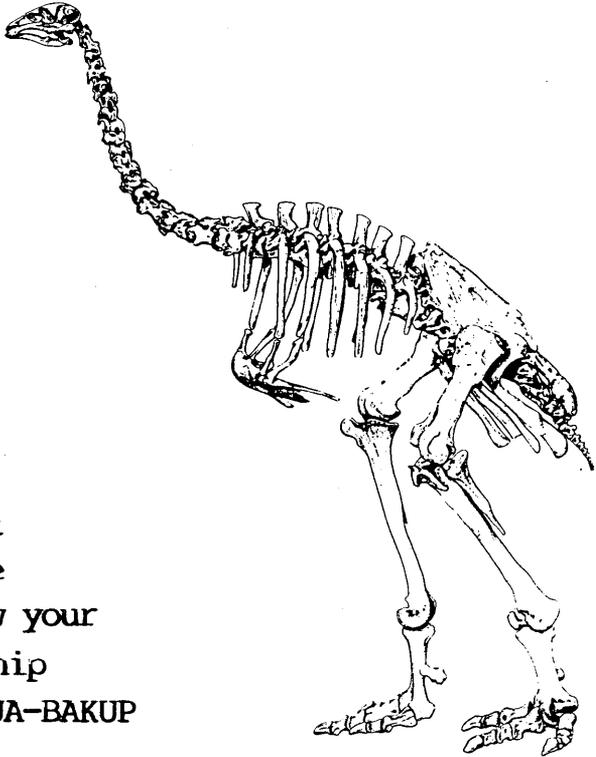


BAMDUA BAKUP News

Bay Area Micro Decision Users Association • Bay Area Kaypro Users and Programmers



It's not
too late
to renew your
membership
in BAMDUA-BAKUP

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BAMDUA-BAKUP NEWS is published bimonthly by **Bay Area Micro Decision Users Assn.** in cooperation with **Bay Area Kaypro Users & Programmers**, both Cal. non-profit corps., for their members. Membership fee to join, renew, or extend is \$16/yr-BAMDUA, \$17.50/yr-BAKUP, until June 30, 1988 (postmark), \$20 after that. Both organizations founded in early 1980's to support users of Morrow MD & Kaypro CP/M computers, respectively. Both now have many users of other systems including MS-DOS. Both maintain libraries of CP/M-compatible public domain software & 24 hr. remote bulletin board systems. For information, send self-addressed stamped envelope to mail address. Also see membership application & library order form & list of help volunteers in this newsletter. For BBS registration see online bulletin. Since ceasing publication, **Morrow Owners Review (MOR)** provides some material for publication, & to fulfill outstanding subscriptions, it purchases & separately mails copies of each issue, also continuing its own BBS.

USER GROUP MAIL ADDRESSES

BAMDUA	BAKUP
P.O. Box 5152	P.O. Box 8537
Berkeley, CA 94705	Berkeley, CA 94707
415-654-3882 BBS	415-849-9389 BBS
534-4257 voice	
answer machine	

PUBLIC MEETINGS

Albany Senior Center
 846 Masonic Avenue
 Albany, CA
3d Tues. each month
7:30 pm - near
corner Solano Av.

BAAMDUA OFFICERS

President	Peter Campbell
Treasurer	Robert Dupuy
Secretary	George Borys
Programs	Rick Charnes
Newsletter	Ilbert Butler
Library	Gene Korte
At Large	Sypko Andreae, Georgia Eabladelis, Ron Jacobs, Wesley Johnson

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Secretary & Programs	Dave Bortin
Newsletter	Frederick Winyard
At Large	Dwight Chew, James Ullrey

BAMDUA PBBS/RCPM (& similar MOR PBBS/RCPM)

Phones:	(415) 654-3882 BAMDUA	Sysops: Steven Wartofsky
	654-3796 MOR	Sypko Andreae
Baud:	300/1200/2400	Free: BAMDUA & BAKUP
Hardware:	Morrow MD Hard Disk - CP/M 3.0 - 2 X 22 Mg	
Software:	PBBS, BYE, RMD, ZFILE, LUX, MAP, also PRACSA Member	

BAKUP BBS/RCPM

Phone:	(415) 849-9389	Sysop: Woody McPheeters
Baud:	300/1200	Free: BAMDUA & BAKUP
Hardware:	Kaypro 10 - CP/M 2.2 - 11 Mg	
Software:	PICS (Pascal Integrated Communications System)	

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What is a user group? It should be no surprise to you that I've had a yen to try editing the newsletter. However, my business has been so busy the past 18 months, I really didn't do as good a job on the BAKUP Board or the merger as I could have. Fortunately, the editor situation is somewhat saved, as there are now three co-editors to help eat all the time necessary. So, I'll get a chance to do some editing and say a few sharp words about all the hype, trash talk and other merde the computer companies, software companies, and allied publicists shovel at us.

But first of all, we have to examine who we are and what we are doing in a user group in the first place. I'm not much of a joiner of social things, and I want - when I join a group - to get something out of it. Let's see, I was a Boy Scout and a Scout leader years ago, and that had to do with my desire to do outdoors sorts of things, and teach a variety of things that I'm qualified to teach Scouts (Swimming and Life Saving, and the Conservation group of Merit Badges). I was an American Red Cross swimming and CPR instructor, for the same reasons. I joined the chemists' technical groups so I could go to meetings to learn the trade, and after a while, teach them some things, too. I joined BAKUP for the same reason, as I needed to learn LOTS when I was new to the personal computer game. Through BAKUP and the good instructional types I met there, I got to be able to use the modem, and a raft of strange software. Because I am glib and articulate (well, after a fashion, anyway), I was able to become an instructor of sorts for computerists, in spite of my lack of expertise. That's all I looked to the group for, too. I got help when I needed it, and gave help when I could offer it or the name of someone who knew more than I do.

Only when the opportunity for merger of BAMDUA and BAKUP came along, and the membership of the organizations continued to drop off, did I think it was necessary to examine what a user group really is. I see three functions performed by user groups, with a fourth function for only some people. The first and second are technical information functions, as:

1. News of software/hardware developments; and,
2. Help for the less experienced user who has questions.

The BAMDUA/BAKUP meetings are primarily framed to handle these two items. The speakers usually come to talk on hardware/software things, and the first section of the meeting opens the floor to queries so the needy can find their helper/adviser. The booths at the Computer shows are aimed at giving out information (and getting new members, too).

The last function the user group performs is a social function. I little realized this until faces I enjoyed seeing (and hearing from) no longer presented themselves. I miss my little chats with those people, though there are some interesting people among the new faces showing up, too. If I were a little more social an animal, I might break out and call these older missing faces, just to keep in touch, but ... The user

group made it easier for me to find those people with that interest in common with me. I guess there's an energy barrier I have to climb over to become more social, and my inherent shyness makes that difficult. I once characterized myself to a large group containing my eldest daughter by saying "I am an oyster - you only see my crusty exterior, but a select few know there's a soft inner body seldom exposed." She later confirmed that was an excellent picture of me, and that it was hard to tell her boyfriends not to be intimidated. I think of me as a bumbling puppy-type, perhaps better the bear that's inquisitive and shy. So that allows me to flit (shamble?) into the User Group meeting, chat a bit here and there, and filter out unobtrusively. I still emphasize that sociality as one of the desirables. Let's take advantage of it.

A last function - for some of us - lies in the opportunity for service to others. My ex-wife told me I was still a Boy Scout at heart, but I see nothing wrong with that. She meant it as a critique, but I took it as a compliment, as that's one of my two major objectives in life. The other major objective was to be a unique person - undefinable in ordinary terms - and I'm pleased to say I've achieved both. The service function is one I enjoy, as it is related to being a reference person. I try to act as the bridge between something that needs doing and getting someone to do it. I am always pleased when the User Group booth appears at a computer show, as I can go socialize with other members of the user group at the booth, and I can answer some questions *by passers-by* (or refer them to some one else).

Did I miss any functions? Write or call and let me know if I did. I just noticed the first three letters of FUction, and the user groups are fun. They have to be, or people wouldn't keep coming back to them.

MOR'S CORNER

by Sypko Andreae

The **Morrow Owners' Review** was born two score and eight months ago, to the month! What a crazy time that was. When I'm old and gray I'll put you on my lap and tell you all those fantastic stories. Not now, sorry; we have to take care of some business here.

First off, you'll see two familiar faces in this issue. They belong to the columns of Mike Allen and Bill Steele, well known to former MOR subscribers. Now those guys need something from you: letters with requests for subjects you want them to write about, comments, problems, inventions, or hot tips. Both columnists include their addresses in their columns, so write them directly; don't write via BAMDUA, BAKUP or MOR.

The MOR BBS had a real bad case of the flue late January: First one, then the other hard disk broke down, and even a power supply went poofff. A call for donations to cover the repair costs was well responded to. A public thank you to Jerry Maloney, Barry Lerich, Bruce Gowens, Michael Carrol, Tom Risoli and Doug Baker. Who did I forget? The BAMDUA BBS hasn't had any problems to speak of. Both BBSs have a steady users crowd of 135. In the MOR-Atlanta group David McDonald got the club BBS up after a long struggle with switches on the modem. This article goes to that BBS tonight so it can also be printed in the MOR-ATLANTA newsletter.

That MOR-ATLANTA Newsletter looks better and better with each issue. I'd say it's worth your while to check it out. You should know, though, that at least three articles that appear in the BAMDUA/BAKUP NEWS also appear in the MOR-ATLANTA Newsletter. Our columnists have gone into syndication, so to speak.

Have to tell you about software, new and old. First the old. MOR has scrounged up the last batch of Morrow formatted SuperCalc 2 packets in the world. It includes the latest manual that SC2 came out with. If you are a die-hard Morrow owner -- and of course you are or you would not be reading this -- then this is your last chance to get the latest SC2 for CP/M that ever came out. It is slightly better than SuperCalc as bundled with some of Morrow's machines, has a few more commands and a more complete manual. If you are a LogiCalc user you really ought to change now, because that is really a step up in quality. MOR's SuperCalc 2 costs only \$39.00 plus tax, post paid. Runs equally well on Kaypros, Osbornes and virtually any CP/M machine. I have used SC2 for years on MD11's.

The other old-timer is the excellent outliner OUT-THINK, made by Kamasoft. If you write a lot -- papers, articles, books -- then this is a really useful tool. It is available for \$45 from MOR. There are less than 10 left in MOR's little mail-order office.

And now about the two latest and hottest pieces of software available for CP/M. First PCFile-80 (for CP/M 2.2 and 3.0) is the commercial version of the older database available in the public domain. It is really snazzy, works fast, is well thought out and thus both powerful and easy to use. A few of us got it about a month ago, when KAFTORWARE in Chicago released it. They worked over the code from Buttonware's MS-DOS version of PCFile and made the new CP/M version out of it. Next issue I hope to write a review of it. For now: what a pleasure to use! Available for \$49.95 plus \$2.00 + \$3.00 from KaftorWare, P.O. Box 1674, Chicago, IL 60690, 312/965-8144. Ben Cohen is in part behind this.

The other hot new thing is for CP/M 3.0 only. MD-HD owners, perk up your ears: ZCPR33 is out for CP/M 3.0. Mike Allen and I (among others) have become beta-testers and release should be soon. See Mike Allen's historical comments on our operating systems and how they evolved with ZCPR and other bits and pieces that improve the disk file management. If you put all the available improvements in, then there is really not much of the old CP/M left! Next time I hope to tell you more about the Morrow hard disk ZCPR33. Maybe Mike Allen will too.

Last bit of news about Z280. There is a small company in Germany that has been quite active in developing a small Z280 board for CP/M machines. Timothy Slater sent me a three-page letter he received from that company. Maybe you will see a partial translation on the MOR BBS some day. I understood about half of the authors's enthusiastic German patter. One thing that struck me was that the price is right, DM 398.00. Isn't that something? Maybe we will get our "Z280-Platine" from Europe yet! In Europe, as you may recall, CP/M is still going strong, with magazines and the whole bit. Let's hope that the dollar doesn't sink too far...

This is the first of what is hoped will be a regular column covering Morrow users' concerns in our joint user group.

Apologies to Our Members and a Renewal Offer: Many of you have not gotten past newsletters on schedule. We apologize and offer this explanation. Georgia Sabladelis, former Morrow editor, had a serious illness, which finally has been diagnosed, and from which she is recovering. I have replaced her as editor of all materials relating to Morrow, and co-editor of generic material. Please remember this is an organization of unpaid volunteers. It took us some time to realize the seriousness of the situation, make shifts of people, and get underway. On the Kaypro side there likewise has been a changing of the guard.

YOUR MEMBERSHIP HAS PROBABLY EXPIRED OR IS EXPIRING SOON. If it has already expired, we didn't make a mistake. We feel we owe this newsletter to you, and you are more likely to renew when you have a publication in hand, and more to come.

Regardless of when your membership ends, before June 30, 1988 (postmark), you can renew or extend for one year for the old price of \$16, before it goes up to \$20 a year.

Warning—No Kaypro DSDD Conversion to Morrow DSDD: Owners of Morrow computers with double sided disk drives cannot read Kaypro double sided disks reliably with any format conversion program. Neither UniForm nor MultiForm support Morrow to Kaypro or Kaypro to Morrow double sided floppy transfers. Beware any program that does. The criticised Kaypro BIOS, developed for single sided disks, was not expanded, and is much smaller than the Morrow BIOS. It takes shortcuts in reading and writing to disk, which in direct transfer to Morrow format often alter program code. Three solutions are: 1) make sure anything you get from Kaypro owners is on single sided disks. 2) Make serial transfers by private upload and download from the same BBS, or by hard cable. (Connect a straight through cable from the Morrow serial port in factory default setting to the Kaypro single port, or the modem port on two-port models.) 3) Transfer the Kaypro disk files to another format you can read, such as IBM PC-DOS 2, then transfer them back to Morrow double sided.

Significant Public Domain: Updated public domain disk -- BANDUA.TK2 now includes a complete public domain bootable operating system for Morrow floppy disk computers, with nothing from Digital Research. BDOS is Z80DOS v.2, and CCP is ZCPR 2.9. BIOS is copyright Morrow Designs, which Silicon Valley Surplus purchased at bankruptcy sale. And it comes with everything needed on disk to configure it for Rev. 1 or 2 boards, single, double sided or quad density disks, and more terminals than Morrow supported.

A former Morrow employee once created a generic version of CP/M 3.0, which runs on ANY CP/M 2.2 computer, using existing ROM & BIOS. DRI declined to buy it. We are hoping to obtain those files not property of DRI, which users can combine with CP/M Plus system disks from the surplus market (Osborne Executive system software sets were sold for \$5-15) and run CP/M Plus on any CP/M 2 computer.

Announcements of Changes in Officers & Phone: I have resigned as Vice President to become editor. Peter Campbell continues to keep the membership records, pick up and distribute

mail, and work with the Treasurer, but is not able to attend many board meetings and wishes someone would come forward as President. Robert Dupuy is replacing Wesley Johnson as Treasurer effective April 2d. For your information, our Treasurer keeps the books and files reports, but signs no checks, and has ongoing coordination with other Board members, mainly Peter. Steven Wartofsky, our BBS SYSOP will be leaving for a new job in Chicago come summer. There is no way Gene Korte can take this on while he is public domain librarian, nor George Borys, who answers mail & phone requests & takes care of the office almost singlehandedly. We need new volunteers.

Our physical office is a room in the Oakland warehouse of Silicon Valley Surplus, which sells surplus Morrows and parts, and also refers new owners to us and sells our public domain disks. The office is not regularly manned, but has a phone, desks, file, one computer, the BBS in the future, and our library of disks and newsletters. Our phone number has changed to 415-534-4257. The old number refers. If you called and your message was not returned, we are in process of getting a new answering machine set up with remote pickup of messages. Until then, messages picked up in person by unpaid volunteers. And that is why my own number is referred to until then. I answer an average three calls nightly.

Need for a Name & Statement of Purpose - Contest: What our joint user group now needs is a name and statement of purpose. We need a concise statement of objectives we support, in order to give direction to our work and produce results, which will keep existing members and attract new ones.

So there is a contest for a name, and a contest for a statement of purpose 50 words or less, beginning with the words, "Our business is..." The winner will be determined by majority vote of all directors AND majority of members present at the May meeting. The prize for each contest will be ten floppy disks and up to four hours with the entire Morrow & Kaypro public domain library to fill disks with exactly what you want from the library. If you are out of the area and are a winner, you will be sent directories of both libraries and have the opportunity to check in red all files you want, up to ten disks full. Any disk format supported by UniForm or MultiForm will be provided.

Entries Already Submitted: There are already two entries for names: Bob Athey suggested 8BUG = 8 Bit User Group. My own entry is FOCUS = Forum for Obsolete Computer User Support. My statement of purpose is:

Our business is disseminating information on computing systems, with special consideration of needs of users of makes and models of systems that are out of production and no longer supported by the manufacturer, and on computing as a generic learning process transferable from system to system.

What does this mean? As opposed to Bob Athey's proposed name, which clearly implies an 8-bit context, but includes currently produced computers such as the Amstrad "Word Processor," the On Computer and the Little Board, I would support ANY kind of computer, ranging from S-100 "boat anchors" to IBM PCs, XT's (which will become increasingly obsolete as OS/2 phases in), Macintosh 128s & 512s, etc. The problems are often generic, e.g., how to fix or replace a bad power supply. Of course, the extent of support depends on volunteers willing to form a SIG

(Special Interest Group) for any given brand and take responsibility for it. AND I advocate support not only designed to keep old computers running, but also advice on what new computers to buy, and how to keep the old and interface it with the new, e.g., how to transfer files, compatible programs that run on both systems, etc.

Until next time, once again, thank you for your support.

A FEW ANNOUNCEMENTS ...

NEW KAYPRO MARKETING MANAGER: The KayPro Corporation has recently announced the assignment of Don Ziegler as their San Francisco Bay Area Marketing Manager. He may be reached at 707-575-5734 (home) or 707-483-1021 (car).

GOLDEN GATE COMPUTER SHOWS CHANGES NAME TO EAST WEST COMPUTER SHOWS: Robert Martin, Vice President of the Golden Gate Computer shows, announced their new name as "East West Computer Shows" as of April. Since they have expanded to be putting on shows all over the country, the name change made sense to them. They have moved their offices to Larkspur, CA (P.O. Box 767) and their new phone is 415-388-8893. Their next East Bay show is at the Oakland Coliseum on May 21st and 22nd.

NEW VIDEOTEX VENTURE DEMONSTRATION FOR APRIL MEETING: The TRINTEX local Market Manager will demonstrate their Videotex/on-line service at the April 19th meeting of BAMDUA/BAKUP. This is a joint venture between Sears and IBM that is not available publicly as yet. The live demonstration will show in-home transaction, communication, education, entertainment and information access services. It is designed for use by the entire household. Opportunity to become special members of the "PRODIGY" service will be offered, and you can give feedback important to guide its direction and shape its content. Hands-on opportunity for users in the question period!

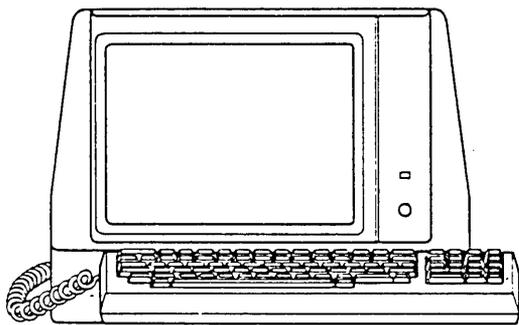
"MIDI" AND COMPUTER MUSIC AT THE MAY MEETING: Jon Gordon, enthusiastic entrepreneur of the LaVal's Subterranean night club, will be bringing his computer and the music making attachments to show how the "MIDI" system works at the Albany Senior Center on May 17th. He also has demonstrations every Wednesday at his club, with guest musicians to show off their works and their programming technique with the "MIDI" concept.

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Kaypro 10, bundled software including Wordstar, Perfect programs, DBASE II, and more; with case, manuals, upgradable. Call Mark, 585-6002.

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CUT AND TAPE TO YOUR COMPUTER

Nothing will improve a desk-top computer more than a hard disk. A 10 megabyte disk stores the equivalent of 25 diskettes, all at the same time. If you have a database which is bigger than a diskette, a hard disk is the best answer.

A hard disk is also about 10 times faster. This is particularly noticeable when you use a program which has program overlays, like Wordstar. On a diskette machine, there will be a several second delay while the next program segment is loaded, with the diskette light on the whole time. On a hard disk, the light just flickers briefly.

HOW TO GET A HARD DISK. Although you can add a hard disk to an existing CP/M computer, you can also buy a used Kaypro 10 ready-made. Check the ads in this newsletter. High-Tech Research sells a modified version called a K-20, which includes a 20 MB disk and HandyMan.

LOGICAL DRIVES. You can partition the hard disk into 2 or more logical drives. My wife's Kaypro 10 is divided into 2 logical drives, A and B. The diskette drive is drive C.

CP/M USER DIRECTORIES. When you have many files, chaos becomes a problem. The CP/M solution is to separate the hard disk into USER directories. CP/M allows 16 USER directories numbered from zero to 15 on each logical drive (A: or B:); on my wife's Kaypro 10, this gives a total of 32 USER directories with 64 file names each.

You choose a directory by naming the drive and the USER number.

To select Drive A: and USER directory 12, you say:

```
A:
USER 12
```

To select DRIVE B: and USER 6, you say:

```
B:
USER 6
```

After that, you can view your directory with DIR, erase a file with ERA, or start Wordstar with WS (just like diskettes.)

The concept of USER directories is not used much with diskettes, but it is in fact available. Diskette files are generally put into USER directory 0, unless you specify otherwise. You can try the things I describe on your diskette machine.

ORGANIZE FILES INTO USER DIRECTORIES: Put items which belong together into their own USER directories. You could have USER directories for WordStar, BASIC, Financial Programs, Turbo Pascal, DBASE, address list, etc.

Because the USER directories are organized by function, it is easy to know which directory to select for each task. However, once you have selected the directory, you still have to decide which file you want, particularly if you have a directory full of wordstar documents. This is where a naming scheme for your files is particularly helpful.

FILE NAMING SCHEMES: Meaningful file names will help to organize your disk. File names have 2 parts: the NAME and the

EXTENSION. For example:

D.COM PIP.COM SUBMIT.COM WS.COM

These 4 files all share the EXTENSION COM, which tells us that they contain an executable program (or COMMAND, hence COM). Similarly, BASIC programs have the EXTENSION BAS. You can invent your own extensions for groups of files.

DOC	Documentation
TXT	Text
LTR	Letter
FW	Fred Winyard

You can invent schemes for the name as well as the extension.

SBDOC1.TXT	Subscription Documentation Chapter 1.
SBDOC2.TXT	Chapter 2.
MW860523.LTR	Letter to Mary Winyard May 23, 1986.

The important thing is to use file names which mean something to you. Don't call a file JUNK.TXT unless it is junk you intend to discard.

USER 0 IS SPECIAL: Programs in USER 0 are accessible from any other directory on the same drive. This is where we store PIP, D, SUBMIT, NSWP, and other utility programs. The same utilities are duplicated on USER 0 of Drives A and B. You can think of USER 0 as the system SHARED DIRECTORY. Programs in the other USER directories can only be accessed when you have selected that directory.

USING PIP TO COPY FILES: You use PIP to copy files from one USER directory to another.

PIP EXAMPLE: We want to copy all files whose extension is DOC from USER 2 of Drive A: onto USER 4 of Drive B:

```
USER 4
PIP B:=A:*.DOC[g2ov]
```

The 3 items within the square brackets of the PIP command are:

g2	Get from USER 2
o	Object code format (always use this for programs).
v	Verify the copy.

The utility program NSWP207.COM will allow you to tag a set of files in one USER directory and copy to another USER directory.

BACKUP: Since data is the source of value in a computer, it is essential to make backup copies of your files. I keep two types of backups. The first is an archive box for the original diskettes on which software was delivered. The other is backup copies of my work files. A simple and safe backup is to copy the entire USER directory onto its own backup diskette. This is easy to do if the entire USER directory will fit onto one diskette. If the USER directory is too large to fit onto a single diskette, then I have to selectively copy my files onto two or more diskettes. A naming scheme for the files is particularly helpful

here.

When I have to backup a directory onto multiple diskettes, it would be nice if each diskette knew what files should be copied onto itself. Here's how: on each backup diskette, I place a file called BACKUP.SUB, which contains the PIP commands to copy the desired files from the hard disk to the diskette. Then to perform the backup, I say:

SUBMIT A:BACKUP

and the CP/M SUBMIT utility executes the commands in BACKUP.SUB.

If you have a file which is too large to copy onto one diskette, you can either try to split the file into smaller files, or use a special backup utility program (like MUFBACK which comes with the Kaypro 10).

A MYSTERY REVEALED: You may find that some files occupy less space on the diskette than on the hard disk. CP/M allocates disk space in chunks of fixed size; generally these chunks are bigger on the hard disk than on the diskette. So don't worry if your files shrink in size when you copy from the hard disk to a diskette.

Tools for Tyros

by Mike Allen

This is my first column since the demise of the Morrow Owners' Review (MOR). I suspect that the readership for this publication is appreciably different than that of MOR. For that reason I am going to let this column be a random walk through my mind. I hope by the next issue I will have heard from enough of you to know what you would like me to write about.

The folding of MOR made me sit back and think about what was going on in the personal computer world. The near disappearance of CP/M from the marketplace is almost directly attributable to the entrance of IBM into the personal computer market. I have some rather strong opinions about IBM and Microsoft, but that is not the subject here. My real question is: Is there any reason for me to abandon those machines I presently have and jump into that arena?

Now I must admit I am not your typical computer user. Computers to me are a hobby. I like to play with the hardware and software. The fact that I learn something when I play or that they are occasionally useful are incidental. I have been playing with these damn fool things since I got a KIM-1 in 1977. One other point is that the nature of my work precludes any use of my home computers for work related functions.

Those are reasons why I don't need to switch. How about the other side of the coin? There certainly is a plethora of



Mail:
301 N. Roadrunner Hwy. #109
Las Cruces, NM 88001

software available for IBMs and clones. New commercial releases for CP/M are few and far between. I would dearly like to find an ADA compiler for CP/M. It looks like I'll have to settle for Modula 2, which is close. CP/M machines don't have fancy graphics capabilities. (Forgive me, Commodore 128 and Amstrad users. That was a generalization.) The 64k memory limit hurts in certain cases. If I did have to bring work home, an IBM compatible would be a must. But, be that as it may, I figure that you, like me, have decided to stick with your CP/M machine or you wouldn't be reading this column.

Improvements to CP/M — the CCP: Ok, we've decided to stick with our quaint machines. That doesn't mean that we can't progress. The question then is where and how do we do so. One of the weakest parts of CP/M machines is CP/M itself. Oh sure it was marvel as it progressed through version 2.2 and then to 3.0, but the longer it was used the more glaring its weaknesses became. The most obvious was the Console Command Processor (CCP), the chunk of CP/M that interprets the commands that are typed in. Since it didn't take long for the Zilog Z80 to replace the Intel 8080 as the standard CP/M processor, the obvious move was to use the more powerful Z80 command set to expand and improve the CCP while staying in the same memory space. ZCPR1 was born. The enthusiasm it engendered led to ZCPR2 and then ZCPR3. With expanded capabilities, it became necessary to sacrifice some memory, but not much. ZCPR was so successful, it went commercial. (The original ZCPR 1 & 2 were public domain.) Echelon is now marketing ZCPR3.3 for a very reasonable price. There should be a version for CP/M 3.0 machines in beta test right now. [There is. Ed.]

The joy of ZCPR is not only the improvement in the CCP, but the thought given to the total environment. The interface of ZCPR, with all the varied support and utility programs that go with it, make it a marvel to behold. MS-DOS users cannot believe that an operating system can be so friendly and powerful at the same time.

There are other CCP replacements out there, but ZCPR has dominated the CP/M 2.2 market. There is a CCP replacement for CP/M 3.0, the latest authentic version of which is CCP105. Digital Research did some serious improvements in the CCP for CP/M 3.0, but it was still about on a level with ZCPR2.5. CCP105 is about a ZCPR2.5. I'm looking forward to ZCPR3.3 for CP/M 3.0.

Improvements to CP/M — the BDOS: Well, the only portion of CP/M left that was written by Digital Research was the Basic Disk Operating System (BDOS). Echelon wrote their own replacement ZRDOS, which naturally enough worked closely with ZCPR. Then a guy in Holland wrote a first cut at a total re-write that included many of the features of the CP/M 3.0 BDOS. (I must admit I can't remember his name or what his replacement BDOS was called.) Along came the prolific Dr. Falconer with his DOS+25 which also included a CCP replacement called CCP+. It was a cleanup and expansion of the Dutchman's effort and works nicely. His package includes a bunch of utilities.

Carson Wilson (a Morrow owner in Chicago) took a slightly different approach. He decided to concentrate on the BDOS. I can't read his mind, but I imagine he figured that the CCP world was pretty well covered by ZCPR. He seems to have looked hard at what was right and wrong with all the different versions

the BIOS that existed and then came up with his own. From my own limited experience with it, and from the rave reviews I have heard from other people whose judgement I value, he seems to have succeeded beautifully. Z80DOS20 is in the public domain and I understand that Z80DOS30 will soon appear.

What We Have: So with ZCPR and Z80DOS where are we? We have completely replaced our old, obsolete operating system. We have a nicely evolved system that will do anything that we could do before and much, much more. We have an operating system that will address 512 meg drives without partitioning and can handle 8 meg files. We have named directories with password protection. We can timestamp our files. We can operate from specifically tailored "shells" or menus that make the operating system transparent. We have a more mature operating system than MS-DOS.

How about software that will take advantage of these neat things? The newest release of the old industry standard, WordStar 4.0, is designed to interface with ZCPR. Many public domain programs have ZCPR interface options. Hardly a new public domain program comes down the pike that doesn't address ZCPR.

What We Need — Mutual Support: What we CP/M users must do is support one another. Let's face it, there won't be much more commercial software coming down the pike. We are going to have to depend upon those who are skilled and willing to write new software in the public domain. Those wonderful few will have to depend upon the rest of us to give them useful feedback, and pats on the back. If there is an occasional request for \$10 or \$15 to help support these donations we should comply gladly. (Have you priced MS-DOS software lately?) It behooves us to see that good public domain software gets the widest possible distribution. Bring it to meetings, upload it to BBSs. Talk it up on roundtables. These people obviously aren't in it for money, out for personal satisfaction and recognition. Give them that recognition. Give them the satisfaction of knowing that they have done something well and that it is appreciated.

The same goes for hardware. Let the people who make it easy for you to install quad-density drives know that you appreciate their effort. The one who helps you find that bad RS-232 line driver know how much that help meant to you.

Support your local CP/M groups. Too many machine specific groups are just folding. Encourage the merger of these groups into a generic CP/M group. Tap those Commodore 128 users. There are supposedly 600,000 of those machines out there, and they can run CP/M. A lot of C-128 users are just waiting for a little help to be come CP/M enthusiasts. Encourage your club to run a BBS. If they already do, volunteer to help. Sysops have a lot to do and help is appreciated. Keeping files updated and organized can be a full time job. (Right Steve, Sypko & Woody?)

If you find a store that supports CP/M, spread the word. Let the store owner know there are CP/M users looking for places to spend their money. Patronize that store, unless prices are outrageous.

Let commercial software houses know that rumors of CP/M's death are greatly exaggerated. Look at the response MicroPro got to WS4.0. Let people know we will buy good software, but not at the inflated prices MS-DOS users pay.

Enough soapbox. Let me know what you want me to write about. If I know anything about the topic (some people will say even if I don't) I'll try and explain and/or expound.



From the Mailbox by Bill Steele

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A word of greeting and explanation to Kaypro folks who are seeing this the first time. This column has run in Morrow Owners' Review as a sort of printed BBS, a place where we can share our knowledge and ignorance. Mostly people send me questions. Sometimes I'll offer an answer, not guaranteed right; generally I pass on the question, hoping someone will write with help. Please don't feel

your question is too stupid to send: all of us were there at some point, and if you saw the last column, you'd know that some were there just a couple of months ago.

Right now everything I have is from Morrow owners, but a lot deals with CP/M, so we should have some common ground right away. Also, there aren't many letters in hand, because the previous column said we were going out of business. So, we'll start with longish answers to a few short questions.

Operating System Erased: Rita Talamantes of Ft. Wayne, IN is new to our ranks, having just purchased a used MD3. She wrote that she was unable to run any software because the CP/M system disk would not boot up with the Morrow PILOT menus, and said that the previous owner had somehow erased the operating system from the disk.

Though it's not obvious to users who have stayed with the Morrow PILOT menus, the CP/M operating system is on every working diskette you have, including the ones that have WordStar, BASIC, Supercalc or whatever; you can boot up directly on any of these disks and run the program by typing its abbreviated name (e.g., "WS") at the A> prompt. And if the operating system has been removed from any disk, including the "system" disk, you can copy it back from any other working disk with the SYSGEN program. Failing that, you can always recreate the system disk by running your original CP/M distribution diskette.

What intrigued me about this was the idea of "erasing the operating system." At first I thought that would take some doing, but it turns out to be really easy -- so easy that I feel I ought to explain how to do it, so you can avoid doing it by accident. All you have to do is run SYSGEN backwards!

How SYSGEN Works: SYSGEN.COM is the program you use to put a copy of CP/M onto a disk. [CP/M 3.0 uses a different program, COPYSYS.COM, which works differently. Ed.] It's just a copy program: it reads the operating system from the outer track of one disk and writes an exact copy of what it read onto the outer track of another disk. The trouble is, it doesn't look to see if what it's copying makes any sense.

When you run SYSGEN it asks a series of questions, starting with "Source drive name, or return to skip." If you've put an already SYSGENed disk in drive A and a newly-formatted disk in

drive B, your answer would be "A," because you want SYSGEN to copy the CP/M that's already on the disk in A. Then you'll see "Source on A then type return," and you press the RETURN key to confirm that everything is ready. Now you get "Destination drive name or return to skip." Since you want CP/M copied onto the disk in drive B you type "B" and again confirm by pressing RETURN. But if you enter "B" as the source drive and "A" as the destination, SYSGEN reads what's now on the outer track of the disk in drive B -- which is nothing! -- and makes an exact copy of it onto the disk in A, overwriting the operating system that's already there. You'll get the same result if the working disk is in drive B and you enter "A" as the source and "B" as the destination.

SYSGEN from the Morrow PILOT Menus: There seems to be a lot of confusion about SYSGEN.

Clifford Zearfoss of Bastrop, TX writes that "I had formatted a disk DSDD and had data on it; I wanted to boot from it so I SYSGENed, but selected SS. Now when I try to access the disk I get an error message." I guess you could run SYSGEN on an MD3 using a disk with the (single-sided) operating system from an MD2 as the source, but further correspondence revealed that this reader had run the FORMAT program, specifying single-sided format. Formatting erases all data on the disk--in this case it only erased the data on the top, but that's enough to break up all the files. This is a weakness in the Morrow PILOT menus that you Kaypro folks are probably justified in smirking at: FORMAT and SYSGEN are reached from the same menu choice. I've always felt the menus were good for beginners but that you should get away from them as soon as you learn the CP/M commands.

Interfacing Different Printers: **Gary Cole of Ironwood, MI** picked up a used Radio Shack printer for \$25 after his Morrow MP200 went up in smoke. It worked, but threw in an extra line-feed on every line (this is because Scripsit, the TRS-80 word processor, doesn't send linefeeds with its carriage returns). To get around that he had to send some ESC sequences to the printer, which he was doing with PRINT CHR\$ statements in M-BASIC. He wanted to switch to the method I described in MOR in June, 1986, which was to place the printer control codes in a file and PIP the file to the printer. "My problem," he writes, "is that all the codes are less than 28 decimal. When I look them up in the ASCII table I find names like DC2 and DC3. I don't seem to have a key on my keyboard that will send these values."

Well, you do -- two keys, in fact. ASCII characters up to 32 are the "control" characters, which you obtain by pressing the CTRL key while typing some other key. The DC3 character (ASCII 19) is CTRL-S; ESC (ASCII 27) is CTRL-; SO (ASCII 14) is CTRL-N. Note that the letter "S" is ASCII 83, and DC3 is 19, 64 less. The effect of the CTRL key is to subtract 64 (40 hex) from the value of any other key. The names of the characters date from the teletype era and stand for things like ACKnowledge and ENquiry; SO stands for Shift Out, DC1 and DC2 stand for Device Control 1 and 2. To get these characters into a NW or WS file (non-document mode), type CTRL-P followed by whatever character you want. CTRL-P in WS/NW means "take the next character literally, rather than as a signal to do something."

Transferring Files With An Epson Geneva Laptop: Some answers are a long time coming. About two years ago, **Dr. Donna J. Guy of Tuscon, AZ** wrote for advice on transferring files to her MD3 from an Epson PX-8 Geneva laptop. I wasn't much help at the time, but a couple of weeks ago I acquired a second-hand PX-8 so now I have some answers.

The PX-8 uses a little round 8-pin DIN connector for its RS-232 port, so you have to buy or make a cable with that plug on one end and a standard DB-25 on the other. Epson supplies two such cables: #724, which has the pins connected straight through (i.e., pin 2 to pin 2, 3 to 3, etc.), and #725, which has pins 2 and 3 and most of the status lines crossed. The manual suggests that you want a 725 to connect the PX-8 to another computer, and the 724 to connect it to a modem. But it turns out you need the 724 to hook up to a Morrow. [You need #725 to hook up to a Kaypro single serial port or the modem port of a two-port model. Ed.]

As you probably know by now, the RS-232 "standard" is anything but. In particular it comes in two flavors, known as DCE (Data Communications Equipment) and DTE (Data Terminal Equipment). Modems are DCE, terminals are DTE, so you connect a terminal to a modem with a straight-through cable. To connect a DCE to a DCE or a DTE to a DTE you need a criss-crossed cable. The majority of computers, including all Kaypros and all Osbornes except the model 1, have DTE serial ports, but the Morrow ports come with a factory default setting as DCE; as a friend of mine puts it, "It thinks it's a modem." So, you need a 724 cable.

[On a Kaypro with one serial port, the port is DTE. On an Osborne or Kaypro with two serial ports, the modem port is DTE and the printer port is DCE. The Osborne 1 has a single peculiar DCE port with no handshake output. Ed.]

Setting Up For Serial Transfers: Next you have to get the two computers to have the same serial port settings. Run SETUP on the Morrow and CONFIG on the PX-8 to set both to the same baud rate. Epson recommends 4800 baud; if you have troubles, try a slower rate. If you're configured for a parallel printer, you also have to change the Morrow printer selection to RS-232 Serial.

[Many computers also require you to set the "handshake" to hardware handshake or Xon/Xoff. These must be the same on both computers. The Kaypro DTE serial port does not have a handshake input on pin 6 for systems like Morrow that handshake on 6 & 20, so it cannot hardware handshake on the receiving end of a file transfer, unless you make a custom cable, although it can on the sending end. With systems that handshake on 4 & 5, it can go both ways. For hardware handshake to work both ways, there must be connections on pins 2-7 & 20 of most computers, for Xon/Xoff only pins 2, 3 & 7, so always try Xon/Xoff, if hardware handshake doesn't work. You can connect a Morrow and the Kaypro single port or modem port with the Kaypro's straight-through modem cable. Ed.]

I made up a special disk for file transfer and made the changes permanent on that disk. If you do this on a disk that you use for other things make the change temporary, and run SETUP again when you're through transferring files to change the baud rate back to whatever is normal for your printer.

You also have to match the number of data bits, stop bits

and parity, or all you'll transfer is gibberish. CONFIG lets you control these settings on the PX-8, but changing them on the Morrow is a hassle -- you need to obtain or write a special program (see "How to Modify Output Ports" by Ed Berne, MOR Vol. 1, #4). There's also no easy way to find out what default settings the Morrow is using, except to try every combination on the PX-8 until one works. I found that 8 data bits, one stop bit and no parity works for my Rev. 2 MD3. The same settings are quoted in MOR for the MD2, but elsewhere I found 7 data bits, 1 start bit, 2 stop bits and even parity. If that's what it is and you don't have a way to change it you're sunk, because you can't get that setting on the PX-8.

Making the Transfer: With all this set up, the commands to send a file from the Epson to the Morrow are "PIP <FILENAME> = RDR:" on the Morrow and "PIP PUN:=<FILENAME>" on the Epson. Don't press RETURN on either computer until you've typed both commands. Then press RETURN on the Morrow, wait a couple of seconds, and press RETURN on the PX-8. The Morrow needs a couple of seconds to open the disk file; if you start sending too soon it will miss the beginning of the file. For testing, use a short file and type "PIP CON:=RDR:" on the Morrow, and you'll see the received text on the screen.

To go the other way the commands are "PIP LST:=<FILENAME>" on the Morrow ("PIP PUN:" if you're set up for a parallel printer) and "PIP <FILENAME>=RDR:" on the PX-8. PIP uses a 16K buffer; files larger than that may not transfer properly.

Improvements: use the PX-8's TERM program, which works with PIP commands on the desktop. If you have MITE, it can be installed for direct connection, and some other communications programs probably can, as well, to use at the desktop end. MITE also lets you set the Morrow baud rate, parity, etc. from its menus.

All this applies to text files. For program files, the PX-8 has a program called FILINK, which unfortunately is incompatible with XMODEM protocol. You either have to get a desktop version of FILINK.COM from a BBS or a PX-8 version of XMODEM. Both are available from Bob Hermann, 16725 Rockdale, Detroit, MI 48219, along with a lot of other software and stuff. He has a 24-hr. BBS at 313-538-6968. SnyderScope, 1594 Hilltop Dr., El Cajon, CA 92020, has hardware and software for the PX-8 and other Epson products.

While I'm on the subject, the PX-8 is worthy of serious consideration by anyone who'd like a portable and doesn't think CP/M is obsolete. I wrote most of this column on it, working in bed. Briefly, it has a full 64K RAM and a 60K or 120K ramdisk. WordStar, BASIC and a spreadsheet in ROM (you can't have them all plugged in at once); Dbase II and other software available in ROM, and it runs most anything else you can download to it. Smaller than a small portable typewriter, runs about ten hours on a charge, nice keyboard. Disadvantages: 8-line LCD display, but you get used to that. No built-in disk drive, but the ramdisk holds its data while the machine is off, so it's just like a real disk, or better; the microcassette drive is just for archiving. Biggest advantage: you can get one real cheap. DAK industries (800-423-2866) is selling off the last 4000 or so from Epson's stock at \$499, \$599 with the 120K ramdisk. I got mine from a private party for \$275, including portable printer.

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During the February BAMDUA/BAKUP joint meeting, a lady from a local publishing house asked about recovering data from a KayPro 10 hard disk. It seems it had been in use for some years, and had become flaky. They took it off to a local repair shop, and in a sequence of return visits, parts were replaced while the computer seemed to be getting worse. After more than \$1000 was invested in repairs, the machine was catatonic. Among the recommendations given her, a referral was made to Jon Gordon (former Berkeley Computer repair shop manager, and instructor in computer repair at Contra Costa College).

A few weeks later, Jon Gordon was the speaker at the March user group meeting, and preliminary information was that he was going to talk about the computerized music business, with a demonstration. He's giving regular demonstrations of this at a night club he's started (with some others) at LaVal's Basement in Berkeley. BUT ... when he arrived, he announced the topic was going to be "How to deal with repairists and what you should expect." He'd done something similar two years before while he was still at Berkeley Computer, so I was ready to nod off for a little nap. BUT NO ... it was the tale of the lady's hard disk. She had apparently done everything wrong possible in her dealings with the repairists, not understanding that one has a responsibility to instruct them and oversee their efforts.

Apparently, Jon doesn't do KayPro/Morrow any more. His responsibilities lie with the Amstrad/Atari and whatever else MicroWorld offers. But he will take on those especially challenging non-routine and different problems with the CP/M computers, KayPro especially. It doesn't matter what it is so long as it's unusual. Jon's summary points in the talk to the user group were advice on the steps to be taken by a customer, and the customer's responsibility, along with Jon's own method of operation in such cases.

The customer is responsible for several things when taking anything (car, toaster, computer) to a repair shop. First, the customer must get an estimate of the cost of diagnosis, and of the cost of the repair. This estimate should be in writing, and a copy carried out of the shop for the customer's records when the device is left behind. Secondly, upon finding the repair is more extensive (read expensive) than the estimate, the repairist is required by law to notify (usually by phone) the customer, AND GET APPROVAL. The approval must be noted in writing on the customer repair order - time, date and change authorized. Thirdly, the customer has the right to receive all broken/burn-out parts the repairist replaced, and the repairist should have these packaged and ready to return to the customer on return of the repaired device. If there is disagreement as to the appropriateness of these replacements, it is necessary to have these items to test them for failure. Fourth, the customer should have assurance that the repairist has not only made a part exchange (or adjustment or whatever), but that the repairist has given the device a trial of reasonable speed/distance/time to show that the original problem no longer exists. If I have a wobble in a front wheel of my car as I drive at 60 miles an hour, I

want the repairist to verify that it no longer wobbles at that speed after his fix. The same goes for computers! That noisy disk drive better be noiseless after two or four hours of running after the repairist has aligned/tightened/replaced.

Suffice it to say, there were complications in the problem of the KayPro 10. Apparently, there are several versions of KayPro 10 out there, due to various upgrades KayPro put in production as they manufactured these things, or due to instructions KayPro sent to dealers for their customers. So, which version of KayPro 10 was this one, and did the original repairist have the correct datasheets on repairs for it? No one knows to date, and it's critical, as some ROMs are not like others of later series, and the same with disk controllers. The can of worms was at least solved to the extent that Jon was able to recover the data, and transfer it to another KayPro 10 hard disk. The publishing house and Jon estimate that's worth more than \$15,000 to this user!

Jon made another point, and I've made the same point in several MicroTimes columns myself. He REQUIRES the hard disk user to back up all data BEFORE they bring their hard disk machine to him. The publishing house HAD NEVER backed up data, and had to have it explained to them. None of their (several, sequential, semi-temporary) keyboardists were anything but typists, and none had heard of a user group. They'd gone four plus years without backing up one item! WOOF! I suppose there are always optimists out there who'll never have to back up their files.

As an aside, Jon is setting up a public domain library for the Amstrad word processors. Since they use 3" disks, a modem transfer will probably be necessary. He is looking for librarians from BAMDUA/BAKUP to help him with this apparently unique effort.

We also look for Jon to return. He still has to deliver on that "music in computers" presentation. By then, I'll have been to the LaVal's basement, and can report on the frivolity that goes on there, too.



When you get home tonight, renew
your membership in BAMDUA-BAKUP.

[Editor's Note: This is the third article on this subject, as the author observes. As the additional material at the end indicates, there are other ways of doing this, with new public domain software, which may be easier and more flexible for some people. However, this article is useful, not only because it corrects previous incomplete information, but also because by itself it allows users to make the conversion without first obtaining public domain software, and it also gives some explanations for what was covered before by rote instructions. This article installs PC-compatible double-sided drives with head stepping rate of 6 ms. Slower drives should use 10 or 12 ms.]

These instructions modify the CP/M system software for the Morrow Rev.1-board MD2 with single-sided drives to accommodate double-sided disk drives. They are specifically written for an MD2 with Rev. 1.1 circuit board, Rev. 1.3 ROM, CP/M 2.2 Rev. 1.5 or 1.6, SYSGEN Ver. 2.0 MD1.2, and FORMAT Rev 2.3.

This article is based on articles originally written by Greg Smith in Morrow Owners' Review (MOR) Vol. 3, #3 and Derrek Lee Beatty in MOR Vol. 2, #1. Derek's article was helpful in spotting some apparent omissions in Greg's article that caused difficulty when attempting to make the conversion.

GETTING STARTED: You need two disks. Disk #1 must be FORMATTed and SYSGENed and contain DDT.COM, PIP.COM, STAT.COM, FORMAT.COM and SYSGEN.COM. If it contains additional programs, that is OK, but it must have at least 36K of space remaining.

Disk #2 can be a blank DSDD disk. You'll format this one later as a double-sided disk, and it will become your new double-sided system disk when you have completed the modifications.

Notations used throughout the instructions:

1. User input is underlined to distinguish it from what is displayed but not typed. You type whatever is underlined.
2. <R> means press RETURN key.
3. ^C means hold down CTRL key while typing C. This returns you to system when using the DDT program.
4. "xxxx" represents any 4-character display you may ignore.
5. Comments are bracketed "{...}".
6. The Dynamic Debugging Tool, DDT, will be used in the following procedures to find necessary addresses and make program changes. You'll notice that DDT uses "-" as a prompt just as the CP/M system uses "A>". To exit from any DDT entry to the "L" prompt, type <R> (period RETURN).
7. When entering data, nearly all characters that look like "zero" or capital letter "o" are in fact zeroes. The only "o's" ever entered are in the words "COM" and "FORMAT".
8. The numbers in the Work Table are hexadecimal numbers.

YOUR FIRST STEP—Capturing a copy of CP/M: {press RESET button and insert disk #1 in drive A and disk #2 in drive B. Press RETURN, and start your modifications as follows:}

ALTER SYSGEN.COM: {Alter SYSGEN.COM so that it will not care whether your disk drives are single-sided or double-sided.}
-S389<R>
0389 C2 0<R>
038A B8 0<R>
038B 03 0<R>
038C dd.<R> {Note: Period returns to DDT prompt "-"}
-C {Exit from DDT to system prompt.}

SAVE YOUR FIRST MODIFICATIONS: {You will now save the modifications made to CPM0.COM as CPM1.COM.}

A>SAVE 48 CPM1.COM<R>
A>CPM1<R>
SYSGEN VER 2.0 MD1.2
SOURCE DRIVE NAME (OR RETURN TO SKIP) <R>
DESTINATION DRIVE NAME (OR RETURN TO REBOOT) A<R>
FUNCTION COMPLETE
DESTINATION DRIVE NAME (OR RETURN TO REBOOT) <R>
A>

FORMATTING DISK #2: {The changes you have made so far and saved in CPM1.COM will now allow you to format a DSDD disk. Press the RESET button on your Micro Decision and then press RETURN. You should see the usual messages, followed by the CP/M prompt. This procedure is sometimes called a "cold boot". You will perform a "cold boot" several times before you're done.}

{In response to the system prompt A>, type FORMAT<R>. You should see the usual message from FORMAT asking you to enter the name of a drive. Enter B. You should see a new message, "Single or Double sided format (S or D). Enter D<R>. The disk in drive B: will now be formatted double-sided with 80 tracks and verified. The Morrow FORMAT program counts 0-79 or a total of 80 tracks. If the disk in drive B: was successfully formatted with a count of 0-79 tracks, press <R> after the "Formatting done" message and continue with the program changes. If not, recheck your work, and/or get help.}

NOTE: {You will be using DDT extensively in the next four major steps. If you make an error, type <R>, then S followed by the four-digit line number you wish to correct.}

MODIFY BTAB (Boot Table): {Modify the BTAB in CPM1.COM using DDT and the "S" command as follows:}

A>DDT CPM1.COM<R>
DDT VERS 2.2
NEXT PC
3100 0100
-S980<R> {BTAB is universally located at 0980.}
0980 01 21<R> 0987 1C <R> 098E 5E C2<R> 0995 00 <R>
0981 D8 LC<R> 0988 FF <R> 098F 00 <R> 0996 02 <R>
0982 58 7D<R> 0989 23 <R> 0990 7F BF<R> 0997 00 <R>
0983 05 04<R> 098A 00 <R> 0991 00 <R> 0998 EF 43<R>
0984 6F AF<R> 098E 04 <R> 0992 C0 E0<R> 0999 xx <R>
0985 03 <R> 098C 0F <R> 0993 00 <R> -
0986 05 <R> 098D 01 <R> 0994 20 30<R>

{Period prior to the last <R> returns to DDT prompt "-".}

MODIFY DPB (Disk Parameter Block): {Patch the DPB portion of CPML.COM using DDT and the "S" command again. Start by substituting the value for KKJJ that you wrote down earlier. Alter 15 bytes as shown in the first column, continue through the remaining four columns, reading from top to bottom. As always, disregard whatever value appears for xxxx.}

```
-SKKJJ<R>
KKJJ 28 <R>      28 <R>      28 <R>      28 <R>      28 <R>
xxxx 00 <R>      00 <R>      00 <R>      00 <R>      00 <R>
xxxx 04 <R>      04 <R>      04 <R>      04 <R>      04 <R>
xxxx 0F <R>      0F <R>      0F <R>      0F <R>      0F <R>
xxxx 01 <R>      01 <R>      01 <R>      01 <R>      01 <R>
xxxx 5E C2<R>    5E C2<R>    5E C2<R>    5E C2<R>    5E C2<R>
xxxx 00 <R>      00 <R>      00 <R>      00 <R>      00 <R>
xxxx 7F BF<R>    7F BF<R>    7F BF<R>    7F BF<R>    7F BF<R>
xxxx 00 <R>      00 <R>      00 <R>      00 <R>      00 <R>
xxxx C0 E0<R>    C0 E0<R>    C0 E0<R>    C0 E0<R>    C0 E0<R>
xxxx 00 <R>      00 <R>      00 <R>      00 <R>      00 <R>
xxxx 20 30<R>    20 30<R>    20 30<R>    20 30<R>    20 30<R>
xxxx 00 <R>      00 <R>      00 <R>      00 <R>      00 <R>
xxxx 02 <R>      02 <R>      02 <R>      02 <R>      02 <R>
xxxx 00 <R>      00 <R>      00 <R>      00 <R>      00 <R>
{next col.} {next col.} {next col.} {next col.} {period}
```

MODIFY MTAP (Motor TABLE): {Using the characters LLMM from your Work Table, alter the MTAB.}

```
-SLMM<R>
LLMM 01 21<R>    22 <R>      01 21<R>    01 21<R>    01 21<R>
xxxx D8 DC<R>    59 5D<R>    D8 DC<R>    D8 DC<R>    D8 DC<R>
xxxx 58 7D<R>    58 7D<R>    58 7D<R>    58 7D<R>    58 7D<R>
xxxx 05 04<R>    05 04<R>    05 04<R>    05 04<R>    05 04<R>
xxxx 6F DF<R>    6F DF<R>    6F DF<R>    6F DF<R>    6F DF<R>
xxxx 03 <R>      03 <R>      03 <R>      03 <R>      03 <R>
xxxx 05 <R>      05 <R>      05 <R>      05 <R>      05 <R>
xxxx 1C <R>      1C <R>      1C <R>      1C <R>      1C <R>
xxxx FF <R>      FF <R>      FF <R>      FF <R>      FF <R>
{next col.} {next col.} {next col.} {next col.} {period}
```

{Note: "DF" = 6 ms head step rate. "BF" = 10 ms. "AF" = 12 ms.}

CHANGE THE LOG-ON MESSAGE: {This patch to your new system disk will change the message which appears after each cold boot from "Single Sided System" to "Double-Sided MD2 System".}

```
-S2DA1<R>
2DA1 2A 20<R> { } 2DNN 20 69<R> {i} 2DB3 73 53<R> {S}
2DA2 2A 44<R> {D} 2DAB 53 64<R> {d} 2DB4 74 79<R> {y}
2DA3 20 6F<R> {o} 2DAC 69 65<R> {e} 2DB5 65 73<R> {s}
2DA4 53 75<R> {u} 2DAD 64 64<R> {a} 2DB6 6D 74<R> {t}
2DA5 69 62<R> {b} 2DAE 65 20<R> { } 2DB7 20 65<R> {e}
2DA6 6E 6C<R> {l} 2DAF 64 4D<R> {M} 2DB8 2A 6D<R> {m}
2DA7 67 65<R> {e} 2DB0 20 44<R> {D} 2DB9 2A 20<R> { }
2DA8 6C 2D<R> {-} 2DB1 53 32<R> {2} 2DBA xx ^C
2DA9 65 53<R> {s} 2DB2 79 20<R> { } {exit to system}
{next col.} {next col.}
```

SAVE THE NEW CP/M: {You will now save the changes you have made by entering:}

A>SAVE 48 CPM64D.COM<R> {CPM64D.COM stands for double-sided.}

MAKE NEW SYSTEM DISK: {With disk #2 in drive B, put the double-sided system on it by doing the following:}

A>CPM64D<R>

SYSGEN VER 2.0 MD1.2

SOURCE DRIVE NAME (OR RETURN TO SKIP)<R>

DESTINATION DRIVE NAME (OR RETURN TO REBOOT)B

DESTINATION ON B, THEN TYPE RETURN<R>

FUNCTION COMPLETE

DESTINATION DRIVE NAME (OR RETURN TO REBOOT)<R>

A>

{Place disk #2 (presently in drive B) into drive A and perform a cold boot. You should see "Double-sided MD2 System" after the copyright notice.}

{Insert disk #1 into drive A and disk #2 into drive B. Perform a cold boot. Copy files to disk #2, your new system disk:}

A>PIP B:=A:*. *[V0]<R>

{Now label disk #2 (from drive B) "DOUBLE-SIDED CP/M SYSTEM". You are now through with disk #1.}

CHECK YOUR NEW DOUBLE-SIDED CP/M SYSTEM DISK: {Put disk #2 into drive A and perform a cold boot.}

A>DIR<R> {You should see the familiar listing of files.}

A>STAT:*. * <R> {You should see the usual listing of records, bytes, etc. "Bytes remaining" on the last line should be 162K greater than what you started with on disk #1.}

{Now you can "clean up" your new disk by erasing CPM0.COM and CPML.COM:}

A>ERA CPM0.COM<R>

A>ERA CPML.COM<R>

{Make a back-up copy of your new DSDD system disk, and you are all through.}

Editor's Note: More Information on Conversion by Ilbert Butler

This Note contains information on: 1) saving CP/M system images ; 2) BAMDUA public domain disks, which facilitate hardware configuration; 3) available commercial upgrade products.

SAVING A SYSTEM IMAGE: You will see instructions to save system images written as "SAVE 48 <filename.ext>" and "SAVE 46 <filename.ext>," for Morrow CP/M 2.x floppy systems, and "SAVE 40 <filename.ext>" for Kaypro systems. What is the difference? In CP/M 2, the SAVE command must be followed by a decimal number, which is the number of 128-byte sectors to be saved to accommodate the size of the file to be saved. The difference between Morrow & Kaypro numbers reflects the fact that the Morrow system image contains a larger BIOS, and is larger over all.

The difference between the two numbers for Morrow is this: In fact, the Morrow CP/M image is 46 128-byte sectors in size, which is 11K. However, the system is almost always configured with minimum 2K blocks, so a system image will be saved as a 12K file with empty sectors at the end, whether it is saved as 46 or 48 128-byte sectors. The number 48 corresponds to this 12K file size. However, there is no need to reserve that many sectors, and that method of saving includes empty sectors as part of the file saved, which may be undesirable for such purposes as putting that file into a '.LBR' library collection.

PUBLIC DOMAIN: There are two public domain disks, which contain invaluable information and software for modifying Morrow MD2 & MD3 computers for different hardware configurations:

-BAMDUA.TK1 contains articles which explain what a media table is, and how the media table is organized in the Morrow MD BIOS, plus information on the CP/M directory structure, which everyone who is modifying a system should understand. Also included are tools for hackers and patchers, instructions on how to write programs, which address the serial controller chip in Morrow floppy computers, and 8080 & Z80 program disassemblers.

-BAMDUA.TK2 contains two programs by BAMDUA Director 'at large' George Borys, which both provide user-friendly menus, and which allow users to install up to four disk drives, in any combination of single or double-sided, 48 Tracks Per Inch (TPI), or 96 TPI, aka 'quad density'. These programs work equally well with 3-1/2" & 5-1/4" drives and diskettes.

CONFIGx.BAS is a BASIC program, which allows users to set ALL parameters in the Morrow BIOS media table, and automatically corrects the Disk Parameter Block (DPB) as the media table is changed. CONFIG supplies default values, when the user supplies none, and when a parameter must be set in increments, and a user supplies an invalid parameter, it automatically inserts the nearest valid parameter. The latest version is CONFIG53.BAS.

This disk also contains an upgraded FORMATx.COM program, which allows the formatting of the several kinds of diskettes, and also allows formatting with one extra 'cylinder' on double sided disks and two extras on single sided disks. The latest version is FORMAT26.COM.

This disk also contains complete public domain operating systems for Morrow Rev. 1 & 2 floppy disk computers, in which BDOS is Z80DOS 2.0, a creation of Morrow owner Carson Wilson of Chicago, CCP is ZCPR 2.9, without any reduction of the customary 64K system size of CP/M, but the ability to do 'tricks' such as run programs automatically when they are inside '.LBR' library files, and BIOS is Morrow Designs, as modified by George.

These two disks allow new users, who have purchased parts from Silicon Valley Surplus, to have operating systems, without having to buy CP/M from Digital Research, and to configure those systems, according to price & availability of component parts.

These two disks allow existing users, who do not wish to spend the high price of hard disk controllers and drives, to obtain maximum storage from floppy systems. One may have only one DSDD disk, in order to be able to read standard Morrow format disks, and up to three quad density disks. At times, quad density disks have been available at surplus for under \$30 each.

BAMDUA Free Upgrade Policy: In accordance with BAMDUA policies, public domain disks are placed on the BBS, in complete

libraries for each disk, available for downloading. Although these are updated infrequently, the latest versions of TK software are also periodically placed on the BBS as separate files. In addition, anyone may update any special series disk already purchased, by exchanging their disk for the new one at a meeting without charge, or by sending their old disk with \$3 for postage and packaging to BAMDUA.

Special Disk Bargains: The special series now contains four disks of the most commonly used and most popular software, and will soon contain two disks with IMP 245, a recent, fast modem program, and other tools for telecommunications.

New members are invited to purchase at the time they join any combination of the four special disks, the two TK disks, and the two telecommunications disks, at \$5 each, same as the price at meetings, plus a one-time \$5 postage & packaging charge, instead of \$3 per disk. The same offer is open to new BAKUP members, but the TK and telecommunications disks are not recommended to Kaypro owners, since they contain Morrow specific files.

AVAILABLE COMMERCIAL PRODUCTS: It is also possible to have all quad-density drives. Carson Wilson sells for \$20 a program called "DOUBLE.COM," with a manual, which permits using quad-density drives, reading and writing to single or double sided double or quad density diskettes interchangeably. Send check or money order to Carson Wilson, 1359 W. Greenleaf Apt.1D, Chicago, IL 60626.

The current price of Rev. 2 MD3 motherboards is \$65 for the board, specify Japanese or Korean version, socketed or unsocketed 280 CPU, \$12 for ROM Rev. 3.1 EPROM chip, 7 percent sales tax for Calif. residents, \$4 UPS, add \$3 for COD. Silicon Valley Surplus, 4401 Oakport, Oakland, CA 94601, tel. 415-261-4662.



For a limited time Silicon Valley Surplus has a special offer for new and renewing BAMDUA members. Upon presentation of your canceled check, you may buy an extra terminal for \$8 instead of the usual \$20. Cables are available to connect this terminal to a Morrow, and George Borys can provide you with a TERMINAL.DAT file to install it, if S.V.S. does not

RENEWALS AND SUBMISSIONS:

BAMDUA BAKUP News now has a circulation of about 900. Compare this to the first edition of Moby Dick which ran less than 100 copies. If you write an article, a letter, a review for the News, you'll have more readers than Melville himself. Think about it.

If you have a Kaypro-related article or an advertisement, contact BAKUP editors Frederick Winyard (639-7716) or Bob Athey (526-3541).

If you have a Morrow-related article or advertisement, send it to P.O. Box 5152, Berkeley, CA 94705 or call Ilbert Butler at 526-8655.

BAKUP has a new mailing address for RENEWALS. Send your checks to P.O. Box 8537, Berkeley, CA 94707-8537.

Send BAMDUA renewals to P.O. Box 5152, Berkeley, CA 94705.

VOLUNTEERS WHO ANSWER HELP CALLS OF MEMBERS

PERSON TO CALL IF YOUR PRIMARY CP/M EXPERIENCE IS WITH KAYPRO

PERSON TO CALL IF YOUR PRIMARY CP/M EXPERIENCE IS WITH MORROW

re: Beginners & General

Athey - Folsom (beginners SIG)
Van Sickle

Campbell - Charnes - Korte
Oechsli

re: CP/M, MS-DOS & Other Operating Systems

Fowler - Pugh - de Castro
Winyard - McPheeters(hardware)

Borys(hardware) - Butler(Mac)
Campbell(Mac & Atari) - Korte

re: Other User Groups, Newsletter

Athey - Winyard

Butler(legal)

re: WordStar & NewWord Word Processing

Athey - Buck - Peeples

Butler - Campbell - Charnes
Naparst - Oechsli

re: Database Programs

Pugh (dBASE) - Cole (Pearl)

Campbell(dBASE) Gowens(Pearl)

re: Perfect Writer / Calc / Filer

Bruner - de Castro - van Oosten

(not common among Morrow)

Athey(Calc) - Willett(Filer)

re: Programming Languages

Bruner(MBasic) Winyard(Pascal)

Borys(MBasic) McKusick(Pascal)

re: ZCPR3 Systems & MEX Modem Program

Charnes - Fowler

Charnes - Korte

re: Other Programs by Name or Type

Lautenberger (spreadsheets)

Charnes(BackGrounder)

Becker (Handyman) Bruner (XtraKey)

Johnson(Quest & spreadsheets)

Uzzell(FrameWork)

415 AREA CODE PHONE NUMBERS & RULES FOR ALL CALLERS

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Bob Athey BBS or 526-3541
Dennis Becker 825-3868
Bob Bruner BBS or 528-1065
John Buck 268-9541
Ted de Castro 581-8882
Leonard Cole 527-2110
Anne Folsom 843-8454
Ken Fowler 222-0830
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Steve Pugh 527-7272
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George Borys til 11 582-7615
Ilbert Butler til 11 526-8655
Peter Campbell 527-3387
Rick Charnes BBS or 826-9448
Bruce Gowens 268-9450/845-8002
Wesley Johnson til 9 444-0568
Gene Korte 525-8944
Lee McKusick am only 849-9053
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NOTE: See Issue #8 of Newsletter Volumes 2, 3, 4 (1984, 1985, 1986 respectively) for summaries of library disk contents and of tables of content for the Newsletter or get disk #50 for the latest, complete listing of the public domain library.

I am a BAMDUA member. Please send the following Library Disks (#1-50; or special library volumes: 1A, 1B, 2A, 2B; or hard copy of special catalog disk of BAMDUA LIBRARY) at \$8/floppy/copy.

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=====
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=====

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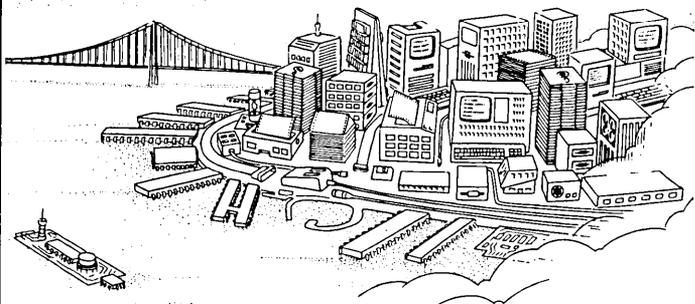
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