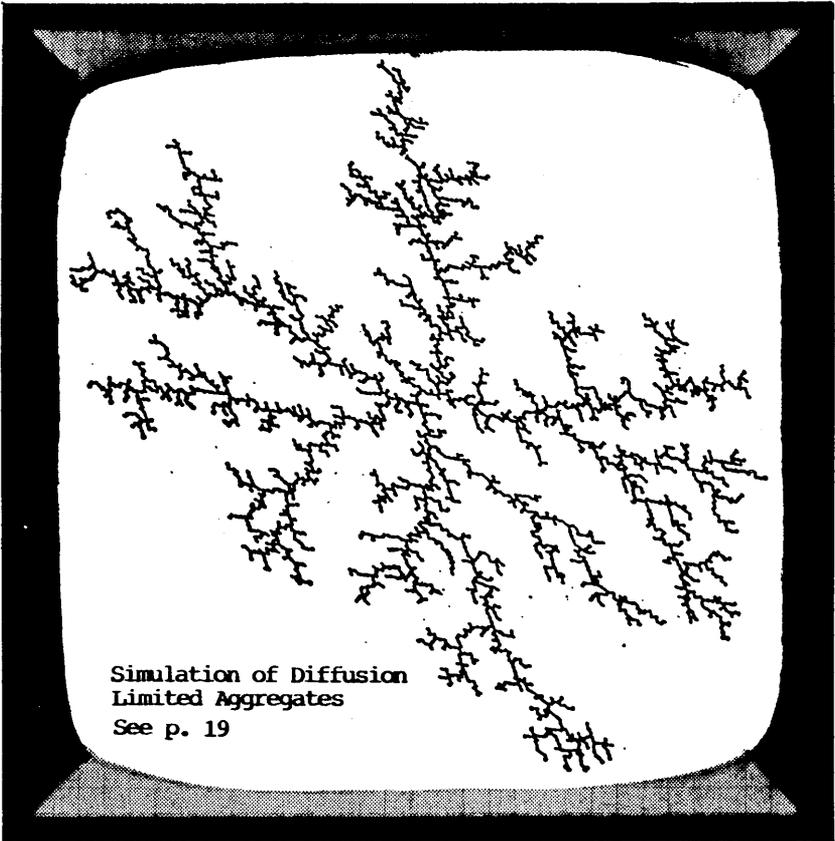


BAMDUA BAKUP News

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



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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 \$20/yr-BAMDUA, \$20/yr-BAKUP. 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. 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 94620
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.

BAKDUA OFFICERS

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

BAKUP OFFICERS

President	Robert D. Athey, Jr.
Treasurer	Robert Dupuy
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
	654-3798 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, KMD, 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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First, to touch on some topics we've discussed in the past, we have some updates. The last CP/M column in MicroTimes dealt with Plu*Perfect Software's DOSDISK. Now the program has been modified to make it toggle back and forth from MS.DOS to CP/M more easily. Bridger Mitchell was in town to give a talk to BAKUP/BAMDUA user group, and was quite pleased with the review we had in the MicroTimes column.

We have often stressed the importance of backing up your data, in a variety of ways. We even told the horror story of the KayPro 10 that had been used five years before the disk started going bad. The good news is that the KayPro 10 finally recovered completely, through the good offices of John Gordon of MicroWorld. Our last report on that only noted that the data had been recovered, which is certainly important, but now the machine is back on line, and that's quite pleasing.

That back-up and data recovery column elicited another horror story from a reader. She religiously backed up her hard disk BUT ... a three alarm fire burnt up the back-up disks AND the computer. She cites the work of another pro in recovering the data from the charred KayPro 10. Her point is that the back-ups should be kept "off-site," and I buy into that completely. I know of only one paint company that keeps their hard disk back-ups off site, but paint companies are VERY aware of fire hazards -- with all that solvent around. It makes a great deal of sense.

While talking of back-ups, let us remember the words of Saint Silicon, who said "Do unto data only that which you can undo," or some such. A user group acquaintance told me of an all-nighter he did to recover data from a disk that he'd erased inadvertently with a special command in a special program. Apparently, the command not only erased all files from the most recent in order to the earliest original, but it also erased empty unwritten space too. Hence, a standard unerase program wouldn't recover the files. He was, through arduously looking at all sectors, able to reverse the error, but at a horrendous cost of time. Again, a back up of those files would have negated the need for the recovery, as it would be a simple matter to just copy them onto the working disk. Can you back up too frequently? Another acquaintance at Plu*Perfect backed up his RAMdisk database (customers, suppliers, financial records) HOURLY! And he is pleased to do so. That small pain is much better than the bare-foot walk through the fires of a horrendous data recovery over megabytes of storage area, along with the attendant fall behind in real work, as well.

We are always looking for good buys, and we have seen some stellar ones in the catalogs, recently. The box of 50 DSDD for \$0.19 apiece, albeit without the "sleeves" (a peculiar name for the envelope that holds a disk), and \$0.20 with. These are from **Computer Direct** (312-382-5050). Another surprise in a catalog was the promise of PARTS for your KayPro, NorthStar ... from **Abacus** (502-585-5635). They also do repairs, and have refurbished goodies for sale. Another supporter of NorthStar and other CP/M systems sent a brochure to the BAKUP mailbox -- the

Trio Company of Cheektowga, NY. They can be reached at 716-892-9630.

We often get calls about "Where can sell my faithful Kay-Pro, DEC ..." and I usually tell them about our classifieds and other user group newsletters. BUT ... I recently got a mailer from the CALIFORNIA COMPUTER EXCHANGE where there is a consignment matching among buyer and seller. The broker is Evan Geisinger (800-652-1532 in CA, 800-227-3993 or 415-552-0920). He sent me a listing, showing Epsoms, Datapoints, Bondwells, and many, many more. The listing showed any bundled software, if a printer comes with it, RAM and disk drive info, price and notes. It looks like a great opportunity.

Our emphases on science and user groups have come together in a recent announcement by the Society of Plastics Engineers. At their most recent meeting, they organized a "Computer Users Forum." Among the topics they'll try to offer are data bases on plastics' material properties, and on equipment for the plastics manufacturer or molder, as well as CAD/CAM and lab software. They will try to encompass all types of computers, citing Apple, MAC, MS.DOS, mainframe and "other." Embedded within the announcement was a brochure from **THinc**, a library of public domain software that does mail orders. They hold HUNDREDS of disks in CP/M (their TH300 to TH499 series for CP/M 80, and TH500 to TH599 for CP/M 86). THinc can be reached at 215-487-2545.

We look for humor, too. Quotes like that from the 1699 head of the US Patent Office, "Everything that can be invented already has been invented," always appeal to me as I am an inventor -- among other things. An office supply company we've recommended, the **QUILL CORPORATION**, has a newsletter called the **QUILL PEN PAL**. They ran a contest recently trying to find new words (they call them Quiplets) that describe the computer or office experience. Some of the winners were*: **Errnauseum**: Making 1000 copies and then finding an error (printing many copies, too); **Stereotype**: When the printer begins making double images; **Faxation**: Belief that everything must be faxed rather than mailed; **Overbyte**: More information in the computer/typewriter memory than in your own; **Diskintegrate**: What happens to the disk files when the disk goes bad.

You can imagine how much my spell checker loves those new words. I sent in several submissions, but they were not among the winners. Perhaps **PENDIARRHEIA** was in poor taste. Oh, well, my ex used to say all my taste was in my mouth.

You may remember that Yvonne Von Gulker of Fleischman Field Research made a short presentation to us a few months ago. Her organization was looking for volunteers who would join them for lunch or supper and earn \$30 to \$100 as participants in their market research programs. The **BAKUP/BAMDUA** benefit is a referral fee for the first time the participant shows up. We got our first check from them this month, so it really works. Call 415-398-4140 if you missed out on her talk, and don't forget to mention **BAKUP/BAMDUA**.

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The Bootstrappers are a special interest splinter group of BAKUP members formed in 1986 when a number of basic operational questions arose at a BAKUP meeting, and it became apparent a lot of hand-holding was needed. The questioners were new to the Kaypro hardware-software world, and they were having difficulty getting their computers to do what they rightfully expected. Dennis Becker suggested forming a beginners group and Anne Folsom offered her home as a meeting place.

Thus, the Beginners' Group, as it was originally known, was formed. The name was later changed to reflect the emphasis on self-help practiced by the group. Members with some degree of successful experience share their knowledge with those who are climbing the learning curve.

A typical problem-solving scenario might run like this: A person with a problem brings his/her Kaypro and software disks to a meeting and recreates a problem condition. One or more "experts" (those with some experience with the problem hardware/software) gather round and solve the problem on the spot. If the problem is beyond the skill level of those present, other BAKUP members who have volunteered to serve as consultants may be called (see the list of volunteers and phone numbers elsewhere in this newsletter).

In addition to general problem solving, members demonstrate software they are familiar with. Some subjects recently discussed:

June 29	graphics program	DRAW
May 25	bookkeeping software	GENLEDG
April 27	file management program	NEWSWEEP
March 30	bookkeeping software	CHECKS & BALANCES
Feb. 24	key redefinition program	XTRAKY
Jan. 27	data base	dBASE II
Dec. 2	word processing	WORDSTAR 4.0
Oct. 28	automating telecommunications	MEX
---	hardware add-on	HandyMan

The group meets in the North Berkeley Hills at 7:00 P.M. on the last Wednesday of each month except November and December. Some members bring their Kaypro's to facilitate the hands-on experience process and to exchange favorite public domain software. Kaypro's in use run the gamut from Kaypro I's to the K20.

Future programs are in the works for outline and library file management programs as well as other time-proven CP/M software. Someday we hope to explore the fine points of High Tech Research's Ultra-Board.

If you want to participate, either with information to share or with more questions than you have answers regarding the use of your CP/M Kaypro, you are welcome to join us. Call Leonard Cole, 415/527-2110, to get on the Bootstrappers mailing list. There is no fee, but donations are accepted for mailing expense and Anne Folsom's sumptuous refreshments.

Editor's Note: The Boot-Strappers are really the core of any user group, and this particular bunch are great at it.

Where do computer programs come from? What kind of mind has thoughts which congeal into the code which we use as CP/M, BASIC, Dbase, or T/Maker? The book Programmers at Work is a way to satisfy this curiosity. Here are interviews with 19 programmers by Susan Lammers, with reproductions of hand-drawn diagrams, code, and candid answers to questions we might have asked about their backgrounds, work methods, relationships with other programmers, and their visions of the future of computers. We may not recognize the names of all these programmers, but we know their products. For example:

Toru Iwatani	PacMan
Bill Gates	Basic
Gary Kildall	CP/M
Peter Boizen	T/Maker
Wayne Ratliff	Dbase
Jonathan Sachs	Lotus 1-2-3
Michael Hawley	LucasFilm SoundDroid

Enough of me, here are some quotes.

"The Japanese have a slang word -- paku paku -- they use to describe the motion of the mouth opening and closing while one eats. The name PacMan came from that word."
-- Toru Iwatani.

"I like to make an analogy between writing code and sculpting a clay figure. You start with a lump of clay and then you scrape away, add more clay, and scrape away again. And every now and then you decide that a leg doesn't look right, so you tear it off and put a new one on. There's a lot of interaction."
-- Wayne Ratliff.

"Before I sit down to code something, most of the instructions have already run through my head. It's not all laid out perfectly, and I do find myself making changes, but all the good ideas have occurred to me before I actually write the program. And if there is a bug in the thing, I feel pretty bad, because if there's one bug, it says your mental simulation is imperfect, there might be thousands of bugs in the program."
-- Bill Gates.

"You just push a button and the music changes, flip a switch and the lights are out, hop on a plane and go to Norway. It's a different world. Some things are better, and some are worse. When the excitement of the new technology subsides, we can begin to view both sides in balance."
-- Michael Hawley.

First a report on how MOR is doing. In summary: MOR is doing okay in its diminished form. It doesn't take so much of my time as it used to. The community MOR serves, although shrinking slowly, is still actively participating and financially MOR is still afloat and will be for some time to come. Former staffers are doing well in their various new pursuits.

MOR, as you all remember, ceased publishing last December after it closed the office at the end of October 1987. MOR is still operating its mail order business of about 20 orders per month, which has helped to pay off some tax debts. In addition this just about supports MOR's business expenses: things like the phone, the postage machine, business taxes, bank fees, and every two months the printing and mailing of MOR's share of copies of the BAMDUA/BAKUP News and the MOR-Atlanta News. Would you believe that there are still people responding to subscription promotions that MOR send out over a year and a half ago, and that there are still people trying to renew? They all get a polite note inviting them to subscribe to our last two remaining Morrow newsletters.

MOR also receives its share of help calls and help letters, but it is getting less and less. Help calls are calls from people who need help, not from people who offer help, as my wife once believed. Imagine a call to MOR like this: "Hello, this is John Doe, one of your former subscribers. How can I help you?" Wouldn't that be nice for a change? It appears that George Borys and Ilbert Butler of BAMDUA are getting quite a few more help calls to deal with; these are mostly from around the Bay Area, while calls to MOR are nearly entirely from outside the Bay Area.

The other MOR activity of note is MOR's BBS (415/654-3798), which is still fairly busy with a bit more than a hundred active users and 400 to 500 messages per month. Again, it is mainly frequented by people from outside the Bay Area. The BAMDUA BBS, which now also has an MS-DOS section, is about 50% busier than MOR and is frequented by about 150 people, about a third of whom can also be found at the MOR BBS. While the MOR BBS is operated by me, the BAMDUA BBS (415/654-3882) is operated by George Borys and Tom Kunich, after our famous Sysop Steven Wartofsky became an English professor in Chicago. In Chicago another Morrow BBS may soon get on the air; Murray Mathenson is currently in the process of getting all the pieces together and he hopes to snare Steve to help him get this new BBS off the ground. Good luck to you Murray! Last but not least, there is the MOR-Atlanta BBS in Georgia, run by Dave McDonald (404) 279-1132).

Well, there you are: three active Morrow BBSs and a fourth to come. Actually, there are more Morrow-oriented BBSs, like Werner Gumpert's (415/938-9470) in Walnut Creek, CA, and Silicon Valley Surplus (Brian and Terri's store of surplus parts, 415/261-4513) in Oakland, CA. Maybe it is time to do a survey again and see who else is still around and active. Anyway, isn't it nice to know that there still are these Morrow life-lines available? Real handy in an emergency. Many people have gotten themselves out of trouble by receiving help from members of the BBS communities. Have you gotten your modem yet?

Where have all the former MOR staffers gone? Serge Timacheff is now associate review editor with INFOWORLD in Redwood City, CA; I'll see him and his wife Amy soon again when we do some camping and hiking together in the Sierras. Greg Smith is also working at INFOWORLD as a member of the testing lab where he seems to be doing very well. Serge and Greg have invited me to come visit them at INFOWORLD to see what they are up to. Margo Demello married about half a year ago and has settled in a house she and her husband bought, a relief after years of moving around between umpteen apartments (and a few nights in the MOR office!). Kirsten Andrae is back in college in San Luis Obispo, CA, after several months of working as a professional ski instructor during the winter. Steven Wartofsky (as you already know) is now an English professor in Chicago. LeMel Hebert-Williams is enrolled at UC Berkeley and I keep forgetting what his major is; he works in a hospital as an administrative assistant. As for myself, if you count me as staff too, I am back fulltime at the UC Lawrence Berkeley Lab, where I am a member of a software team putting together the active control system for the 10-meter telescope for the future Keck Observatory in Hawaii. This control system is driven by twelve (68000 series) computers, all holding hands and passing the information, frantically trying to keep that huge mirror in focus. The design started several years ago and I joined the team in 1987. We write all the code in the C language.

In a future column I may talk about this telescope control system and how we as a team work together, ever trying to avoid treading on our mutual software toes while trying to keep on schedule, while not losing any of the information we have already painstakingly put together. I had not really done much in C myself until about a year ago and I now think it is a magnificent language, a relief after years of coding in Fortran. I must confess that I much prefer C over Pascal, even Turbo-Pascal.

I use about three books on C as a reference. When I am asked for advice by beginning C programmers about what book to get I almost invariably send the CP/M-ers to the excellent manual that comes with the **MIX C compiler**; I still use this C compiler on my MD222. But recently a friend of mine authored a wonderful tutorial book on C: Microsoft C for MSDOS, by Robert Lafore. Yes, yet another book on C, but this one is really very good if you need to learn from scratch (with maybe only some BASIC experience) and you want to be encouraged along the way. His explanations of the intricacies of C are amazingly clear and written in relaxed, patient and sometimes humorous prose. Even though it is geared to MSDOS, the C language is quite machine independent, so I would heartily recommend this book to CP/M-ers. I am really impressed with his 600-page book, and I don't say this because Robert and I used to sail together either.

The PX-8 Epson Geneva laptop: My wife Carolyn is a writer and uses an MD3. Recently she acquired a PX-8, the one that Bill Steele mentioned in his column in BBNL and MOR-Atlanta News, March/April 1988. Of course, I got saddled with the job of teaching the Epson Geneva laptop to communicate with the MD3. It works very nicely now and Carolyn is soooo happy now she can be writing in bed or in the woods. In the process of learning how to make it work I discovered what an amazing amount of support

there is still available for this out-of-production computer. But more about that another time.

Last item: **IMP modem programs for Morrows.** Ilbert Butler has recently completed his overhaul of IMP245 adaptations for our machines. There were some serious troubles with these programs which he has managed to resolve. Now there is a set of three SSDD floppies available from BAMDUA and MOR that contain (disk TLM:) ready-to-run IMP versions for MD2/3 Rev.1, MD2/3 Rev.2, and MD hard-disk machines, (disk TLI:) generic IMP files so you can tailor-make your own IMP program, and (disk TL2:) the latest utilities to compress and collect files for sending and receiving by modem (ARK/UNARC, CRUNCH/UNCRunch, NULU, LT, SD). Ilbert spent a lot of time researching the problems we were having with Morrow versions of IMP245, interviewing technical wizards (Irv Hoff, Bill Smith), and testing the results. It was a nasty job, but someone had to do it, and he did. He deserves a big hand for all that excellent work.

THIRD TUESDAYS

Foggy September Meeting: As all know, FOG stands for the First Osborne Group. They associated and numbered themselves, and grew to the point where they have a permanent staff, an office, and multiple publications. We've all seen their bootns at the computer shows. Jack Brown, their technical support manager, will join us on the third Tuesday of September to describe what they are about. We look forward to hearing how they've adapted to this swiftly advancing world, and how they plan to continue their adaptations. (Sept. 20. See inside front cover for location and time.)

Fun October Meeting: Saint Silicon (aka Jeffery Armstrong), comic computerist and author, comes to BAKUP/BAMDUA for the October general membership meeting. You have seen his writings (among them, Ilbert's favorite, "Do unto data that which you can undo"), and now you can see him in person. He was really a computer marketer, as he had no salable skills with his liberal arts degree. After multiple interfaces with computer companies as an employee, he saw the light and now speaks to groups, has a comedy routine, and has published a book of his whimsical look at the computerists at their game. Interestingly, all the biggies in the publishing industry turned down his book, and that's part of the story. Hear about his church and its liturgy. It promises to be a pun-derful evening.

Send letters to:
301 North Roadrunner Parkway, #109
Las Cruces, NM 88001

Right off the top let me apologize to Bridger Mitchell of **Plu*Perfect Systems**. Plu*Perfect, not Echelon is the maker of **Z3PLUS**, ZCPR3 for CPM+ machines. As a matter of fact, I've been told that Echelon is now out of business. That's too bad. Now we have one less source of software for CP/M.

Back to **Z3PLUS**. I received the released version of **Z3PLUS** from Bridger and I must say that I'm even more impressed. My big worry about **Z3PLUS** was the documentation. Well, the documentation is very good. It is well organized and clearly written. It starts out explaining what **Z3PLUS** will do for you and then progresses through basic installation, use and then more complex uses and tailoring of the system for personal tastes. Included on the distribution disk are several public domain (PD) Z programs and lists of "Z helpers" and ZCPR3 BBSs.

The more I play with **Z3PLUS**, the more I like it. I'm still learning and still having fun. The only drawbacks I've seen so far are the loss of TPA (a minimum of 4k and typically 7k) and the fact that only executable files can be made public via the search part. I kinda liked the CPM+ ability to access any file (not just executables) declared as a system file in user 0 from any user area. But those are really minor losses compared to the functionality gained by using **Z3PLUS**. I give this effort a definite "thumbs up" from the peanut gallery. Easily worth the \$75 (including shipping and handling). It can be ordered from: Plu*Perfect Systems, 410 23rd Street, Santa Monica, CA 90402.

By the way, Bridger Mitchell, the head guru of Plu*Perfect, shows up from time to time on the MOR BBS.

Other news from the CP/M world includes the latest version of VDE, the excellent PD editor. This is **VDE266** which, sadly, the author says will be the final version for CPM. Another source lost to the IBM/MSDOS world.

If you haven't tried **VDE**, it is a very nice alternative to a full blown word processor like WordStar. It is small enough (14k) to keep several copies on different disks, versatile and fast. It works on files in memory so you can only edit files up to about 50k but how many of us have documents that big anyway? It will work on 7-bit ASCII files (pure text), as well as WordStar document and non-document files. One very nice feature is the ability to create, save and recall macros. What are macros? Macros are a series of commands that you frequently use that can be executed from a just a few keystrokes. The macros in **VDE** include some "if-then" type control statements which make them very powerful.

VDE can be installed for a variety of printers and termi-



nals and even has a version called **VDM** for those CP/M computers that used memory mapped video. This is a definite "must have" for your PD library. Available on most CP/M BBSs.

Another entry to the PD market is **ARK02**. **ARK** is the CP/M version of the **ARC** program that has swept the MSDOS world. It combines file compression and combination into a single program. Kinda like having **CRUNCH** and part of **NULU** in one program. It will look at a file, decide what is the best method of compressing that file and then compress it and put it into a file with an **.ARK** extension. The matching program for retrieving a file from an Archive is **UNARC16**. ARKs are slowly replacing LBRs on BBSs.

ARK02 is still in the development stage and has a couple of bugs. It creates various intermediate files during the creation of an ARK and doesn't know when it runs out of disk space. Just make sure that you check your ARK with UNARC to make sure it is valid and everything is in there before you delete the original files.

The other bug has to do with the use of wild cards. **ARK02** seems like it doesn't know about user areas and will search all user areas for files to match the wild card. This could get messy on a HD.

ARK02 is slow and needs a lot of memory, but it works. The author admits that it is still in development and promises faster and smaller versions as he progresses. Still it is a nice effort and it is nice to see after many promises from other, better known, authors that have never come to pass.

I received a letter from a fellow with a question that I'm sure many of us have asked. Where do we go after CP/M? What happens when my CP/M machine finally dies and it is cheaper to get something new than to get it repaired? Knotty question.

For sure, if you are looking for the broadest software base, the IBM/MSDOS world is where to be. The clones are cheap and getting cheaper. There is a lot of stuff out there for them. Yet the prices for MSDOS software are criminal. This leads to piracy and results in various copy protection schemes. Also the question remains how long will MSDOS be around? Even now IBM is pushing OS/2 for their new machines and UNIX is making serious inroads.

The other growing market is the Apple Mac. This is a truly innovative machine with a whole new user interface. The "point and click" technique makes use by a neophyte easy. There is a lot of software out for the Mac and more is appearing by the day. However, the Mac and its software are not cheap.

My personal feelings tend to the Atari 520/1040ST and Commodore Amiga machines. I feel that the Amiga is probably the most capable machine on the market especially if you are into graphics. It can also do multi-tasking. The Atari series are the hands-down winners in the "bang-for-the-buck" category. There is also a very nice PD CP/M emulator for the Ataris that will allow you to run your current CP/M software on the Ataris.

Software for the STs and Amiga is becoming more available and, in general, is much more reasonably priced than MSDOS and Mac software.

I know that I haven't answered the question. I don't know the answer. That has to be up to the individual. A new computer

and the associated software is a major purchase for most of us. All I can say is investigate carefully, try the different machines and see which ones meet your needs. Be sure to get some "hands on" time before making your purchase.

Me, I'll stick with my Morrows for a while longer.

That's about it for this issue. I know it's a little short, but I'm already late for the deadline and I have a plane to catch in El Paso in three hours. Bigger and better stuff next time.

FROM THE MAILBOX by Bill Steele

Mail: P.O. Box 782

Ithaca, NY 14851

MCI: WSTEELE, 254-5833

Denis Kuwahara responds to Sypko Andreae's statement that after converting an MD3 into a hard disk machine you wouldn't have anything left of the original but the rubber feet: "I don't quite agree. The terminal is usable, along with the floppy drives, and most important the top cover. At least if you go the route I did with Silicon Valley Surplus. They offered a \$35 trade-in on the MD3 board toward the MD11; I figured for that I would rather build a complete machine. The only problem is that SVS has the metal cases but no source for the front bezels." Denis says you can get an MD11 board for \$200 and software for \$70 from SVS, a 5-10 Meg hard disk for \$80-100 through ads in Computer Shopper, and an 80-watt power supply for \$100 from SVS, \$25-40 in Computer Shopper. "For about \$400 and some work it is possible to upgrade an MD3 to a hard drive; I spent a little more and have two machines, keeping the MD3 and building a hard drive machine." If I were going to build a machine I would spend yet a little more and go for 22MB drives. Sypko notes that you can buy a used MD5 or MD11 for \$350-500.



Denis also writes about **Wayne Siebel's** problem in copying from foreign formats. "I use Readit and Foreign.COM to copy from an Apple with a Z-80 board which writes a Xerox-compatible SSDD format. I had to cover the index aperture to prevent the MD3 from seeing the hole in the floppy. I wonder if [Wayne] is using a modified machine. I had problems when I had some machines with Vers. 2 ROMS and some with Vers. 3.3."

I said last time that you shouldn't consider any question too simple. Here's an example to remind us that what many take for granted is pure Greek to others. **Thomas Shanks** wrote to ask how to erase programs from his MD5 hard disk to make room for his new WS 4.0. I replied that a hard disk works just like any other disk, "So if the hard disk is Drive A, the command ERA A:FILENAME.EXT should do the job." I soon got a letter stating that he had typed in "ERA A:SUPERCALC.EXT" and got an error message! For anyone else who doesn't know, EXT stands for "exten-

sion," and is just a generic way of showing how a filename should be used in a command. And SuperCalc would almost always be filed as SC.COM. We have lots of people out there who let the dealer set up their computers and have run everything from the Morrow menus ever since, and we need to keep them in mind when we give directions. (I've always said that everyone should take the time to learn what the menus are doing, by watching the CP/M commands that are executed after you make a menu selection.)

But meet **Wayne Lincoln**, an amateur prepared to rush in where hackers fear to tread. He would like to modify MagicPrint so that it single-spaces footnotes and doesn't print a dashed line above them. Anybody know what the patch points would be? Rather than waiting for advice, Wayne decided to examine the program with DDT and try to find the offending dashes. He found some, but not enough, so assumed the program was using a loop to write a line. At that point he called me to ask what hex character would represent a jump command. The answer, of course, is that there are several, and it ain't that simple. The message, though, is that you can work out things like this if you're patient and willing to go through a lot of failed experiments (always use a copy of the program, of course).

This gives me a chance to recommend one of my favorite books (with an apology to John Cochrane, Jr.): CP/M Assembly Language Programming, by Ken Barbier; Prentice-Hall, \$10.95 (I hope it's still in print). It's the only book on assembly language I've seen that doesn't start with a boring recitation of microprocessor instructions and then launch into math. Instead, it carefully and simply explains how assembly language works, and in the process, how the CP/M BIOS works, and leads into some simple programs. It won't make a pro out of you, but it will help you to understand what things like the User Area listing in the WS/NW manuals mean, and maybe even how to modify them.

I'll close with a question I haven't been able to answer for myself: My Teletext 1010 daisy wheel printer has a one-line buffer. When it receives a carriage return it prints whatever is in the buffer, but not before. This screws up the trick of using PIP LST:=CON: to make the printer work as a typewriter; you can type a line at a time, but you can't space across to fill in forms. I wrote a program to send characters to the printer one at a time, and it worked, except that the only character it doesn't work on is the space character! Any suggestions?

<p>Subscriptions ■ Renewals ■ Correspondence ■ Submissions ■ & Etc.</p>	<p>For Kaypro-related articles, advertisements, or memberships in BAKUP (\$20/yr), write to P.O. Box 8537, Berkeley, CA 94707-8537; or call Bob Athey at 415-526-3541.</p> <p>For Morrow-related articles, ads, or memberships (\$20/yr) in BAMDUA, write to P.O. Box 5152, Berkeley, CA 94705, or I. Butler at 415-526-8655.</p>
--	---

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I have programmed a number of BASIC games, including BASEBALL-BAS and FOOTBALL.BAS in the BAKUP library (Disk 49). As these used many random numbers, I looked for a way to avoid duplicate numbers. Otherwise, you would get identical results in the games.

Random numbers are very useful. However, there are a few things to understand about them. Most computers do not give you a different series of numbers each time you call for them. For example, you might use the following program to call for a series of random numbers:

```
100 FOR T=1 TO 10
110 X=INT(RND*10)+1
120 PRINT X,
130 NEXT T
```

When you run this program, the output result would be something like:

```
10 4 3 9 2 1 10 3 5 2
```

If you run the program again, you would get the same result:

```
10 4 3 9 2 1 10 3 5 2
```

To get a different result, you need to "seed" the random numbers by inserting:

```
90 RANDOMIZE
```

The computer will give a query to you something like:

```
Random Number Seed (-32768 to 32767)?
```

You then type in a number which will start the random number generator. The computer will then render a different series of random numbers for each different seed number you enter. You can check this out by repeating a seed number and see the same random numbers coming up again.

The problem with using seed numbers is that you may forget which numbers you have previously used and accidentally come up with the same number again.

Here is a better way to use random numbers, that will assure that there will never be a duplication:

First, open a sequential file to store the seed number used. (This need be done only one time. Once the file is established, it will perpetuate itself.) To open the sequential file (don't ignore quotation marks):

```
Type MBASIC.
```

```
At the ok prompt, type OPEN "O",#1,"RANDOM"
```

At the ok prompt, type INPUT#1, 1
At the ok prompt, type CLOSE#1

You have now set up the RANDOM file to be sure you will never duplicate a set of random numbers.

Now enter the following at the start of any BASIC program that will require random numbers:

```
10 OPEN "I",#1,"RANDOM"  
20 INPUT#1,R  
30 R=R+1  
40 RANDOMIZE (R)  
50 CLOSE#1  
60 OPEN "O",#2,"RANDOM"  
70 PRINT#2,R  
80 CLOSE#2
```

At line 10, the Random File is opened, and read at line 20. 1 is added to this number and used to seed the random generator. The file must be closed before a change can be made to it -- line 50 does this. At 70, the new number is overwritten to the file, and the file is closed at 80.

Each time you RUN your program, a new seed number will automatically be used. If you start with number 1, you have over 32,000 numbers before you need to start over. That should last you a while.

Russell J. Asvitt
3936 Newcastle Road
Concord, CA 94519
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THANKS, BOB, I NEEDED THE HUMILITY.

It's not too often that a client teaches me some neat trick for Pearl use, but I have to thank Bob Fauria, of my eyeglass company client, for this one.

His data base was designed to give an overview of the business from orders; but over a period of time it has grown to track such things as customer activity, inventory control, delivery time from various lens grinders, problem orders, and more. To do this requires multiple accesses and changes on the same records.

The order is entered, then later the date the lens is received from the grinder is entered, then later the date the order is shipped, and then later the invoice date. Often it is not just the date the lens is ordered and received, but also the date the frame is ordered and received. This has meant modifying the record in edit mode to enter the new dates.

Until now, during initial entry of the order, those as-not-yet-used date fields were just <RET>ed over, essentially entering them as nulls (zero value). They would show on the screen as 00/00/00 but were stored in the data file as a single null byte. Bob noticed that it took longer to save a changed record when he filled in a null date than when he changed an already entered date.

So Bob asked, "If we were to initially enter a false date such as 1111, which Pearl will read as 1/1/11, wouldn't the edit/entry time for the revisions go faster? After all, when initially entering the orders, once the first is entered, a ^N will slap those false dates in the subsequent records so the entry time won't increase."

Out of the mouths of... Not only faster, but this is a double-wammy of an idea, since it saves time in another way, and disk space, and ...

Bob's observation was certainly true because of the way Pearl stores the records. Unlike dBase II, Pearl does not waste disk space on empty or partially empty fields. This permits you to design a data base with fields as large as you wish, without worrying that you'll run short of disk space by filling it with a lot of blanks. A null date occupies one byte of disk space rather than three bytes (numerical month, day and year), and you can make a "NOTES:" field eighty characters long without wasting seventy-five bytes every time the note is only holding five characters (bytes).

But this means that when a record is made a character/byte or more longer by some change, it will not fit in the same disk space as before. So Pearl transfers the record to the end of the file (expanding the file), changes the index file used to find it, and leaves an empty "hole" where the record used to be.

This takes longer than if the record were the same size or shorter, because the drive's read/write head has to go to the new location to write the record and then go to the index file to correct it. If it can simply change the record in its current location it doesn't need as much travel (head seek time) to do

the job. Bob noticed the speed difference on his hard disk; it's worse with floppies.

But for Bob, there's another big advantage in entering a phony date the first time around. His data base requires changes at least three times, so each record is making two "holes" (chunks of unused space) in the file. Changing a date, rather than changing a null to a date, means the record is not re-written to the end of the file each time -- instead it fits nicely into the same spot on the disk where it was before. Less holes.

Occasionally a Pearl data base has to be condensed. Pearl File maintenance (PEARLFM) option 3 does this by copying the file, without the holes, and then rebuilding the index. Bob's data base grows enough so that this is a frequent need, and he has so many records that a condensation is a real time-taking pain.

By entering a specifically known phony date when the order is first put in, the space for a real date has been reserved and the later changes do not enlarge the size of the record. Thus, file condensations are needed less often. A second time saving. (By 1/1/2011 there will be enough changes in his system or, alas, his equipment, so we don't have to worry about date conflicts, which would actually start 1/1/2000 when making selections. All data bases are going to have a turn-of-the-millennium problem anyway, and most banks are already revising their software to handle it.)

There are a few considerations, however. Some of his reports sort on date fields (to select only those orders that have not been invoiced, for example). That means that the low selection value has to be higher than the 1111 false date.

Bob also asked if entering some number other than 0 (zero) would help the same way in the fields that held dollar amounts. The answer here is a definite NO and a bad idea for a couple of reasons.

First is that a zero holds a number sized space in the file, and replacing zero with some other number does not enlarge the record (unlike ASCII based programs such as InfoStar (which I consider a dog for other reasons) where the numbers are stored as character strings).

Second is that reports from this data base do math on all the dollar numbers and so false numbers would turn the reports into garbage information.

The moral: If you have a Pearl data base where you KNOW that future editing will add a date or perhaps even where you know that text will be added, you can save future entry and file maintenance time, as well as temporarily saving disk space, by entering a false date or, for text fields, a bunch of dashes (Pearl doesn't save trailing spaces so leaning on the space bar doesn't work). But don't use this trick on numerical fields.

Thanks Bob -- you've proved (as if it had to be proved) that I don't (yet) know it all.

Z280 Overseas

[This is a letter from a small German firm that has built a Z280 card for CP/M machines. We received the letter in German from MOR subscriber Timothy Slater, who lives in Germany. Fred Haines, a member of our MOR BBS community, was kind enough to translate the letter so we can all read it.

--Sypko Andreae 7/22/88]

Burmester & Rozbroj
Hard- and Software Development
Schulterblatt 112
2000 Hamburg 66
Tel. 040/690 03 37 and 040/43 57 40

Hamburg, end of October 1987

Many thanks for your interest in our Z280 kit!

Before we get into further technical details below, we have two pieces of unpleasant news:

(1) We are using the most modern integrated circuits, and they aren't yet available in production quantities from either the manufacturer or the distributors. Because of this you have to allow for a delivery time of about four weeks.

(2) There was a mistake in the description of the Quickie in mc 9/87 [translator's note: apparently a German magazine]. The correct price of our Z280 card is DM 398 plus shipping.

Our Z280 kit is intended to produce dramatic improvements in the computing speed of existing Z80 systems, almost without alteration to either hard- or software. This is achieved partly by raising the CPU clock speed to 10 mhz, partly by the Z280's built-in cache, its three-step instruction pipeline, and its internal 16-bit architecture. Application programs now in development aim at further improvements in throughput through the use of new commands (multiplication and division, for instance) and addressing modes (PC- and SP-relative).

Our kit directly replaces the Z80 CPU. It is fitted with a 40-pole pin array which matches that of the Z80. Where space does not permit direct mounting, the card can be connected to the socket by ribbon cable (the CPU plug, ribbon cable, and pin socket are supplied with the kit).

The only modification of the host system hardware involves the pulse generator. This must be disabled because, unlike the Z80, the Z280 generates its own system pulse. In most cases this can be effected by bending or cutting an IC pin.

The piggyback card is 65 mm x 54 mm and about 10 mm high.

The bus timing and initialization register of the Z280 is loaded from an external power-up reset by four jumpers on the card. This allows adjustment of the relationship of the internal CPU clock (fixed at 10 mhz - higher clock rates when faster CPU's become available) to the bus clock (1:1, 2:1, and 3:1) and of the number of memory wait states (0, 1, 2, or 3). (The number of wait states required by the CPU during I/O or Interrupt Acknowledge cycles is adjustable by programming.)

The general timing of the Z280 and the Z80 are so different that installation of our card in many Z80 computers requires manipulation of the Z280 control signal. To this end the card

provides the logic necessary to delay or prolong MREQ, WR, IORQ, MI, and WAIT selectively. The individual circumstances requiring such manipulation are outlined in the user's manual.

The ready-inputs of the four DMA channels can be individually jumpered to "active." Where jumpers are not installed, external DMA devices can be attached directly to these inputs.

The three counters can be driven internally by 1/8 of the crystal frequency (20 mhz), or by external frequency generators (which must however be plumbed directly to the CPU). Since on our card C/T 0 and C/T 1 can be cascaded by software and CTI01 is connected to CTIN2, a 48-bit counter/timer is provided.

All C/T and UART inputs are fitted with 4k7 pull-ups or pull-downs.

The Z80's "legal" instruction set is a subset of the Z280's, so, with the exception of the five Z280 features outlined below, there need be no fear of software incompatibilities.

The Z280 has a 256-byte cache which can be switched to instruction cache only (the default after reset), data cache only, or combined data and instruction cache.

Where parts of a program run partly or entirely in the cache, execution times are substantially faster than the Z80, so program segments involving timing no longer function properly. Software ported from the Z80 to the Z280 can use one of the Z280's three built-in counter/timers instead.

Computers with memory-mapped I/O can fail when the cache is switched to data storage. Whenever a storage cell is read several times, the physical read operation may address the cache rather than the I/O channel. The Z280, however, provides an instruction which extinguishes the cache (PCACHE) and solves this problem.

The cache can also be switched out where the Z80 system provides its own MMU (Memory Management Unit),

Several of the Z80 versions permit execution of so-called illegal instructions (which, of course, no responsible programmer would ever use...), with opcodes which sometimes correspond to legal Z280 commands (LD A,IXH), and sometimes do not (DDB5500=RLC (IX+55H),B), or which lead to other results (the Z280's TSET (HL) is, for example, the Z80's SLS (HL)).

The R register of the Z80 contains the instantaneous refresh address and is often used as the pseudo-random number generator. In the Z280 it is another 8-bit register which the programmer may use freely.

Our Z280 kit provides an interface between Z80 computers and Zilog's Z280 CPU. We cannot, however, guarantee the present or future performance of the CPU, since Zilog reserves the right to alter its products and their specifications without notice.

You have, however, right to a refund as long as the card is sent back undamaged and shipping paid within 14 days of delivery.

You can obtain further information on the Z280 from a Zilog technical manual of several hundred pages distributed by, among other, KONTRON, Breslauer Strasse 16, 8057 Eching.

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) Campbell - Charnes - Korte
Van Sickle Oechsli

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

Fowler - Pugh - de Castro Borys(hardware) - Butler(Mac)
Winyard - McPheeters(hardware) 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)
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Bruce Gowens 268-9450/845-8002
Wesley Johnson til 9 444-0566
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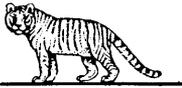
Dear Editor:

Enclosed is my renewal for BAKUP. Also, if the contest to suggest a name and statement of purpose for the combined group is open to both Morrow and Kaypro users, here is my suggestion:

COUGAR: Combined Users Group of Adventurous Reactionaries

Purpose: To boldly go where too few are going before; to utilize and explore the continuing fascinations of CP/M.

The Webster's 9th Collegiate definition of a cougar is worthy of note: "A large powerful tawny brown cat formerly widespread in the Americas, but now extinct."



Barbara Turner

COVER GRAPHIC

Simulation of Diffusion Limited Aggregates: When metals are vaporized, they can condense on free floating dust particles. What the shape of the particle becomes after collision with many atoms is assumed to be spherical (based on theoretical arguments beyond the current topic). BUT ... when two such particles collide, they stick to each other (because the molten metal acts as an adhesive). Thorick Chow, at the University of California, did mathematical simulations of the collisions of 3001, 3101 and 3301 such particles based on some fractal representations of the shapes these aggregates would form. His work was done in a Turbo Pascal program so it would be usable to others in CP/M or MS.DOS. He actually used a CP/M computer to do the calculations, and generated two dimensional representations of the shapes predicted. This graphic was the representation of the 3301 particle aggregate.

Mr. Chow actually wrote three programs. The first generated the mathematical model of the aggregate, the second printed the two dimensional representation, and the third calculated the "fractal dimensions" of the representations. This latter calculation is a mathematical feat identifying which family of fractals this particular model fits. Mr. Chow's labors were a semester project for a physics course.

[Ed. Note: Graphics/art still needed for the newsletter cover each month. Drawn by hand or created on a computer, opinion, illustrative, imaginative, scientific, all OK as long as it pertains to computers or is done on a computer. Will be copy-righted. Call Bob Athey.]

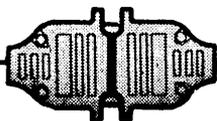
BAKUP/BAMDUA JULY BOARD NOTES

The combined boards of directors of BAKUP and BAMDUA met as scheduled on the second Tuesday of July. Pertinent notes are:

1. LIBRARY - The disk libraries of both groups will be combined with George Borys acting as librarian. One updated disk has been made available, and a commercial source is making compilers available.
2. MEMBERSHIP - The chairman was instructed to offer memberships at all general membership meetings on third Tuesdays! (we got TWO new members this way).
3. A \$5 donation was received from the market research group who spoke at an earlier meeting. All participants in these market research meetings in San Francisco get a free meal and cash (\$30 to \$75), so call Bob Athey to enroll. BAKUP/BAMDUA benefits.
4. Newsletter - was mailed.
5. BAKUP RBBS - Woody announced he will be leaving the area in 3 to 6 months, and a new SYSOP should be found.

The boards also met on Aug. 9th, and the following occurred:

1. PROGRAM - See announcement in this issue of September and October speakers.
2. RBBS - BAKUP's SYSOP has finalized his departure date at 31 Oct. BAMDUA's RBBS is operated jointly by a committee of two and is going well. Combine the two RBBS? We're looking into it.
3. NEWSLETTER - Plans are to mail in mid-August.
4. MEMBERSHIP - Peter Campbell has only the BAMDUA mailing list. The BAKUP mailing list will be merged with it to ease post-card mailing and mail labels. This should give 400+ for bulk mail.



KPro II For Sale. Bakup Member of five years standing has KPro II ('83) with complete Perfect Software package and C. Itoh Prowriter for sale at \$250 or best offer. Call Elwood Whiteman at 415-797-1502.

FOR SALE - KAYPRO 4. Church wants to sell for \$200, with communications package, WordStar, The Word Plus, 3 BASIC languages, and MicroPlan. Wm. H. Rolapp, 751 Alvina Court, Los Altos, CA 94022

FOR SALE - KAYPRO 4. KayPro IV with Silver Reed Printer, dBase, wordStar and lots of disks and extras. Contact Lani Mein, 415-563-2555. (Assoc. of Design Dynamics, 2555 Divisadero, SF, CA 94115)

WANTED - KAYPRO 10. Scholar wants KayPro 10 - referred by Berkeley Computer. Contact: Stephen Booth, 415-654-3945 or mail to: 98 The Uplands, Berkeley, CA 94705.



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Morrow Software Manuals (each)	\$5

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LOCAL AREA NETWORK

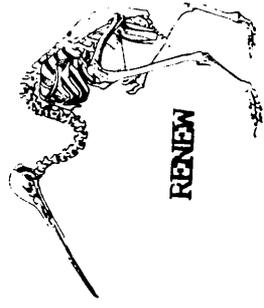
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RENEW