

# The Z-Letter

Number 7

November 1990

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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 © 1990 by the editor: David A.J. McGlone, Lambda Software Publishing, 720 S. Second Street, San Jose, California 95112, 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. Mail letters, articles, and news to the editor, address above. 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

Beginning this issue, *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 \$12 per year for

subscriptions mailed to U.S., FPO, or APO addresses. Subscriptions mailed to addresses outside the U.S., including Canada and Mexico, cost \$24 per year. Existing subscriptions will be prorated. Back issues cost \$2 apiece; every back issue is kept in print.

Subscriptions should be paid by check or international money order in U.S. dollars, mailed to Lambda Software Publishing.

### How to read your mailing label

If you are a subscriber, your address label lists when your subscription expires, for example, "Subscription expires with issue 12". 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, because CP/M and Z-System software, repair services, computers, and magazines cannot be found in computer stores or in most computer magazines. If you provide a service to the community, please send us ad copy, either camera-ready or on disk. If you stop doing so, 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 as well.

Subscribers may place personal ads at any time. Each ad will be run three times automatically. If the item being sold has not been placed in that time, or the item desired has not been found, the ad can be reinstated after a lapse of one issue. If the purpose of the ad has been accomplished before it has run three times, please inform us so that the ad can be dropped at once.

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**Index available**

*The Z-Letter* is indexed annually. The index for issues 1-5 appeared in issue 5.

**WHAT THE WORLD NEEDS NOW**

I am a collector of CP/M computers. If you have a model of CP/M computer you are not using, I may buy it from you, provided that (1) it has a Z80, HD64180, or Z180 CPU, (2) it runs CP/M 2.2, CP/M 3.0, or the Z-System, and (3) I don't have one of this model already. I am more likely to buy it if it works (or has something obvious and easily fixable wrong with it), and I prefer to have the manuals and all the software that came with it, but these are negotiable.

I did not set out to be a collector of old computers. I bought my first computer, an Eagle III, because it had 1.5 Mb of storage without a hard disk (which in those days added another \$1000 to the price of the machine), and I could get a data-base manager powerful enough to do the specific job I had in mind. Even when Eagle stopped selling CP/M machines, I saw no need for more than one computer (although prices had dropped enough by then that I replaced my Eagle III with an Eagle IV, which had a 10-Mb hard disk).

What did me in was Gary Sturdivant coming to work at Tandem Computers. Gary had worked for a subsidiary of Epson, and knew that Epson had a lot of QX-10s in a warehouse for very cheap. How cheap? At \$50, I could not resist getting one. Other machines I have acquired for \$50 since then include a Televideo 801, a Superbrain, and an Epson Geneva laptop.

People often ask me what a CP/M machine is "worth" today. In all honesty, I have to say that a CP/M machine is worth more than it ever was before, since NZ-COM makes installing the Z-System very easy for a CP/M 2.2 system, and Z3Plus does the same for CP/M 3.0 system. However, the *market value* of a CP/M system today is zero. In support of this, in the last few months I have obtained an Eagle II and a

Kaypro 2, the latter with full manuals and software, for the bargain price of "you come get it, and it's yours."

**Love, sweet love**

A good way to tell how long a computer-store salesman has been in the business is to ask him whether he has any CP/M software. The real old timers will laugh in your face (no way to make sales, if you ask me). The newer ones are more likely to scratch their heads and say "CP/M? Never heard of it. Is that a spreadsheet program?" After all, we all know CP/M is obsolete. All the magazines said so, before they stopped mentioning it at all. These days the magazines debate whether MS-DOS is obsolete, and you can't even find books on CP/M in most libraries.

It all depends on your definition of obsolete. If *obsolete* means that there are newer operating systems, then CP/M is obsolete (though fundamental improvements to the Z-System such as NZ-COM/Z3Plus and ZDDOS/ZSDOS are newer than MS-DOS). If obsolete means that the system cannot do what you need it to do, then for 95% of people who use computers, CP/M is not obsolete and never will be. Most computers are used most of the time for word processing, and CP/M word processors like Spellbinder are far easier to use, and work far better, than MS-DOS standards like Word Perfect and MicroSoft Word.

Aside from these practical considerations, there is more than a little affection involved in the matter for collectors of old computers. These are the machines that we learned how to "compute" on, and we have a big investment in them. This investment is not only emotional. Most of us have a set of software applications with which we're comfortable, and see no

reason to switch to a completely different set that doesn't work as well, just so we can type with blue letters on a yellow screen, or have fish swimming across the screen when we leave it alone for a minute.

Finally, there is the moral issue, strange as that sounds. IBM jumped into a flourishing market where lots of little- to medium-sized companies were fairly competing, and flattened it all with the weight of its marketing machine. I, for one, am not willing to be an accomplice to that. The dirty deed was accomplished largely by lying. Nowadays PC magazines are willing to admit that the 8086 was an 8-bit chip, that its I/O is basically flawed, and that the original IBM PC ran slower than the CP/M machines of the day. They admit this because they want people to buy newer PCs, with newer chips. But back when the competition was our machines, they denied it all. Why should I deal with such people?

#### **Networking and other trendy words**

If the present owners of CP/M machines are to remain owners of these machines, certain things must be organized in our community:

**Bulletin boards.** A computer community needs bulletin boards that the members of the community can use to obtain software, advertise their needs, and ask questions of each other. Fortunately, there are lots of bulletin boards. *Computer Currents*, *MicroTimes*, *Computer Shopper*, and *Computer Monthly* all list bulletin boards. Most of them have at least a CP/M section, and many are entirely devoted to CP/M and the Z-System. Online services such as CompuServe and GENie have CP/M SIGs (Special Interest Groups), as do computer networks such as Usenet.

One of the things you can download from most bulletin boards is list of bulletin boards! Jay Sage keeps a list of Z-Nodes (bulletin boards devoted to the Z-System, which are registered and agree to abide by certain rules); this can be found online as a file named, for instance, ZNODES57.LST. The name tells you nothing about how current the list is, except that #57 is newer than #56 and older than #58. Ian Cottrell

keeps a separate list of Remote CP/M Systems, which is available on many BBSes as the file RCPM1190.LST, for instance. Here the 1190 tells you it's the list for November 1990.

**Somewhere to get software.** One of the questions I am most frequently asked is where CP/M software can be gotten. There are still a lot of companies selling it, but CP/M software can't be found in computer stores, nor is it advertised in the computer magazines. Some of it is advertised on the bulletin boards, but a person who just picked up an old CP/M computer with no software can't get onto a bulletin board, anyway. Clearly, what is needed is a monthly magazine that carries ads.

**CP/M magazines.** It is this need which has led to the decision to make *The Z-Letter* a monthly magazine. Letters, ads, and news need to be disseminated monthly if they're to be of any use. Even articles are more useful if they're published regularly, because then a long article can be broken in two if needed, and a complex topic can become a regular series.

**User groups.** Many of the same magazines that list bulletin boards list user groups. If there is a user group near you that specializes in your machine, I cannot urge you strongly enough to attend its meetings. Not only will you have people you can ask all the questions that have been frustrating you, but your morale will benefit greatly from being able to mention what computer you have without getting laughed at. Even if it is not local, you should subscribe to the newsletter of a group that supports your computer. The articles can tell you things you never dreamed of about your machine. If there is anyone repairing old models of your machine, or upgrading them (adding hard disks, adding ram disks, putting in faster drives, etc.), only a user group is likely to know.

**Conventions.** A convention like CCP/M's Z-Festival, or the Trenton Computer Faire, is like a one- or two-day user-group meeting. Not only will you receive all the benefits listed above, but there will be panels, question and answer sessions, and rooms for demonstrating and selling computers and computer software.



# The Computer Journal

Applications – Programming – User Support

## CP/M and Z-System Support

TCJ continues to support 8-bit CP/M and ZCPR systems with articles by Jay Sage, Bridger Mitchell, Chris McEwen, Harold Bower, Lee Hart, and other authors. Topics include the Z-System, Advanced CP/M, Shells, Programming for Performance, S-100, and much more. Some examples are:

- The Z-System Corner, by Jay Sage.
- Advanced CP/M, by Bridger Mitchell.
- Using BYE with NZCOM, by Chris McEwen.
- Improving the Ampro LB, Discard the 88Mb Hard Drive Limit, by Terry Pinto.
- LINKPRL – Making RSXes Easy, by Harold Bower.
- Programming for Performance – Advanced Z80 Assembly Language Techniques, by Lee Hart.
- Shells, by Rick Charnes.
- S-100 – There's Still Life in the Old Bus.

## Plus Much More

The computer industry is changing very rapidly, and no one knows exactly what systems we will be working with a few years from now. TCJ includes many topics which are machine independent in order to prepare you for the future. Some examples are:

- Non-Premptive Multitasking, Software Timers, Using SCSI for Generalized I/O, Designing a Remote System Program, Writing a Filter to Convert Foreign File Formats, A Mouse on Any Hardware, A simple Multitasking Executive, and Programming the LaserJet Using Escape Codes.
- We are also expanding our coverage of languages with sections on C, Modula-2, Assembler, and Forth.

Embedded controller programming and hardware design will be one of the primary areas offering employment and entrepreneurial opportunities in the 90's. TCJ is now scheduling articles on:

- Application oriented embedded controller design and implementation. This will include the programming, hardware, production, and cost factors which must be considered.
- Communications between processors within a system, and between systems. Parallel and serial communications using peripheral chips and microcontrollers, including fiber optics and infrared.
- Multitasking and multiprocessor design.
- Instrument and control systems using A/D and D/A.
- Motion control with D.C., servo, and stepper motors.
- Reader-buildable controller projects using Z80, Z8, 8031, 68HC11, and other controllers. Complete instructions and software on disk will be included.
- Tutorials on controllers, peripheral chips, linear devices, wire wrapping, etc.

## Can you afford to miss this important information?

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If you can't attend such a convention, give serious thought to getting together with other local user groups and holding one of your own! Be sure to let me know about it, so that I can come, too.

**But still it moves . . .**

In conclusion, the CP/M market today is not like the MS-DOS market or the Macintosh market, and must not be approached in the same way. The MS-DOS and Macintosh markets are like new car dealerships; they deal in high-pressure salesmanship and large volumes. The CP/M market resembles more the market serving those who maintain or even

restore old cars. Motivated by love of the old cars, and appreciating that they were often superior to the cars of today, the hobbyists keep Model Ts, VW Beetles, and other old cars running. They form a community of people with common interests who can be intensely loyal to the specialized magazines that inform them, the clubs of others interested in the same models, and the dealers who retain the knowledge to fix their cars and the parts to keep them running. Some CP/M firms still attempt to make their living in our market, and I wish them the best of luck. For most of us, our living must be earned elsewhere. Like actors or writers, our day jobs must provide the money for what we really care for.

## Z-FESTIVAL 1990

The Z-Festival, or just Z-Fest, is an event held by CCP/M, the Connecticut CP/M Users' Group. Z-Fest '90 was held this year on Saturday, October 27, in three rooms of the Seminar Hall of Hartford Graduate Center, in Hartford, Connecticut. This year I heard about it with enough advance warning that I could attend.

Z-Fest did me some good before I even left San Jose, because I took two days' vacation beforehand to get ready for it. In those two days I sorted out all the piles of papers in my computer room and got thoroughly organized. I even managed to find the floor! Lee Bradley of CCP/M promised me a Televideo 950 terminal, or one that emulated a TVI 950, would be there for me, so that I wouldn't have to reconfigure Spellbinder for a strange terminal when I could be demonstrating its features instead. Off I went to the airport with my Micromint SB180FX tucked into a Benetton bag, and everything else stuck in my briefcase and a large suitcase.

### Computers can fly?

The airlines are remarkably foolish about bombs. On the way out, since I hadn't packed my power cord or my boot disk with my computer, and wasn't about to let them X-Ray my hard disk, I satisfied them by unscrewing the lid from my computer and letting them see

for themselves that there wasn't room for anything but computer, floppies, hard disk, and power supply. Coming back I remembered the power cord, so they were satisfied to have me plug it in and see that it lit up, even though I had no terminal with me and couldn't show that it could do anything. I warned the security people on all occasions that they ought to require people with PCs to open them up, just as I had; there is so much empty space in a PC that it could work and still carry a bomb, and I don't want to get blown up, either.

The plane trip itself had two legs, San Jose to St. Louis, and St. Louis to Hartford. Both coming and going, the San Jose to St. Louis leg had a wide, comfortable jet and served good food, while the St. Louis to Hartford leg was cramped and the food was poor. Both legs were on TWA. The attendants were pleasant on all flights.

### Sleep? What's that?

It was late Friday by the time I checked into the Super 8 Motel at which I had reservations. Despite the cheapness of the rooms (\$36 per night for a single), the motel was clean and the room was nice. I called Lee Bradley to let him know I had arrived, and to check on the terminal. There would be a Wyse terminal with a Televideo emulation for me at the Seminar

Hall, he assured me, and they would be setting up from 8 o'clock on. I was welcome to join them if I wanted to. "Bruce Morgen is staying at that motel, too. Maybe you can get a ride to the Graduate Center with him."

Bruce Morgen I had talked to many times on the phone, but had never met. Back when I got my first SB180, Bruce was running a users' group for people owning computers with HD64180 CPUs, called NAOG, the North American One-Eighty Group. He was also publishing a small monthly newsletter called *THE ONE-EIGHTY FILE*. A call to the desk discovered that Bruce was not only in the same motel, he was in the room next door!

So much for getting any sleep on Friday! Bruce and I stayed up until 3 A.M. talking about the state of the CP/M and Z-System world, what I've been up to since we last spoke, and what Bruce has been up to. NAOG is deceased, and Bruce makes his living helping people master the stupid PCs they insist on buying. He keeps up with our community, however, and has been working on an improved version of TERM III, the software Echelon used to sell to enable two or more Z-System machines to be hooked up so that anything either one of them can do can be done from either keyboard. At Bruce's suggestion, I brought my SB180FX from my room. We hooked it to his Kaypro IV through a smart cable, and waited for it to boot. The hard disk, not used to 40-degree weather, was amazingly slow until the machine warmed up to normal operating temperatures. Even more amazing was that T3SERVER, the module that had to run on my SB180FX so that we could slave it to his Kaypro, worked right off the bat and needed no modifications.

### Setting up

The motel woke me at 7 A.M., as I requested. Once I was functional, and Bruce and I'd had breakfast in the lobby, we drove off to the Graduate Center. Due to the cab driver pointing it out as we drove past the night before, I was able to steer Bruce in the right direction. Having the map Lee supplied handy helped, too. There is a lot of construction going on in Hartford, and even the natives get lost

with the constant detours.

Naturally we got there before CCP/M had a chance to put up any signs, but our good luck continued. Some students showed me the way to the Seminar Hall, and Lee was checking in with the lady behind the desk there. I helped him carry some equipment to the rooms we'd be in, and left my notebook to mark my place. Downstairs again, Ian Cottrell and his family had arrived, which made it much easier to get Bruce's stuff and mine to the site. Naturally, we returned the favor when other people arrived and needed hands to carry things.

Fortunately, Bruce was able to show me the setup procedure on the Wyse terminal, as I had never dealt with one before. Less fortunately, the Televideo emulation was incorrect; the cursor keys did not operate like TVI 950 cursor keys, which made demonstrating Spellbinder very difficult. Well, next time I'll bring my own terminal, or a more portable computer. I was still glad I brought my SB180FX, as at least one person had never seen one, and considered them semi-mythical. Since no one from Micromint attended, my machine had to serve as representative of its kind. There was an SB180 present, but it was hidden in a Heath-Zenith chassis and not obvious.

### Now here's my plan . . .

Lee's schedule for the day ran like this:

- 8:00 Vendor and staff set up.
- 10:00 Doors open to public. Welcome and brief introduction by Jim Taylor, President of CCP/M.
- 10:10 Self-introductions by all present.
- 10:30 CP/M Software For Sale! Don Johnson, Public Domain Software Copying Company.
- 11:00 Break, free time.
- 11:15 TERM III Evolution; T3SRV and T3MX. Bruce Morgen, Z-Team Member.
- 12:15 The National CP/M Newsletter Scene. Lee Bradley, Sysop of Z-Node #12, and editor of *Eight Bits and Change*.
- 12:30 Lunch break. Lunch can be purchased in the Hartford Graduate Center Cafeteria.
- 1:30 Z-System, A Review. Jay Sage, Sysop of

- Z-Node #3, Z-Systems Associates.  
 2:30 Break, free time.  
 2:45 PBBS 5.0 and Z-System. Ian Cottrell, Sysop, The Information Centre, PBBS Developer.  
 3:45 Demonstrations, Free Time, Vendors' Time, etc.  
 5:30 Door prize drawings and clean up.  
 6:00 Site to be vacated.  
 7:15 Dinner gathering, Casa Loma Restaurant.

Needless to say, and despite heroic efforts by Lee, this schedule was not met. Those present had come to talk, and talk they did. All free time disappeared entirely, although most scheduled talks did occur.

### Meeting people

The best part of a convention, I think, is meeting people. I find this to be true whether it's a science-fiction convention, an SCA tournament, or a big users-group meeting like Z-Fest. Despite not being a very social person, I get excited meeting in person those I know through the mail or over the phone. Probably I got over-excited and made a fool of myself, but I really enjoyed myself at Z-Fest.

I first met Lee Bradley last August, when Tandem sent Deborah and me to a program called TOPS in Washington DC. Since Deborah has relatives in Connecticut whom I'd never met, we left a few days early and went there first. One evening we drove out to Lee and Linda Bradley's home and spent the evening talking about CP/M and the CP/M community. Lee's Xerox DEM-II is still the only computer I've seen with my own eyes that came with Spellbinder and has Spellbinder function keys, other than the Eagle models.

Lee is one of the heroes, like Joe Wright, who is trying to support himself as a vendor of CP/M and Z-System software. If you send him \$2, he'll send back his catalog. You choose the software from the catalog, and he sends you as many disks as it takes in your format, at \$5 a disk. Write to **Small Computer Support**, 24 East Cedar Street, Newington CT 06111, or phone him at (203) 666-3139 (voice) or (203) 665-1100 (modem).

Lee has just published the first issue of *Eights Bits and Change*, a bi-monthly magazine which is the successor to CCP/M's *Pieces of Eight*. Lee says its primary objective "is to provide a place for diehard CP/M / Z-System enthusiasts to learn, show off, laugh, and sell." The first issue is a nice blend of humor pieces, programming tips, and book reviews. Subscriptions are \$15 a year, or \$12 if you're a member of CCP/M or a user group which actively supports CP/M or the Z-System. Send your check to Small Computer Support, address above. Include the name of the user group and an officer to contact if you want the \$12 rate.

Another publication available from Lee is *Greatest Hits 1986-1990*, a compilation of reprints from two now-defunct user-group newsletters, the *Y.O.U.r CCP/M Newsletter* and *Pieces of Eight*. I bought a copy and can recommend it. The cost is \$5.00 from Small Computer Support.

Another interesting member of CCP/M is Jim Taylor, who has a truly twisted mind, in the tradition of Dr. Demento and Mojo Nixon. Jim is selling his *Notes from Ground Zero!* for \$5.00 postpaid. This is a collection of Jim's humor pieces from past issues of CCP/M newsletters, such as *Ask Mr. Computing*; *The Day Elvis Trashed My PC*; *How I Got So Damn Funny*; *Sex, Lies, and Floppy Disks*; and *The History of Nude Computing*. I encourage you to send your check to Jim Taylor, Suite 110, 2594-96 Berlin Turnpike, Newington CT 06111. *Warning*: Your aching ribs may not forgive you.

Most of the 30- to 40-odd people who attended (there was a signup sheet, but I suspect it's not complete) were members of CCP/M, and I knew their names only from mentions in *Pieces of Eight* and *Smaller Is Better*. One exception to this was Howard Goldstein. We had a long talk at dinner that evening. Howard is blind, and very hard of hearing. Despite these handicaps, he is one of the big names in our community. He has worked on Z-System utilities too numerous to list, including IF and DPROG, and has been a participant in and a beta-tester of many community efforts, such as the development of ZDDOS and ZSDOS. Anyone who can do assembly-language programming

on a Braille terminal has my deepest respect! Howard makes me ashamed of how little I've accomplished.

I was the person who came the furthest to attend Z-Fest (and it's a shame that my attempt to map who attended from where failed so miserably as a cover for this issue). **Herbert R. Johnson** would have been the person who came the furthest, otherwise. Herb lives in Colorado and buys and sells S-100 equipment, Multibus systems, and SS-50 machines, both individuals cards and complete computers. His October 1990 list runs to 12 pages and includes such goodies as an IMSAI VDP-44 system for \$350, a NorthStar Advantage for \$75, and an IMSAI 8080 for \$250. Page 7 lists two Cromemco systems for \$100 and \$200, and a Heath-Zenith Z100 system (dual CP/M and MS-DOS) for \$225. He also sells CPU and I/O cards, terminals, disk drives and drive cabinets, 8" floppy disks, hard-sector disks, etc! Write to: Herbert R. Johnson, 1519 Mount Everett St., Colorado Springs CO 80909, or phone (719) 578-0997.

One person I talked to mentioned that he had NZ-COM working on an Osborne with a Trantor hard disk. I believe several people have had trouble with that particular combination. If so, contact **Rev. Daryl D. Gehlbach**, 222 Griswold Dr., W. Hartford CT 06119, or phone him at (203) 523-0345 (voice), or (203) 236-3759 (BBS) for help.

#### Still Osborne after all these years

**Don Johnson** gave a little talk in a jacket covered with badges from conventions he had attended over the years. When Osborne went out of business, Don drove out to California and filled two trucks with Osborne hardware and software he bought. Now, all this time later, he's still selling the software he bought then, out of a shop in Manhattan. This software includes version 2.34\* of Ashton-Tate's dBase II (the absolute last version for CP/M) for \$165, MicroPro's SuperSort for \$39, WordStar \$39, SuperCalc \$39, public-domain disks for the Apple II, and lots more. Write to Don Johnson, The Public Domain Software Copying Co., 33 Gold Street L3, New York NY 10038, or phone him at (212) 732-2565 or (800) 221-7372.

#### Bruce Morgen on TERM III

Already we were behind schedule, so Bruce had set up his demonstration while Don talked. All the talks were held in an arena-like lecture hall, with tables in a U shape and chairs permanently attached to the tables. The open end of the U, away from the door, is for the instructor to stand and has black boards. At this end Bruce set up his Kaypro on a table near the right top of the U, my SB180FX on a chair near the other top of the U, and connected them with a long smart cable. Another cable ran from the cable to a dumb terminal near the base of the U. This terminal was attached to the Kaypro, and under ordinary circumstances could only serve as a terminal for the Kaypro. But Bruce had installed his new T3SERVER on my machine, which allowed him to demonstrate how he could run programs on both machines from the terminal.

Understand that Alpha inherited the rights to TERM III from Echelon. Not only has Bruce not done everything he wants to do with TERM III, but he has to negotiate with Joe Wright before he can sell it or release it. So there is no price for this software, nor can there be until Alpha and Bruce sign a contract. The demonstration was nonetheless quite impressive.

The new TERM III consists of a pair of programs which run simultaneously on two machines connected by cable from the serial port of one to a serial port of the other. T3MASTER runs on the master machine. It requires a port overlay, like MODEM7, and has to be customized for each machine. T3SERVER runs on the slave machine. It is quite generic, and runs under NZ-COM, ZCPR 3.3, or ZCPR 3.4. It will even run with ZCPR 3.0, but then it must be installed with Z3INS or ZRIP, as any Z-System program must be with that version of the command processor.

When T3MASTER is running, it modifies the command-line prompt, for instance:

```
[loc!] A0SYSTEM>
```

The *loc* or *rem* indicates whether the prompt is coming from the local (master) machine, or the

**Herbert  
R.  
Johnson**

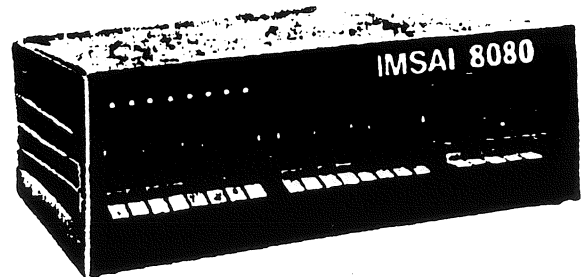
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remote (slave) machine. The ! indicates that commands which are not recognized by T3MASTER will be passed on to the command processor on the local or remote system; this allows you to run programs on either machine without exiting from TERM III. The command **PASSCLI OFF** would tell TERM III not to pass non-TERM III commands to the command interpreter, and would change the ! to a period. Other commands are:

#### **SHOW SET**

Displays T3MASTER's current settings.

#### **SET PROMPT REMOTE**

Changes the prompt to the currently logged directory on the remote (slave) system.

#### **LOCAL <command>**

Runs <command> on the local system, even with **PASSCLI** set **OFF**.

#### **DEF DIR SH F**

Defines the macro **DIR** as being the same as the TERM III command **SH F**.

T3MASTER works like a shell but doesn't use the shell stack. Because of this, you can include T3MASTER in an alias or ARUNZ script. Bruce has selected & as the alternate command-line separator for T3MASTER, allowing you to put a compound T3MASTER command in an alias. The command **T3MASTER TEST&SH F** doesn't confuse ARUNZ or any other Z-System utility, which regards T3MASTER as the program being run and all the rest as parameters. But **T3MASTER TEST;SH F** would be confusing; ARUNZ or ZCPR would regard **T3MASTER TEST** as one command, and **SH F** as the next one. Hence the need for the & to separate T3MASTER commands.

The applications of TERM III are limited only by the number of serial ports in the machines being used. A machine with many serial ports can serve as master for many slaves, or as slave to many other masters. An SB180 with an ETS board, for instance, could have just enough TPA to run T3SERVER, and a huge hard-disk allocation table. A really huge hard disk could then be put in this machine, and it could serve as a *file server*, or dedicated hard disk, for a

number of different machines. Or a CP/M machine with a hard disk could be used for additional disk drives and hard disk for another one.

An SB180FX with three 30-Mb hard disks, two 8" disk drives, and two 3" disk drives, running XBIOS, could be hooked up to an SB180 with two 48-tpi drives and two 96-tpi drives, running Joe Wright's BIOS. Such a system would have 90 Mb of hard disk storage and every kind of floppy drive. Furthermore, Uniform would run under the original BIOS, allowing most 5" formats to be read, written, or initialized!

Finally, Bruce intends to write a version of T3SERVER to run under MS-DOS. *This would enable a PC to be used as a slave to a Z-System machine!* This would give our machines access to MS-DOS hardware goodies such as huge hard disks and CD ROMs.

#### **The History of the Z-System**

Lee Bradley talked about his plans for *Eight Bits and Change*, said some very nice things about *The Z-Letter*, and urged everyone to subscribe to *The Computer Journal*. I thank him for the nice things he said and second his recommendation about TCJ. As I've already covered what he's up to, and the magazine scene is covered elsewhere (see *The Z-Letter goes monthly* and our regular Magazine Articles feature), I'm going to leave it at that.

At this point Jay Sage arrived. Jay was on time for his talk, but the rest of us were late; we hadn't even had lunch yet! I had never met Jay before, though we knew of each other. I don't think either of us matched the mental image the other had.

After lunch, Jay gave a nice, thorough, well-organized description (*mit* slides, even) of the Z-System, starting with the advantages of CP/M's division of labor and moving on in historical order through the features added by ZCPR, ZCPR2, ZCPR3, NZ-COM and Z3Plus, and ZDOS (ZDDOS/ZSDOS). I am not going to reproduce it here, but I hope Jay will write it out, or give me permission to do so for a future issue.

### The Eagle doctor makes a house call

Next, Ian Cottrell talked about PBBS, which is bulletin-board software he developed for the Z-System. Unfortunately, a previous commitment called me away.

Two weeks before, I had been called by Keith Tobias, who lives in Rhode Island. In many ways it was typical of the calls the Eagle Computer Users Group gets. Keith had been given an Eagle IV, which is a CP/M computer with a 96-tpi floppy of 780K capacity, and a 10-Mb hard disk. His wife was interested in using it for word processing, for which it would be ideal, as Eagles came with Spellbinder and have Spellbinder function keys. Typically, however, the machine came with no manuals, and no diskettes (less a problem on a IV, with its hard disk, than it is on the more common II or III, which have two floppies). Even worse, when he turned it on he got error messages instead of the Eagle menu.

After talking to him on the phone, I promised to send him a diskette with the Eagle IV system on it, and SYSGEN, with instructions to call me when he got it, so that we could see whether the problem was simply that the system tracks of the hard disk had been wiped. Thursday night before I left San Jose, I called him and learned that the Post Office *still* had not delivered the diskette. We agreed then that he would bring the machine to Z-Fest, and I would examine it. When I packed for Z-Fest, I included Eagle diskettes, and a copy of the Eagle manual for him.

So, while Ian was talking about PBBS, I was in one of the two dealer rooms, examining this sick Eagle. I opened up all the parts, showing Keith what I saw, and pointing out all the parts to him. The problems I found were typical. There was very little dust in the Eagle, and the main board and both power supplies looked to be in good shape. The parts that had failed were the disk drives, and they had done so in typical ways, though I had never seen both conditions on the same machine before. The full-height hard disk's starter circuits had failed; the hard disk was not spinning when power was applied. This can be fixed, though not by

me, and not under those conditions. The best fix is to replace the hard disk with a newer half-height hard disk; not only will it weigh less, it will draw less power.

In addition, the floppy drive had failed; the drive belt was slipping. Again, the best repair is to replace the floppy drive with one, or better yet two, half-height floppy drives. Even two newer drives will weigh less and draw less power than one of the older ones, and the Eagle IV BIOS is ready and waiting for two drives. Unfortunately, 96-tpi drives were never common, and they are getting very hard to find. By this time not only were Keith Tobias and his buddy listening to this, but Herb Johnson, and Bob Conlon and Rennie Walker of CCP/M.

Bob, who favors Heath machines, some of which use 96-tpi drives, gave me a tip about replacing them. He takes a PC high-density drive, and jumpers it so that it runs at 96-tpi-drive speeds. The main differences between a high-density drive and a 96-tpi drive are (1) the high-density drive runs faster, and (2) the 96-tpi drive has a higher magnetic-field strength (I have passed this tip on to Jerry Davis of the Eagle Computer Users Group, who had promised to make a list of which high-density drives can be jumpered this way).

As for Keith's problem, I told him he had three choices; (1) ship the machine to San Jose, and pay Jerry Davis to fix it; (2) fix it himself; or (3) sell it to me (I offered him \$50 on the spot, and knowing what was wrong with it) and buy another computer. In the end, he thanked me for my help and elected to try to fix it himself.

### Fuzzy logic never gets cold

A last-minute, unscheduled treat was a talk about fuzzy logic by Lee Hart, a computer professional who's had articles in TCJ. Also known as *multi-valued logic*, fuzzy logic can solve problems which originate in the real world, where very few things are black or white, true or false, yes or no (shall I continue?). It was a great talk.

Some comment I made led John J. Anderson to



introduce himself. It seems that he, too, is a Tandem employee. Two Tandem employees out of 35 attendees (according to the official list). Quite a coincidence!

After Lee Hart's talk we drew door prizes, cleaned up, and got out of there. Most of us went to a place called Casa Loma for dinner, of which the less said, the better.

**Who came, and from where**

These are the people who attended Z-Fest, and signed in:

- John J. Anderson, *Colonie NY*
- Bob Bates, *Gales Ferry CT*
- Lee Bradley, *Newington CT*
- Ray Brown, *Beacon Falls CT*
- David L. Clarke, *Tolland CT*
- Bob Conlon, *Farmington CT*
- T. Conway, *East Hartford CT*
- Ian Cottrell, *Nepean, Ontario, Canada*
- Reno Franconi, *Wethersfield CT*
- Rev. Daryl D. Gehlbach, *W. Hartford CT*
- Stephen Griswold, *Centon CT*
- Lee Hart, *Holland MI*
- Wilfred F. Hatch, *Weatogue CT*
- Al Hathway, *Northfield CT*
- Don Johnson, *New York NY*
- Herb Johnson, *Colorado Springs CO*
- Bob Lawrence, *Manchester CT*
- Tom Mannion, *Winsted CT*
- David A.J. McGlone, *San Jose CA*
- Brian Nalewajek, *Kensington CT*
- Craig Norton, *Montgomery NY*
- Al Olsen, *Waterford CT*
- Betty Palm, *Newington CT*
- Eric Palm Jr., *Newington CT*
- Fred Pratt, *N. Falmouth MA*

- Jay Sage, *Newton MA*
- Gary Stagliano, *CT*
- Rick Swenton, *Bristol CT*
- Gabor Szikla, *CT*
- Jim Taylor, *Newington CT*
- Tom Veile, *Norwich CT*
- Rennie Walker, *New Haven CT*
- Walt Wheeler, *Nassau NY*
- Dan Williams, *Naigetuck CT*
- Keith Z., *CT*

**Give the folks a great big hand!**

I would like to thank Lee Bradley and all the members of CCP/M for holding the convention. I enjoyed it immensely, and would not have missed it for the world.

**A few suggestions for next time:**

1. Make it two days instead of one, and then schedule only half as many talks again. That way everyone will get to meet everyone else, and we'll have time for some impromptu discussions in between scheduled talks.
2. Try to arrange more advance notice, so that more people can plan to attend who don't live in New England.
3. Schedule it for a warmer part of the year. The 40-degree temperatures put me to bed for a week afterwards.

I have begun looking into holding a similar convention here, now that I've been shown so well how it's done. I'll let you all know the details as I have them.

## Lambda Software Publishing

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

Products for sale, November 1990

- |  |             |              |
|--|-------------|--------------|
| <b>1. Spellbinder</b>  | Version 53H | <b>\$100</b> |
| The Rolls Royce of word processors. This includes the software, the User's Guide which always came with the software, the Technical Manual and Macro Manual (which always cost extra), and a new Introduction. All four manuals come a 2" binder in 8½ X 11" format. Both generic and Eagle versions are available. (Ltek) |             |              |
- |   |             |             |
|---|-------------|-------------|
| <b>2. CP/M</b>  | Version 2.2 | <b>\$15</b> |
| Bought the hardware, and don't have the operating system? I can sell you the license and the manuals, making the copy you get from your user group legal. For many brands of computers, I can even send you the actual operating system with the BIOS for your machine. (DRI) |             |             |
- |  |  |             |
|--|--|-------------|
| <b>3. Eagle computer manual</b>  |  | <b>\$10</b> |
| The complete manual for your Eagle I, II, III, IV, V, or IIE computer. |  |             |
- |  |                       |             |
|--|-----------------------|-------------|
| <b>4. Eagle Computer Users Group newsletter</b>                              | July 87 to October 90 | <b>\$10</b> |
| All the issues done by the present editor of the only Eagle user group left. |                       |             |
- |  |                    |                      |
|--|--------------------|----------------------|
| <b>5. The Z-Letter (back issues)</b>                                     | Issues 1 through 6 | <b>\$2 per issue</b> |
| All the issues so far of our newsletter for the CP/M and Z-System world. |                    |                      |
- |  |  |  |
|--|--|--|
| <b>6. The Z-Letter (subscription)</b>          |  | <b>\$12 per year in the US, \$24 elsewhere</b> |
| Monthly starting with the November 1990 issue. |  |  |
- |   |  |            |
|---|--|------------|
| <b>7. Z-Fonts catalog</b>   |  | <b>\$2</b> |
| Shows samples of all the fonts available from Lambda for HP LaserJet printers, with instructions on how to choose what size, orientation, etc. you wish. Please ignore the old price and old address in the catalogs; they are available from us, not Alpha, and the price is as follows. |  |            |
- |   |  |                                       |
|---|--|---------------------------------------|
| <b>8. Z-Fonts</b>   |  | <b>\$2 per font plus \$2 per disk</b> |
| Once you've perused our catalog, you can order the fonts you want very cheaply. |  |                                       |

*Please circle each item desired, and write the quantity desired in the margin next to the listing for the item. For item 5, list which issues you want. For item 8, use the order form from a copy of the catalogue.*

Name: \_\_\_\_\_ Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
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Home Phone (    )                      Business Phone (    )

Computer format in which software should be supplied:

Total money enclosed:

## THE STATE OF THE ART

### *The Z-Letter goes monthly*

Beginning with this issue, *The Z-Letter* will be a monthly publication. This was our original intent, but a number of conflicts, including my previous commitment to the monthly Eagle Computer Users Group newsletter, made that goal impossible. Now I believe these conflicts have been eliminated.

Careful calculation indicates that I can print and mail 12 issues a year, of up to 40 pages per issue, inside the US for \$12 a year. This is therefore the US subscription price, as of this issue. Existing subscriptions will be prorated so that the number of issues remaining is doubled; that is, if you had 4 issues remaining, now you have 8. Due to the greater cost of postage to points outside the US, I do not feel I can reduce those subscriptions to less than \$24. Existing extra-US subscriptions will be prorated so that the number of issues is increased by 4/3; that is, if you had 6 issues remaining, now you have 8.

I cannot and do not guarantee that each issue of *The Z-Letter* will have 40 pages of material. Forty pages at the new 8½ X 11" format is a lot of text! In order to keep the information in *The Z-Letter* current, and to meet the monthly deadline, I may have to cut an issue short from time to time. Regard the 40 pages, then, as an upper limit to the number of pages in an issue.

Because the issues will be so big, there is room for companies and individual who sell CP/M and Z-System software to advertise. Since the most common question in our community is "Where can I get software?", I regard printing advertisements as a public service, as long as the firms advertising supply what they are paid for. So I encourage anyone selling software or hardware to send me advertising copy, camera-ready on paper if there are elaborate graphics involved, otherwise as text on a diskette.

### An invitation to join forces

One of the ways I eliminated conflicts was to incorporate the ECUG newsletter into *The Z-Letter*. This makes it unnecessary to remember

whether I've reported a bit of news in one newsletter or the other. It also means that the need to get the ECUG newsletter out each month in time for the meeting works for *The Z-Letter*, instead of against it.

If you are publishing a monthly newsletter for your user group, you may find it a burden that only one person in the group is willing to shoulder, and he or she is getting increasingly resentful. This is a common situation these days. You can solve the problem, if you like, by folding your newsletter into *The Z-Letter*, just as ECUG has done.

Send me a list of your members, complete with their names, addresses, and how many issues remain of their subscription to your newsletter. Multiply the number of issues by the number of months represented by each issue, if your newsletter is not monthly. For example, if your newsletter comes out every other month, multiply by two, so that a person who would have gotten 4 issues of your bi-monthly magazine gets 8 issues of *The Z-Letter*. Add up the total number and send me a check for that many dollars.

Your members will now get *The Z-Letter* instead of your user group's newsletter. As for your editor, he or she now need only send me the information about future meeting dates, topics of the next meeting, what happened at the last meeting, etc., as text on a floppy disk. No longer need he or she print up an original, get it printed, fold and seal and mail the copies.

Nor is this offer only open to newsletters of user groups. If a more general newsletter, along the lines of *The Computer Journal*, wanted to combine forces, I would be glad to do so.

### Artists and writers wanted

If the task of putting out a whole newsletter is beyond you, but you could do a column on a particular subject such as assembly-language programming, CP/M utilities, menu-shell scripts, or what have you, please write to me as well. These are not made-up examples, but

things I would like to see a regular series on.

A column would not have to be monthly, but it would have to be regular. If you can't write about your topic every month, but you could do so every other month, that would be fine. I would really recommend that you try to produce a column every month, even if you only commit to every other month. I find that if something is due every other month, I don't do much on it the first month. Try to do a column every month, and you may be able to make every two months without fail. And if you actually get one done every month, I can save them and only print them every other month. This provides a cushion in case you get sick, or take a long vacation with your family, or your paying job suddenly gets very busy.

I would also like to get contributions from

artists. Cartoons make great fillers, or even covers. Cover subjects should be related to computers, with particular attention to our own kind of computers. For example, a nice cover would be a picture of a VW Beetle with the letters "CP/M" on its side. Pictures of CP/M computers, if your talent leans more to drafting, are *always* wanted, both front, side, and three-quarters view. When we have a Computer Classics column on an orphan CP/M computer, I want to feature that computer on the cover of *The Z-Letter*, and the illustrations in the computer's manual, even if I have it, is very often too poor to reproduce. Old CP/M computers too generic to deserve a Computers Classics column, and CP/M and Z-System computers still being manufactured, such as the Amstrad, can be featured on the cover at any time.

## BEGINNER'S CORNER

Because CP/M has been "obsolete" for so long, and because so many people in our community are long-time members who think nothing of whipping up a BIOS in an afternoon, we tend to forget that the actual membership of our community is sharply divided.

The other half of the community consists of people who never needed to use their CP/M computer for anything but writing an occasional letter until a part broke and they discovered the company that made it has gone out of business and no one in any of the computer stores has heard of the computer. Or perhaps they got along on a manual typewriter until someone gave them the CP/M computer that's been sitting in a closet for the last ten years. Whether they just got the computer or have had it a while but never explored its potential, these members of our community rank as beginners. They often know very little about CP/M, and may never have heard of the Z-System.

A beginner in CP/M these days has a tough row to hoe. Few bookstores have any books on CP/M, and even a public library may only have one or two. The beginner with questions may

send letters to this magazine, or post them on his local bulletin board, and I encourage him to do so. But what if he doesn't even know where to begin, and has no modem program for his machine?

The *Beginner's Corner* feature will attempt to introduce a newcomer to our community to the CP/M and Z-System utilities, in a systematic way, just as one of the books on CP/M would do, were they widely available. The proper use of the computer will be described, with suggestions about proper backing up of disks, maintenance, and the selection and use of peripherals such as printers, modems, and hard disks.

For each group of utilities, the CP/M versions, public-domain CP/M versions, and Z-System versions will be described, with their syntax, their advantages, and their limitations. When describing directory utilities, for instance, DIR and STAT will be discussed, as well as public-domain improvements such as SD and D4, and Z-System utilities like DIR, XDIR, and SDD. After all the utilities have been covered, modem programs will follow. Later still, upgrading the software of the beginner's machine using NZ-

# SPECIFICATIONS

## Ampro Z80 Little Board/PLUS

### CPU:

4 MHz Z80A, 8 bit-microprocessor

### MEMORY:

64 kilobytes of dynamic RAM  
4-32 kilobytes of EPROM

### TIMER:

Z80A CTC (4 channels)  
2 channels not used by Ampro software

### SERIAL I/O:

Z80A SIO/O  
Two RS-232C compatible ports  
Software controlled baud rates  
Channel A - 75 to 38,400 baud  
Channel B - 75 to 9600 baud  
Four standard RS-232C signals per port  
Data Out  
Data In  
Handshake Out  
Handshake In  
Two ground pins

### PARALLEL I/O:

Centronics-compatible printer port  
Ten signals supported  
Data Bits 1-8 - Output  
Data Strobe - Output  
Printer Busy - Input  
12 ground pins

### DISK I/O:

Drives supported: 1 - 4  
Disk Controller: WD1772  
Data Rate: 250k bps (MFM),  
125K bps (FM)  
Sector Size: 128, 256, 512, or  
1024 bytes  
Phase locked loop: digital (8 MHz)  
Write precompensation: Software enabled  
Drive capacity (formatted):  
Type 1 (40 track, 1 side) - 200K bytes  
Type 2 (40 track, 2 sides) - 400K bytes  
Type 3 (80 track, 1 side) - 400K bytes  
Type 4 (80 track, 2 sides) - 800K bytes

### SCSI/PLUS BUS INTERFACE:

SASI Compatible  
ANSI X3T9.2 (SCSI compatible)  
SCSI/PLUS Initiator compatible  
Uses NCR 5380 SCSI bus controller

### POWER:

Same power connector and voltages as 5¼" disk drives.  
+5VDC at 0.95A  
+9 to +12VDC at 0.05A

### ENVIRONMENT:

Temperature: 0 to 32° C, operating  
Humidity: 5 to 95%, noncondensing  
Altitude: 0 - 10,000 feet

### SIZE:

7.75" x 5.75" x 0.75"

### SOFTWARE:

Boot program in 2732 EPROM (standard)  
Options (see price list for details)  
CP/M 2.2 with ZCPR3 enhancements  
Little Board/Plus system utilities  
BIOS and utilities source code

### DOCUMENTATION: (Optional)

Little Board/Plus Technical Manual  
Little Board Plus Software Manual

### EXPANSION MODULE:

The Ampro Z80 project board is available for special purpose I/O. The board stacks on top of the Little Board and plugs into the CPU socket and provides breadboard space for wire-wrap applications.

Exclusive manufacturing rights for the Ampro Z80 Little Board have been purchased from Ampro by Davidge Corporation. Technical support and repair service is available directly from Davidge. Ampro no longer supports the product.

# 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 (5½", 40 track disks)	65.00
A60101-2	CP/M and ZCPR3 (5½", 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.

COM or Z3Plus, and ZDDOS or ZSDOS, will be taught. By then the beginner should be eager to get at the Z-System versions of things.

Next issue we will begin with a general description of the utilities that are different for

every machine, plus the utilities that allow you to see what's on your disks. Meanwhile, you should prepare for this by reading the manual for your machine all the way through at least once. See you next issue!

## COMPUTER CLASSICS

**Computer Classics** is a feature describing CP/M computers that are no longer manufactured. The point of the feature is to document the great diversity achieved before the IPM PC smothered innovation in microcomputers. Many CP/M computers had unique features not found in later computers of any kind.

In issue 5 I wrote a **Computer Classics** column on one computer for which I was reasonably confident that I'd found all that there was to find (the Otrona Attache). In issue 6 I covered all five models of Eagle CP/M computers, which was possible because I've owned several over the years, have a lot of material about the company that used to make them, and have been active for a long time in the last remaining Eagle user group. To continue this series, I need help from you.

I've devised a form, or rather a list of questions, that represents at least some of the things I'd like to know about **your computer**. I would really appreciate it if you would copy jot down the answers to these questions, one set for each of your machines, and send it to me. If you are a writer, and want to attempt to flesh this out into an article, great! The columns in issues 5 and 6 may help by serving as examples. But just getting the information would be a big help.

Feel free to add any information that I didn't think to ask about, as well as the stuff in the list; your computer may well have features or special software that doesn't fall readily under any of the questions in the list. If some of the big Kaypro or Osborne or Morrow user groups want to put together a group effort, covering all the models of their machines and what modifications were made over the years, that would also be wonderful. Nothing says this has

to be an individual effort. Perhaps CCP/M would like to work up a description of their beloved Royal Alphatronic machines? Just make sure to give me the names of all the people who contributed, so that proper credit can be given.

I'm also compiling information for a history of CP/M and companies that sold CP/M computers. If you have clippings, old magazines, sales brochures, etc. that you will part with or make copies of, please reply with details.

Here is the list of questions. Sample information for the Attache is given *in italics*, to help give you an idea what kind of information is desired. Please note that the sample information, while accurate, is not complete. After generating this form as an outline for the first column and filling it in from the Attache manuals, I got the back issues of the *Attache Users Newsletter* from Jim Ayers and found out about options such as replacing the 48-tpi drives with 96-tpi drives, and got ISI's address from ads in the newsletter and learned from them that they still sell Attaches and are working on an 80286 "upgrade". The column in issue 5 would have been much less valuable without all this information, just as the column about Eagles in issue 6 would have been without the information about the history of Eagle Computer, and Eagle user groups.

1. Name of machine: *Otrona Attache*
2. General description:  
*Portable with 3-position handle, keyboard that clamps to front of machine. Machine weighs 18 pounds, overall dimensions 5.75" high by 12" wide by 13.6" deep. Basic case and layout is that of an oscilloscope.*

3. CPU and speed: 4 MHz Z80
4. Memory: 64K. Separate 10K for graphics.
5. Monitor size, number of rows and columns: 5.5" diagonal, 24 lines, 80 char per line.
6. Selectable attributes:  
*Reverse video, subscript, superscript, double-size characters, boldface, underline, strikethrough, and intensified background highlighting. 256 characters selectable in four sets. Graphics permit bar charts, pie charts, graphs, and forms.*
7. Number of disk drives: 2
8. Format(s): 5.25", soft sector, DS DD 48-tpi, 360K
9. Number, size and partition(s) of hard disk(s): None.
10. Other peripherals:  
*Special slot in back of machine will hold one Otrona-specific add-on board. One board that was available contained an 8088 (8086?) and added MS-DOS or converted the machine to MS-DOS.*
11. Number of serial ports: 2
12. Number of parallel ports: 0
13. Other ports:  
*RCA-type pin plug for connecting to NTSC external monitor.*
14. Operating system: CP/M 2.2
15. Special features in this machine:
  - (1) *If the machine is turned out without a disk in drive A, the Attache goes into terminal mode.*
  - (2) *Machine has no reset button. Pressing RESET plus right SHIFT keys simultaneously reboots the Otrona.*
  - (3) *CTRL + ESC activates Set-up Mode, in which serial ports baud rates, keyboard volume, keyclick, screen brightness, and day/date display from internal clock can be changed.*
  - (4) *During word processing, CTRL + any numeric key makes that key double as WordStar-Plus function key; second set of functions executed through CTRL + SHIFT + any numeric key.*
  - (5) *CTRL + CAPS LOCK makes a block of keys double as a 10-key adding-machine pad.*
16. Utilities and unaltered application programs bundled with this machine:
  - (1) *Standard CP/M utilities PIP, STAT, DDT, SUBMIT, XSUB, ED, and ASM.*
17. Utilities and applications written or altered for this machine:
  - (1) *WordStar-Plus, special version of WordStar with Attache graphics extensions.*
  - (2) *INSTALL, word-processing printer-installation program.*
  - (3) *MBASIC, special version with Attache graphics extensions.*
  - (4) *ATTACHE.BAS, BOXES.BAS, TIME.BAS, DATE.BAS demonstration programs.*
  - (5) *VALET.VL1, contains Valet alarms, screen dump, calculator, and current installed printer programs.*
  - (6) *PRINTER.VL1, program for installing printers for using them with Valet's screen-dump feature.*
  - (7) *CHARTON.BAS and CHARTONF, programs for creating charts.*
  - (8) *BARSAMPL.CHT, LINSAMPL.CHT, PIESAMPL.CHT, sample charts.*
  - (9) *SYSDUP (like SYSGEN).*
  - (10) *FORMAT, diskette formatting program.*
  - (11) *TIME, for setting date, time, and day of the week on internal clock.*
  - (12) *BACKUP copies the contents of a diskette to another diskette.*
  - (13) *PORTS.BAS temporarily changes the number of stop bits, data bits, and/or parity usage for communication with other systems.*
  - (14) *GO allows immediate execution of the program in memory.*
  - (15) *GRAPH-N.BAS displays standard block-fill patterns for Attache Basic.*
  - (16) *AUTO allows easy access to CP/M auto-start facility.*



18. Manufacturer(s), address(es), phone(s), etc.:  
*Otrona Corporation*  
*4755 Walnut Street*  
*Boulder CO 80301*  
*(303) 444-8100*  
*TWX 910 940 3445*
19. Are the manufacturer(s) still in business? *NO*
20. Is this model still being manufactured?  
*NO*
21. When was this model sold (e.g., Jan. 1978-June 1984)? *Don't know yet*
22. Your name, address, phone, and the date you filled out this form:  
*David A.J. McGlone*  
*720 S. Second St.*  
*San Jose CA 95112*  
*(408) 293-5176 H*  
*(408) 725-5759 W*  
*9/7/89*

## FEATURES

### LETTERS

90-06-24, Vienna

Dear Gentlemen,

I want to inform you about a program I wrote which might also be of interest for other users. The program runs on the Commodore 128 under CP/M Plus or Z3Plus and makes it possible to use the 80-column graphics (640 X 200 pixels) from any application. The program loads into high memory (needs about 7.5K of the TPA) and provides user programs with BDOS calls for most needed graphic routines. The routines include (1) switching from text to graphic mode and back, (2) setting and erasing a point, (3) drawing lines, (4) writing any character at any screen position (normal, inverse, overwriting background, or let background shine through), (5) load and save screen into memory or to file, (6) load and save window in memory or file, (7) saving character bit map to file (ideal for editing bit map), (8) use various fonts in various sizes, (9) print screen or window.

Calling these routines is as simple as using standard BDOS calls. For TURBO Pascal, Pascal MT+, and SmallC, procedures are provided for using graphics without caring for details of calling conventions of system calls.

The Graphics Extension can easily be loaded and removed. When doing so the program displays changed TPA size, etc. Graphics Extension also checks whether it has already

been loaded and doesn't do it unnecessarily.

A demo program that shows the use of the Graphics Extension (with windows, fractals, etc.) and a small manual will also be provided. I have no idea how many people are still using CP/M on the C128. I think \$20 per copy is a fair price. System requirements: C128 or C128D, 80-column monitor, CP/M Plus or Z3Plus, Epson or IBM-compatible 9-dot matrix printer, and one of the following disk drives: 1541, 1570, or 1571.

Anyone interested should write to me at the address below. Everyone including \$20 US will receive a copy to his letter address. All letters will be answered. Hoping to hear from you soon,

Eric Koppensteiner  
 Forstmeisterg. 8  
 1140 Vienna  
 AUSTRIA (EUROPE)

*Eric, your letter is really an ad, but this was the easiest way for me to type it. If you will send me reproducible copy of not more than one page, I will be glad to print it. I hope the C128 owners find your software useful, and that you are encouraged to develop other products for them. - DAJM*

### PERSONAL ADS

**Professional manuscript editing,** including theses and dissertations. Joan Follendore Literary Agency, San Luis Obispo, California, phone (805) 545-9297.



**Free daisy-wheel printer**

A used ComRiter CR-II daisy-wheel printer has been donated to ECUG. Free to first taker as is, but worked when last used. Includes 2 spare ribbons, 1 daisy wheel, manual, Centronics and keyboard interfaces. Contact Jerry Davis, (408) 972-1965.

**Old magazines wanted!**

I collect magazines and books about CP/M. I encourage you to do the same, because they are getting harder and harder to find. But if you're going to get rid of some, send me a self-addressed stamped envelope for my list of magazines. I will buy any you have that I don't. David A.J. McGlone, 720 South Second Street, San Jose CA 95112.

**MAGAZINE ARTICLES****Subscription increase for SUPERMICRO**

Effective November 1, 1990, the *SUPERMICRO Journal* subscription rate for 4 issues (1 year) increased from \$24 to \$28. The 8-issue rate increased from \$40 to \$45.

We regret that we were unable to publish this information in time for it to do any good. All subscribers should have received a special letter from *SUPERMICRO*. Printing news like this in time, without lots of notice, is one of the chief spurs to *The Z-Letter's* new monthly schedule.

**The ghost of FOGHORN**

In addition to the other magazines and

publications mentioned in this issue, permit me to direct you to **Vulcan's Computer Monthly**. FOG's *Foghorn* and *Foglight* are gone. Instead, FOG International now has its own section in this monthly magazine. The November issue has a listing of the FOG disk library by Gale Rhoades. The listing itself is a waste, since it's almost entirely MS-DOS software, but it begins with a good description of the difference between public-domain software, freeware, shareware, etc.

After that is a 30-page listing of bulletin boards, including many in Canada and some in England, Japan, Mexico, and Saudi Arabia; of course, I don't know how accurate the list is. Stu Clark presents a patch to WordStar 4.0 on the Vixen that makes the cursor blink (something I would want a patch to *prevent*, personally).

The classified ads included CP/M software for the C64 and C128; Epson QX-10s for sale; CP/M 2.2 for Radio Shack models 11, 12, 1b, and 6000; discount computer books; CP/M software ads from Elliam Associates and Sound Potentials; and Eagle repairs offered by an outfit in Laguna Hills CA. There are also columns and articles for the Coleco Adam, Commodores, Sanyo 55X, TI-99, and T/S2068. I'm not sure all of those run CP/M, but the diversity is a good sign.

Here's hoping the community buys enough copies of *VCM* to keep it from turning into just another PC magazine.

**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, P.O. Box 3381, Saratoga CA 95070, phone (408) 972-1965.

**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 Vallco Parkway; turn left at Tantau; go over the bridge; and turn in where it says "Tandem Computers" on the left. Sign in with the guard at the lobby. He will know what room the meeting is in.

Meetings are the second Saturday of every month, from 9 A.M. to Noon. The remaining 1990 meeting date is December 8. In 1991 meetings will occur on Jan. 12, Feb. 9, Mar. 9, Apr. 13, May 11, June 8, July 13, Aug. 10, Sep. 14, Oct. 12, Nov. 9, and Dec. 14.

#### December 8 meeting

- 9:00 Meeting begins.
- 9:30 David McGlone will describe the history of the Z-System.
- 12:00 ECUG meetings ends.
- 12:30 ZSUG (Z-System Users Group) meeting begins.

#### ECUG votes to disincorporate

The November 10, 1990 meeting of the Eagle Computer Users Group had an unusually large turnout, due to the presence of about a half-dozen newcomers. The members of ECUG's Board of Directors held a brief meeting at which it was moved, seconded and carried that, should the scheduled vote be to dissolve the corporation, the subsequent discussions should be open to all present, rather than a meeting of the Board alone. This meeting was convened at 9:40 and recessed at 9:50.

David Banoff, the club's president, then called the club to order. He explained the options before the club, the history of ECUG's attempts to become tax-exempt, and answered questions. (For a brief description of this matter, see Page 1 of last month's *Eagle Computer*, under **Between a rock . . .**)

The vote was then called. Counting those present as well as all votes received by mail at the post-office box, the vote was 22 for disincorporation, 0 against.

What does this vote mean to ECUG? Principally it means that the Board will proceed with filling out the forms to dissolve the corporation before the end of the year, so that we don't have to come up with \$1000 to pay the State of California. The club will continue to exist, and will meet on the second Saturday of every month at Tandem, just as before. But the corporation will no longer exist, and officers, if

we choose to have any, will be elected by the membership, rather than appointed by elected directors.

Since there will be no umbrella of corporate protection shielding monetary exchanges, the club will take in no money. Our newsletter, *Eagle Computer*, will be done as a section of Lambda Software Publishing's *The Z-Letter*. An amount of money equal to the existing subscription liability of ECUG will be paid to Lambda, who will see that every person who is currently a member of ECUG will receive as many issues as he or she paid for. Thereafter a current member who wishes to continue receiving the newsletter will send a year's subscription of \$12 to Lambda, instead of sending a year's membership of \$15 to ECUG. Any money remaining in our treasury must be disbursed to some non-profit, tax-exempt organization, in accordance with our by-laws. Everything previously available from ECUG, such as Eagle manuals, will remain available, but will be ordered from Lambda rather than ECUG. Ken Thomson will continue to take orders for CP/M public-domain software, but asks that those ordering software send him formatted disks in disk mailers; he will copy the software onto the disk and return it.

After the vote there was a free-for-all (also known as a meeting for which no program had been scheduled), where people copied software, asked questions and got answers, and generally helped each other.

One gentleman, whose name, unfortunately, I never got, attended to donate a bunch of stuff to the club, including Eagle Spirit manuals, 3 48-tpi disk drives, a keyboard, and a used daisy-wheel printer. The Board reconvened its meeting, ratified the vote of the membership, and gave the drives and keyboard to Jerry Davis, who has done so much fixing members' Eagles over the years. The manuals went into our club library, and the printer is available to the first person who claims it (see **Personal Ads**).

#### ECUG library

The contents of the ECUG Library reside at the

editor's house. Members may borrow them between one meeting and the next. Either call me evenings at (408) 293-5176 and ask me to bring them to a meeting, or phone to arrange a time to come over and borrow them.

*README.DOC*, Journal of the Orange Coast IBM PC User Group. October 1990 issue, Vol. 6 No. 10. Donated by David Banoff.

*MS-DOS Operating System Manual, Eagle PC Plus and Spirit Service Manual, and Eagle PC Spirit User's Guide*. Donated by a person whose name I didn't get in all the excitement.

#### **Indexer wanted**

Now that the ECUG newsletter is no longer being published as a separate entity, and the whole series done under my editorship is available, it should be indexed. This index, which would make the back issues more useful for reference, would be published separately, for people who already have all the back issues, and would be included when someone orders them all as a set.

The question is, who is going to bell the cat? I would like to get several people who would only commit to doing twelve issues at a time, so the task wouldn't feel too big. I would supply guidance, in writing, about the kind of things that should be indexed, so that the whole thing would be uniform, as well as instructions about the necessary format for the individual entries. The indexers would send their work to me on disks. From there I could set the MagicSeries' indexing tools on the combined input, and print it out on my laser printer. Any volunteers?

#### **THE EAGLE IVx2**

Sorry, ECUG members, I've been promising the editorial in this issue even longer than I've been promising to finish the Eagle IVx2 article. Besides, this issue is late already. But now that this issue is done, I'll turn right around and do the next, including the third and final part of the Eagle IVx2 article. Don't believe me? OK, wait three weeks!

# Socrates

Z - N O D E 3 2

POST OFFICE BOX 12, SOUTH PLAINFIELD, NJ 07080

modem: (201) 754-9067 24 hours daily

*Serving Today's CP/M and ZCPR Users*

*With the best in 8-bit computing*

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## CP/M Support

You have been told that CP/M is dead. Don't you believe it. To paraphrase a famous quote, reports of our demise are premature. We haven't died; we have transformed!

Since the earliest days, CP/M has attracted the best in programming talent. Some sold their work commercially but many more donated their efforts to the public domain. Today, most commercial programmers have moved on. But the others remain, as active as ever. This presents you with an interesting dilemma: Most of the new programs are free or nearly so, but stores won't carry them! How can you get support?

There are four avenues of support for today's CP/M user:

- Remote Access Systems (BBS's)
- User Groups
- Mail Order Companies
- Magazines and Newsletters

### REMOTE ACCESS SYSTEMS

Remote Access Systems (RAS or sometimes called Bulletin Boards), are computers set to automatically answer the telephone. You can send and receive messages, programs and files on a RAS. You need a modem and a communications program.

There are literally hundreds of systems that support CP/M. Most are free to the caller. *Socrates Z-Node 32* is such a system. Some of the most active are listed at the end of this paper. Find one that appeals to you and call. You should be able to find the North American listing of remote CP/M systems on any of these. Ask the sysop if you need help.

One problem with getting support by modem is the cost of the calls. Galaxy Starlink offers an "after hours" service through Tymnet that allows you to make modem calls to some 200 cities for as little as \$1.50 per hour plus \$10.00 per month. Call 1-505-881-6988 for more information.

### USER GROUPS

User groups are excellent sources of help. A comprehensive list of groups is printed in the back of *The Computer Shopper* each month. Groups vary considerably based on their size and the relative experience of their members, so check out the group before you join. Since a group is only as good as its members, you should plan to take on some responsibilities. You will find your efforts amply repaid.

### MAIL ORDER COMPANIES

There are many companies that continue to specialize in CP/M. *Chicago's First Osborne Group* publishes a file named CPMSRC-ILZT which lists most such firms. You can get this list from your user group or on a RAS. Or write to CFUG at Box 1678, Chicago IL 60690. Enclose a couple dollars to pay expenses.

Special mention should be made of the *Z-System Software Update Service*. Users of ZCPR can subscribe for regular updates of the best Z-System programs. Special editions are also available. For example, there is a collection of some 360 command files in a set of six disks for just \$36, or over a full megabyte of help files for \$20. Send \$2 to *Sage Microsystems East*, 1435 Centre Street, Newton Centre MA 02159-2469 to receive a catalog disk. Be sure to tell them what format you have!