenny,

I've been quite busy of late but I decided to take a short break to let you know how much I enjoyed the May Journal. Some good stuff in "thea rarer pages!"

Thanks for printing my TEMPCNV.BAS--perhaps somebody will find a use for it. It sure helped me...never could remember the conversion formulae or find where I'd put the darned conversion card.

But I did find a couple of typos in the listing (V:10, p8), in lines 410 and 420: Line 410 got a "clear screen" inserted, and in line 420 the variable "C" got lost in the formula. These lines should read:

410 PRINT:INPUT "Enter temperature in Celcius you wish to convert ",C
420 F=(C+5/9)+32

With these two typos corrected as shown above, the program will work ok.

Got to go for now--keep up the good work.

ALLIE C LINGO, P O Box 118, Dierks, AR 71833-0118

[Allie, some folks suffer from speech impairment, others--such as me--have typing impairment. We'll Be Real Glad when ole' A Stapher comes back online! -- ed]

Dear Len,

This is to let your readers know how much I appreciate the tremendous amount of work you did to get my two '89s working. Let me tell your readers a little story about this:

Back in 1982 I purchased a Z89 40-track [sic] computer with one 40-track outboard drive. I'd taken a course in computing and was hooked. For the next seven years I hacked away at my 48K machine with 90K hard-sector disc [storage] capacity. I must confess that during those seven years I didn't meet a single individual in this area who owned a Zenith [computer], so I was on my own. [Luckily] I had only minimal service requirements which a local Zenith TV fellow was kind enough to help me with. I accumulated tons of discs filled with my own peculiar MBASIC programs, and some complicated SuperCalc VI.05 spread sheets. Then my computer died, and I found my local Zenith service technician was no longer around! Some kind soul gave me Len Geisler's name and number so I called him.

Now the story [really] begins: He put a nice Z89 machine together for me that was upgraded from what I'd been using---64k RAM with 2 internal half-height drives. One was a 40-track model which could store 180K (double my old drive's capacity) and the other an 80-track model which could store 360k on a hard disc! Well, I had all kinds of problems with that machine, and Lenny--without a question or protest--took it back and sent me another one. We ended up having to exchange computers several times until I got one which worked reliably, and he did this without additional cost! (I ended up with an H89A--considerably better than the original Z89.)

Last winter I bought a second H89A from Lenny and had him ship it to Florida where I spend six months every winter. He sent me a Really Neat Machine with two brand-new disc drives. It worked for a while and then an especially unfriendly disc-drive daemon started playing nasty tricks on me and my system and data discs! Lenny actually sent me three new 80-track replacement drives, but the gremlins were [still] busily at work....

It was now getting time to head back to Cape Cod, and I thought, well, I'll use my Cape Cod machine. Lenny had told me to schlep the Florida machine home to the Cape--he'd look into it later during the course of a service trip to a client in Connecticut. Meanwhile, I tried all my discs in the CC machine and they worked ok for just one day, but then those Ann Arbor witches, gnomes, daemons, and gremlins were not satisfied resting in the Florida machine because they invaded my CC machine and did all kinds of crazy things to it here!

So, a long call to Lenny; he said, 'This is war! I'm com-
MAILBOX Conclusion - MISC INFO

SALE... FOR SALE... FOR SALE... FOR SALE... FOR SALE...

TWO H89 systems, one with external H37 drives, one H25 printer, one H14 printer, all original documents & system discs. Recently removed from service. Best offer over $350 takes the lot! (Packing & shipping extra.) Contact: PAUL LEO, 16 Fox Bend Street, Saint Charles, MO 63301; phone 314-946-2329.

NGE OF ADDRESS... CHANGE OF ADDRESS... CHANGE OF ADDRESS.

Lindley Systems has moved again! Formerly of Woodbridge, VA, they're now located at 8139 E Hawson, Mesa, AZ 85207 (new phone number to be announced next issue, we hope).

... HARDWARE HELP... HARDWARE HELP... HARDWARE HELP...

Can't find a source for those odd SQUARE-PIN CPU-card power headers & connectors? GC Electronics has them (also Moex) in their catalogues. The headers are located at PS14, PS15, PS16 and so on. GC lists them as follows:

<table>
<thead>
<tr>
<th>Cat #</th>
<th>Pins</th>
<th>Type</th>
<th>Price ea.</th>
</tr>
</thead>
<tbody>
<tr>
<td>41-244</td>
<td>4</td>
<td>header</td>
<td>.53</td>
</tr>
<tr>
<td>41-334</td>
<td>4</td>
<td>receptacle</td>
<td>.85</td>
</tr>
<tr>
<td>41-250</td>
<td>10</td>
<td>header</td>
<td>.83</td>
</tr>
<tr>
<td>41-340</td>
<td>10</td>
<td>receptacle</td>
<td>1.32</td>
</tr>
<tr>
<td>41-280</td>
<td>4</td>
<td>long-pin header</td>
<td>.83 (for P401)</td>
</tr>
</tbody>
</table>

Most "professional" electronics parts stores stock either of these vendors products, or may be able to find and order their equivalents for you. If you can't find anyone who does stock them, contact Kirk Thompson c/o The Stanuch 8/89er, PO Box 548, West Branch, IA 52358; home phone (evenings & weekends only) 319-643-7136. Say hello to Kirk for us!

MORE HARDWARE HELP

A-C Power outages?! HoBoy! Ewe-betcha! ALWAYS, whenever the '89 RAM is full of irreplaceable prose the lights flicker, dim, go out, come back on, & then die! It's been happening far too often, so we bought an American Power Conversion BAK-UPS 450 unit from the local COMPU ADD SuperStore for $329+$13.16 Mi sales tax. Plugged into the outlet & our H-89 system into it payback was virtually instantaneous. About an hour after installation while mssus was doing laundry, house lights blinked, then dimmed momentarily. BAK-UPS beeped, but computer just kept on going! The BAK-UPS 450 puts out enough to keep an average H/289 system online a half hour or so, and they have BIGGER units. Please call CompuAdd SuperStores, 1-800-627-1967; say you read about it in the SEBHC JOURNAL!

VENDORS' SUPPLIES OF HARD-SECTOR DISCS ARE DWINDLING!

Lyben Computer Systems, 1150 Maplelawn, Troy, MI 48084; phone 313-649-2500, still has a few 5-1/4-inch hard-sector discs in ten packs. These are virgin discs from J-M, a reputable vendor. Ask for catalogue number 0038, $15.90 nett, each box of 10 discs. Be advised that just 22 boxes remain in stock! If #ALL# us 8-bit H/Z users phone, or write Lyben, MAYBE they'll continue stocking these rare discs! PLEASE DO CONTACT LYBEN; tell them you discovered them listed in The SEBHC JOURNAL!

BUY HARD-SECTOR DISCS REAL SOON, NOW!

ing out there to kill them, once and for all". He promptly got in his car and drove eight hundred miles to Buzzards Bay, arriving two days later on a Sunday evening. He immediately started work on both machines, performing all kinds of tests and operations upon them—I thought he'd never get those keyboards correctly back together again—and replaced umpteen's parts just to be sure. He finished late Wednesday afternoon with both machines running properly in hard-sector mode and a promise to send me an exchange H89A CPU card for the Florida machine. (Said it had some odd Magnolia modifications on it which prevented both his and my soft-sector controllers from working properly—I have his [controller] in my machine now.)

What a guy! Would anyone else out there ever expect anybody to do all this?! [In my opinion] there still are some very special people out there in this world; Lenny surely is one of the rare ones who stands by his work and word and much more beyond. Let me also tell you that my wife, Jeanette, also enjoyed having Lenny as a house guest.

Many thanks to Lenny for helping me continue using my two '89s and [work with] all my crazy programs. I think it was worth the wait of all these years before I was able to talk with another human being who used a H/Z9 [computer].

And to my fellow Journal subscribers: I'd like to share programs and ideas with anyone who use an updated version of SuperCalc, WordStar, or MBASIC.

OSCAR YOHAI, 83 Captains Row, RFD 1, Bourne, MA 02532; phone 508-759-2823

[Hey, Oscar—kind words make me turn blue! Please tell Jeanette I think she's a swell gal, a great dancer, and a peachy Dresser (on the proper occasion), and I thank both of you for putting up with me! Oscar, your two machines should last well beyond the end of this decade, provided that you give them Tender Loving Care (and I know you will). Expect to receive your modified outboard soft sector drive package Real Soon Now, together with that bunch of public domain programs which I had promised you. -- ed]
DO YOU HAVE CONTACT-ITS?!
A neat-O hint from Henry Fale’s H-Scoop #135
With Commentary & Additions By Your Editor
You’ve all had it happen in varying degrees and usually at the most inappropriate moment--bleary CRT display, disc drive won’t format (or anything), nasty-smell-with-smoke coming out of the top of your H/789, reluctant keyboard or any number of other failures too numerous to mention. Many, if not all of these symptoms and breakdowns are caused by cruddy oxide film buildup on plug-in IC pins and sockets, or most--if not all--the numerous connectors inside your computer.

Cruddy contacts are particularly nasty in current-carrying plugs and sockets, especially if one of them is directly fixed to a circuit board and soldered to the foil pattern. This usually results in smoke--mentioned above--caused by the pins getting so hot that they melt the solder bond and heats the foil so badly that it chars the fiberglass circuit board.

Elsewhere cruddy contacts will build up enough resistance that minute logic signal levels encounter a no-load condition between source and intended TTL device. That’s why your keyboard sometimes works mechanically but nothing happens on the CRT screen. The same applies to any other connection between other devices in your computer.

Now there any number of “magic elixirs” out there claiming to eliminate these problems “permanently”, but of all those tested, the most outstanding is a product named “Tweek”. It is intended for use in and around all kinds of expensive audio equipment in radio stations, recording studios, and those very expensive audiophile home-entertainment systems. Also, it’s useful wherever any very low current signals are mechanically switched or routed through jacks and sockets, such as in home video recorders and re-processors.

Tweek is expensive, $22 a fluid half-ounce delivered to your door. But even so, it takes less than a half drop--for example--to clean and protect a floppy drive’s 34-line card edge and connectors. After you’ve cleaned and reconditioned EVERY connector pair in your H/789, you’ll still end up with enough left over for many, many more similar treatments!

The cleaning drill is quite simple: Disconnect any plug, wipe--not scrub--both sets of contacts (male & female) with a cotton swab moistened (NOT WET) with Tweek, then reconnect the plug. You DO not need to use a “ruby” eraser or other abrasive medium to scrape off oxide buildup, the Tweek does most of the work. It dries rapidly, leaving an oxide-inhibiting molecular film on both sets of contacts which usually lasts a year or more. This ritual applies to all plugged-in ICs, except that you must be careful to avoid static electricity building and discharge. Static electricity will definitely blast your expensive CMOS ICs into never-ever land.

When you’re finished cleaning and before re-connecting, remove all lint and other debris from connector interiors, and if you’re working on a disc drive, blow or vacuum away stuff which may have dropped into the inner workings.

You can buy (phone or mail order) Tweek from CRUTCHFIELD, Inc., #1 Crutchfield Park, Charlottesville, VA 22906-6020; phone 1-800-446-1640. Order #2521Tweek. They’ll accept most popular plastic, or even real money. Do tell them that you saw their product mentioned In The SEBHC JOURNAL or H-Scoop.

CLEAN DISC DRIVES MEANS LESS DATA LOSS
Some folks may want to use wet disc-drive cleaning discs while Tweeking their drive(s). DON’T DO IT! The disc-cleaning fluid usually sprays off the cleaning disc and removes vital lubricants from the head-positioning mechanism. This results very quickly In all kinds of disc errors from that drive, and if you used a lot of fluid, it can dissolve the read/write heads!

If you must clean disc drive R/W heads, use a dry non-fluid cleaning disc such as the Echo Cleaning Disc, p/n MMCD1 from MagMedia, 405 College Avenue, Santa Rosa, CA 95401. Miriam Campbell of DISC MOVERS (see Vendor’s List) carries these discs. These dry disc burnish the heads and removes crud from them. Because these discs are a type of non-woven, mildly abrasive material—similar to the familiar 3M kitchen scrub pad—it’s embedded in the disc and never gets into the drive’s delicate mechanism. Here, we clean all our drives about every four months—just to be sure—with a dry disc, and don’t have any head problems. One kit has three discs and an outer jacket in a plastic package. One disc is good for at least 10 shots (depending on how dirty the drive is) in a double-sided drive and there’s a set of boxes you check off after each cleaning run to remind you how many runs are left. Miriam is asking $5 for each kit, but may give you a quantity discount if you mention The SEBHC JOURNAL.

NEEDED... DOCUMENTATION NEEDED... DOCUMENTATION NEEDED...

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 HB9 operating systems discs. Although we got about a half ton of manuals and other printed matter in the deal, most documentation for the Most Interesting & Neat Stuff was gone! Therefore, we’re begging anyone who has documentation for the following software to provide us with photo-copies thereof. These working programmes have little value without documents. We’ll be delighted to pay a Reasonable Copying & Postage Fee on document copies for these potentially-useful programmes!

Digital Research C-BASIC-2; Ecosoft MICROSTAT; CPU International PEARL-III CBASIC Program Generator; Software Toolworks SPELL Spelling Proofreader; Micropor MAILMERGE; Micropor WORDSTAR.

** = High Priority Item(s)
VENDORS, SOURCES, and CHEX.BAS

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EIGHT-BIT SOURCES, SERVICES, and VENDORS DIRECTORY

COD SYSTEMS, Inc., 7171 Ronson Road, San Diego, CA 92111; phone: 619-560-1272, 9a-5p Pacific Time Zone—ask for Herman.
6-bit machine memory devices, software, etc.

D-G ELECTRONIC DEVELOPMENTS Co., 700 S Armstrong, Denton 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 8B and H/189 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/289, '89s in bulk quantities at very low prices! EVERY NICE and HELPFUL PEOPLE. *(Do give them a call and mention us!)*

HOYLE & HOYLE SOFTWARE, 111 Sparrow Drive, Isle of Palas, SC 29451; 803-989-9802—ask for Hughes. "QUERY-III, a data base for the unskilled!" HDS, CP/M, ZDS, MS-DOS & peeses-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 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 Dairada Road, Montgomery, AL 36109; phone 205-244-1597 voice, 205-24-109 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 8B, 89. 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. Mfrg, 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!

SIGNASOFT & SYSTEMS, 2433 Winterstone Drive, Dallas TX 75023-7818; 214-596-0116 (Central Time Zone)—Clay Montgomery—hardware/peripherals mfrg, software publisher, hardware & tech support, RAM drives, Hi-Res grafix addons for H/289s. Catalog & help; A *FANTASTIC* GOOD GUY!

SKYCASTLE COMPUTER PRODUCTS, Box 1412, San Carlos, CA 94070; 415-254-3931 after 6pm Pacific Coast time—ask for Mike. Calligraphy-II and other FANTASTIC dot-matrix graphic printer software products. A REALLY, SUPER-GOOD GUY!

TMSI/LEE HART, 323 West 19th Street, Holland, MI 49423
"Innovative Products for the H/289"
Misc. 8-bit hardware items, hardware/software support of '89/90s. "A NICE GUY and TOP-NOTCH ENGINEER!"

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AN MBASIC CHEQUES-HANDLING PROGRAMME

by

Laszlo M Vesii PE

420 Philip Road, Miles, MI 49120

This is actually three different programmes. The first one—CHEX.BAS—creates a random-access file for listing check data. It also generates a short sequential file, containing, among other items, the last accessed file number. This programme segment can also correct [operator] errors.

The second programme—xxxxxx.BAS—reads and sorts the random access files. Output can be directed either to the monitor screen, or to the printer.

The third programme—RECONCIL.BAS—takes care of monthly reconciliation with your bank [statement].

Now, in greater detail:

CHEX.BAS generates a random-access file. Each element of this file is divided into fields. These fields are:

- **Month**: 3 letters
- **Day**: 2 numerals
- **CheckNumber**: 4 numerals
- **Payee**: 15 letters
- **Category**: 3 letters
- **Cheque Amount**: 8 numerals
- **Balance**: 8 letters

Total: 45 letters

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**NOTE 1**: Numerals are NOT [Arabic] numbers! They CANNOT be used for arithmetic because they are like [alphabet] letters. The programme converts numerals into numbers [so as] to perform [subsequent] arithmetic operations.

**NOTE 2**: If you are VERY rich and write large cheques, or have a large balance (or both), it is best to use double-precision numbers.

This program is interactive—that is—asks questions which you then answer. Because of slow human response, we deemed it unnecessary to compile this programme. (Also, you may want to make changes to the programme.)

Some tests are incorporated to prevent [operator] errors. The programme is therefore foolproof—but alas, it can't be made damnfoolproof. If you maintain a large balance, say one Kilobuck or more, then double precision numbers must be used—at the risk of slowing the programme somewhat.

Each completed entry generates a file with the location of an asterisk (*) empty as yet, and a tilde (') to act as a separator between files. Since searching for the next avail-
Personal Finance "Cheques" Listing

able item is rather slow, the programme also generates a small sequential file containing only the filenumber of the last item. This serves as the beginning point of the next search. One peculiarity of MicroSoft BASIC is that the default quantity of an otherwise unspecified array is ten (decimal 10). I deemed it sufficient to leave it that way as one seldom enters more than 10 cheques at one session.

In correction mode, one asks for the filenumber of the erroneous item, which will then be displayed on the screen. Any of the fields can be revised here. * A word of caution: If the amount or the balance is changed here it is necessary to manually (UGH!) recalculate all subsequent items! Personally, I'd prefer the "correct error" command and insert the correction as one of the entries. Note: Negative entries must have a minus (-) sign.

The second programme of this series is the display device. It will collect, sort and display files, either on the screen or the printer. Sorting default is by filenumber. But sorting can be specified by names of payer/payee, category, or month.

The third programme does reconciliation. The bank's monthly statement lists negotiated cheques which may be in either unordered or ordered form. The programme asks for the cheque-numbers which you must type in. When all numbers have been entered, a <RETURN> starts the programme. If the [bank's] numbers are already sorted, sorting is unnecessary. Unsorted numbers can be sorted if so desired, but the programme will also work with unsorted numbers. Some bank charges, such as debit memos or other fees, must be entered when the programme asks for them. The bank reconciliation also shows deposits, which will be individually displayed on-screen and marked as negotiated or not. Also, any deposits not shown elsewhere must be entered. The programme will print all non-negotiated cheques and charges and add them up. Likewise it will print out the balance. This balance must be identical to your cheque-book balance. (Lord knows, it seldom is! "Now is the time for all good men" to search for the error. Sometimes, even the bank will make an error!)

The programme then does two things: It adds an asterisk to every negotiated item, and enters the filenumber of the oldest non-negotiated item into the sequential file created by CHEX.BAS. This filenumber will be the starting point for next month's reconciliation.

Note: There will be a little finagling at year's end as some files will be in the previous year, others in the new year. In this case, run the reconciliation twice, once for each year.

[Editor's note: The complete set of Laslo's programme listings are rather too long to print in one issue, so only CHEX.BAS is included below. The other two listings will be printed in next month's edition. Meanwhile, if you have any technical questions or suggestions, please contact the author at his address given above in the article heading, or by phone; 616-684-5339.]
"Cheques" Listing Continued

450 IF IA>1 THEN 1200
460 ZA:=2:PD:=8
470 PRINT CL$:IF CP$="y" THEN 1280
480 IF ME=2 THEN 1450 ELSE 8:8+1
490 REM ..........Leap year finder
500 PRINT:PRINT
510 YAL:=VAL(YA$(N)="PAL")=INT(PAL)="PAL"-GAL
520 IF YA=.1 THEN FE:=28 ELSE FE:=29
530 REM ..............Check loading begins here
540 PRINT CL$
550 IF LN:=10 THEN 1340
560 GOSUB 1410:K:=N:GOSUB 1730
570 N:=N+1:LN:=N+B:N:=N-1
580 IF ME=2 THEN 450
590 REM ..............Check No. entry and test
600 GT:=1:LINE INPUT"Enter check number,’d’ or ‘e’....";C$(N)
610 IF C$(N)="" THEN 1400
620 C$(N)="" VAL(C$(N))
630 IF C$(N)="d" THEN FL(N):2:C$(N):=" eo":GOTO 680
640 IF C$(N)="d" THEN FL(N):2:C$(N):=" D":GOTO 690
650 IF LEN(C$(N))<4 THEN CS$(N):=""+CS$(N):GOTO 650
660 IF C(N)>0 THEN FL(N):=0:GOTO 690
670 GOTO 1600
680 IF ME=1 THEN 1640 ELSE 690
690 IF ME=2 THEN 450 ELSE GOSUB 1680
700 REM ..........Month entry and test
710 GT:=2:LINE INPUT"Enter month as numerals .... ";M$(N)
720 IF M$(N)="": THEN 1400
730 IF M$(N)="": THEN M$(N):="Jan":MD:31:GOTO 860
740 IF M$(N)="": THEN M$(N):="Feb":MD:28:GOTO 860
760 IF M$(N)="": THEN M$(N):="Apr":MD:30:GOTO 860
780 IF M$(N)="": THEN M$(N):="Jun":MD:30:GOTO 860
790 IF M$(N)="": THEN M$(N):="Jul":MD:31:GOTO 860
810 IF M$(N)="": THEN M$(N):="Sep":MD:30:GOTO 860
830 IF M$(N)="": THEN M$(N):="Nov":MD:30:GOTO 860
840 IF M$(N)="": THEN M$(N):="Dec":MD:31:GOTO 860
850 PRINT TAB(10)"The correct numerals, please!":GOTO 710
860 IF ME=2 THEN 450
870 REM ..........Day of month entry and test
880 GT:=3:
890 LINE INPUT"Enter day of month in numerals .... ";D$(N)
890 IF D$(N)="": THEN 1400
900 IF ASC(D$(N))<48 OR ASC(D$(N))>7 THEN 1600
910 D$(N):=VAL(D$(N))
920 D$(N):=1 THEN D$(N):=" "+D$(N)
930 IF D(N)>MD THEN 1630
940 IF ME=2 THEN 450
950 REM ..........Payee/payer entry and test
960 GT:=4:
970 LINE INPUT"Enter name of payee or payer .... ";PS$(N)
980 IF PS$(N)="v" THEN PS$(N):="--------VOID":GOTO 1010
990 IF LEN(PS(N))=0 THEN 1400
990 IF LEN(PS(N))=15 THEN
1000 PRINT TAB(10)"Abbreviate, please":GOTO 960
1010 IF ME=2 THEN 450
1020 REM ..........Classify into categories for tax purposes
1030 LINE INPUT"Enter (ctr/int/tax/med or hit return. ");CT$(N)
1040 FL:=0:GT:=5:IF CT$="mis" THEN 1120
1050 IF CT$="ctr" OR CT$="ctr" THEN 1120
1060 IF CT$="tax" OR CT$="med" THEN 1120
1070 IF CT$="w" THEN CT$="WW":GOTO 1120
1080 IF CT$="b" THEN CT$="B":GOTO 1120
1090 IF CT$="s" THEN CT$="S":GOTO 1120
1100 IF CT$="": THEN CT$="":GOTO 1120
1110 GOTO 1600
1120 IF ME=2 THEN 450
1130 REM ..............Amount of check entry and test sequence
1140 GT:=6:INPUT"Enter check amount .... ";S$(N)
1150 IF ASC(P$(N))<45 THEN 1190
1160 IF S(N)=0 THEN 1400
1170 IF S(N)=100000 THEN 1660
1180 IF LEN(S$(N))<7 THEN S$(N):="*S$(N):GOTO 1180
1190 IF ME=2 THEN 450 ELSE GOSUB 1680
1200 GOSUB 1410
1210 REP:=1
1220 K:=REP:IF REP=2:N THEN 1260
1230 GOSUB 1730
1240 REP:=REP+1:GOTO 1220
1250 REM ..............Continuation
1260 PRINT:PRINT TAB(15)"To continue "D$" hit RETURN"
1270 PRINT
1280 PRINT TAB(15)"To quit without recording ....... 1
1290 PRINT TAB(15)"To store on disk "D$" .... 2
1300 PRINT:LINE INPUT"Your choice? ");A$;
1310 IF CP$="y" AND A$="" THEN 1300
1320 IF A$="": THEN 540
1330 AR:=VAL(A$):ON AR GOTO 2120,1340
1340 PRINT CL$:GOSUB 1410
1350 FOR K=1 TO LN
1360 GOSUB 1730
1370 NEXT K
1380 IF CP$="y" THEN 2010 ELSE 1810
1390 REM ..........Heading subroutine
1400 PRINT TAB(10)"No entry made, please try again"GOTO 1620
1410 PRINT"Rno Date Ck Payee/ee Cat Amount;
1420 PRINT" Balance Ln DATES
1430 PRINT STRINGS(5,"-":)=RETURN
1440 REM ..............Check correction sequence
1450 ZA:=0:PRINT CL$:GOSUB 1410
1460 GOSUB 1730
1470 PRINT TAB(5)CHR$(27)+"p";
1480 PRINT
1490 PRINTCHR$(27)+"q":PRINT:PRINT TAB(15)"Select from menu:"
"CHEX" Listing Concluded

1500 NB=0:PRINT TAB(20)"B";D$"To escape"
1510 PRINT TAB(20)"9";D$"If this is correct"
1520 PRINT TAB(20)"10";D$"To restore starmark"
1530 PRINT TAB(20)"11";D$"To delete this item"
1540 PRINT:PRINT TAB(15)"Otherwise enter"
1550 PRINT TAB(15);:
   INPUT"the box number to be corrected.........";NB
1560 PRINT:PRINT:IF NB=0 THEN PRINT TAB(15)"Enter";GOTO 1550
1570 ON NB GOTO 710, 880, 600, 960, 1030, 1140, 1580, 2120, 1810, 1790, 2330
1580 PRINT"Enter correct balance "D$".........":INPUT;RS(N):GOTO 450
1590 REM .........................Small subroutines
1600 PRINT TAB(10)"Incorrect entry, try again"
1610 IF ME<>1 THEN 110
1620 ON GT GOTO 600, 710, 880, 960, 1030, 1140
1630 PRINT TAB(10)"This month has "MD days, try again":
   GOTO 860
1640 MS(N)=*:D$(N)=":GOTO 960
1650 PRINT TAB(10)"4 digits, please:";GOTO 600
1660 IF FL2>1 THEN PRINT"Can't handle large amount":GOTO 2150
1670 PRINT TAB(10)"Amount seems too large, check it":FL2=2:
   GOTO 1140
1680 IF FL(N)=1 THEN RS(N)=RS(N-1)+S(N)
1690 IF FL(N)<1 THEN RS(N)=RS(N-1)-S(N)
1700 RETURN
1710 CLEAR;GOTO 110
1720 REM .....................Print sequence
1730 PRINT USING"###";BN(K);
1740 PRINT""MS(K)""D$(K)"CS(K)"PS(K)"CTS(K);
1750 PRINT USING"###";S(K);RS(K);
1760 PRINT""ZFS;";
1770 PRINT USING"###";K
1780 RETURN
1790 REM .............Prepare to load into random access file
1800 REM
1810 IF ME=2 THEN V=N:GOTO 1830
1820 FOR V=1 TO LN
1830 SS(V)=STR$(S(V))
1840 FG(V)=0:GG(V)=0
1850 FOR I=1 TO LEN(SS(V))
1860 IF ASC(MID$(SS(V),I),4)=46 THEN FG(V)=2
1870 IF FG(V)=1 THEN SS(V)=""+SS(V)
1880 IF LEN(SS(V))<7 THEN SS(V)=""+SS(V):GOTO 1890
1890 RS$(V)=STR$(RS(V))
1900 FOR M=1 TO LEN(RS(V))
1910 IF ASC(MID$(RS(V),M),4)=46 THEN GG(V)=2
1920 IF ASC(MID$(RS(V),M),4)=46 THEN GG(V)=2
1930 NEXT M
1940 IF GG(V)=1 THEN RS$(V)=RS$(V)+".00"
1950 IF LEN(RS$(V))<7 THEN RS$(V)=""+RS$(V):GOTO 1950
1960 IF ME=2 THEN 1980
1970 NEXT V
1980 IF NB<>10 THEN ZS=""ELSE ZS="""
1990 IF ME=2 THEN N=0:GOTO 2020
2000 REM ..............Actual loading into file

2010 FOR J=1 TO LN
2020 LSET MF$=MS(J):LSET DF$=DS(J):LSET CF$=CS(J)
2030 LSET PF$=PS(J):LSET TF$=TS(J)
2040 LSET SFS=MKS$(S(J)):LSET RFS=MKS$(RS(J)):LSET ZFS:I$
2050 IF CP$="y" THEN 2080
2060 IF ME=2 THEN PUT 1,8;GOTO 2120
2070 GOTO 2100
2080 PUT 1,8
2090 B=8+1:GOTO 2110
2100 PUT 1
2110 NEXT J
2120 CLOSE 1
2130 IF ME<>2 THEN 2160
2140 LINE INPUT"If more checks need fixing enter 'm':";FIS
2150 LN=0:IF FIS="m" THEN GOTO 260
2160 IF ME=1 THEN 2200
2170 CP$="":
   LINE INPUT"Want to add this to another disc (y/n)?";CP$;
2180 IF CP$="y" THEN 2290
2190 REM ..............Ending the program
2200 PRINT TAB(30)
   "##### #### ####:PRINT TAB(30)"## ## ";
2210 PRINT" ":
   PRINT TAB(30)##### #### ####":PRINT TAB(30)"## ";
2220 PRINT"## ## ":PRINT TAB(30)"##### #### ####:END"
2230 REM ...........Get starting record No. from seq. file
2240 ON ERROR GOTO 2260:
   OPEN "I",#2,NAS:INPUT #2,8:CLOSE #2;PRINT B
2250 IF B>0 THEN 270
2260 PRINT:PRINT:ENTER starting record number .... ";RE
2270 IF RE=0 THEN 270 ELSE 8=RE:GOTO 270
2280 REM ............Copy last entries onto other disc
2290 FOR TI=1 TO 1800:NEXT
2300 LINE INPUT"INSERT OTHER DISC AND HIT RETURN":RS$
2310 RESET:PD=1:PRINT CLS$;GOTO 270
2320 REM .............Subroutine to delete one entry
2330 S(N)=0:RS(N)=0:MS(N)="
   D$(N)="";CS(N)="";PS(N)="";TS(N)="";ZS=""
2340 GOTO 1810

[Editor's notes: The remaining two listings will be printed in our next two (July & August) editions. Note: Laszlo says that one of those listings includes the fastest MBASIC sort routine known to mankind! We have truncated many lines in the listing above to keep them inside our column spaces. If it is too much work for you to key in the complete set of listings, we shall be delighted to copy them onto your own pre-formatted discs. Please mail your pre-formatted CP/M hard-sector or soft-sector discs marked "CHEX PGMS" to the SEBHC JOURNAL. Kindly include $5 to cover our costs for return postage (plus a new disc mailer) for your programe-disc copies.
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 WARRANTED 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.

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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 warranted 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 D/T (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" & 8" formats (KAYPRO or Magnolia ss,ss 5.25" discs on special order) at $5 each 5.25" target disk. Original distribution disc(s) will be included with converted discs.
5 - These are CLOSE-OUT PRICES; once gone, that’s all folks!

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

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