

The Z-Letter

Newsletter of the CP/M and Z-System community

Number 18

February 1992

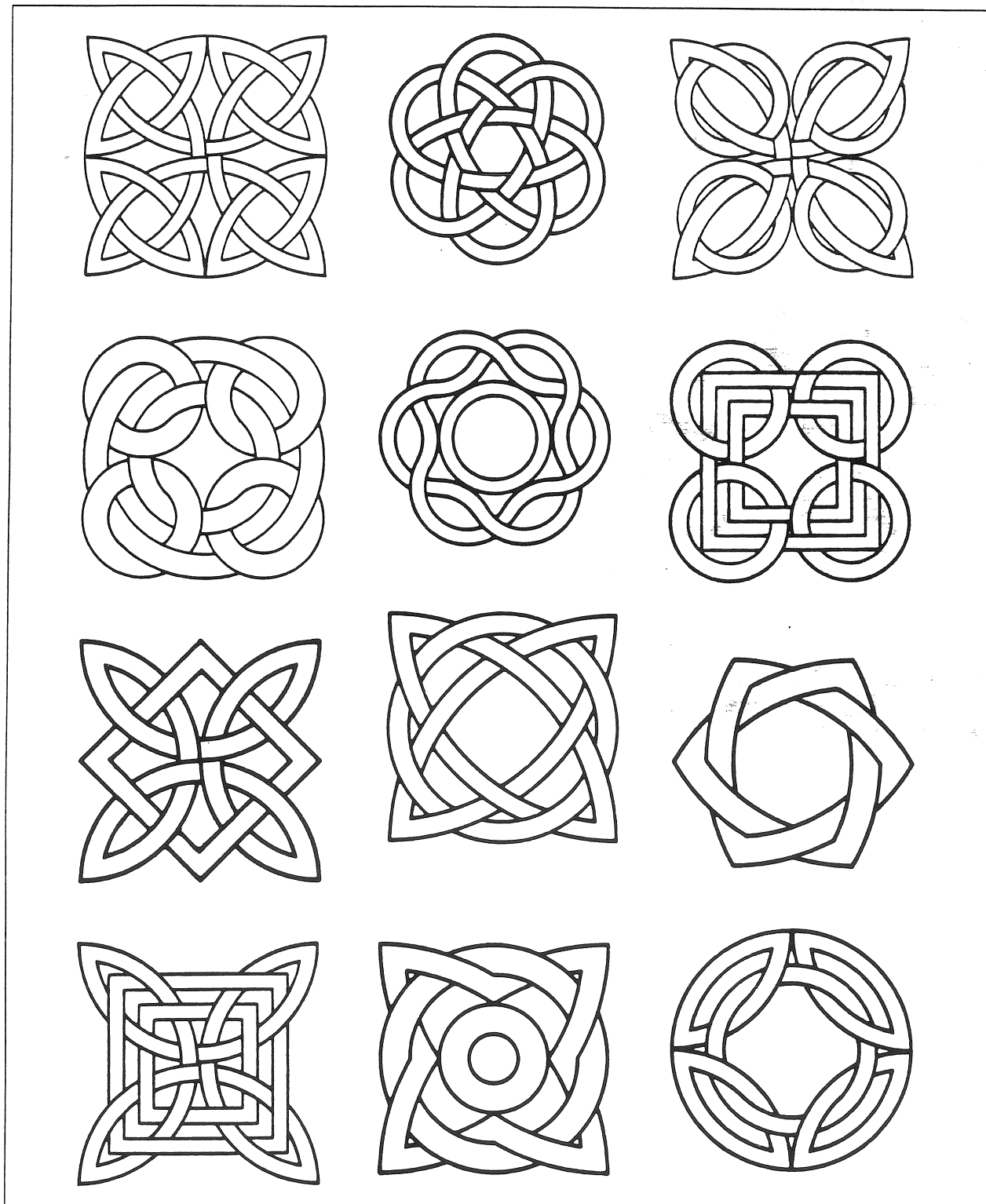


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ABOUT THIS NEWSLETTER

Welcome to *The Z-Letter*, a newsletter for the community of CP/M and Z-system users. Everything in this issue is copyright © 1992 by the editor: David A.J. McGlone, Lambda Software Publishing, 720 S. Second Street, San Jose, California 95112-5820, phone (408) 293-5176.

The purpose of this magazine is to spread the news about new developments in the community, and to help newcomers get the most out of their machines. So send us the news about your new software or hardware, your opinion of someone else's product, that article you've been meaning to write, your praise, gripes, or just plain questions! This is the place.

Submitting material for publication

Material may be submitted on 5¼" diskette in almost any format, on 8" diskette, or printed or typewritten on clean white unlined paper. The deadline for submission of material is the end of the month. We cannot pay for articles, but for every article we publish, the author will receive that issue of *The Z-Letter* free. If the author has a subscription, the subscription will be extended for one issue.

Letter policy

The Z-Letter reserves the right to edit letters received to conform to standards of taste, decency, and language. We will NOT distort the meaning of any letter; we'll simply not print it first. If you are not willing to have any letter you send printed, or edited before printing, please say so in the letter. All other letters will be assumed to be for publication and become the property of Lambda Software Publishing upon receipt.

Subscriptions

The Z-Letter is a monthly publication, and subscriptions will be accepted for 1 or 2 years. A subscription starts with the first issue after the subscription payment is received. The cost is \$15 per year for subscriptions mailed to U.S., FPO, or APO addresses. Canadian and Mexican

subscriptions cost \$18 per year. Other foreign subscriptions cost \$45 per year. Subscriptions should be paid by check or international money order in U.S. dollars, mailed to Lambda Software Publishing. Back issues cost \$2 apiece; every back issue is kept in print.

How to read your mailing label

If you are a subscriber, your address label lists when your subscription expires, for example, *Your last issue: 20*. If we have sent you a single issue in hopes that you will subscribe, it will be marked *Sample copy*. *Complimentary* copies go to people we expect to spread the word of the newsletter's existence, and perhaps contribute information or articles.

Advertisements

There is no charge for either business or personal ads. Business ads are carried as a public service to the community. If you sell a product or provide a service to the community, please send us ad copy, either camera-ready or on disk. If you stop doing business in our community, please let us know so that we can drop your ad. Readers who find a product or service unsatisfactory, or discover that a vendor has gone out of business, are requested to inform us.

Subscribers may place personal ads at any time. Each ad will be run three times automatically. If the ad doesn't achieve its end in that time, it can be reinstated after a lapse of one issue. If the ad succeeds before it has run three times, please inform us so we can drop it at once.

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Index available

The Z-Letter is indexed annually. The index for issues 1-5 appeared in issue 5. The index for issues 1-18 will be published in February 1992.

RANDOM ACCESS

Editorial mumblings about this and that

An apology

Just for the record, I have a good reason why the November issue came out in the first week of December, and there was no January issue at all. You see, the dog ate my floppy with the – Wait a minute! I don't have a dog! I guess I'll have to resort to the truth, and hope everybody understands.

The truth, then, is that I've had hardware troubles with my SB180FX, and last issue was finished and prepared for printing on an Eagle IV. The IV has a hard disk, but to really appreciate the difference between a 4-MHz Z80 CPU (which the Eagle, and most CP/M machines, have) and a 9-MHz Z180/64180 (which my SB180FX has), you have to watch the pages you're trying to correct and get printed *c r a w l* out of your laser printer. With the SB180FX, I can hardly scan a page for gross mistakes before the next one's sitting there!

January is a bit more complicated. As of January 30, I've worked at Tandem Computers for eight years, which means I've a second 6-week sabbatical coming. Yeah, I know, life is tough. I scheduled my sabbatical for all of February and the first half of March, because the way things have been going in the computer industry, I was afraid they'd take away our sabbatical privileges. I didn't want to put it off to May and have them cancel sabbaticals in April. Basically, there was no January issue of *The Z-Letter* because I was working long hours trying to get everything done at work before the end of the month.

So, sorry about that, and I hope to make it up to you this month and the next. I've already committed to putting out an index of the first 18 issues this month, and I need to do a new Z-Fonts catalog, too (see the *News* this issue).

How to feel like a fool, part II

In issue 12 I published an article by Bob Vinisky, in which he described how his Eagle

wasn't working under NZ-COM. He felt like an idiot when he realized that he caused the problem himself by the way he set up the software. I was tempted at the time to toss in a story about how I had locked myself out of my old Eagle IV under CP/M, but I have an even better story now.

In December my Micromint SB180FX started acting up. Spellbinder wasn't acting right, with the cursor all over the screen, and I could *hear* my hard disk slowing down and speeding up again! *Oh @\$#&%*, I thought, and saved the issue I was working on to floppy. Shortly after that, the hard disk refused to boot at all.

Well, Jerry Davis had warned me about Seagate hard disks. Once they fail, they're gone forever, he said. But when Jerry came over to look at the machine, it worked fine! Probably not the hard disk, Jerry said, but the power supply, especially with the problems Spellbinder was having. Spellbinder, unlike WordStar, does its work in memory, not on disk. A power problem could affect both the hard disk and memory.

A day later, the computer wasn't booting again.

I had been meaning to take my computer out of the Micromint enclosure and put it into a wider case for a while, anyway. A wider case could allow me to set my TeleVideo 950 terminal on top of the case, instead of next to it. As long as the case wasn't as wide as the width of the terminal plus the width of the Micromint enclosure, I would still gain desk space. Also, this would raise the terminal to eye level, which is better for the back and neck. Finally, most enclosures use switching power supplies, which weigh less than non-switching supplies like the one in the Micromint case.

So I went shopping. I could have put my computer into a TeleVideo or Morrow box, which are fairly common around here, but I didn't want my SB180FX to look like a TeleVideo or Morrow. Not that there's

anything wrong with those computers, but my computer is an SB180FX. What I wanted was some kind of PC box, so I could use readily-available PC fastenings and hardware. At the same time, I didn't want it to scream *PC!* when you looked at it. I have one PC in the house, a Tandem 6AX I use to run Sydex and DIGI-FONTS software, and that's enough.

PC cases are expensive (between \$100 and \$200), look like PCs, and don't seem to come with room for four 5¼" devices. Just when I was ready to give up, I found an old Olivetti PC at Weird Stuff. It didn't have the monitor or keyboard, but I didn't want those anyway, and the price was only \$55. The power supply's rating was unknown, but I could always put another in if need be (there's that PC-hardware advantage showing up already). Best of all, that great Italian styling keeps it from looking too much like a PC, and since it had two full-height drives in it, I could put four half-height devices in their place.

The more I looked at it, the better it looked. I took out the drives, which were fastened by screws through their corner holes (not from the sides, as most computers do), took out the mother board and the memory card, and lots of PC things like the support for the PC cards. What remained was a three-part case (top, bottom, and mezzanine). I put the drives together in pairs using thick, stiff plastic straps; since the stuff is transparent, I could see through it to mark the holes for the screws. I didn't even have to use a drill for the holes; a heavy-duty leather punch worked just fine!

Then Jerry and I (well, him mostly, but I helped) installed the SB180FX board in the bottom of the case, ran cables from everything to everything else in the new locations, put the serial and terminal ports on the back, hooked up a reset button, etc. The parallel port ended up in one of those weird vertical slots PCs have in back, using the parallel port from an Eagle 1600.

For a finishing touch, the Olivetti logo on the front popped right off under pressure from a butter knife, leaving no mark behind. I thought I'd have to chip off the logo, sand down the

shiny spot it left, maybe even fix it up with modeling paste and paint. And I found a spare set of Micromint labels in a drawer, so the case even has the SB180 logo on the front, and proper printed labels for the serial, terminal, and parallel ports.

My new setup has lots of advantages. It takes up less desk space than the old setup. The terminal's at eye level. The drives are right side up, instead of on their sides, restoring them to the orientation I liked on the Eagles I started with, and eliminating complaints from my right-handed friends. The drives are also high enough off the desk now that the keyboard doesn't get in the way. It looks terrific! (I'll try to get a picture into *The Z-Letter* some time soon.) It weighs a lot less than my old setup, mostly because of the difference in power supplies.

About the only things I dislike about the new setup is that the power switch and reset button are in the back; on the Micromint case, both were in front. but I don't use the reset button *that* much, and I use a Tripp-Lite power module anyway; the switches on the computer and the terminal are on all the time, and I turn off the whole system using the switch on the power box.

(Incidentally, let me recommend this to everyone. You can plug your modem, printer, computer, terminal, etc. into such a box, and turn them on and off without having arms like an orangutan to reach everything. The unit I use has the SB180FX plugged into the aperture labelled **computer**, my TeleVideo terminal plugged into **monitor**, my Eagle IV into **aux 1**, my Tandem 6AX into **aux 2**, and the 8" drive unit for the 6AX is plugged into the **printer outlet**.

All these devices have their own switches left on all the time, so they come up when I use the matching switches on the front of the console. The console switch for the terminal is also on, so that the terminal will come on with the computer when I turn on the console. There's also an outlet that's on all the time, whether the master console switch is on; my CD player is plugged into that, and that device alone I

SB180

Single-Board Computer

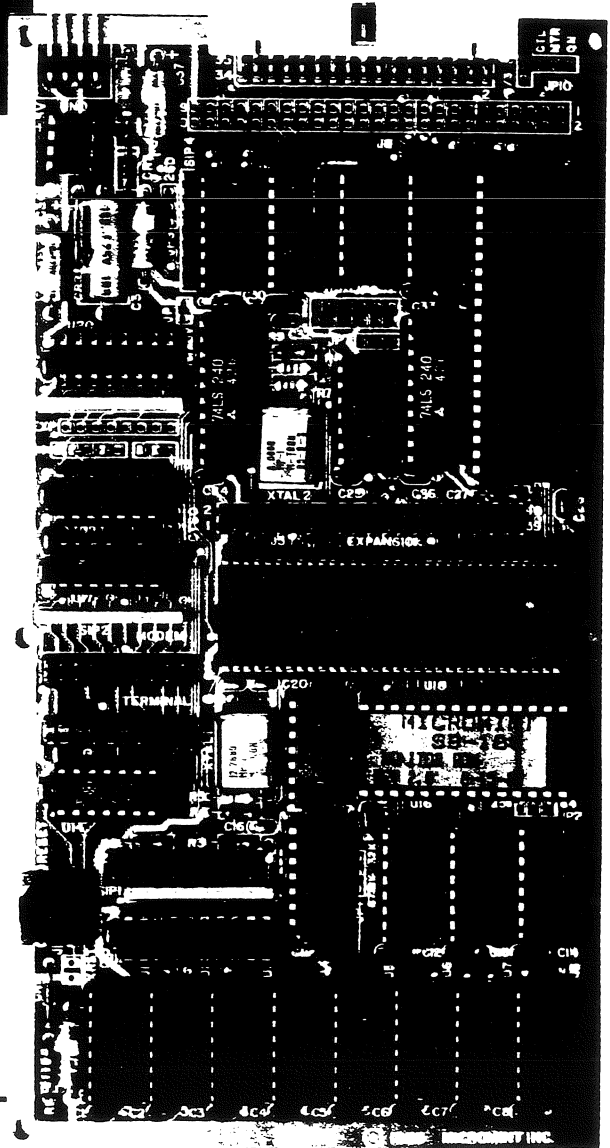
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TECHNICAL SPECIFICATIONS

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- Hitachi HD64180, an 8-bit CPU in a 68-pin PLCC package
- Superset of Z80 instruction set, including hardware multiply
- Integrated Memory Management Unit
- Dynamic RAM refresh
- Wait state generator
- Clocked serial I/O port
- 2-channel Direct Memory Access Controller
- 2-channel Asynchronous Serial Communication
- 2-channel 16-bit Programmable Reload Timer
- 12 interrupts
- Dual bus interface to 68xx and 80xx support chips
- 9.216-MHz system operation

MEMORY

- 256K bytes dynamic RAM on board
- Memory externally expandable to 4 Mbytes RAM
- Either an 8K 2764, 16K 27128, or 32K 27256 EPROM usable
- Full-function 9K ROM-resident monitor

INPUT/OUTPUT

- Console RS-232 serial port with auto data rate select to 38,400 bps
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SB180LO-1-30 — Same as above with Z-System software including ZRDOS, ZCPR3, editor, utilities, ZAS assembler, ZDM debugger, BIOS and ROM monitor sources, and BIOS for SCSI hard disk. Supplied on five 5.25" SB180-format DSDD disks

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SB180FXMME — 2 Meg. memory expansion board populated with 256K

\$319.00

switch on and off using its own switch.

My laser printer, which has a weird plug, is plugged directly into the wall and gets switched on when I need it. My modem isn't set up right now. Heck, there's so much room left over in this Olivetti case, I just might put the modem *inside* the computer. An internal modem, what a concept!)

There were still some problems:

1. The attachment for the reset button on the SB180FX is not marked or keyed in any way, and sure enough, the reset button wasn't working. When we turned that over the other way, that fixed that.
2. More seriously, the power supply was weak, as I feared it might be. The hard disk kept spinning down! The old supply was a Condor SP-146. I bought a Condor SP-155 and SP-157 power supply at Halted Specialties Co. The latter was only \$10, apparently because it has no -5 voltage, which PCs need, Jerry says, for the PC bus. But it supplies 93 watts over the three voltages my computer does use. Jerry and I replaced the SP-146 with the SP-157, and I gave him the SP-155.
3. Finally, the parallel port wasn't working, so I still had to use the Eagle for printing things. I held off on this, hoping that the power problem was causing it, but it wasn't. Finally, just this week, I went looking and *found the problem!* It's because this problem was so simple that I feel like a fool. Jerry and I had hooked up the internal parallel cable, the one that runs from the SB180FX board to the back of the case, upside down. This, despite that the cable has a red edge marking pin 1, and we marked the connector on the board before disconnecting the cable for the move to the new case. I reconnected the cable right way around, and it works just fine again!

So in sum, my SB180FX is in a nice new snazzy-looking case. And if you see someone walking down the street kicking himself in the rear, it's probably me.

Adventures of the mad collector

I've acquired a lot of computers this past couple of months. People ask me where I put them all. Right now the answer is, all over the house and garage. During my sabbatical we're cleaning out the basement, which is full of stuff from before the landlady bought the house, and a lot of stuff will go down there. Even so, at this rate I'll have to start the museum soon just to have room. Since the year started, I have:

1. Bought a Kaypro 4 at the January swap meet.
2. Paid the shipping to get an H-89 with hard disk, manuals, etc., from a person who wanted to see it get a good home.
3. Paid the shipping to get two boxes of H-89 magazines from another former CP/M user.
4. Picked up two Eagle IIs and a File 10 from a former ECUG member who couldn't find a buyer for them, so he gave them to me.
5. Helped Joe Wright and George Warner pack Joe's garage for his move to Virginia. George and I both got our pick of the stuff Joe wasn't moving. George got a couple of S-100 systems; I got a Morrow 1, a Morrow MD5 with hard disk, a Kaypro 10, an Intel Intellec-2, a Toshiba 8085 system, and seven PMC Micromates, one with a hard disk. Also lots of magazines, newsletters, manuals, disks, and a broken TVI 965 terminal.

(The Intellec system was Joe's first computer. He calls it his "massively parallel" system. This joke comes from the fact that it is massive (it's a huge steel cube) and parallel (it has two 2-MHz 8080 CPUs). But it isn't massively parallel, which is a computer term for something quite different! C'mon, laugh anyway.)

6. Traded the Intellec and the Toshiba, neither of which have Z80s, to Darrell Porter for a Vector 3 and a Vector 4, both

with hard disks.

7. Upgraded one of the Eagle IIs to an Eagle III by changing the drives, and traded it, along with the manual, CP/M disk, and UltraCalc disk that came with it, to a lady who was given an Epson QX-10 without manual or software by her boyfriend. Since she wants to do writing, the 784K drives in the III will work better for her than the 380K drives in the Epson, and this way she doesn't have to buy the boot disk and manual. I also sold her a copy of Spellbinder and showed her how to get started with her new computer.
8. Bought a CompuPro 8/16 from another Tandem employee.
9. Bought an Osborne 1 at the February swap meet. It works, whereas both Osborne 1s I had before have quit working with identical video problems. I'm beginning to think that Osborne models before the Executive and Vixen are junk, especially given all the modification needed before they have the features normally found in CP/M machines, such as 80-column screens.
10. Sold a copy of CP/M to a person in Pennsylvania with a non-working Eagle IV. As I suspected from our phone conversation, the only problem with the machine was that someone had wiped the system tracks of the hard disk, probably by using SYSGEN to copy a blank disk's system tracks to the Eagle IV. Use of the system and the SYSGEN on the disk I sent fixed the problem.
11. Gotten offers of other machines, which have not yet materialized, and inquiries for various boot disks. Anyone have a Quay or Visual 1050 boot disk? If so, please send them to me at once. I'll be glad to pay you back the mailing costs.
12. Bought an Eagle at Weird Stuff for \$35! The good news is that the drives are double-side, so it's a III, not a II, and it works. The bad news is that the no-

longer-made and irreplaceable video chips on the mother board are beginning to go bad. So I took the board from the other Eagle II and replaced the one that's going bad.

Gotta get that basement cleared out!

What next?

In September I picked up two Zentec 8000 terminals at the swap meet. At last, that great Zentec keyboard in a separate unit from the rest of the terminal (see the cover of issue 14 for a picture of the Zentec keyboard, and the editorial for my reasons for loving it). Alas, the manuals I got with the terminals were for a different model, and weren't user manuals anyway. That left me with no information to hook them up, when I wanted to do that, write articles on programming their function keys and customizing Spellbinder for them, and use one in place of my TeleVideo 950. I eventually got a service manual from the company that bought Zentec, but it took months, and even they don't seem to have the user's manual with the command information.

Nevertheless, I may eventually get that information and write those articles. But there are now two reasons, besides the rareness of Zentec 8000 terminals (these are the only two I've ever seen), why this has become a low priority.

One reason is that broken TVI 965 terminal I got from Joe Wright (above). Joe didn't feel it was worth the money to him, given his move and everything, to get it fixed. But it's smaller, lighter, and has more programmable function keys and special features than the 950 I've been using for several years. So I bought a user's manual from TeleVideo and paid them to fix the terminal. Expect me to babble quite a bit about the 965 for a few months!

The other reason is that Tandem is laying off 700 employees permanently. On January 30 I had worked there eight years exactly. On January 31, the Friday before my sabbatical, I was informed that I'm one of the persons being laid off. Officially my employment at Tandem

ends March 30. How this will affect things is uncertain. It depends on how quickly I find

another job, and with whom. I'll let you know as soon as I know.

THE STATE OF THE ART

Recent CP/M conventions

About a dozen CP/M and Z-System enthusiasts assembled October 18th at Walt Wheeler's house in upstate New York. *TCJ* #53 has a one-page report by Lee Bradley, and Lee's own *Eight Bits and Change!* volume 2, number 2, has pictures taken there.

TCJ also reports, in Jay Sage's column, a Z-System Festival he attended in Brackenheim, Germany recently (an exact date was not given). It seems that there is a very active Z-System users' group in Germany, with over a hundred members! Many of its members own the CPU280, a Z280 computer designed by member Tilmann Reh, soon to be available in this country.

Trenton Computer Festival, April 11/12

The annual Trenton Computer Festival occurs this year on April 11 and 12. Lee Bradley of CCP/M has arranged some extra stuff for CP/M and Z-System enthusiasts. Thanks are due to Jay Sage that we have the following information this far in advance of the events. Lee reports:

"We're going to try something different this year at the 1992 Trenton Computer Festival (TCF). We will hold our regular CP/M and Z-System Conference on Saturday, April 11, at the Mercer County Community College campus along with the other TCF events. Jay Sage reports that he signed up to give a talk on ZEX. Terry Hazen (ZP, ZDB, IOPCLK/LDR) and Paul Chidley (YASBEC) are new faces we will see this year. I don't know of any other scheduled talks at the Conference, but if you think you'll make it and have something you'd like to talk about, give Jay a call at (617) 965-3552, and he'll tell you how to get your talk on the agenda.

"The thing that will be different this year is

that we're going to have our own banquet and evening session! We've talked about it for years; now we are going to do it! We contacted two Red Roof Inns, the Princeton Hyatt, and a place Dan Mareck recommended called the Stage Depot Motel in Pennington, NJ. The Stage Depot Motel had the best deal on room prices and banquet facilities. We are therefore recommending to all who make it to the Trenton Computer Festival this year that they book their room at the Stage Depot Motel and join us for our own Saturday-evening 'Z Fest' activities.

"The Stage Depot Motel is on Route 31 about 25 minutes away from the Mercer Campus in Pennington, NJ. Their telephone number is (609) 466-2000. When you call them (Joe Perry or Steve Freidman will take your reservation) tell them you're with the 'Z Fest' party. Room prices, including the tax, are:

One double bed/One person:	39.59
One double bed/Two people:	47.08
Two double beds/One person:	47.08
Two double beds/Two people:	50.29

"We envision the following approximate schedule. The TCF session will run until about 4 or 5 PM on Saturday. Then we will adjourn to the Stage Depot Motel. The Dinner/Banquet (which quite likely will be an informal affair) will start at 7 PM (so don't dilly dally too long at TCF!). We will continue with a technical session in the banquet room as long as there is interest. On Sunday morning the Stage Depot will serve danish and coffee in the conference room, and we can continue with informal discussions. Those who wish to can go back to the TCF Flea Market for the remainder of the day."

For further information, phone Lee Bradley at (203) 666-3139. I'll have a map in the next issue of *The Z-Letter*. See you at Trenton!

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Place your order(s) either by writing Small Computer Support at 24 East Cedar Street, Newington, CT 06111 or by calling the office (voice) 203 666-3139 or (data) 203 665-1100.

The following software may be obtained from Small Computer Support. Please specify your disk format and your terminal requirements (ie. what kind of computer do you use?)

Public Domain Packages

CP/M Game Collection Disk: \$15: CHICKEN, CMAZE, QUATRIS, SKUNK, ANIMALS, NIM, OTHELLO, CONCEN2, LIFE, SNAKE and more.

CP/M Wordprocessing Disk: \$15: ZDE (Z System Display Editor,) installation program, documentation files, key compiler, help files. Hardcopy of a simplified manual on how to use this WordStar compatible full screen editor. Indexing utility. Spell Checker.

Printer Specialty Disk: \$15: Contains BRADFORD, MXPLOT, GOTHIC, RLEPRT and more. Most programs require Epson compatible dot matrix printer with dot graphics.

Time Manager Disk: \$15: Contains classic HANDYSYS, the CP/M answer to "Sidekick." To Do Notepad, Calendar, Phone List, Appointments and more.

SIL Compiler Disk: \$15: Contains a powerful subset of the C programming language. Compiler, documentation, assembler, linker, sample programs. CP/M hooks. Discussed in back issue of Eight Bits And Change.

NPS Cobol Compiler Disk: \$15: Contains compiler, runtime system, documentation, sample programs.

Mailing List Disk: \$15: ZDB (Z System Database.) NOTE: Requires Z System. Fast, easy to use. Generates mailing labels. Keeps track of clients. Generates selective listings and more. Understands time if ZSDOS installed. See Z System below.

Spreadsheet Disk: \$15: MC (MicroCalc.) Minimal, one sheet spreadsheet, but adequate for monthly records for small business.

Telecommunications Hardware/Software Package

New, 1200 baud Hayes compatible modem, cable, software and easy to understand hardcopy User's Guide on how to call BBS's, RCP/M's, Z Nodes, etc. With a modem you can easily download extremely interesting programs and text. Cost: \$90. A computer without a modem is like a home without a phone.

Eight Bits And Change

A bi-monthly computer and humor 'zine (which, we trust, you are, at this very moment, enjoying ...) Cost: \$15 per year (\$18 Canada, \$21 foreign.) Contains technical articles on CP/M and Z System, humor pieces, graphics, 8 bit news and events, tutorial material and more. If you like this issue, subscribe today! Back issues cost \$5 apiece. There are currently (as of 9/91) 6 back issues.

Computers and Printers

Office Master 2000 letter quality printer with manual, cable. Almost new. In perfect working condition. 35 cps. Letter quality. Daisy wheel. Cost: \$150 plus shipping. Call.

Single drive (300k) Royal alphaTronic computer, monitor, manual, cables and easy to read User Guide. Includes Small Computer Support Starter/Sampler Disk. Cost \$200 plus shipping. Starter/Sampler Disk alone costs \$15.

Kaypro II. 3 drives. Many extras. Software. Call for details. \$275 plus shipping.

Epson RX-80 FT Dot Matrix Printer. Call for details. \$225 plus shipping.

Z System

Small Computer Support is a Z System distributor. Z System is an extremely powerful CP/M replacement. NZCOM (for CP/M 2.2 machines) and Z3PLUS (for CP/M 3.0 machines) costs \$75. You get manual, disks. Easy to install. Join the community of Z System users. In our (admittedly biased) opinion, it's the best operating system ever written. ZSDOS, BDS Z, ZMAC also available. Call for details.

Training

Small Computer Support will teach you how to use your CP/M computer. Over the phone, at our office. \$15 per hour. You might be surprised by what your "obsolete" CP/M computer can do! Give us a call!

Contract Programming

Have a computer program you need written? Call with the specifics and we'll see what we can do for you.

Lambda upgrades SuperCalc offering

Having acquired a copy of SuperCalc 2.0, I can now send that in place of the remaindered version 1.12 disks I started offering last issue. Quantities are limited to the number of SuperCalc packages I have. The price remains \$30.

DIGI-FONTS super clearance sale

I have been selling Z-Fonts, downloadable SoftFonts that can be used with Hewlett-Packard LaserJet laser printers, since issue 7 (November 1990). These are generated from typefaces sold by a company called DIGI-FONTS, Inc., using a program also sold by them. While you need a PC to run this program, you don't need a PC to use the resulting fonts. All but a couple of the fonts used to print *The Z-Letter* are Z-Fonts.

DIGI-FONTS announced on January 15, 1992 that their DF (original LaserJet SoftFont format) and LJ3 (LaserJet III scalable fonts) typeface libraries, and the utilities to generate fonts from them, add kerning information to them, etc., are being discontinued. To sell what remains, DIGI-FONTS has slashed the prices of this software drastically. For example, both typefaces libraries plus the Digi-duit! font generator now cost, total, about what I paid for the original typeface library.

The reason for this sale is that DIGI-FONTS is getting into the PostScript business. All of their typefaces will soon be available in Adobe Type 1 format. This should set the world of PostScript fonts on its ear, as these are typically much more expensive than DIGI-FONTS' software.

DIGI-FONTS can be reached by phone at (303) 526-9435. If you wish to inquire about the typefaces or other software, I urge you to write to them *soon*, in hopes that their current line is still available. Good luck!

Lambda adds new fonts, kerning tables

Taking advantage of the above sale, I have ordered and received the second typeface

library and the Digi-kern! kerning utility. This consists of 12 new disks of typefaces, many of them symbol typefaces and display typefaces rather than everyday working typefaces. The kerning utility adds kerning information about certain pairs of letters to fonts generated from the typefaces. Word processors that know about SoftFonts can use this information to adjust the spacing of these pairs so that they look right in proportional print. A data base of this information for the fonts in the first library is included with the utility.

Lambda's Z-Font catalog will be updated to show what these new fonts look like, and to discuss kerning. I hope to be able to announce the completion of this revision next month.

Note that scalable LaserJet III fonts are not available from Lambda, and never have been. Interest in the Z-Fonts has not been sufficient to justify the expense, and I don't own a LaserJet III myself.

Lambda adds Alpha products, cuts prices

Joe Wright and his family are moving to Virginia, and Alpha Systems Corporation will be unreachable for at least a couple of months. To keep all of Alpha's products available in the meantime, and to keep a local source for them in the Bay Area, Joe has agreed to let me sell his products for a royalty.

Lambda will offer these products at the reduced prices that Alpha has instituted since our last issue. The products are NZ-COM, \$50 (formerly \$70); ZCPR 3.4 source code, \$35 (was \$50); and the NuKey, I/OR, and B/Printer IOPs, at \$25 each (previously \$40 each), or \$60 for all three IOPs (which used to cost \$90).

SYSTEM DISKETTES WANTED!

I am looking for the system or boot disk of every kind of CP/M or Z-System computer ever made. I would appreciate it if everyone who reads these words, who has a CP/M or Z-System computer and is willing to send me a copy of the boot disk, would send me a postcard listing what computer you own. If you own several, make it a letter and list them all. If you know

someone who doesn't get *The Z-Letter* (why not?), but he's willing, have him write to me also. All such correspondence will be answered.

I'm looking for these diskettes so that I can supply them to people who have the computers but not the diskettes, a common problem these days. Under my contract with DRI, I can legally do this, but even with my collection of over 50 computers, I don't begin to have a copy of every boot disk. If you have a Visual 1050 computer (for instance) and tell me, and I then send you the money to copy it and mail it to me, that becomes the master from which a copy can be made for some other poor soul who found a Visual 1050, but doesn't have any software for it.

But wait! How can I copy the boot disk for a computer I don't have? Don't you need to format the disk on the computer in question, then copy the utilities to the disk, and run SYSGEN to copy the operating system? As it happens, no. I have mentioned before my Tandem 6AX, which is a 80286 PC. With Micro Solutions controller cards and Sydex software, a PC makes a substitute when you need to do disk operations for a CP/M computer of a type you don't own.

For the hardware end, a CompatiCard IV is installed as the primary disk controller, and a MatchPoint card as a secondary controller. The original disk controller is jumpered so that it serves only as the hard-disk controller. Besides the usual collection of 5¼" soft-sector, double-density formats that are usual for most computers, the CompatiCard IV enables the PC to deal with single-density drives, 8" drives, and 3½" drives. The MatchPoint card handles Apple II, Apple II CP/M, and NorthStar formats.

The software is 22DISK and AnaDisk from Sydex (P.O. Box 5700, Eugene OR 97405, phone (503) 683-6033). 22DISK is a collection of programs which you can run individually, or from a menu. They let you format CP/M disks, erase files on a CP/M disk, read the directory of a CP/M disk, copy files from CP/M to MS-DOS, and copy files from MS-DOS to CP/M. The registered version of this shareware program knows over 300 formats; more every day as

people find obscure formats missing and send them to Sydex to have them added. AnaDisk is a PC tool of great use, the relevant feature here is its Copy command. With AnaDisk and the right hardware, you can make a copy of a CP/M boot disk, and *the copy is a working boot disk as well!*

22DISK costs \$25, so does AnaDisk. Send \$2.50 with each order to cover postage, etc. Tell them Lambda sent you!

Z-SUS volume II, disk 12

The final disk of volume II of has been prepared and mailed to Z-SUS subscribers. Libraries on this disk include:

LSH Version 1.10 (August 25, 1991)

by Rob Friefeld

LSH is a history and command-line-editing shell. It records command lines to a text file which may be edited and recycled as desired. Editing commands are similar to WordStar's. This release is for ZCPR 3.4, and includes Type 3 and Type 4 versions with and without a fixed log.

NTS Version 1.1 (September 25, 1991)

by Rob Friefeld

Based on NT, the Note Taker, this version has a simple full screen editor whose command set is based on WordStar. It appends short notes to files, automatically including the current time. This update adds a configuration option to skip the output file name prompt on exit. A command-line option /D to omit Date separator between notes was added at the request of Al Hawley, who sometimes uses NTS to build lists by appending items.

ZCNFG Version 2.1 (November 5, 1991)

by Al Hawley

ZCNFG configures COM files in the Z-System and CP/M. Version 2.1 expands the Text String functions 1 and 5 to include strings terminated by nulls or \$. A new function 9 makes it easier to configure escape keys and printer strings. New .HLP files describe the enhancements. You need this; earlier versions will choke on .CFG files that use the new functions.

ZERR Version 1.6 (August 22, 1991)

by Rob Friefeld

ZERR is a simple error handler derived from EASE 1.6z by Paul Pomerleau. When a program signals ZCPR to invoke the error handler, ZERR prints an informative message describing the error and presents the bad command for editing. The user can then cancel, skip (in a multiple command line), or fix the command. This version fixes an error in SUBMIT job cancellation. It now uses System Libraries version 4.4. The LSH-correcting version is distributed with LSH now.

Note that many programs set the program error flag, which is tested by IF ER, but do not invoke an error handler. The error handler is only useful when the command line can be corrected to solve the problem. For example, attempting to assemble a non-existent file should invoke the error handler, but an assembly error should set the error flag.

Z34RCP11, Carson Wilson's update of the RCP, has the ability to signal the error handler to invoke a transient command of the same name as a resident command which has just failed. In that case, the error handler just passes the command line back to ZCPR with a prefixed : (or whatever you install). For example, the resident CP command cannot handle an ambiguous file spec, but the more powerful transient program will.

ZERINS16 installs the control-key set for the editor and configures a few options.

Other files: Also included on this disk are Z3COM.CZT and ZFILEB43.LZT. Z3COM.CZT uncrunches to Z3COM.CAT, which announces a new version of Z3COM (see below) and lists, by disk, all the files in Z3COM. ZFILEB43.LZT uncrunches to ZFILEB43.LST, which is the latest list (#43, 11/18/91) of programs for CP/M and the Z-System. For each program this list gives the file name, latest version, the latest system it runs under (CP/M, ZCPR 3.0, 3.3, etc.), what Z-SUS disk it's on (if any), date of issue, size in kilobytes, size in records, CRC value, and remarks, including whether it's a commercial or proprietary program.

Z-SUS volume III, disk 1

This disk was sent free to current Z-SUS subscribers. Non-subscribers can order it for \$12.00. It contains the following update libraries:

EXTEND Version 1.4 (August 14, 1991)

by Bruce Morgen

EXTEND is a text file extender for all Z80 machines. It appends an input line to a new or existing ASCII file and allows the ZCPR3 *du:* and *dir:* forms. It's great for Z-System scripts, as it can keep notes on what happened during unattended batch runs. Version 1.4 still works with CP/M Plus, but uses SYSLIB file I/O and can extend empty files as well as files with no EOF byte in their last record. Now includes a safe Type 4 for ZCPR 3.4 systems.

LBREXT Version 3.4 (September 27, 1991)

by Howard Goldstein

LBREXT extracts crunched, squeezed and LZH-encoded files from LBRs. Version 3.4 has a new Inspect mode. This allows you to specify a wild-card member-file name and then tag the specific files you want to extract.

LBRHLP Version 2.0 (September 16, 1991)

by Howard Goldstein

LBRHLP consists of two programs for displaying help files from within LBRs. LHCCOM is for crunched files and LHQ.COM is for squeezed files. Both programs can also handle uncompressed files in libraries. Version 2.0 has an improved clear-screen routine that prints a CR/LF if no TCAP is present.

LD Version 1.1 (October 25, 1991)

by Gene Pizzetta

LD is a ZCPR3 library-directory utility that shows member files with their create and modify dates and times, sizes, compression method, uncompressed file names, CRCs, and indexes. Embedded comments up to 76 characters can be displayed. Printer and message-register output and wheel protection are included. Also for vanilla CP/M 2.2 and CP/M Plus. Version 1.1 is a major revision with many enhancements over LDIR-B.

Ampro Z80 Little Board/PLUS

by Davidge

FEATURES

Little Board/PLUS is a complete 8-bit, Z80-based single board microcomputer. It includes all the circuitry, software, and firmware necessary to construct a functional CP/M-based computer system. Some of the main features are:

- 4MHz Z80A 8-bit microprocessor
- 64K bytes dynamic RAM, 4K-32K EPROM
- Two spare counter/timer channels
- Floppy controller capable of controlling from one to four single- or double-sided, single- or double-density, 40- or 80-track mini or micro floppy drives.
- Two RS232C serial ports
- One Centronics printer port
- SCSI/PLUS multi-master I/O expansion bus:
 - SASI Disk/Tape controller compatible
 - ANSC X3T9.2 (SCSI) compatible
 - Multiple Little Board networking
 - Simple bi-directional I/O (17 lines)
- Mounts directly to a 5¼" disk drive
- Minimum external components
- Power connector and voltages compatible with 5¼" disk drive.

FUNCTIONAL DESCRIPTION

CPU, Memory and Timing

The heart of the Little Board/PLUS is a Z80A 8-bit microprocessor operating at 4 MHz. All system functions are based on a single 16 MHz master clock. System RESET is provided in two ways: upon power-up and via an external RESET switch.

Two types of memory are present: EPROM and RAM. A 28-pin EPROM socket provides from 4K to 32K bytes of firmware space. Jumpers are used to program the socket for a 2732, 2764, 27128, or 27256 type EPROM. The EPROM can be enabled and disabled by software.

System RAM consists of eight 64K x 1 bit dynamic RAM devices. Control circuitry for the RAM is entirely digital (no one-shots or R-C components) and provides a high degree of reliability.

A Z80 Counter Timer Circuit (CTC) provides four programmable counter or timer channels. Two of the CTC channels provide the baud rate used by the two serial I/O ports. The other two CTC channels are available for use as programmable timers in applications programs, for real-time clock functions, etc.

Serial Ports

A Z80 Serial Input/Output Controller (SIO/0) provides two fully programmable, asynchronous serial ports. Each channel has four of the standard RS-232C signals: TxD, RxD, RTS, and CTS. These signals are sufficient for interfacing most serial printers, modems and terminals.

In those cases where other signals are required for one of the serial ports, handshaking signals can be borrowed from the second port (if not needed by that port). Polarity and use of the handshaking signals is defined by the software.

Programmable baud rate clocks are supplied by the CTC for baud rates up to 9600 baud. Additional circuitry provides baud rates of 19.2K and 38.4K baud, for Port A only. Since the two serial ports are otherwise identical, either can be programmed as a terminal, modem, serial printer, or other RS-232C interface.

Parallel Printer Port

The parallel port provides the 10 essential signals of a Centronics-type printer interface: Data Bits 1-8, Data Strobe, and Busy. Both the Data Strobe (output) and Busy (input) handshake protocols are defined by software.

Floppy Disk Controller

A Western Digital 1772 floppy disk controller device provides all the functions required to interface with standard 5¼" "mini" - and most 3½" "micro" - floppy disk drives. The 1772 includes the following capabilities within a single LSI device:

- Digital phase locked loop
- Digital write precompensation
- Motor on start/stop delay
- Software controlled step rates

Timing for the floppy disk interface is derived directly from the 8 MHz system clock, without delay lines, R-C time constants, or one-shots. This again results in a very high degree of system reliability.

SCSI/PLUS Multi-Master Bus

A 50-pin "ribbon cable bus" interface which meets the specifications for the popular Small Computer System Interface (SCSI) - formerly called "SASI" - provides a general purpose multi-master I/O expansion bus. All SCSI Initiator and Target functions are fully supported, including bus arbitration and disconnect/reselect.

In addition, Little Board/PLUS supports the initiator function of AMPRO's innovative SCSI/PLUS extension to SCSI. This allows connection to up to 64 SCSI/PLUS Target devices, rather than the usual eight device limit of SCSI.

Applications include both direct and shared use of a wide variety of controllers and devices, as well as tightly coupled Little Board networks. For example, one or more Little Boards, a SCSI Winchester controller, and modules providing calendar/clock, serial port expansion, RAM disk, etc. might all coexist on the same SCSI/PLUS bus.

The 17 bidirectional I/O signals of the SCSI/PLUS interface may also be used as general purpose, software controlled digital I/O lines, without SCSI compatibility. In this case, the boards's 8-bit SCSI bus ID input register can serve as an additional 8 bit input port.

OEM PRICE LIST
AMPRO Z80 LITTLE BOARD

Manufactured under license by Davidge

HARDWARE

A60060-2	Ampro Series 1B Little Board Plus Computer	250.00
A60060-3	Ampro Little Board without SCSI	240.00
A60156	Project Board/80	75.00

SOFTWARE

A60101-1	CP/M and ZCPR3 (5¼", 40 track disks)	65.00
A60101-2	CP/M and ZCPR3 (5¼", 80 track disk)	65.00
A60101-3	CP/M and ZCPR3 (3½" disk)	75.00
A60103-1	CP/M, ZCPR3, BIOS Source (40 track disks)	100.00
A60103-2	CP/M, ZCPR3, BIOS Source (80 track disks)	100.00
A60103-3	CP/M, ZCPR3, BIOS Source (3½" disk)	110.00

LITERATURE

A74010	Little Board/Plus Technical Manual	15.00
A74025	Project Board/80 Technical Manual	10.00
A74006	Z80 System Software User's Manual	15.00
A74015	Z80 Hard Disk Software User's Manual	15.00
A74022	Z80 Hard Disk Backup Software Technical Manual	10.00
A74011	CP/M 2.2 Manual	15.00

REPAIR SERVICE

Flat rate repair for any serviceable Little Board	75.00
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VOLUME DISCOUNTS

10-24 units - 5%; 25-49 - 10%; 50-99 - 15%; 100+ - 20%

Prices are in US dollars. All products shipped FOB Buellton, CA. Prices effective 10-1-90 and subject to change without notice. All orders are shipped UPS Blue, C.O.D. unless other arrangements made at time of order.

LGET Version 1.3 (date?) by author?

This is the latest update patch to Rick Conn's original Z3 LBR-member extractor. Version 1.1 corrected a TPA-calculation bug in SYSLIB36; version 1.2 replaced SYSLIB36's touchy ARGV with a more robust routine lifted from Joe Wright's LX11 release; this one obeys the QUIET flag. LGET13 is half the size of LBREXT32 and a great deal faster, but lacks time/date and CRUNCH/LZH support. Use it to load a RamDisk from an LBR on a floppy or hard disk quickly.

LPUT Version 2.2 (August 26, 1991)

by Howard Goldstein

LPUT builds LU/NULU-identical LBR files and adds/replaces members. It is fully compatible with Plu*Perfect Date-Stamper, converting dates supplied by DS or imbedded by CR23D.COM to the specified DRI-style format (LUDEF5.DOC). Version 2.2 stores the library's creation and modification dates in the LBR directory and accepts a slash before the +nn option.

LX Version 2.2 (February 20, 1991)

by Bruce Morgen

LX22 is a Z-System tool that executes type 1, 3, or 4 COM files directly from a named or default library. Version 2.2 fixes the pesky absence of the appropriate newlines (CR/LFs) when LX is the designated extended command processor (rather than a secondary or "forced" ECP chained from ARUNZ or equivalent).

ZDT Version 1.0 (August 4, 1991)

by Joe Mortensen

ZDT is the Z-System Day Timer, a daily planning calendar derived from ZDB. If your system has a real-time clock, ZDT automatically reads it and displays the current day's schedule, checking the data file for any previously entered appointments, memos, etc. ZDT will also work with manual date entry. Requires ZCPR 3.0 or higher, VLIB4+ and extended TCAP. Small, feature-packed just like ZDB.

ZDT Version 1.0B (September 28, 1991)

by Joe Mortensen

Version 1.0B of ZDT fixes a minor bug.

Other files: This disk also includes the files

-PREVIEW2Z (uncrunches to -PREVIEW2), ORD-V301.SZS. (ORD-V301.SUS), and Z3HELP.CZT (Z3HELP.CAT). -PREVIEW2 lists the software expected in Volume III, Disk 2 (see below). ORD-V301.SUS lists the software included on this disk, as just described above, and lists other products available from Z-SUS (see below). Z3HELP.CAT announces the revision of the Z3HELP package, and lists what's on each disk.

Next disk: Files forecast for the next Z-SUS issue (Volume 3, #2):

ENVCFG Version 1.1: Tool used (with ZCNFG) to configure the current contents of the ZCPR3 environment.

EDZCM Version 1.0: Screen-oriented editor to display and edit NZCOM system elements and sizes from the NZCOM.ZCM system-descriptor file or from the Z3ENV.

Updates: CONCAT 1.6, JUST 1.3, FILT 8.1, PRNXTX 1.6, XFOR 1.4, and ZFIND 1.4.

Other Z-SUS products available

At the risk of turning my news column into an extended ad, I am going to print here the other products available from Z-SUS. In future, only new products or updates will be announced here. But these have not been listed in this magazine before.

Z-SUS Catalog Disk - \$2.00

In-depth catalog of Z-SUS offerings. Updated monthly. Softcopy only. Consists of separate .CAT files describing each Z-SUS offering. Includes latest version of Bill Tishey's catalog of Z-System files, ZFILEBxx.LST, as well as a full descriptive listing, ZFILEVxx.LBR, which may be used for ordering custom-made disks. (Foreign Surcharge \$2.00)

Z3COM package (11/23/90) (10 disks) \$50.00

The Z3COM package is a full set of executable (.COM) files supporting ZCPR3 and the Z-System. The package consists of 641 files, totalling 2696k, bundled on 10 5¼" DSDD diskettes (see Z3COM.CAT for a list of the files on each diskette). Configuration files for many

of the executables are included in a separate LBR called CONFIG. This is for convenient use with the new ZCNFG tool, which recognizes .CFG files from within libraries. This is a complete package, containing earlier programs designed under ZCPR 3.0 and 3.3, as well as the newest utilities supporting NZCOM and ZCPR 3.4. It also includes some essential general CP/M programs such as ARK, UNARC, CRUNCH, UNCR, NULU.

The Z3COM package has been updated and expanded recently. If you previously purchased the Z3COM package, you may order the updated version for half price. Please indicate UPDATE on your order. (Foreign Surcharge: \$6.00)

Z3HELP system (11/18/91) (6 disks) \$30.00

The Z3 Help System is a set of libraries containing on-line help for nearly all available Z-System programs and utilities. It is updated monthly by Bill Tishey to reflect new releases and changes to existing programs. The package currently consists of 26 libraries containing 571 member files, totalling more than 1700k (see Z3HELP.CAT for a list of the files on each diskette).

The Z3HELP package has been updated and expanded recently. If you previously purchased the Z3HELP package, you may order the updated version for half price. Please indicate UPDATE on your order. (Foreign Surcharge: \$3.00)

TCJ articles (08/31/90) (2 disks) \$10.00

Text files of articles relating to the Z-System printed in *The Computer Journal* by Jay Sage, Bridger Mitchell and others on the Z-Team. This collection includes TCJ issues 25 to the present. We encourage you to subscribe to *TCJ*

and offer this collection to show the quality of their articles. (Foreign Surcharge: \$2.50)

**Z-System Programmer's Toolkit (12/14/90)
(8 disks) \$48.00**

A comprehensive collection of tools for the serious Z-System programmer. Includes all the essential Z-System Libraries, as well as utilities, modules and routines which current Z-System programmers and developers find most useful. Note: Source code for the Libraries is proprietary and could not be included. This package contains the compiled REL modules (in Microsoft format) with complete documentation and online help. (Foreign Surcharge: \$5.00)

**Z-System Text/Word Processing Toolkit
(02/24/91) (4 disks) \$20.00**

Z-System programs and utilities useful in text handling and word processing. Includes: ZDE (the Z-System Display Editor), tools and tips for users of ZDE, WordStar CP/M 4.0, and the PMATE/ZMATE text editors; Z-System utilities for handling, filtering, and converting text; Z-System print utilities, and several classic generic CP/M word-processing utilities, including a full-blown spelling checker. (Foreign Surcharge: \$3.50)

Z-System Library/Archive Utilities (09/30/91) (3 disks) \$15.00

A unique set of the best tools in this category, including a number of CP/M standbys. Programs with similar function were included only when one provided a unique, valuable feature. Directory listers, file finders, typers, extractors, tools for handling ARC, ARK, ZIP and ZOO files, and major library shell programs (including VLU and NULU). (Foreign Surcharge: \$3.00)

Ordering information: See the ordering information and form on the next page.

Art Credits:

The patterns used on the front cover to represent different CP/M disk formats are reprinted from page 21 of *Geometric Design and Ornament*, by Edmund V. Gillon Jr., Dover Publications, Inc., Ontario, Canada, 1969.

Z-SUS ORDERING INFORMATION

1. We support nearly all 5¼" CP/M formats, both 48-tpi and 96-tpi, including Apple. We also support 8" CP/M formats. We may not be able to support hard-sectored formats. Please inquire.

Note to Amstrad PC owners: Due to the very high cost of Amstrad disks, we must place a surcharge of \$5 per disk on your orders. This charge is waived if you supply your own formatted disks in either 48-tpi or 96-tpi formats.

2. FOREIGN SHIPPING SURCHARGE: Applied to orders to countries other than the U.S., Canada, or Mexico. This surcharge is not subject to discounts, as it reflects actual postal costs incurred in processing your order.

3. Z-SUS DISKS:				US/Can/Mex	Other
	Subscription	12 issues		\$72.00	\$96.00
		6 issues		\$48.00	\$60.00
	Individual orders	1-3 issues		\$10.00	Add \$2 per disk
		4-9 issues		\$9.00	Add \$2 per disk
		10+ issues		\$7.50	Add \$2 per disk

4. DISCOUNTS: Z-Node sysops receive a 50% discount from standard rates, except custom-ordered disks. Multiple-disk rates for individual Z-SUS releases cannot be applied in addition to the Z-Node sysop discount.

5. Cash payments must be made in U.S. currency or by checks drawn on a U.S. bank. MasterCard and VISA credit cards (or the foreign equivalents) are accepted.

Mail to: Sage Microsystems East
 1435 Centre Street
 Newton Centre, MA 02159-2469
 Voice: 617-965-3552 (09:00 am - 11:30 pm, late eve preferred)
 Modem: 617-965-7259 (24-hr, 300/1200/2400 bps, password = DDT)

6. Other special packages will soon be available. We will also be accepting custom orders (specific .COM files, specific LBRs, source only, etc.). Watch for details in updates to ORDER.SUS.

Z-System Software-Update-Service Order Form

1. Name _____ Date _____
 Addr _____ Telephone (_____) _____
 City _____ State _____ Zip _____
2. Computer type/brand _____ Drive Type: _____
 Disk Format (e.g., 5¼" Ampro DSDD 386K) _____
 Alternate _____

3. Item Name and Description	Quantity	Total
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
	Subtotal:	_____
	Z-Node Sysop Discounts:	_____
	Foreign Shipping Surcharge:	_____
	Total:	_____

5. Check how you will pay for your order:

Check Money Order Visa Master Card
 Visa/MC Card account number _____ Expiration _____
 Issuing Bank _____
 City of Bank _____
 Signature _____

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Lambda Software Publishing

720 South Second Street, San Jose, CA 95112-5820, phone (408) 293-5176

1. **Spellbinder** Version 53H \$60
The best CP/M word processor. Includes all four manuals, in one binder. (Ltek)
2. **CP/M** Version 2.2 \$25
Got the computer, but not the operating system? I can sell you a legal copy. (DRI)
3. **MagicIndex** Version 3.00 \$100
Extends even Spellbinder's control of printers, and what it does to WordStar has to be seen, and then you still won't believe it! Used by us to produce this newsletter. Versions available are: SL (for Spellbinder or other ASCII word processor plus HP LaserJet or laser with HP emulation), SD (for standard word processors, Diablo 630 and similar daisy-wheel printers), WL (WordStar or WordStar clone plus laser), and WD (WordStar and Diablo). Please specify your word processor and printer when ordering. (CES)
4. **Computer manuals** Each \$15
Complete manuals now available for: Eagle CP/M, Eagle 1600, Eagle PC Plus and Spirit, Otrona Attache, and Pied Piper. Inquire about others. (Various companies)
5. **Eagle Computer Users Group newsletter** July 87 to October 90 \$15
All the issues done by the present editor of the only Eagle user group left. (Lambda)
6. **The Z-Letter (back issues)** \$3/issue (US, Canada, Mexico), \$5/issue (elsewhere)
Past issues of this newsletter. Issues 1-6 are available both in the original 5½ X 8½" format, and enlarged to the 8½ X 11" format of issues 7-present, until copies of the older format run out. (Lambda)
7. **The Z-Letter (subscription)** \$15/year (US), \$18/year (Canada & Mexico), \$45/year (all other)
Subscription price for this newsletters, which is published monthly. (Lambda)
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SCRIPT OF THE MONTH CLUB

A ZEX5 script to park a disk
by Jay Sage

Time for a change of pace! So far, all of my scripts have been command scripts for use with ARUNZ or as stand-alone aliases. This month I am going to present something quite different, a ZEX script.

ZEX is the Z-System's batch processing tool, the advanced development of the SUBMIT/XSUB concept from the original CP/M. Now that I think about it, it is awesome how far things have come with version 5 of ZEX. And the more I think about it, the more ridiculous and impotent the MS-DOS batch facility seems by comparison.

I find that Z-System users, and perhaps users of other computer systems as well, cover a wide range in terms of their tastes in screen displays. Some always make use of the Z-System quiet flag to suppress output from programs. In fact, they are not really happy unless absolutely nothing appears on the screen when a program functions as intended; only error messages are tolerated. Their ideal must be an empty screen at the end of a sequence of tasks!

At the other end of the spectrum we have the users who love elaborate screen displays, preferably with line graphics. These are the people who have been pressing for the extended TCAP (terminal capabilities descriptor) that will allow programs to display line graphics automatically just as Z-System programs have always done with full-screen cursor operations. Their ideal is to have a screen full of messages in pretty boxes at the end of a task sequence. ZEX is just the thing for them.

My tastes fall somewhere in between, but more toward the clean-screen school of thought. I like to see sign-on messages and progress reports from programs as they run, but I am happy with simple text displays. It is no wonder that I have little enthusiasm for the flashy colored screens of MS-DOS programs, not to mention things like Windows.

Consequently, as beautiful as ZEX is, I actually make almost no use of it.

There is one thing that ZEX does, however, that is indispensable under some circumstances (though my article in issue 53 of *The Computer Journal* presents a new, alternative solution): ZEX can feed keystrokes to programs that operate in interactive mode and cannot take their inputs on the command line. ZEX also has a great deal of control over the information that travels between the console and computer. As we will see, ZEX can send output to the screen over and above what is generated by the programs that run. Though this month's script does not use the feature, ZEX can also monitor the screen output from a program and change its mode of operation when he sees a specified character string.

This month's script is called PARK, and I use it as a poor man's disk-parking command. I do not have a program that will actually move the heads on my disk to inside tracks beyond those used for data. The next best thing I could think of was to use the Z-System disk utility program to move the heads to the very end of the data area, an area that will seldom be used. Since DU3 can accept its input on the command line, a standard command alias could be used for this function (and I actually do that), but the ZEX version does add some nice pizzazz.

Let's take a walk through the script, whose listing follows this column. The first thing we see is the name of the script, its author and creation date, and a long description of what the script does and how it does it. When a left curly brace appears in the first column on a line, everything starting with it is a comment up to and including the next right curly brace. Comments (both whole-line comments and end-of-line comments) can also be defined using a double semicolon (there are some examples later in the script). When the ZEX program (ZEX.COM) reads the script in PARK.ZEX, comments are completely ignored.

After the comment, we have a blank line. Blank lines and white space at the ends of lines are ignored, just as if they were comments. The first command we come to is CLS. This will clear the screen. The next active line has the directive `|say|`. ZEX5 directives consist of character strings enclosed by a pair of verticule characters. The SAY directive tells ZEX to send the following characters directly to the console screen. In this case we will get a message about what the program does in a pretty box followed by a message asking the user to stand by patiently while some work is done. The direct console output ends with the directive `|end say|`.

There are a couple of special things to note here. First, as we have seen, the verticule is a special command character in ZEX. When we want to use it as a normal character, we enter it as `$|`, just as we enter a dollar sign as `$$`. In general, ZEX uses the dollar sign as an *escape character*, a character which signals that the character coming after it is not to be treated as a command character.

The second thing to note about the direct console output is that it can end with the cursor in the middle of the screen. While PARK is doing its work, the cursor will set at the end of the row of dots.

The next line illustrates another powerful way that ZEX can control screen output. The SILENCE directive turns the console off so that output from programs will not be seen. In this script we do not want the output from DU to mess up our beautifully crafted screen!

The next line invokes the DU program in interactive mode. The next three lines in the script feed keyboard input to DU. The character `<` in the first column is a signal to ZEX that it should read the rest of the line as if the characters were typed at the keyboard. First we log in the D: partition using the LD command. Then we seek to track 2729. Finally, we select sector 72. This last command, by the way, is the one that causes DU to move the head physically to the designated track and sector. By the way, we could have put all this on a single line as:

```
< |ld | cr | t2729 | cr | s72
```

Here we have used the ZEX directive `|cr|`, which represents the carriage return character. Other similar directives are: `|lf|`, `|crlf|`, `|space|`, `|tab|`, `|esc|`, `|del|`, `|bs|`, and `|del|`.

Now, I must warn you that using the fancy features of ZEX is very tricky, and it often takes a lot of trial and error (mostly the latter, unfortunately) before the right approach is found. But with enough effort, almost any task can be accomplished. The next line is one that gave me a lot of trouble. Once DU has done its work, I want to display a message telling the user that the heads are parked and that the power can be turned off. And, I want to do this without leaving DU, just to be sure that nothing will cause the heads to move from the position I have worked so hard to get them into. In order for ZEX to read further in the script, it has to be instructed to fetch console input for DU. That is why the next line with the SAY text begins with `<`.

This SAY text adds another message to the screen. It illustrates the use of the directive `|crlf|` to insert new lines, though I could just as well have included blank lines in the script. The new thing we see here is the directive `|wait|` in the direct console output text. This causes ZEX to stop at that point and wait until the user types a carriage return. The similar directive `|ring wait|` does the same thing but rings the console bell while waiting.

The intention here is that the user will now shut down the machine. However, if he/she has a change of heart, pressing the return key will allow the script to continue. The direct output again ends with the `|end say|` directive. After that – almost lost – comes the character `x`. This character will be fed to DU and cause it to terminate operation. Remember, because of that `<` several lines back, we are still in the mode where ZEX is feeding characters to the program. As far as this function is concerned, it is as if everything from `|say|` to `|end say|` were not in the script. So, if the user presses return instead of turning off the power, the script will terminate back at the command prompt.

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Notice, by the way, that we never ended the SILENCE mode with an `|end silence|` directive. ZEX is smart enough to send out the text in a SAY block even if SILENT mode is on.

If you want to play with this script but do not want to work out the details for the DU commands, you can always use track 1 and sector 1. Replace the line with `1d` with one that

selects any drive you have (e.g., `1a`), or just leave that line out and work with the current drive. If you want to learn more about ZEX, check out the ZEX5.LBR package available on Z-Nodes or through the ZSUS service. You should also get the issue of The Computer Journal with Bridger Mitchell's article about ZEX (Bridger and I together designed ZEX5; he did the coding).

```
{
ZEX Script:      PARK.ZEX
Author:          Jay Sage
Date:           December 5, 1991
```

This ZEX5 script is used to approximate parking of the heads on a hard disk. It works by having the Z-System disk-utility program DU3 move the heads to a designated track and sector. The values should be chosen to position the heads as close as possible to the end of the disk. I generally assume that this is done when the highest numbered track and sector on the highest partition is selected. To determine those values, run DU3 on the highest drive letter and execute the '#' command. The display will show the number of tracks and sectors per track. For the track number below, use one less than the number of tracks; for the sector number, use the number of sectors per track.

```
}
```

```
cls
```

```
|say|
```

```
+-----+
|$|                                     $|
|$|   This program will park the heads on your hard disk using   $|
|$|   the disk-utility program DU3 to select the highest data    $|
|$|   track and sector on the drive.                               $|
|$|                                                                 $|
+-----+
```

```
                Please stand by while DU3 does its work
                with console screen off . . . . |end say|
```

```
|silence|
```

```
du
```

```
< 1d           ;; select drive D
< t2729       ;; number of tracks is 2730
< s72         ;; sectors per track is 72
< say |crLf| |crLf|
```

```
        * * * * Heads are parked --- turn off power * * * *
        (or CR to resume operation)
```

```
|wait| |end say| x
```

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LETTERS

December 31, 1991

Dear David,

YASBEC: Thanks for the response to my letter. Glad you didn't take offense. Just for the record, I think you're doing a great job, keep it up, here's my subscription renewal (enclosed). But my questions remain unanswered. So I'll ask again:

1. Who has a YASBEC that runs CP/M or the Z-System?
2. Where did they get the BIOS?
3. Does it run normal CP/M applications (WordStar, MBASIC, etc.) without problems or patches?
4. What disk formats does it read, write, and format?
5. How does it benchmark against other CP/M machines (MBASIC Sieve of Eratosthenes, WordStar search and replace, PIP read/write speed, etc.)?

I know your board isn't working yet, but it sounds like you know someone who can answer these questions. Answers like "I don't know" are fine; at least they delineate the limits of the work ahead. Maybe other readers will write in with their experiences.

9511 math chip: My sources say the 9511 is available from Hamilton/Avnet for \$136, or Bytech in Berkshire, England. Kreuger Tech, a surplus dealer at 2219 South 48th Street, Tempe AZ 85282, had some pulls about a year ago.

I used the 9511 in a 6800-based micro about 15 years ago. It ran quite hot, and was quirky to program. Specifically, we had problems with cumulative errors when doing repetitive floating-point calculations. AMD subsequently came out with the 9512, which fixed this by using ANSI-standard round off (like the 8087).

I also have Rick Lutowski's FORTRAN library of 9511 math routines that ran in a Z80-based Heath H89 with a 9511 card. They would need to be modified for the different I/O addresses on a YASBEC. Interested parties can contact me at TMSI, 323 West 19th, Holland MI 49423.

There *are* other co-processors. The RCA/Hughes CDP1855 is a CMOS chip that sells for about \$25. It does 8-bit fixed-point multiply/divide, and is cascadable; one chip for 8x8, two chips for 16x16, four for 32x32, etc. 1855s run up to 6.4 MHz, and generate 1 bit of answer per clock tick. National also made one, though I can't remember the number.

I also think the 8087 can be used with non-8x86 CPUs. I designed a board with a Z80 and 8086 on the same bus, and it wasn't particularly difficult. The 8087 bus interface is nearly identical to the 8086.

YASBEC alternatives: I'm not convinced that YASBEC is really that impressive a technological achievement. The 180 has been around for years, and there are already several boards that use it, with better-developed software and hardware platforms.

If you want performance, use a Z280. There is hardly any cost difference between it and a Z180, but you get 2:1 more speed and 16:1 more memory space.

If cost is important, put a 20-MHz Z80 on a PC-bus compatible card, and use it with 8-bit PC memory and I/O boards. You'll get a fast system at an unbeatable price.

Portable CP/M: Don't expect YASBEC to be a low-power board. Its resistors alone consume 200 mA, the PALs another 100 mA, and the floppy controller, SCSI controller, and math processor chips are normal NMOS power pigs. I expect it needs about 1 amp at 5 volts, not counting the disk drives or console. AA nicads would run it for half an hour. Contrast this with a Radio Shack TRS 80 model 100, an 8-bit 8085-based computer that runs 5-20 hours on AA cells.

If you want a portable computer, use a CMOS Z80 at the slowest acceptable clock speed. All other things being equal, cutting the clock speed in half cuts power consumption in half. A switchable clock speed lets you trade off speed and life. In fact, the on/off switch can

merely set the clock speed to zero; this is almost as low power as a true off, except that the computer picks right up where it left off when you resume using it (no need to boot).

I've been talking up the idea of a group design of a portable H89 in the Heath community. Basic idea is a 3-pound Z80-based system running CP/M, with a full-size keyboard, 80x25 LCD display, serial, parallel, and SCSI ports, no disks, but huge RAM/ROM disks (over 1 Mb). Any interest?

The Z80 today: EDN magazine publishes a designer's summary every November on the status of all microprocessors. I've enclosed pages on the Z80, Z180, and Z280.

To summarize, the Z80 is still the largest-selling microprocessor. It outsells all Intel micros combined, and sales are over 30 million a year and still growing. It will clearly last to the end of the century.

Z80s are available from 2.5 to 20 MHz. Quantity pricing is under \$1 for 4-MHz parts, or \$2.50 for a 10-MHz part. Dozens of versions exist, with various built-in features, memory, and peripherals.

The Z180 has been around for years, but isn't as popular. Speeds are 6 to 10 MHz, price is \$8 to \$12 in quantity. It's basically a Z80, memory-management unit, UART, and DMA controller. Addresses 1 Megabyte, has 8-bit multiply.

The Z280 is a Z180 with all the features of 16-/32-bit CPUs. Speeds are 10 and 12.5 MHz, quantity prices about \$18. It's twice as fast as a Z180, addresses 16 Mb, has an internal cache, 16-bit multiply and divide, and a math coprocessor is available.

Zilog's strategy is to offer ever more powerful CPUs that remain compatible with the Z80, yet cost less than the parts they replace. This increases sales volume, which lowers price even further. Z80s are moving into all sorts of computer peripherals, appliances, and entertainment products.

In contrast, the Intel 80x86 family is restricted to

the PC market, which is saturated. 8088/8086 sales are dying, and the 286 is flat. Intel sees its future in 386 chips and up, or custom ASICs that include some member of the -86 family. They want to produce specialized chips that aren't available from anyone else, and so can command very high prices (mainframes on a chip for \$1000).

Articles: It looks like you need some articles. The percentage of PC clone ads is getting rather high. Anything I can do to help?

Happy new year,
Lee A. Hart

Lee, thanks for the letter. It's good to hear from all corners, and all flavors of opinion. Let me answer somewhat out of order. Articles: Yes, I always need articles, and letters too. I would be glad to see most of each issue not spring from my brain. Please send submissions on floppies, so I don't have to retype them, with the format clearly labeled on the floppy. I'd like to see articles on almost anything CP/M or Z-System; how to use your favorite program to do thus-and-such, how you modified you (fill in name of system) for greater speed, higher disk capacity, or added a hard disk; or just plain news about some new program, some old program now being supported by someone, where to find used computers in your city, etc. In your particular case, Lee, if you wanted to write an article on how to build that 20-MHz Z80 system with PC hardware, preferably with a hard disk hooked up via SCSI as an option, I'd love to print that as a series. You could sell the system software, or I could sell it under my CP/M license and send you royalties. Portable CP/M: I assume that when you talk about a portable H89, you really mean a laptop, i.e., one that runs on batteries? I would buy a portable H89 in any case, but for a new CP/M laptop I would pay more. The Z80 Today: I can't print the pages from EDN here, because of copyright considerations, but thanks for sending them. Any reader who is interested in seeing them should check his local library for the November 21, 1991 issue of EDN, pages 107, 111, and 121.

Finally, on your YASBEC questions: Ludo van Hemelryck says he has one running in an AT tower case. Paul Chidley informs me that Cam Cottrell has an unbanked BIOS for the YASBEC, and that Cam and Hal Bower are working on a banked BIOS that

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they expect to have done in about a month (shortly after you read this). The bulletin boards are full of YASBEC files, and messages about putting YASBECs together. I found the ones between Jim Thale and Hal Bower particularly interesting, because Jim has a 200-Mb hard disk hooked up somehow. I've got to find out how he did that!

As for problems with various CP/M applications, or

benchmarks, I think it's just a little early for that. When more people have finished their YASBECs, and the bugs are found and eliminated from the various BIOSes, is the time for such fine-tuning. You raise a good point about formats, though. I sure *hope* the YASBEC's and CPU280's native formats, whatever others they can read, is the same set of formats that the Ampro, On!, DT42, and SB180 all used. The last thing we need is another new format!

PERSONAL ADS

Computers for sale

Osborne 1, \$50. Dynabyte MP/M computer with 8" drives and VT-100 terminal, plus operating system and manuals, \$75. Kaypro II with all disks and manuals, \$150. Prices negotiable. Contact R. Olivarez, (408) 985-2268.

SB180 computer for sale

9-MHz Micromint SB180 board, 256K ram, SCSI

card, cable, manuals, some disks of Z-System software. BEST OFFER. Contact Lloyd Hogan at (919) 335-1089.

Terminals for sale

VT-100 and VT-101 terminals, \$45 each. TeleVideo TVI 910 terminals, \$35 each. All verified in working condition. Shipping extra. Call Herb Johnson, (719) 578-0997.

MAGAZINE ARTICLES

The following magazines were received since last issue. Articles relevant to the CP/M and Z-System community, if any, are listed for each magazine. Where a magazine is generally of interest to our community, its subscription address is listed, along with the U.S. subscription rate, whether there was a relevant article this issue or not.

The Computer Journal, November/December 1991. *The CPU280*, by Tilmann Reh; *Zed Fest '91*, by Lee Bradley; *Implementing a keyboard buffer using the NZCOM virtual BIOS*, (and lots of other stuff too!) by Jay Sage; *Getting started in assembly language: Implementing functions with structured programming*, by Al Hawley; *The NZCOM IOP: A general-purpose IOP loader module*, by Terry Hazen; *Z-Best software: Spotlight on Gene Pizzetta*, by Bill Tishey. In the Real Soon Now category, *TCJ* is saying that George Warner has promised them an article on a generic SCSI daughter board, which would make it possible to add hard disks to any CP/M system. You should subscribe to *TCJ*. See the ad elsewhere in this issue for subscription information.

Computer Monthly, December 1991. *Commodore C-128 problems*, by Carl L. Henry, is the only CP/M article this month, aside for the regular columns (see below). The Sanyo 55X column this month discusses previous CP/M Sanyo machines, a little.

In the January 1992 issue, *Banners from the FOG CP/M library*, by Alan C. Wares, is the only CP/M article other than the regular columns.

CM has a beginning computing column, called "Fearless Computing", by Nancy A. Black; emphasis is on the Commodore 64 and 128, with fairly regular discussion of CP/M on those computers. Regular columns for Coleco Adam by Faye Deere, Commodore 64 and 128 by Gary Edwards, Apple II (but not in these two issues), and TRS-80 by Dr. Michael W. Ecker are still present; these machines either run CP/M or can run CP/M in addition to a proprietary operating system of their own. Bulletin-board listings and ads are also of interest. \$15.95 per year from Computer Monthly Subscriptions, P.O. 7062, Atlanta GA 30357-0062.

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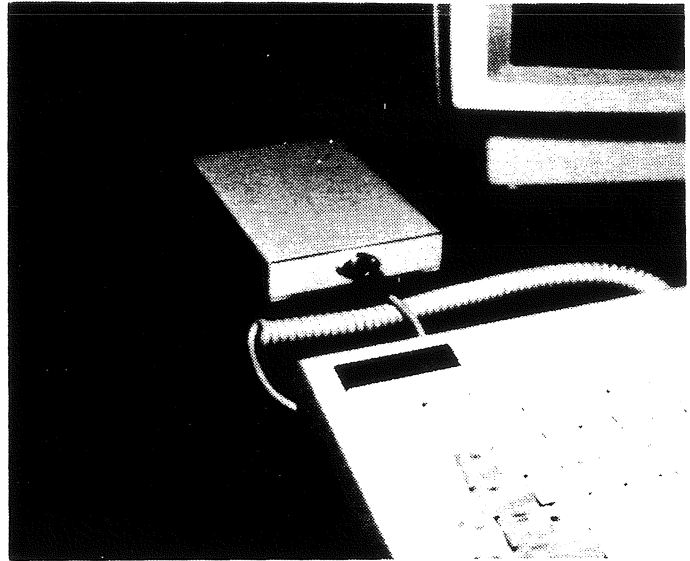
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- **Serial Data** KEYUP can transfer serial data to host computer at 300, 1200, 4800, and 9600 baud. TTL signal level.

The above functions are activated in neg. or pos. TTL logic on the DB-25P connector.

DM-6 FOR APPLE II

Cable ready to plug directly into Apple II Keyboard connector.
 Reset-out.
 Type Ahead Buffer options available with hardware jumpers on Apple II PC board.

Eight Bits and Change! Volume 2, Number 2, December 1991/January 1992. The cover this issue is a picture of James F. Taylor, long-time CCP/M member and computer humorist, who died November 19 just a month short of his 37th birthday. I only met Jim once, at the 1990 Z-Fest, but I will miss his funny contributions to *EB&C*. This issue was pretty much taken up with letters mourning his passing, pictures from Zed Fest 91, and a BASIC program to generate Mandelbrot-set pictures on a dot-matrix printer, plus samples from running it (I'm impressed!). See the Small Computer Support ad for subscription information.

The Epson Lifeboat Volume VIII, Issue #3, November 1991. This newsletter is all-Epson, but recent issues, like this one, are all MS-DOS and Valdocs with only a little CP/M. This issue has an announcement about a new boot ROM for the QX-10, by Greg Tarnowski, on page 150; on the following page, by the same person, information about a hard-disk upgrade for QX-16s that can be partitioned for MS-DOS, Valdocs, and CP/M in any proportion you want. How about 100% CP/M and nothing for the other two, Greg? And does it use the lousy I/O of the Intel chip to fetch data from the hard disk? Another member, Phil Parish, on page 153 talks about both of these, which he has and uses. Phil uses all three operating systems, it sounds like. I'm undecided whether to

recommend you subscribe to *Lifeboat*, given the way things are going; if you wish to, it's \$26/\$40/\$45 per year (for US, Canadian, and overseas addresses, respectively), National Epson Users' Group, Box 1076, Lemont PA 16851.

The Staunch 8/89'er #26/27, Sep-Dec 1991. *Connecting the Dots* by Paul Flexman, describes designing graphics for dot-matrix printers and printing them from BASIC. Daniel N. Jerome has a big article on *The H-89 power supply module*. As always, full of news and contacts for owners of Heath/Zenith CP/M machines. Regular contributions by Kirk L. Thompson, Pete Shkabara, and Hank Lotz. Ongoing discussions on creating diskettes formatted for both CP/M and HDOS, and designing a portable H-89. See the ad elsewhere in this issue for subscription information, but note that the price is now \$15 per year.

Silicon Valley Computer Society Journal, December 1991, January 1992. SVCS had no meetings at the end of 1991, and suffered a total purge of its Board of Directors between these two issues. Meanwhile, neither the old editor nor the new editor has printed any of the stuff I've sent in. I probably won't renew my SVCS membership, or bother listing the *Journal* here again.

EAGLE COMPUTER USERS GROUP

The Eagle Computer Users Group is one of the few remaining support groups for users of Eagle computers, both the CP/M line and the later 1600 and PC models. Because Spellbinder was bundled with Eagle computers, ECUG is also a Spellbinder users group. Anyone who acquires an Eagle computer is urged to get in touch with ECUG by writing Lambda Software Publishing, 720 South Second Street, San Jose CA 95112-5820, or phone Morgan Thielmann and Associates, (408) 972-1965. Do not use the old P.O. box, which will soon expire and not be renewed.

Meeting place

ECUG meetings are held at Tandem Computers Incorporated, 10435 North Tantau Avenue, Cupertino. To get there, take 280 to the Wolfe Road exit; turn left at Valco Parkway; turn left at Tantau; go over the bridge; and turn in where it says "Tandem Computers" on the left. Try to arrive on time, so that I can let everyone in at once. We also check the door every five minutes or so.

Meetings are the second Saturday of every month, from 9 A.M. to Noon. The remaining 1992 meetings are March 14, April 11, May 9,

June 13, July 11, August 8, September 12, October 10, November 14, and December 12.

NOTE POSSIBLE CHANGE OF MEETING SITE: The March meeting will still be at this location. April and later meetings may be at another site, as our Tandem sponsor has been laid off. If he gets another Tandem job, or we find another Tandem sponsor, meetings will continue here; otherwise, they will move. Watch this space for announcements. In a pinch, call David McGlone at (408) 293-5176 *no later than 10 P.M.* the night before the meeting to find out where the meeting will be. I repeat for emphasis, the *March* meeting will still be in our regular place, so *do not* call and ask about it, only later meetings.

December 14 meeting

In December I didn't get to the flea market at all. Who knows what I missed! Our meeting was attended by me, Bob Kowerski, Ken Thomson, David E. Honkala, Dick Dethlefsen, Dave Banoff, Jack Morse, Gene Chapin, Jerry Davis, and Shirley Welch. Computers present were Ken's Eagle, my Micromint SB180FX in its new case, and my Tandem 6AX PC.

The ECUG print library was present so that members could take anything they could use; about a third of it was taken. Also, Ken Thomson brought printer covers and some loose-leaf binders for the taking. The remainder are sitting at my house, call to come over or to ask me to bring them to a future meeting.

Ken and I tried Sydex' AnaDisk to copy my computer's boot disk. The copy is a good boot disk! This means I can make boot disks for computers I don't have, as long as I can get the disks themselves! 22DISK was not demonstrated because the person who requested a demo didn't show up.

January 11 meeting

Attending our January meeting were myself, Dick Dethlefsen, Bob Kowerski, Ken Thomson, David Banoff, Shirley Welch, Jack Morse, Dave Honkala, and a welcome surprise, BBS sysop

Ludo Van Hemelryck, down from Washington visiting his daughter. Computers present at the meeting were Ken's Eagle, an Eagle III and File 10 of mine, and a Kaypro 4 I bought at the swap meet before our meeting.

Ludo talked about his YASBEC, which he has finished and put in an AT tower case. The Kaypro 4, which came with all the original manuals, disks, and a carrying case, was played with. I bragged a bit about the Eagle, which we had changed from a II to a III with double-sided drives at a previous meeting. The half-height drives we installed left gaps above and below them in the front of the Eagle, which was designed for full-height drives. So I measured the whole right side of the front of the case for a rectangular plate with holes just big enough for the half-height drives in their current locations, cut this mask out of heavy plastic, painted it black to match the bezel, and glued it in place with rubber cement. The result looks very professional, and yet it can be removed very easily should the drive configuration change.

The File 10 had to be demonstrated, too. I've had hard-disk Eagle IV models before, but never had a chance to play with a File 10 or 40, and this is true of most of our members. Eagle did a terrific job with these external hard-disk units. The Eagle II and Eagle III ROM checks whether a File 10 or 40 is hooked up to the SASI port when the computer is booted. If there is one, the Eagle boots directly from the File 10/40 hard disk, just like an Eagle IV or V! Not only that, but the reset button on the back of the Eagle resets both the Eagle and the File 10! Truly slick. If only Eagle had been as good at business as it was at designing computers.

February 8 meeting

I bought an Osborne 1 at the swap meet, but didn't bring it to the meeting. Present this time were Shirley Welch, Bob Hall, Ken Thomson, Dave Banoff, Bob Kowerski, Dick Dethlefsen, Bill Josephson, Jack Morse, Jerry Davis, and me. The computers at the meeting were Ken's Eagle and my SB180FX.

The usual discussion of various computer

THE STAUNCH 8/89'er
--> Generic CP/M Software <--

ACANAL (By Gary Appel) \$6
An electronic analysis program to perform AC nodal analysis on an electronic network. Element types may be: resistor; capacitor; inductor; transconductance; transmission line, open line stub, and shorted line stub; coupled inductors (transformer); quartz or ceramic resonator; two-pole monolithic resonator; and transistor (hybrid PI model). Various input/output and gain parameters permitted. Calculations are single-precision.

dBASE II PROGRAMMER'S NOTEBOOK (By Steven G. Meyerson) \$6
Originally published as a booklet in '83 and '84, this is a collection of tips and routines for using dBASE II and writing applications in its command language. Included are hints for using FIND, DO CASE, QUIT TO, semicolons, justification, report column headings, the STR and TRIM functions, terminal and printer commands, sorting, debugging, displaying logical fields, linking database files, two-column printing, menus, error checking, and even a flashing display using H/Z-19/89 terminal codes. As a bonus, it also includes S-MAIL, a mailing list package for dBASE II that features menu-driven operation; adding, listing, deleting, reviewing and altering records; printing labels; and archiving deleted records.

FILEBASE (By Tom Markowitz, EWDP Software) \$6
A "variable-length field" database manager which EWDP is releasing as shareware. Fields are in "comma-delimited ASCII" format, such as those created by BASIC and other higher-level languages or WordStar's MAILMERGE add-on. Defining field length or type (character or numeric) are therefore **not** required when setting up a database. Functions include adding fields, appending records, calculations, indexing, joining existing fields, restructuring the file layout, sorting, and printing reports and/or labels. Registration information for support and a printed manual is embedded in the program. But the package is menu- and prompt-driven, so you may never need the manual.

LUCIDATA PASCAL (By D.Gibby and L.Reeve) Version 3.8 \$25
A substantial subset of the Pascal language, the compiler translates your ASCII source code into a file of p-code ("pseudo"-code). That file is then interpreted by a run-time system (PRUN or RUNCOM). This results in a language package that is faster executing than conventional interpreters, yet the p-code file is generally smaller than equivalent code produced by a conventional assembler. If independence from the run-time system is desired, a command-line pragmat can combine the run-time system with your p-code file. If execution speed is critical, a p-code program included with the package will translate p-code files to source code for Microsoft's M80 assembler and linker. Not as extended as Borland's **Turbo**, nor as fast during compile. Includes a 100-page hardcopy manual.

MAGIC WAND/PEACHTEXT HELP (By Kirk Thompson, Randall Stokes, and Hank Lotz) \$6
This package for Magic Wand, PeachText 9, and PeachText 5000 word processors has three parts. One is menu-driven online **HELP** set up as an **include** file. This is a command reference to both **EDIT** and **PRINT**. Another is **PROCESS**, a print preprocessor. This program lets you directly support the custom features of your dot-matrix printer (such as underlining and italics). The program, as supplied, supports Gemini printers. Instructions are included for editing the ASM file and assembling a custom version for your own printer. The third part of this package is **SALVAGE**, a utility for recovering a MW/PT file from memory after an abort, BDOS error, or system reset.

MCOLS (By Hank Lotz) \$6
A utility that creates multiple-column listings from a single-column input file. The user specifies the number of columns (2 to 13), space between them, effective page width and length and horizontal pitch, and the record to start at. It also lets you direct the output to a disk file as well as console or printer.

The Staunch 8/89'er General Software Catalog \$6
Staunch's holdings are too extensive to list here. An on-disk catalog of software for CP/M and HDOS is available. Much of the software has been released to **Staunch** by various vendors or **Staunch** subscribers.

Note: Prices include first class shipping in the continental U.S. Supported disk formats are Heath/Zenith soft-sector (H-37) and 10-hard-sector (H-17); most 40-track, single- or double-sided, soft-sector CP/M (such as AMPRO, Cromenco, Kaypro, Osborne, Televideo, or Xerox); and PC-XT.

Kirk L. Thompson
Editor, **The Staunch 8/89'er**
P.O. Box 548, West Branch, IA 52358
Voice: 319-643-7136 (eves and weekends)

topics, both PC and CP/M, ensued, and questions were asked and answered. Bob Kowerski produced a page from the January 20, 1992 issue of *PC Week*. On page 52, Allen Wilkinson, a long-time Eagle support person (he developed the last few releases of Eagle PC and 1600 ROMs after Eagle died) writes:

To the Editor:

Your chart in "The World of the Chip" supplement (Nov. 11, Page S15) contains a historical error regarding the 8086 processor.

The first PC compatible to use the 8086 was Eagle Computer's 1600 series, running at 8MHz, in December 1982. At the time, Eagle's 1600 sported a SASI-based hard drive before IBM had even produced its own hard-drive XT. Thus it was a first in many ways.

The Eagle 1600 was reengineered and released as the Eagle Turbo in 1984, the same year Compaq released the Deskpro. It was this Compaq product that you mistakenly cited in your chart.

Although Compaq is often cited for its technical prowess, many other innovators have existed, and they should be credited.

In 1983 Eagle and Compaq frantically raced to be the first to release IBM-compatible hard-drive CRT portables and to win space on Computerland's shelves. These two companies also raced neck and neck to reach \$100 million in sales per year.

Although Compaq ultimately won the latter race for sales, the mere fact that the company survived should not alter our recording of important engineering triumphs by competing brands.

Allen L. Wilkinson
Wilkinson Micro
Irvine, Calif.

I also announced to the club that I've been laid off at Tandem, effective March 30, and so this meeting and the next are the last two we can hold here, unless I get another Tandem job I'd already applied for, or I can find another Tandem sponsor. Members should look for

alternate places to meet, so we can discuss them next meeting.

Other than that, I talked a little about the TeleVideo 965 terminal, and suggested that I could demonstrate some of its features as a program for next meeting.

March 14 meeting

Our March meeting will be in the usual place (Tandem Computers, 10435 North Tantau Avenue, Cupertino) at the usual time (9 AM to Noon). An important topic will be where we will meet from now on, so if you have any ideas, check out their feasibility before our meeting and come prepared to tell us about them. I will also have my new terminal by then, and will demonstrate its features, and how to use them in conjunction with the Z-System, as time and discussion of the meeting-place issue permits.

ECUG software libraries

ECUG has two software librarians. Anyone seeking CP/M or Z-System software should contact Ken Thomson, 71 Rosenkranz Street, San Francisco CA 94110, phone (415) 648-7550. For PC (MS-DOS) software, our librarian is Jack Morse, 7390 Rainbow Drive, #1, Cupertino CA 95014, phone (408) 252-6103.

When you request software from Ken or Jack, send them floppy disks, not money, and the postage to mail the disks. They will copy the software you request onto your disks and mail them back to you. That way no money changes hands, as would be the case if they continued to charge a fee per disk.

PC software received since last issue:

From Next Stop Computing, San Carlos, California, (1) Gen Invoice Sales Tracker Plus 3.4 (unregistered shareware), (2) EZX-WRITE 2.3 word processor, (3) Mindreader 2.0 "artificial-intelligence" word processor. Bought by Ed Rush at De Anza College Bookstore and donated to the library.

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