

The Z-Letter

Number 8

December 1990

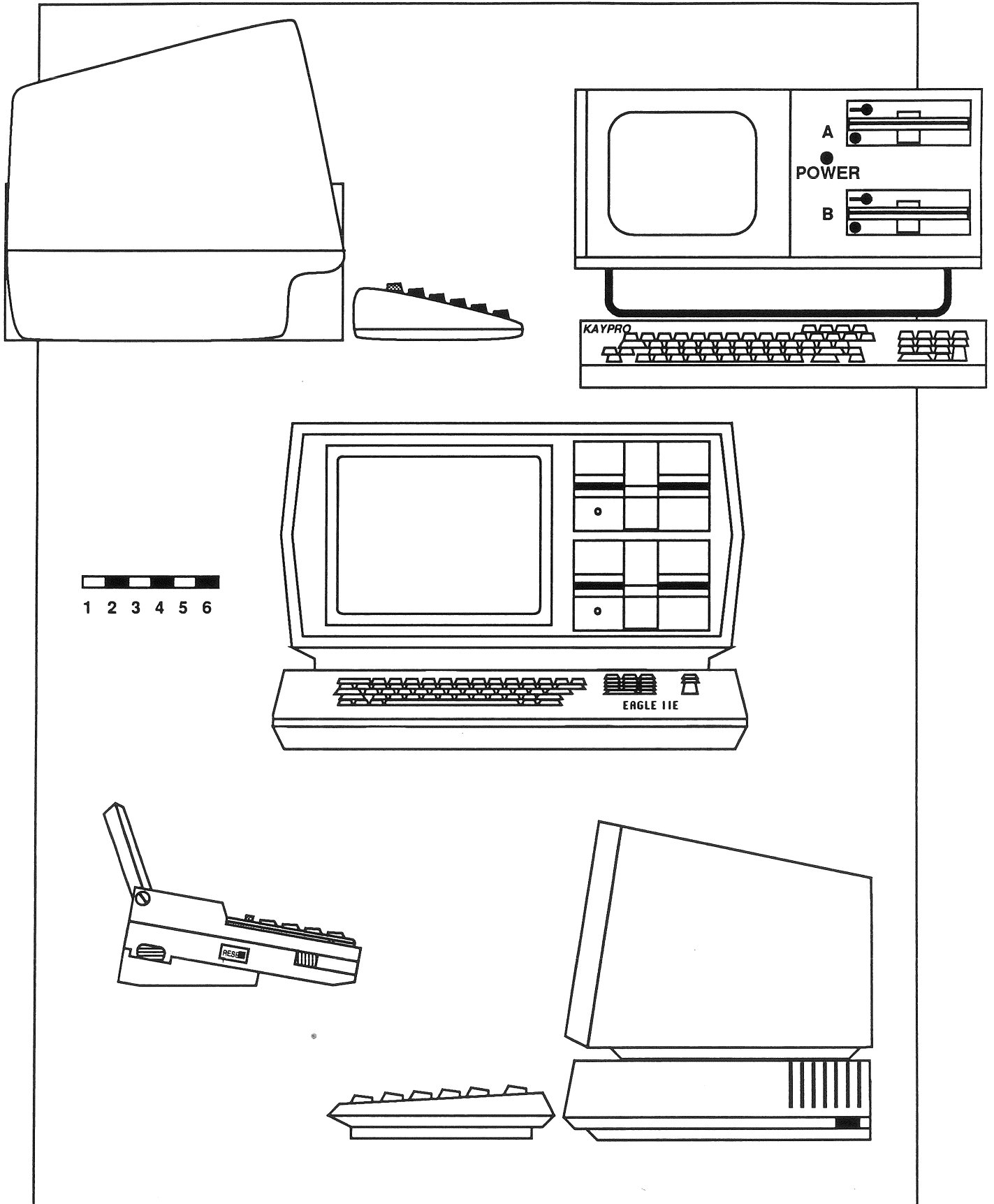


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ABOUT THIS NEWSLETTER

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. 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 \$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. 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: 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. 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.

Trademarks

All trademarks used herein are acknowledged to be the property of their owners.

Index available

The Z-Letter is indexed annually. The index for issues 1-5 appeared in issue 5. The index for issues 6-8 will appear next issue.

PRESERVING THE FUTURE

When a computer becomes an orphan, as all but a handful of CP/M and Z-System computers now have, it loses more than its past. It also loses the information needed to ensure its future.

It should not be that way. Surely, if a thing is worth doing, the history of that thing is worth preserving. But theory and practice again collide. Businesses don't care about preserving their histories, any more than they care about producing a good product, preserving the environment, or any other cause to which they give lip service. Businesses exist to make money, and everything else comes second. This means that a company like Bondwell (to pick one at random) no longer cares about its older computers, and sooner or later throws out everything relating to them.

When those files hit the dumpster it becomes impossible to get schematics, parts lists, the names of the people who worked on the computer, the dates it was first and last sold, how many were sold, copies of the system software and machine-specific utilities, copies of the ROMs, the manuals, and everything else. For a company that's gone out of business, the situation is even worse.

User groups and individual companies supporting our orphans preserve some of this information, but how well they do so varies from computer to computer, and from group to group. Eventually the ROMs in our computers will fade, and they won't even be able to boot. Floppies can be wiped accidentally at any time, and will also fade eventually.

If our old computers are to continue their usefulness into the 21st century, we need to preserve their ROMs, operating systems, utilities, schematics, and documentation on some time-resistant and machine-readable medium, such as WORMs (write-once read-many optical disks). A central place for gathering this material needs to be established, with copies maintained at geographically remote locations, so that a single disaster can't get them all. This resource, ideally, will be

operated as a tax-exempt non-profit organization, so that proprietorship hassles and cost of operation can be kept at a minimum. This would also minimize the cost of obtaining this material for an old computer you're repairing, or that you've obtained with no accompanying software or documentation.

We also need to obtain this material for the remaining current computers before they become orphans. Since Micromint, Ampro, Davidge, Amstrad, *et al.* are still in business, this should be easier than collecting the information for computers that are already orphans.

Finally, we need to find ways to upgrade computers to new hardware. It does no good to have schematics and part lists, if the parts you need are no longer manufactured and can't be found on the used market. An example is the 96-tpi floppy disk drives used in certain high-capacity formats such as Monroe and Eagle. Because most computers used 48-tpi drives, and then the PC came out with 48-tpi drives, 96-tpi drives are now difficult to find. Strapping a PC high-density drive to run at 5¼" speeds, instead of 8" speeds, is the kind of workaround that can keep a computer going whose old drives have failed, when the machine has no 48-tpi format.

Another example is the question of hard disks for our machines. In the old days, hard disks were expensive, and were regarded as optional extras by many manufacturers. Many CP/M computers had no hard-disk models. Even ones with standard hard-disk models and an easy upgrade path can be difficult to upgrade these days. Take the Eagles as an example. You could attach standard external units with 10Mb and 32Mb hard disks to any Eagle. Or the adventurous could add a second power supply, interface board, and Xebec controller directly in the Eagle case. Today, however, doing either is a problem. The File 10 and File 40 hard-disk units are almost impossible to find, Xebec controllers are getting very scarce, and the interface boards, manufactured only by Eagle, are scarcest of all. Even if you obtain all this, the formatting software for Eagle hard disks is set up for only a few models, some of which are

no longer made and hard to find, especially the 32Mb models.

Generally, then, we need generic solutions like Emerald Microware's hard-disk conversion kit (more about this in future issues, when they send me the information they've promised), both for adding hard disks and various kinds of floppies. In the long run we need some cheap and easy access to "standard" PC hardware such as big hard disks, 3" floppies, high-density floppies, CD ROMs, fax machines, and color monitors. That way, as long as the non-Macintosh market flourishes, we can take advantage of it. We already have this situation with printers, which are external devices; a printer doesn't care what's on the other end of the data cable, and our machines can run an HP LaserJet just as well, if not better than, a PC. External modems are another area where we can use the latest hardware as well as an MS-DOS machine. The problem is internal devices without a standard interface. We need something that can give us the same kind of access to hard disks, floppy disks, and CD ROMS that the Centronics interface gives us to printers, or that modem programs like IMP give us to modems.

Solutions, anyone?

Having expounded on the problem, have I suggestions for a solution? You bet. I invite contributions of help, as well as further discussion, of the following measures:

1. If you are already collecting hardware, software, and documentation for old machines, send me your address so that I

can print it and put you in touch with other collectors.

2. I am such a collector, and in the coming year I am going to start work on incorporating my collection as a non-profit, tax-exempt museum. Once I have done so, donations to it will be tax-deductible. If you are already such a museum, send me your address to print so people can make donations. If you are a lawyer or someone else with experience on incorporating such a museum, and are willing to advise or help me, please let me know.
3. If you sell RAM disks, hard disk subsystems, or other upgrade or enhancement products for CP/M computers, please send me your address so I can put people in touch with you. Especially do so, if your product is generic, rather than specific to a particular brand of CP/M computer.
4. If you have the knowledge to develop such a product as a generic RAM disk, hard-disk subsystem, high-density floppy subsystem, or 3" floppy subsystem, please do so and let me know about it. I would also love to put several such people in touch with each other so they could work together on such things.
5. If you know of a product which provides an interface to PC hardware, or would like to participate in a project to develop such a thing, again, write to me and let's see what we can set up.

ART CREDITS

The pictures of CP/M computer configurations on the cover and on pages 9 and 10 were created by Deborah Snavely, using MacDraw II software on an Apple Macintosh computer. The ruler accompanying each page of pictures represents 6 inches in the scale of the page.

Lambda Software Publishing

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

Products for sale, December 1990

1. **Spellbinder** Version 53H \$100
 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)

2. **CP/M** Version 2.2 \$15
 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)

3. **Eagle computer manual** \$10
 The complete manual for your Eagle I, II, III, IV, V, or IIE computer.

4. **Eagle Computer Users Group newsletter** July 87 to October 90 \$10
 All the issues done by the present editor of the only Eagle user group left.

5. *The Z-Letter* (back issues) Issues 1 through 6 \$2 per issue
 All the issues so far of our newsletter for the CP/M and Z-System world.

6. *The Z-Letter* (subscription) \$12 per year in the US, \$24 elsewhere
 Monthly starting with the November 1990 issue.

7. **Z-Fonts catalog** \$2
 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.

8. **Z-Fonts** \$2 per font plus \$2 per disk
 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: _____
 City, State, Zip: _____

Home Phone () _____ Business Phone () _____

Computer format in which software should be supplied:

Total money enclosed:

THE STATE OF THE ART

My Usenet address

I have discovered recently that Tandem Computers has a hookup to Usenet. If you have access to Usenet, you can send me electronic mail, and vice versa. My Usenet address is:

MCGLONE_DAVID@TANDEM.COM.

Enslaving a PC

A surprising number of people are still unaware of Sydex' 22DISK, which is a shareware program that allows a PC to read, write, and format disks in most CP/M formats. If you don't have one of the few machines for which Uniform is available, or you need to read one of the formats unknown to Uniform, this is the solution. The program is available on most PC bulletin boards for free. If you find it useful, you can register it for \$25. The registered version doesn't constantly remind you that your copy is unregistered, and knows about even more formats than the unregistered version. For instance, the registered version knows the 96-tpi formats for the SB180 and Otrona Attache, where the unregistered version does not.

To obtain the program, send your \$25 to Sydex, P.O. Box 5700, Eugene OR 97405, phone (503) 683-6033. They also have a BBS at (503) 683-1385, but it's almost always busy.

Sydex is eager to add any unknown formats to their data base. Once you have the program, check all your computers' formats against it. If you have any that 22DISK doesn't know, send a disk in that format to them, and they'll add the format in the next version. The latest version, 134, includes the Xerox 1800 format I sent them, and the DYN5 and the two People's World Computer formats that Ken Thomson sent them. A registered user can get an update at any time for \$4.

Until someone develops a general-purpose Uniform or MAP program and ports it to a large number of machines, using 22DISK on a PC seems the most practical way to copy to and

from disks in uncommon formats. I knew these PCs had to be good for *something*.

Hard disks for Amstrads

Helmut Jungkuntz of the Schneider/Amstrad CPC User Group Munich recommends a German company which has sold hard disks for Amstrads to over 50 people. He says they also provide a patch for the system's ROM, which has a slight bug. The company is Dobbertin Elektronik GmbH, Brahmstr. 4, D-6835 Bruehl, Germany. The price is 1100 Deutschmarks. The Amstrad has a single 3" floppy drive, a RAM disk, and a Z80 CPU, which runs CP/M Plus. Various users report moving to the Z-System via Z3Plus.

Elliam Associates (P.O. Box 2664, Atascadero CA 93423, phone (805) 466-8440) sells software for the Amstrad, as well as a second 720K 5¼" disk.

Other Amstrad user groups include:

AWPUG (Amstrad Word Processing UG)
1269 Southwest Blvd.
Rohnert Park CA 94928

Amstrad Users Group USA
12741 Mattison Avenue #3
Los Angeles CA 90066

Amstrad PCW Users SIG
2751 Reche Canyon Road #3
Colton CA 92324

New Z-Fonts catalog

A new catalog of the LaserJet SoftFonts I market under royalty from Digi-Fonts is now available. The new catalog reflects the new price for the Z-Fonts, and lists Lambda, rather than Alpha, as the company supplying them. In addition, it's 8½ X 11", for easier insertion into a three-ring binder. The larger size also permits the typeface samples to be printed at 14 points, rather than 10 points, which makes them clearer. The new catalog, like the old one, costs \$2.

BUSCON/91-WEST

The semi-annual convention of computer bus hardware manufacturers, retailers, and end-users called BUSCON will hold its western meeting in Santa Clara again this year. Hordes of happy hardware hackers will find heaven January 29 through 31, 1991, at the Santa Clara Convention Center. For an idea what BUSCON can be like, see the report on BUSCON/89-WEST in issue 3.

BUSCON occurs once on the West Coast and once on the East every year. Booths are bought

by companies that manufacture products for buses such as S-100, STD, VME, MultiBus I, MultiBus II, and others. These products can be boards for systems using such buses, enclosures, or even magazines such as *Supermicro*. Professional associations such as the STD manufacturers' association are also represented. The seminars cost a great deal, but a one-day admission to the exhibition floor has been \$10 in the past.

In 1990 BUSCON-WEST was held in Anaheim, and I was unable to attend. I will report on this BUSCON next issue.

BEGINNER'S CORNER

So you got a CP/M computer! Now what?

This feature is for a reader who has just purchased or been given a CP/M computer, and has no idea how to get started with it. All too often, the software and manuals have been lost, thrown away, or otherwise separated from the machine, and you do not have them. We call this the *bare-box problem*. It is challenge enough for the experienced computer collector, but for someone with no previous computer experience it is a disaster. We will assume you have no knowledge of computers and a bare box, and proceed from there. Be sure to phone or write if anything is unclear, or if it seems I've left something out. Any question you have, chances are many others have too.

Taking stock

The first thing to do with your computer is to figure out exactly what you have. Every CP/M brand and model is at least a little different from every other, so it's important to know exactly what yours is.

1. Manuals.

You should have gotten a stack of books with your system, or at least one large book. These are the manuals that describe your system and tell you how to use it. If you got these, it will be a lot easier to learn to use your computer. If you did not, your most urgent need is to get

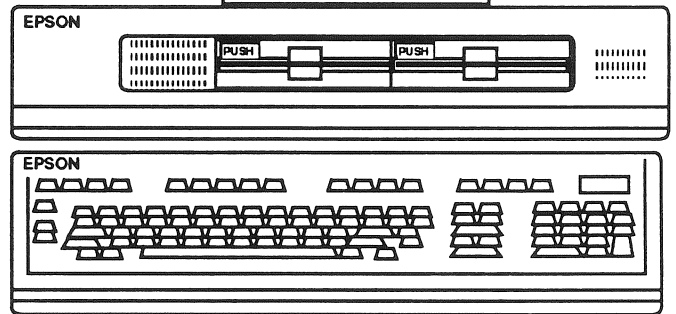
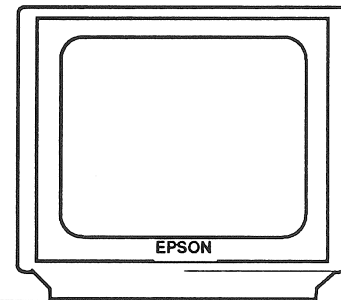
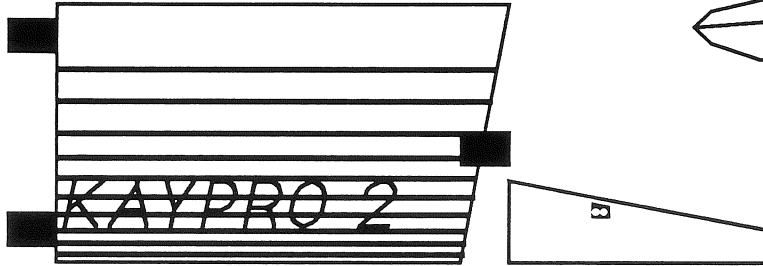
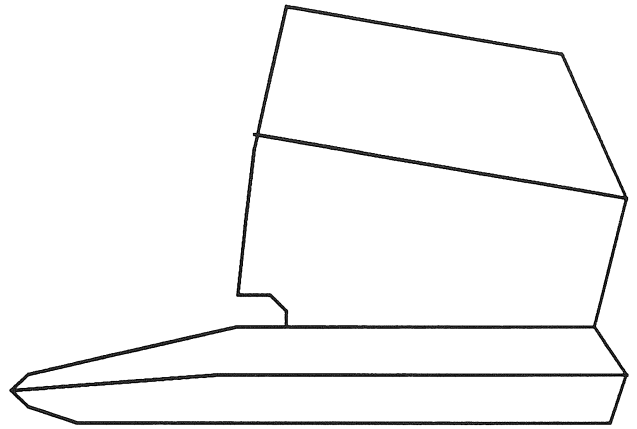
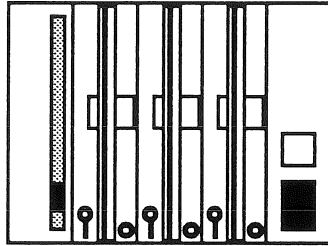
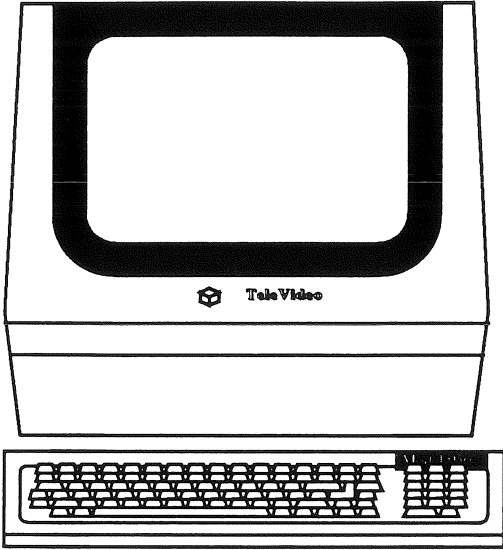
copies of them from somewhere.

Some computer manufacturers wrote one big manual that described everything about the machine, including how to use the software that came with it. Others wrote one manual for how to use the machine, and a separate manual for each software package that came with it. If you have more than one manual, you want to start with the one called *User's Manual*, or *User's Guide*, or even *How to use your XYZ Computer*.

2. Hardware.

CP/M computers come in many different configurations, or arrangements of their parts. I have chosen five machines to represent the most common configurations in the CP/M community (see the cover and the next two pages). The representative machines are:

1. A Micromint SB180 and Televideo 950 terminal (side view, cover top left; front view, next page top left). The SB180 itself is a single board, here enclosed in a box also sold by Micromint, with three floppy-disk drives and a hard disk. It does not come with a keyboard and CRT; the Televideo 950 terminal supplies them.
2. An Eagle III computer (front view, cover center; side view, next page center right).

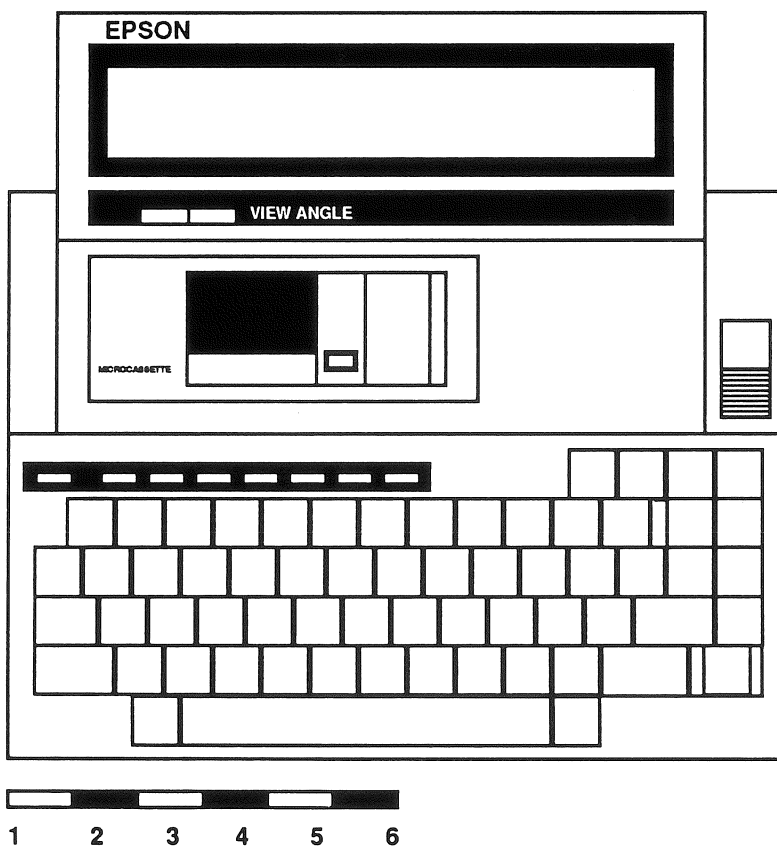


Many CP/M systems consist of a single box, like this one. Note the keyboard on the front, the monitor (CRT screen) above the keyboard on the left, and the two full-height floppy-disk drives arranged horizontally to the right.

3. A Kaypro II (front view, cover top right; side view, previous page bottom left). Some of the most popular CP/M systems are portables. This includes Kaypros and Osbornes. Portables come in a single box with a handle for carrying, usually with the keyboard built into the lid which protects the CRT and disk drives. They do not have batteries, but must be plugged in to work. The Otrona Attache described in issue 5 is a portable, but a very small one.
4. An Epson QX-10 (side view, cover bottom right; front view, previous page bottom right). Your computer may also come in several different sections, like a PC. The Epson QX-10 is probably the most common example of this configuration, but there are others.

5. An Epson Geneva, or PX-8, is probably the most common CP/M laptop (side view, cover bottom left; top view, bottom of this page). Note that the Geneva illustrations are on a different scale from the others; relative to the others shown, the Geneva is half the size shown). Like a portable, a laptop comes in a single box with a handle and a lid. Laptops, however, run off batteries and so don't need to be plugged in. CP/M laptops typically have a silvery LED screen of 4 to 6 lines tall and 40 characters across, rather than a CRT, and use a microcassette tape drive instead of a floppy-disk drive for storage. The operating system and word-processing program are often contained in ROMs (chips) rather than on a floppy disk or hard disk. Accessories for laptops often include external floppy-disk drives, power adaptors for plugging in the laptop to save the batteries when not actually on the road, modules with extra memory, modems, and ROMs with other programs on them.

Obviously, it is impossible to describe all the possible combinations of hardware that can be



put into a computer, or all their possible arrangements into one or more boxes. If you have the manual for your computer, read the beginning chapters that tell you what you have and how it's arranged. If you do not, have the person who gave or sold you the computer walk you through that much. If he or she knows no more than you do, find a users group for your computer and call them or write them. People who have used that brand and model of computer know it best.

Your local computer stores may not be able to help you with your CP/M computer, but they should be able to tell you what part is what. Failing that, they probably carry some magazine such as *Computer Currents*, *MicroTimes*, *Computer Shopper*, or *Vulcan's Computer Monthly*. These magazines carry listings of user groups. Your local newspaper may also have a weekly computer section that lists user groups in your area.

3. Floppy disks.

If your computer has a hard disk and will start without a floppy disk being inserted in the floppy-disk drive, you may not get any floppy disks with your computer. Otherwise, you will get floppies with the CP/M operating system, CP/M utilities, utilities written especially for your machine, and application programs such as WordStar and SuperCalc.

In this day and age, you may already know how to handle floppies, but let's go over it once to make sure. Inside the square casing of the floppy is an actual disk, which the floppy-disk drive seizes and spins when you insert the floppy disk. Information is recorded on this disk magnetically, so it is important that you remember the following:

1. **Watch out for magnetic fields.** If you lay a magnet on the disk, put it under a telephone when it's ringing, lay it on top of your computer, or otherwise expose the disk to magnetism, the information on it can get scrambled.
2. **Beware of heat and cold.** Keep the disk no warmer than 52 degrees C (125 degrees F), and no colder than 10 degrees C (50 degrees F). High temperatures can undo the magnetism of the disk, and cause the square casing to crumple and crack. Extreme cold makes the disk brittle.
3. **Keep it clean.** Do not touch the part of the disk that shows through the vertical slot, as this will deposit skin oils and dirt on the disk. Do not spill soft drinks or tobacco ash on the disk. Particles of this sort, dragged around by the operation of the disk drive, can damage both the disk and the disk drive. Put the diskette in its envelope immediately, whenever it isn't in a disk drive.
4. **Do not bend, scratch, or clip.** If you bend the square casing, the disk inside will be unable to turn. If it can turn, the friction would generate heat and scrape the magnetic medium from the disk. Similarly, write on disk labels only with soft-tipped pens, and do not use paper clips on disks. And be careful not to force the disk when you put it into a disk drive.

To use a floppy, insert it into the slot in the front of a floppy-disk drive. Insert it with the label towards you, and with the label side up (if the disk drives are placed so that they're wider than they are tall). If the disk drives are on their sides, note which side the catch or lever that closes the drive is on. The label side of the floppy should face the catch or lever as it's inserted.

4. Software.

How do you tell what's on the floppies? By inserting them, one at a time, into a disk drive and using a utility to list what's on them. In standard CP/M, the command to list files is DIR. Files are not listed in alphabetical order, nor is any information given about file size, file attributes, or space left on the disk.

File names in CP/M consist of a file-name part of up to 8 characters, which can be followed by a file type of up to 3 characters. If the file type is used, it is preceded by a period to separate it from the file name proper. The file name

LETTERS is a file name without a file type; in the file name SB.COM, the file-name proper is SB, while COM is the file type.

Insert your CP/M disk into a disk drive. We will assume that your machine boots from a floppy disk drive rather than a hard disk, in which case that floppy-disk drive is drive A (CP/M machines always boot from drive A). Type DIR, then the carriage-return key (it may be called RETURN or ENTER on your machine). Your CP/M disk should contain the following files:

ASM.COM
 CBAS2.COM
 CRUN2.COM
 DDT.COM
 DUMP.COM
 ED.COM
 LOAD.COM
 MOVCPM.COM
 PIP.COM
 STAT.COM
 SUBMIT.COM
 SYSGEN.COM
 XREF.COM
 XSUB.COM

Notice that all of these files have a file type of COM. COM files are commands in CP/M. If you type one of these file names without the COM, your machine will do something. Just for the heck of it, type STAT followed by the carriage return. (You always type RETURN when you're done typing a command, so the machine knows you're done and ready to have it do something. From now on, we won't bother to say "and hit RETURN" after a

command.)

In CP/M there are four commands that are not on your CP/M disk, but work anyway. That's because they are *resident*, that is, they are built into CP/M. They are DIR (the directory command), ERA (the command to erase a file or set of files), REN (rename a file), SAVE (save a chunk of memory to disk), TYPE (display the contents of a text file on the screen), and USER (change user areas). Commands executed from COM files on disk are called *transient commands* because they aren't in memory all the time, only when they're running.

Besides the standard CP/M utilities above, you may find files with file types of ASM or BAS on your CP/M disk. The ASM files are assembly-language source, usually of parts of your computer's operating system. The BAS files are source files for BASIC programs. Look for COM files with names like D.COM, D2.COM, D4.COM, SD.COM, XD.COM, or XDIR.COM. These are directory commands that list the files on your disk in alphabetical order, showing how big each file is, how much space the disk has, and how much of that space is left. Use this program instead of DIR.

Next time

Now that you have some idea of what you have, read the manuals that came with your machine, or find a users group for your machine and get copies of the manuals, if you don't have them. Next issue we'll get into how files are organized on disk, what the CP/M utilities are, and how to use them.

LETTERS

Software, manuals, disks wanted

Dave:

Here are the CP/M and other disks that I have.

Avatar CP/M 1.7004 system disk, 5¼"
 CompuPro CP/M-86 system disk, 8"
 DEC Rainbow CP/M-86/80 ver. 2.0, 5¼"

IMSAI IMDOS 2.01/2.02 system disk, 8"
 IMSAI CP/M 2.2 system disk, 8"
 MS-DOS 1.25H, for Passport PC, 5¼"
 Morrow MD3 CP/M system disk, 5¼"
 Motorola M68000 Software, non system, 8"
 Raytheon CP/M work station, non system, 5¼"
 TI Model 4 CP/M system disk, DSDD, 8"
 Victor 3 CP/M system disk, 8"
 XENIX 3.0 Software, non system, 5¼"

I still have not been able to find any one who has a system disk for my MW 100, CP/M and 6502 computer made by Visual Technology Inc. of Tewksbury, Massachusetts. I am also interested in software for this computer.

Also I am looking for (1) manuals for the Osborne 1, Kaypro II, and Morrow MD3 computers; (2) 96-tpi, double-sided disk drives that will work in an Eagle III; and (3) manuals and software for a Anderson-Jacobson Hyperion Passport PC.

Rudy Stefenel
3138 Drywood Lane
San Jose CA 95132
(408) 263 5332

Let me point out that while DRI no longer sells CP/M 2.2 or 3.0, these products remain their property, and are not public domain. Lambda does not condone piracy, and will not permit The Z-

Letter to be used as a trading post for pirate software. I'm not saying Rudy is doing so, I'm just taking this opportunity to make my position clear.

If you have a demonstrable license for CP/M on your computer, I can imagine no wrong in getting a good copy of CP/M through whatever channel. For instance, if you have an original CP/M disk, but it's been erased, trashed, or is a system disk for another brand of computer, you have a right, I believe, to get a copy of CP/M for your computer. The key is that you have only as many copies of CP/M as you have licensed disks; that way DRI is not being cheated.

If you have no license for CP/M, I can sell you a license, the CP/M manuals, and a CP/M disk for \$15. These are licensed copies of CP/M bought wholesale as part of a manufacturer's closeout. If your computer is one I have, the CP/M disk will be the correct system disk for that computer; otherwise, it will be a Xerox 1800 disk.

CP/M system disks

I have had several requests for a list of the system disks available in the SDCS Dino-SIG archive that I keep. Happily, the archive is a dynamic thing with new editions coming in aperiodically. If you have something that you think I should have, please e-mail me about it. Likewise, if you need something that I do have, send e-mail also. – Don Maslin, DONM@PNET07.CTS.COM

ACTRIX

ACTRIX SSDD Access Actrix system disk

ADVANCED DIGITAL CORP

SUPRQUAD SSSD ADC 8" CP/M 2.2 system disk

ALSPA

61KCPM3B SSDD ALSPA ACIDOS (CP/M) system disk

AMPRO

LBSYSB DSDD Littleboard system disk
LBSYS-E DSDD Littleboard system - enhanced

BIGBOARD

60KCPM22 SSSD CP/M 60K system disk
X4ACPM22 SSSD CP/M system disk - variant

CCS

CCS-CPM SSSD California Computer Systems 2810/2422@ 9600 baud

COMPUPRO

CPMPM816 SSDD CompuPro 8/16 MP/M @19.2K baud

CMPRO816	DSQD	Compupro 8/16 system disk - 96tpi
DEC Rainbow		
DECRBW86	SSQD	MS-DOS for Rainbow
DECRBW96	SSQD	MS-DOS variant
DRCDUTIL	SSQD	CORVUS utilities
DRCPM86	SSQD	CP/M-86 for Rainbow
DELTA		
DLTADCPM	SSSD	Delta D CP/M v2.0
EAGLE		
EAGLII	DSDD	EAGLE II system disk
EAGLIII	DSQD	EAGLE III system disk
EPSON		
EPSNQX10	DSDD	Epson QX-10 system disk
ICM/SDCC CPZ4800x		
ICM-SDD	SSDD	ICM system disk
SDCC-SDD	SSDD	SDCC system disk
INTERTEC SUPERBRAIN & COMPUSTAR		
QD-BIOS4	DSDD	System disk w/ experimental BIOS
SBRAIN32	SSDD	SUPERBRAIN v 3.2 system disk
VPU30ENH	SSDD	COMPUSTAR enhanced system disk
VPU30NON	SSDD	COMPUSTAR non-enhanced system disk
VPU30NRM	SSDD	COMPUSTAR non-enhanced system disk
JADE		
JADE-DD	SSDD	Jade Double D CP/M
KAYPRO		
K10FLOAD	DSDD	CP/M 2.2F system disk (81-302-C)
K10HLOAD	DSDD	CP/M 2.2H system disk (81-302-C)
K10RELOD	DSDD	CP/M 2.2F reload disk (81-302-C)
K10URLOD	DSDD	CP/M 2.2U reload disk (U ROM)
K2X22G	DSDD	CP/M 2.2G system disk (81-292-A)
K4836765	DSDD	CP/M 2.2F system disk (81-232-A)
K4836768	DSDD	CP/M 2.2F system disk (81-232-A)
K483FDSD	DSDD	CP/M 2.2F system disk (81-232-A)
KII-6085	SSDD	CP/M 2.2F system disk (81-232-A)
KII-SSDD	SSDD	CP/M 2.2F system disk (81-232-A)
KP-TROM	DSDD	CP/M 2.2T system disk (ADVENT TROM)
KP22GDSD	DSDD	CP/M 2.2G system disk (81-292-A)
KPII-OLD	SSDD	CP/M 2.2F system disk (81-232-A)
KPRO-II	SSDD	CP/M 2.2F system disk (81-232-A)
KPROSSDD	SSDD	CP/M 2.2F system disk (81-232-A)
PRO884MX	DSDD	CP/M 2.2M system disk (MICRO C PRO-884-MAX)
MONROE		
MONROE88	DSDD	Monroe 88 CP/M system disk

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

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-I.LZT 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!

MAGAZINES AND NEWSLETTERS

If you want 300 slick pages of full page advertising and press releases disguised as product reviews, you will be disappointed. Our publications reflect the tradition of user involvement in CP/M. You may even find yourself asked to write an article on something you've learned! Some publications to look at:

THE COMPUTER JOURNAL is the top-of-the-line in CP/M periodicals. Topics range from tutorials to advanced work in the operating system. Heavy emphasis on Z-System. Published six times a year. Subscriptions are \$18 per year. *The Computer Journal*, 190 Sullivan Crossroads, Columbia Falls MT 59912.

PIECES OF EIGHT is published by the *Connecticut CP/M Users Group*. Great degree of user involvement reflects the diverse interests of the members. Recent articles include making Basic 'Z-Smart', and installing a RAM disk. Membership including newsletter is \$15 per year. *CCP/M*, c/o Tom Veile, 26 Slater Avenue, Norwich CT 06360.

SLKUG NEWS is the newsletter of the *St. Louis Kaypro Users Group*. Don't let their name fool you — they support all kinds of CP/M machines. Articles include reviews of new products, offers for group purchases and tips on using applications. Membership including newsletter is \$18 per year. *SLKUG News*, 5095 Waterman Avenue, St. Louis MO 63108.

By the way, we are compiling a listing of all CP/M newsletters and periodicals. If you know of one that you feel is of value, let us know! A sample copy would be most appreciated.

CAN WE HELP?

One last avenue of support is *Socrates Z-Node 32*. We will copy any files you want from our system or extensive off-line archives for \$6 per disk (\$10 for foreign orders). Send \$2 for a listing of available files. Please make checks out to Chris McEwen, Sysop, and tell us what format you need. Proceeds go to the support of Z-Node 32.

Chris McEwen

Try one of these Remote Access Systems for support via modem:

Z-Node Central, Los Angeles	CA 213-670-9465	Z-Node 36, Pasadena	CA 818-799-1632
Z-Node 3, Newton Centre	MA 617-965-7259	Z-Node 45, Houston	TX 713-937-8886
Z-Node 4, Salem	OR 503-370-7655	Z-Node 50, Alice Springs, N.T.	
Z-Node 5, Montreal QC CANADA	514-324-9031	AUSTRALIA 5750	61-089-528-852
Z-Node 6, Drexel Hill	PA 215-623-4040	Z-Node 58, Oklahoma City	OK 405-943-8638
Z-Node 9, San Diego	CA 619-270-3148	Z-Node 62, Perth,	
Z-Node 10, Mill Creek	WA 206-481-1371	Western AUSTRALIA	61-9-450-0200
Z-Node 11, Chicago	IL 312-764-5162	Z-Node 65, Cheyenne	WY 307-638-1917
Z-Node 12, Newington	CT 203-665-1100	Z-Node 66, Costa Mesa	CA 714-546-5407
Z-Node 15, Manhattan	NY 212-489-7370	Z-Node 73, Ballwin	MO 314-821-1078
Z-Node 20, Burnaby, BC CANADA	604-299-0935	Z-Node 77, Austin	TX 512-444-8691
Z-Node 21, S Plainfield	NJ 201-757-1491	Z-Node 78, Olympia	WA 206-943-4842
Z-Node 32, S Plainfield	NJ 201-754-9067	Z-Node 81, Lancaster	CA 805/949-6404
Z-Node 33, Enid	OK 405-237-9282		

MORROW MD-2

MD2PRGMR	SSDD	Programmer utilities
MOMD216	SSDD	System disk rev 16
MOMD2R13	SSDD	System disk rev 13
MOMD2R16	SSDD	System disk rev 16
MOMD2R1X	SSDD	System disk rev 1x
MOMD2R21	SSDD	System disk rev 2.1

MORROW MD-3

MOMD3R22	DSDD	CP/M 2.2 System disk rev 2.2
MOMD3R23	DSDD	CP/M 2.2 System disk rev 2.3
MOMD3R31	DSDD	CP/M 2.2 System disk rev 3.1

MORROW MD-5/11 (HD Models)

MD5-BOOT	DSDD	MD-5 system disk
MD5-GEN3	DSDD	MD-5 CP/M 3.0 system generation files
MD11DSK1	DSDD	MD-11 distribution disk #1
MD11DSK2	DSDD	MD-11 distribution disk #2
FORMAT23	ARC	Format program & mods for 96tpi drives

NNC (No Name Computer)

NBUG22	MAC	NNC OASIS Computer monitor ROM source
NBUG22	ROM	NNC OASIS Computer monitor ROM

OSBORNE

OS1SYS	SSDD	Osborne 1 system disk
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OTRONA

OATTACHE	DSDD	Otrona Attache' system disk
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RADIO SHACK

TRSIILBT	SSDD	Lifeboat CP/M for TRS-80 Model II
LIFEBOAT	SSDD	More of the same
TRSDOSII	SSDD	TRS Model II TRSDOS system disk

SANYO

SMBC1100	DSDD	Sanyo MBC-1100 system disk
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SIERRA

CPM22DD	SSSD	CP/M 2.2 DD system disk
CPM22HDS	SSSD	CP/M 2.2 HD system disk
CPM22S	SSSD	CP/M 2.2 SD system disk
MPM2CS	SSSD	MP/M 2 system disk
MPM2MS	SSSD	MP/M 2 system disk

TARBELL

TARBLCPM	SSSD	Tarbell FDC CP/M
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TELEVIDEO

TPC-1	DSDD	Televideo TPC-1 (portable) system disk
TS-802H	DSDD	Televideo TS-802H system disk
TS-803	DSDD	Televideo TS-803 system disk

XEROX 820

5SYS-II	SSDD	820-II 5¼" system disk	s/n DC0003121
5WP-II	SSDD	820-II 5¼" word processor dsk	s/n DC0003121
8202SIS5	SSDD	820-II 5¼" system disk	s/n DC0003121
8202SYS8	SSDD	820-II 8" system disk	s/n DC1001697
8202CPM5	SSDD	820-II 5¼" system disk	s/n DC0003121
820DIA5	SSSD	820 5¼" diagnostics	s/n BD0053000
820DIA8	SSSD	820 8" diagnostics	s/n BD0050266
820SSSD	SSSD	820 8" system disk	s/n BS0054300
820SYS5	SSSD	820 5¼" system disk	s/n BW0061446
820SYS8	SSSD	820 8" system disk	s/n BS0050484
820SYS8S	SSSD	820 8" system disk	s/n BS0050484
820WP8	SSSD	820 8" word processor disk	s/n BW0050522

Zenith Z100

Z100CPM	DSDD	CP/M 2.2 system disk
Z100DOSA	DSDD	ZDOS disk A
Z100DOSB	DSDD	ZDOS disk B
Z100ZPC	DSDD	ZDOS variant
ZDOS100A	DSDD	ZDOS disk A
ZDOS100B	DSDD	ZDOS disk B
ZDOS310	DSDD	ZDOS v3.10
ZMDOS218	DSDD	Z100 MS-DOS v2.18

ZOBEX

ZOBX-SDD	SSDD	Zobex CP/M
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Programming questions

October 30, 1990

Dear David:

My letter writer is coming along nicely, to the point where I need to think about a printer driver.

CP/M's driver gripes me. It won't allow a warning if the thing is off or in lockout. I even read the flag byte in PSW and found zip. The only way is to read the port directly.

Being born lazy and dumb to boot, I wrote a cute wito fuzzer that reads both bytes from all six ports and puts them on screen in binary. It loops to change the display as the bits change. It's fun playing with the printer and watching the 1s and 0s dance. But it raises all kinds of questions.

First, I may have transposed the bits, putting bit 0 on the left. How can I tell?

Second, I assume port status signals are machine dependent, leaving me unable to write a warning that will work for all. Is there an industry standard bit that signals equipment on/off? Mine uses bit 5 or 2, depending on whether I've transposed.

Third, six ports? Am I right in assuming two of the parallel ports are for keyboard and monitor? If so, which?

Fourth, why are the serial status ports initialized?

Fifth, can anyone use this gizmo? I can modify it to send a CP/M printer test sequence to show which port and the ready bit. If you want it and the source code, send a formatted disk.

Eugene Austin
P.O. Box 115
Tilden NE 68781
(No telephone)

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/0
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 (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.

This is the sort of question (or collection of questions) usually answered on a bulletin board, but Gene doesn't have a phone, and isn't going to have one, either (long story). So, if you're willing to help Gene, please write directly to him. Gene's computer is an Eagle computer, I forget which model exactly,

so send him disks formatted in the Eagle II format (SSDD 96 tpi).

Gene, once the smoke clears, maybe you can write up the story of your letter writer for *The Z-Letter*?

PERSONAL ADS

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

972-1965.

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)

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

NEUG marches on . . .

The October-November 1990 *Epson Lifeboat*, from the National Epson Users Group (NEUG), arrived too late for mention in last issue. While far too much of this magazine is given over to IBM promotion and MicroSoft flak for my taste (namely, any at all), there is still a lot of information for CP/M users, particularly owners of Epson QX-10 and Geneva laptops. It is also one of the few places where you can get information or help with Valdocs, an alternate operating system available for the QX-10. Other products for QX-10s and Genevas include Geneva software, SemiDisk RAM disks for the QX-10, and support on lots of bulletin boards.

NEUG dues are \$25 per year in the USA, \$30 annually if you want First Class Mail. In Canada, annual dues are \$35; overseas, \$38. The address is NEUG, Box 1076, Lemont PA 16851. I urge you to join if you own an Epson computer or an Epson printer.

. . . with an occasional stumble

Having said that, I would like to request that

the editor of the *Lifeboat* take a little more care with material he prints. An article on page 244, titled *The most dangerous character*, begins:

DOS provides many many enhancements to make computing easier. One of these is the availability of the WILDCARD character * to help manage your files quickly & easily. This lets you do the same thing to a number of files at the same time.

Nowhere in this article does it mention that MS-DOS is a copy of CP/M, and that this feature existed in CP/M long before MS-DOS was dreamed of. I can believe that the author, who is anonymous, may not have heard of CP/M and may not know better, but the editor should have said something.

Another falsehood on page 249 is often heard, and never fails to get my goat. Dick Shoemaker states "WordStar (WS) is the oldest sufficiently featured, power word processing program in the industry." This is not true. Spellbinder was marketed *a year and a half* before WordStar, and has *always* had more features and been more

powerful than WordStar. It would also not surprise me to learn that other word processors, now unavailable and never as popular, were as old as WordStar and more powerful. Palantir comes to mind. But only for Spellbinder do I know this for sure.

Don't they know they're obsolete?

The December 1990 issue of *Smithsonian* had an interesting article on the history of the manual typewriter, from its introduction to its replacement by the electric typewriter, and then the personal computer. Most of the article's interest, however, is on people who still use the manual typewriter today, despite its obsolescence, despite the difficulties of getting parts, proper maintenance, and repairs. The attitudes of these people, the attitudes of other people towards them, and even the descriptions of the collections of old typewriters that some of them amass, sound *very familiar* for some reason or other. The article is good reading, the pictures of some of the weirder (non-standard!) typewriters are fascinating, and you can find it in your local library.

Vulcan's Computer Monthly

The December 1990 VCM has FOG articles on *Calculating Permutations* in BASIC by Carl Tenning, a review of three version of Compuview's VEDIT, by W.H. Friedman, *dBASE II Tips, Quirks and Comments* by Nick Wolff, *Commodore 128 Experiences* with CP/M by John McGlothlin, *WordStar Editing Commands* by Alan Bloom, *Moving from CP/M to MS/PC-DOS* by an anonymous person, *WordStar 4.0 Large File* by Klaus Hagel, *A WS4 Printing Bug* by Alan T. Chattaway, *WordStar 4.0 CP/M Software Observations* by Nick Wolff, and some other articles which are MS-DOS only. This is a magazine worth getting, especially if you use WordStar.

Once again, however, the editor has fallen down on the job. Is it too much to expect a computer magazine to use CP/M and WordStar instead of continually lapsing into CPM and Wordstar? If they can't be bothered to proofread this stuff, what about running a spelling checker? Please let me know when I make mistakes like that, people.

ERRATA

Speaking of which, it would not be fair to point out other editors' mistakes without confessing to my own. My apologies for these mistakes in issue 7:

The list of names and towns on page 13 should be corrected as follows:

Tracey Conway, *East Hartford CT*
 Stephen Griswold, *Canton CT*
 Gary Stagliano, *Manchester CT*
 Gabor Szikla, *Windsor CT*
 Dan Williamson, *Naugatuck CT*
 Keith Zickefoose, *Woodbury CT*

On page 16, right column, line 13 should read "are", not "is".

On page 19, left column, line 14 should read "before", not "befor".

On page 19, left column, line 16 should read "not", not "no".

On page 20, left column, line 43 should read "turned on", not "turned out".

**Herbert
R.
Johnson**

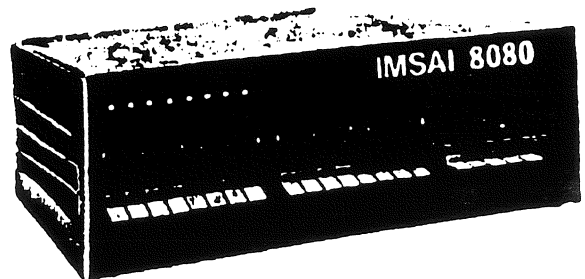
Great Buys on Used Computer Equipment

S100

**Compupro, Cromemco, IMSAI, Northstar
...and Others!**

Multibus

SS-50



**Herbert R. Johnson
1519 Mount Everett St.
Colorado Springs, CO 80909
(719) 578-0997**

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-Preemptive 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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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 last 1990 meeting was 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.

January 12 meeting

9:00 Meeting begins. No presentation is scheduled for this meeting.
 12:00 ECUG meetings ends.
 12:30 ZSUG (Z-System Users Group) meeting begins.

February 9 meeting

9:00 Meeting begins.
 9:30 Jerry Davis will talk about developments in the PC world last year (1990).
 12:00 ECUG meetings ends.
 12:30 ZSUG (Z-System Users Group) meeting begins.

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.

The Diplomat Software Series Product Catalog, a catalog of software for managing various printers, and word processing and desktop publishing in various languages. For MS-DOS only. Donated by Diplomat Software, Inc.

MidWest Micro, Fall 1990 catalog of printers, computer peripherals, and computer supplies. Donated by MidWest Micro Peripherals.

Public Brand Software, shareware catalog & reference guide, Volume 6, Number 4. PCs only. Donated by Public Brand Software.

Public Domain Software and Shareware, for IBM and compatible computers only. Fall 1990 catalog. Donated by Softshoppe, Inc.

README.DOC, Journal of the Orange Coast IBM PC User Group. November 1990 issue, Vol. 6 No. 11. Donated by David Banoff.

The Eagle PC Plus and Spirit Service Manual and Eagle PC Spirit User's Guide mentioned last issue are being copied, and will be available as a single 8½ X 11" looseleaf manual. The price has not been determined yet, as it depends on the copying and mailing cost of the finished product.

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.

Please note that, as ECUG is no longer a corporation, the officers of the club do not wish to handle money (except those, like Shirley Welch and myself, who have businesses and do so as part of the business). Therefore, when you request disks from Ken or Jack, send them

the floppy disks and the postage to mail them. 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 (donated by the author or company):

fastmenu PLUS, version 2.0, menu interface program from jwh.SoftWare, P.O. Box 410, 9500 St. Rt. 61, Berlin Heights OH 44814, (419) 588-3608. Shareware.

Football Fun Game, an office football pool management program from Critics Choice, P.O. Box 1381, Pompano Beach FL 33061, (305) 942-8771. Free for tryout this year; next year's

version may be ordered for \$15.

GIST-PLUS (General Invoice Sales Tracker) version 1.3 and *SNAP* (Such a Nice Address Program) version 1.2, Bob Keber, TypeRight Corporation, 336 Swain Blvd., Greenacres FL 33463-3342, phone (407) 969-3643. Shareware.

Loan Amortization Program, Antelope Systems, 3190 NW Nyassa Court, Beaverton OR 97006, (503) 645-9327. Shareware; requested registration fee \$30.

Menu Demonstration, for VGA, EGA, CGA. Gembar Graphics, 455 Amherst Circle East, Satellite Beach FL 32937. Demonstration disk only.

THE EAGLE IVx2, AN EXPERIMENT IN HARDWARE

Part 3

Before I embark on the third installment of the Eagle IVx2 saga, I feel I should sum up what has gone before. Some time passed since part 2 was published in the September 1990 ECUG newsletter. Furthermore, subscribers to *The Z-Letter* saw neither part 1 or part 2, unless they were also members of the Eagle Computers Users Group.

Eagle background

Eagle Computer made five models of CP/M computer, the Eagle I, Eagle II, Eagle III, Eagle IV, and Eagle V (also known as the IIE-1, IIE-2, IIE-3, IIE-4, and IIE-5). They all use the same case, the same keyboard, the same monitor, the same power supply, and the same mother board. They differ chiefly in the storage attached:

The Eagle I has one single-sided double-density full-height 96-tpi floppy-disk drive, with a format capacity of 382K.

The Eagle II has *two* single-sided double-density full-height 96-tpi floppy-disk drives, and uses the same 382K format as the I.

The Eagle III has two *double-sided* double-

density full-height 96-tpi floppy-disk drives; it can read the Eagle II 382K format, but has a 784K format of its own.

The Eagle IV has *one* double-sided double-density full-height 96-tpi floppy-disk drives, and a full-height 10Mb hard disk. It has a SASI interface board, a Xebec controller, and a second power supply not present in the I, II, or III. It can also read both Eagle formats.

The Eagle V is identical to the IV, except that its hard disk is 32Mb instead of 10.

Eagle also manufactured external hard-disk boxes with power supply, SASI interface card, Xebec controller, and hard disk. A File 10 had a 10Mb hard disk; a File 40 had a 32Mb hard disk. Eagles had a port on the back labelled "Parallel A", which was the port for attaching the File 10 or File 40. (Eagles IV and V also had a port labelled "hard disk interface", but this was never implemented in the system software.)

Finally, the BIOS used by the IV and V expects *two* floppy-disk drives, and up to four hard-disk partitions of up to 8 Mb apiece. In effect, a IV is just waiting for a second floppy and a larger hard disk to be attached, to turn it into a

machine with two 784K drives and four 8Mb drives.

Replacing the floppy-disk drive

Confirming the first part of the proposition suggested above was easy. Jerry Davis and I had long ago replaced the full-height drive, in an Eagle IV I used to have, with two half-height drives.

Before I describe the steps to do this, let me remind anyone reading this to do two very important things. First, *unplug the machine and turn it off* before opening it up. The danger of electrocution is very real. Secondly, *read the whole thing* before trying this yourself, so that you have a good grasp of the whole procedure before starting. Also, if you don't know how to do something in the instructions, you can learn how to do it without having your computer in pieces meanwhile.

1. **Open the clamshell.** The Eagle case has two major compartments. The lower compartment I call the *clamshell*. This compartment contains the keyboard, the mother board, the main power supply, and (in a IV or V) the SASI board and Xebec controller. The mother board is raised an inch by standoffs at the corners, and the SASI board and Xebec controller sit side by side underneath it.

The upper compartment I've been calling the *monitor box*, for lack of a better name. This compartment contains the Motorola monitor assembly, the aluminum frame that contains the storage devices, the fan, and (in a IV or V) a second power supply for the hard disk.

To open the clamshell, five screws have to be removed. Three hide under the front lip of the clamshell; the other two are on its back. Once these screws have been removed, the top of clamshell with the monitor box still attached can be pried up and allowed to rest on its backside.

2. **Detach the disk frame.** The aluminum box that hold the disk drives is held in place by

four screws that go in from the inside top of the clamshell, up through the bottom of the monitor box, and fasten into the disk frame. Their heads can be seen in the middle right of the clamshell top as it is now propped open. Remove these screws, taking care not to let the disk drives crash to the back of the monitor box. Then close the clamshell.

3. **Open the monitor box.** The monitor box is secured by five screws. Three of these are on the back of the monitor box, and countersunk so that they are flush with the case when screwed in. The other two are hidden under the *bezel*, which is the black plastic piece which makes up the whole front of the monitor box. The Eagle screen shows through an opening in the left half of the bezel, and the floppy-disk drive and hard disk through openings in the right half of the bezel.

The bezel is secured by four very odd fasteners in each of its corners. These fasteners will yield to the bezel being pulled out from the front opening of the monitor box. Insert a blunt instrument such as a letter opener, butter knife, or screwdriver a little way into the crack between the top of the bezel and the inside top lip of the monitor box, and pry the bezel out carefully. Be careful not to strike the picture tube. Don't do this any more often than you must; after repeated removal, the fasteners weaken and the bezel tends to fall out by itself.

The top and bottom of the monitor box are fastened together on the inside left and right sides, by short rounded strips of metal joining a nut on the top to a nut on the bottom. Unfasten the top one on each side with a wrench, and let the strips swing down and hang. Now you can lift the top of the monitor box up and stand it on its end behind the Eagle. Be careful of the power cords running to the power supply on the underside of the lid, and from that power supply to the hard disk. You don't want to stretch, break, or disconnect them.

4. **Remove the disk frame.** With the monitor box open, you will see the disk frame sitting to the right of the CRT assembly. Lift it partway up so that you can reach the power and data cables running to the floppy-disk drive and hard disk, and disconnect them. It would be a good idea to label them so you can reconnect them to the right devices after you're done. Once this is done, take the whole aluminum box and the two drives entirely out of the Eagle case.
5. **Replace the floppy-disk drive.** You will need two drives to replace the one in your Eagle. These drives are half-height drives, meaning they're 6 inches wide by 1½ inches tall. They must be 96-tpi drives, like the one you're replacing; PC 48-tpi drives won't do (Eagle has no format for 48-tpi drives), nor 3½-inch drives (the floppy-disk controller chip on the Eagle motherboard never heard of them), nor the drives that PCs call high-density (they run too fast).

Unscrew the eight screws, four on each side, that hold the floppy-disk drive in the top of the disk frame. The drives Eagle used are *full height*, meaning they measure 6 inches wide by 3 inches tall. Remove the big drive and put in the two half-height drives. Be careful not to damage the drives by scraping parts on the bottom of one over things on top of the other. The four holes on each side may match holes on the side of the new drives. If so, use them. If not, you will have to mark new ones and drill them in the frame. Avoid this if you can.

For power, you can use the power line that supplied power to the original drive. Use it for the lower of the new drives, and make a new power line to bring power from the power supply in the lid to the higher new drive. For a data cable, the original data cable should have enough slack to reach the higher of the new drives. Buy a connector of the same kind as the one on the end of the cable, and crimp it into the cable at the height of the lower drive.

Finally, remember that when two drives are daisy-chained like this, only the one on the end of the chain needs a terminator pack. The manual for the drives will identify the terminator pack for you (never buy hardware without the manual!). Remove the terminator pack from the floppy-disk drive on the bottom, which is the one not on the end of the data cable. Don't forget to set the jumpers on the drives so that the one on the top is drive 0 and the one below it is drive 1; these jumpers, called the drive-select jumpers, will also be described in the manual for the drives.

Once everything's connected, rest the disk frame back in the monitor box (don't screw it back in yet), plug in the Eagle, and turn it on. If you've connected everything right, it will boot just as before, even though it looks at the moment like the frog you dissected in Biology class. Put a formatted disk in the top drive, and another in the bottom drive. Before your surgery, you had a single drive that used the double-sided Eagle format when addressed as E, and the single-sided format when addressed as I. This is now the case for the top drive, assuming its drive-select jumpers are set to 0. The other drive uses the double-sided format when addressed as F, and recognizes the single-sided format when addressed as drive J. I can supply you with a DISKUTIL.COM that will allow you to use both drives on your new IV for disk-to-disk copying, etc.

6. **Put everything back.** Lift up the monitor box, and prop it up so it rests on its back. The weight distribution will tend to keep it there, but you can make sure by having someone hold it for you. Place the disk frame back in the monitor box, and screw it into place from below. Once it's secure, lower the monitor box back down; place the top of the monitor box back on; replace the five screws that hold the monitor box shut; replace the bezel; and replace the five screws that hold the clamshell shut.

**Spellbinder Version 6.1
Update Order Coupon**

Version 6.1 available for IBM/PCs and compatibles running MS/DOS version 2.0 or greater.

1. Print your name and address:

Name: _____

Company: _____

Shipping Address: _____

Telephone: _____

(in case we have a question about your order)

2. Check The Appropriate Selections:

- Spellbinder 6.1 IBM/PC Display. . . \$59
- Spellbinder 6.1/M Multi-user* . . . \$129
- New Binder \$10

Disk Size Needed: 5 1/4" or 3 1/2"

Function Keys: IBM or EAGLE

Current Serial Number _____

*Available for MS-DOS compatible multi-user operating systems (such as Concurrent-Dos). Update includes license for up to five users.

3. Calculate the total price of the update order.

Subtotal <small>(from step 2 above)</small>	
California Sales tax (7.25%)	(CA only)
Shipping and Handling <small>UPS Ground (\$8) or 2nd Day Air (\$10)</small>	
Total	

4. Please send your order to:

**Ltek, Inc.
Spellbinder Update
4546 B10 El Camino Real
Los Altos, CA 94022**

Please include this completed coupon and full payment by check or money order in US funds made payable to "Ltek, Inc.". Allow 2-3 weeks for delivery.

Once again I apologize to the ECUG members for the parts that I have repeated in this issue. Transitions are always difficult. Next issue will bring this to a close with the details of how the full-height hard disk is replaced with two half-height hard disks, and how the extra boards are installed. I will also describe why you don't really want to do this! See you then.

The order form on the left and the advertisement on the next two pages contain news about new releases of word-processing and desktop-publishing software from Ltek, Inc., the owners of Spellbinder. Normally you will not find ads for PC software in the pages of The Z-Letter. However, the Eagle Computer Users Group supports all makes of Eagle computers, including the ones that run MS-DOS. Furthermore, the PC version of Spellbinder was bundled with the Eagle PCs and Eagle 1600s, just as the CP/M version came with the CP/M Eagles. Therefore, news about Ltek and their products will appear in the ECUG section of The Z-Letter.

It's Coming . . .

Ltek will soon be shipping *Ltek Print*, a printing program based on *Spellbinder Desktop Publisher*. *Print* is a laser printing tool designed to produce high quality output easily. You'll be able to create and print professional looking documents using the many style sheets provided on diskette.

Print comes with a wide selection of style sheets. Simply choose the style sheet that you want and print it from the DOS command line in a single step. You'll instantly have a printed page that looks like it was professionally typeset.

Print allows you to modify the existing style sheets to create custom page designs quickly and easily. *Print* has a fully integrated, *Spellbinder* compatible, editor which makes modifications to a style sheet a snap.

Print has something for the novice user as well as the advanced user. Each style sheet comes with detailed instructions. After determining which style sheet you want, follow the step by step printing instructions. If the style sheet requires a modification, for example an address change on a letter head, the *Print* documentation will walk you through the modifications. The results will be a personalized document that looks like you spent hours producing. If you want to use your new modified style sheet again, simply save it for future use.

If you find that you need a style sheet that *Print* does not provide, you may create it yourself. The *Print* documentation comes with complete instructions on creating your own and modifying existing style sheets.

Ltek Print As An SDP Upgrade

Print is not being marketed as a desktop publisher. Ltek is, however, offering it as an upgrade from *Spellbinder Desktop Publisher*. *Print* is based on the SDP technology. Most of the commands found in SDP version 6.40 will also be present in *Print*. The desktop publishing power and flexibility of SDP remain.

Print comes with a variety of new style sheets, including letterhead, envelope addressing, and fax cover sheets to help you automate the most common printing tasks.

You'll also find . . .

- easier to use font catalog
- improved font handling
- printing from the DOS command line
- simpler file saving
- support for DOS sub-directories
- a variety of editing commands, including undelete.

This list is just a start. When *Ltek Print* is ready to ship we will send you more complete information about its new features.

Ltek Print and Spellbinder WP Complementary Products

Print and *Spellbinder Word Processor* are complementary products based on a common text editor.

Spellbinder is designed for creating and editing documents. Its features allow the user to edit text with maximum efficiency. Future enhancements will continue to focus on making the creation of text based documents more efficient.

Print is designed for formatting and printing documents. Its features allow the user to produce typeset quality documents with ease. In the future we will continue to focus its features on automating the process of producing professional looking documents.

Each product serves a well defined purpose in the modern office environment where document production is the primary task performed on computers. It is our goal to provide the most effective tools possible for creating, editing and printing documents.

Spellbinder WP 6.1

Spellbinder Word Processor 6.1 began shipping last August and has been well received. Here is what one enthusiastic user reported about the new version of *Spellbinder*:

Version 6.1 arrived this morning, and it is very impressive indeed. The multiple edit buffers have transformed the program, and the undelete command is a joy to use. I'm also very pleased with the Manual. - Dermod Quirke, United Kingdom

If you haven't ordered your copy of *Spellbinder 6.1* don't be left out. Send in your order card today.

Additional 6.1 Features

Before *Spellbinder 6.1* shipped, we were able to add a few features not mentioned in the Features List:

- We added a command that displays the memory available outside of the currently used edit, hold, and delete buffers.
- The cursor size is configurable.
- You can now specify the key used to go from the command to the edit mode.

About Product Support

If you are experiencing a problem with one of your Ltek products, or you simply have a question about a product, we want to help. Ltek has a written response support policy. If you have a question you can contact us in one of three ways; written request via mail, fax, or verbal request left on our information request line (remember that your response will be mailed or faxed to you).

- Ltek, Inc.
Product Support
4546 B10 El Camino Real
Los Altos, CA 94022
- Fax number 415-948-1377
- Information number 408-496-9554

Which ever method you choose, please provide us with the following information:

- name and address
- fax number (if appropriate)
- name of the product in question
- serial number and version number
- computer and printer type
- DOS version number
- detailed information about the problem
- disk copy of the file with the problem

The more complete the information that you provide Ltek, the quicker we will be able to give you the solution to your problem.



6.1 Update Features List

Multiple Edit Buffers

Version 6.1 has 10 edit buffers. You can use each edit buffer independently or flip back and forth between them. This feature is great for cutting and pasting text between files and editing multiple documents simultaneously. Each buffer holds 60K.

Undelete text

Never lose text again to slipped fingers. Version 6.1 allows you to UNDELETE! You can undo multiple deletions in the last-in, first-out order.

Push-Ahead Insert

Now there's a new push-ahead insert mode! If you like the old split-screen insert mode, don't fret. You can configure Spellbinder for either the new or the old insert mode, or better yet, change modes within the editing session.

Plain Text Export

Now you can save your work in a plain text format compatible with every word processor, desktop publisher, and text editor available for IBM PCs.

Issue Commands from the DOS Command Line

Version 6.1 allows you to issue multiple commands from the DOS command-line. For example, to enter Spellbinder, print the file "SAMPLE," and automatically exit Spellbinder, type at the DOS command-line: **SB SAMPLE "P/X"** and press **Enter**. Spellbinder loads the file and executes the commands automatically.

Search Backwards

Issue the command **SB** to execute a simple backward search. This feature allows you to find a previous occurrence of a word or phrase without having to search from the top of the workspace.

Dynamic Binding C Extensions

A feature especially for C programmers! Use Spellbinder's dynamic binding C extensions to develop your own Spellbinder extensions. Documentation and sample extensions included on disk. (Microsoft C compiler required).

Hold All

Now you can hold your entire workspace in one step. Issue the command **HA** to hold all text in the workspace.

Speller Maintenance Files

Do you need to customize your speller dictionary by adding a list of words, or deleting a word? Version 6.1 provides all the files you need to customize the dictionary to meet your requirements. Special dictionary maintenance documentation is provided on the Speller diskette.

Off-end Handling Improved

Since the release of 6.04, the off-end zone has been removed. No more off-end restrictions and unnecessary beeping.

End-of-Line Scanning

Move quickly along the text line. The Home key and **Ctrl-S** now scan the text line instead of the screen line.

Revised Manual

Version 6.1 comes with a revised user manual. The new manual has fewer pages, focusing on using Spellbinder for text editing. Additional documentation for programming and using macros and C extensions for special applications is provided on disk.

Program and Speller Diskettes

The Speller diskette includes special utilities and documentation for modifying the speller dictionary. The main program diskette contains the Spellbinder word processing engine, extension and data files. Together these files provide a complete word processing system.

Special Applications Diskette

Provided on a separate diskette are sample applications such as the Spellbinder macros and new C extensions in source code format. The documentation is also provided on disk.

System Requirements

Spellbinder Version 6.10 requires an IBM PC with MS-DOS version 2.0 or greater (3.0 or greater recommended) and at least 256K bytes of RAM. Special note for OS/2 users: Spellbinder is compatible with the DOS compatibility box of OS/2.

Z-SYSTEM USERS GROUP

A few of the Z-System users in the San Jose, California area would like to start a user's group. There are no active CP/M or Z-System user groups in the area. The purpose of the group would be to help new owners of CP/M or Z-System machines learn how to use them, pool resources for projects like a West Coast convention, help each other install hard disks, modify BIOS, *et cetera*.

Currently, the afternoons of the second Saturday of every month are reserved at Tandem Computers, 10435 North Tantau Avenue, Cupertino. Since the Eagle Computer Users Group already had an arrangement with

Tandem, it was simplest to schedule the other meeting the same place and date. Also, several members of ECUG, including one who was driving down from Oakland, expressed an interest.

Please come to our next scheduled meetings on January 12 and February 9. If you can't come Saturday afternoons, but some other time is better, please contact me. If there are a lot of requests for Monday evening, for instance, Monday evening it will be, as soon as I can arrange it. Suggestions for other places to meet, in the event of a different meeting time, are also requested.

