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PROFILES

February 1985
The Magazine for Kaypro Users

Use a Modem —Go to Jail?

Bulletin boards

Users' groups

Kaypro 16 preview

[redacted]

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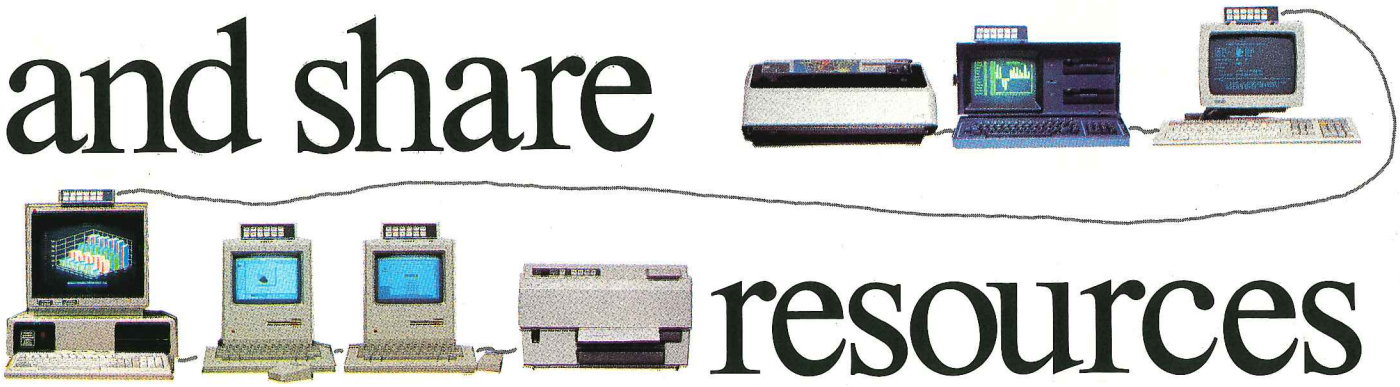

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- External cabinet provided.
- RAM disk is seen by the Kaypro as additional disk drive; RAM disk is usable as drive A or E. All existing floppy drives are still available.
- Software also included for Micro-Cornucopia PRO-8 system (five drives possible).
- Compatible with most speed up kits to improve disk access times.
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- Comes complete with cables, software, and connectors. (Kaypro 2-84 and 2X owners must add additional Z80PIO).

RAM disk size	Configuration	price
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512K	470K RAM disk 32K printer buffer	650.00
512K	430K RAM disk 64K printer buffer	650.00
1mb	784K RAM disk 64K printer buffer	1,200.00

U.S. add $5.00 shipping
International add $15.00 shipping

When ordering, please include the model of Kaypro to be used. Boards can be upgraded should yours need change.

Typical speed increases you can expect to see using MicroSphere's RAM disk:

	4MHz Kaypro	
	Floppy Disk	RAM disk
Recalc 14K Perfect Calc	9:31.25	1:17.78
Load LADDER.COM	9.38 *	2.12 *
Load Printer Buffer 20k file, 11 pages, 2586 words using PIP to the LST device		24.61 *

* Time in seconds

Z80B PIO $12.00
RF Modulator for Color Board and TV operation $19.95

MicroSphere's Composite video generators allow connection of a STANDARD external monitor to the Kaypro Computer. Custom monitors or modifications are not required.

Composite video generator Kaypro II and 4 .....$49.95
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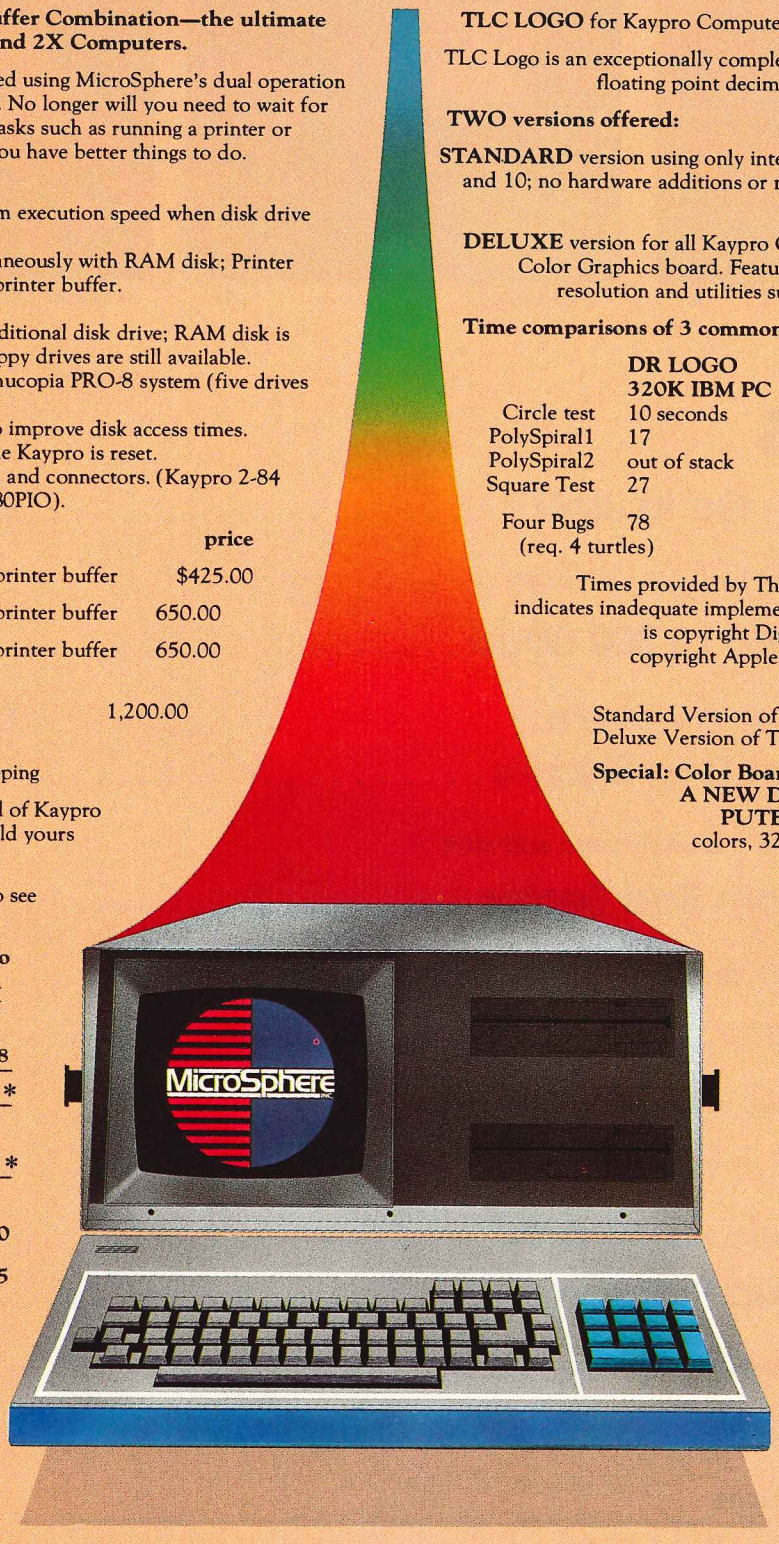

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DELUXE version for all Kaypro Computers that have the MicroSphere Color Graphics board. Features 16 colors, 32 sprites, 49,000 pixel resolution and utilities such as screen dump to printer or disk.

Time comparisons of 3 common Logo programs currently offered:

	DR LOGO 320K IBM PC	TLC LOGO 64K Z80	APPLE LOGO 64K APPLE IIe
Circle test	10 seconds	3 seconds	22 seconds
PolySpiral1	17	4	11
PolySpiral2	out of stack	7	out of stack
Square Test	27	10	41
Four Bugs (req. 4 turtles)	78	6	N/A

Times provided by The Lisp Company . . . (note: out of stack indicates inadequate implementation of "tail recursion") DR LOGO is copyright Digital Research Company, Apple Logo is copyright Apple Computer Company, and TLC Logo is copyright the Lisp Company.

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Software includes 3 editors, drivers and routines to access graphics system. Utilities include screen dump to disk and printer. Dual screen operation features internal Kaypro screen for text and commands, external graphics screen for results. A TV set can be used with addition of RF Modulator.

Color board for Kaypro II, 4, 2-84, 2X, 4-84, 10 and Robie . . . 245.00

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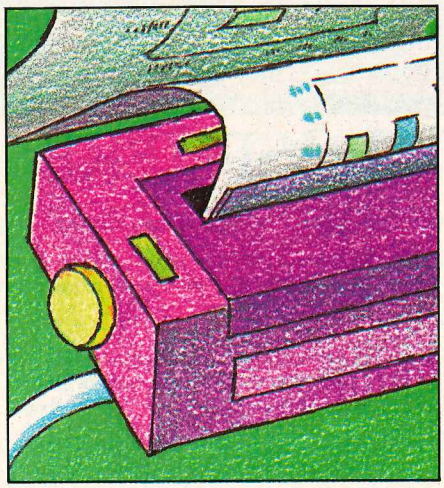

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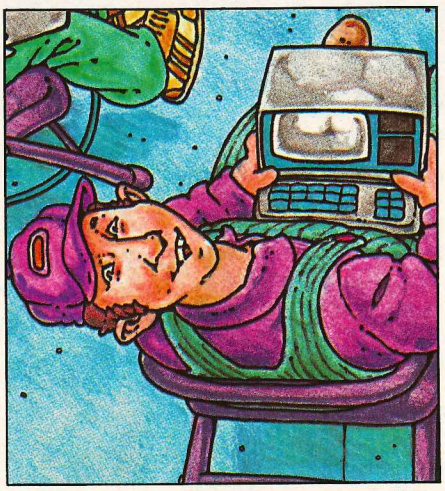

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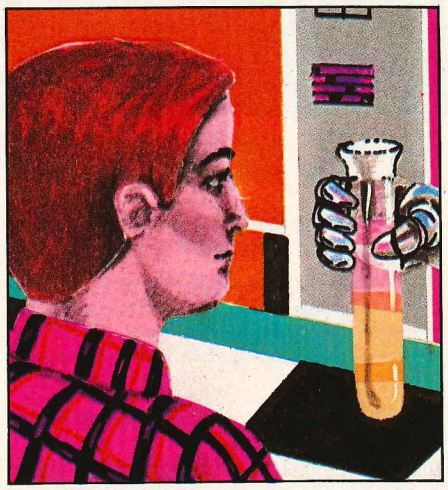

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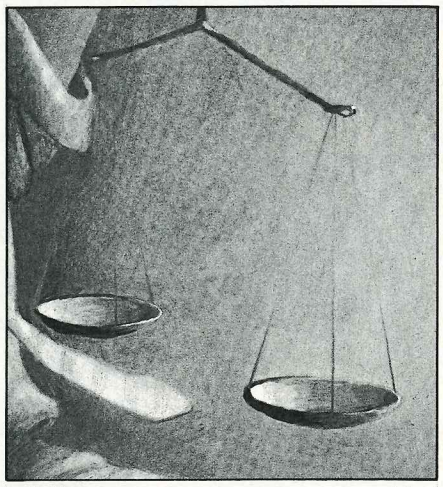

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PUBLISHER
Geoffrey W. Soule

EDITOR
Tom Foote

SENIOR EDITOR
Terian Tyre

TECHNICAL EDITOR
Tom Enright

MANAGING EDITOR
Diane Ingalls

CONTRIBUTING EDITORS
David Gerrold
Dick Lutz

ART DIRECTOR
Eric Mattei

ART ASSISTANT
Lorraine Leung

ASSISTANT PUBLISHER
Gwyn Price

CIRCULATION
Stephen Phillips

EDITORIAL OFFICES
533 Stevens Avenue
Solana Beach, CA 92075
619/481-4353

ADVERTISING
Nancy Donabedian
249 S. Highway 101, Suite 321
Solana Beach, CA 92075
619/436-6112

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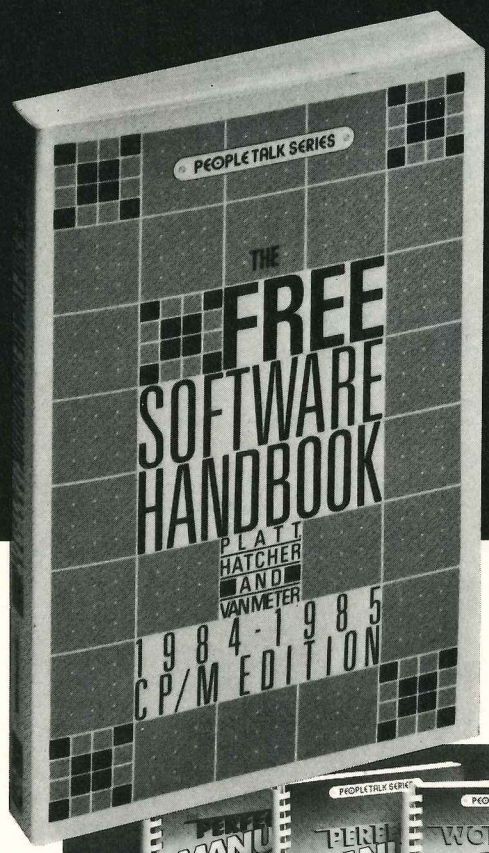
"...the very best collection of utility software I've seen...The Kaypro is advertised as "The Compleat Computer"—but this is the bundle of software that makes that true!"

Dave Gerrold, Profiles Magazine

"After using your "Help" books, I am hesitant to purchase any software without checking to see if you have published a book on it."

Houston, Tx.



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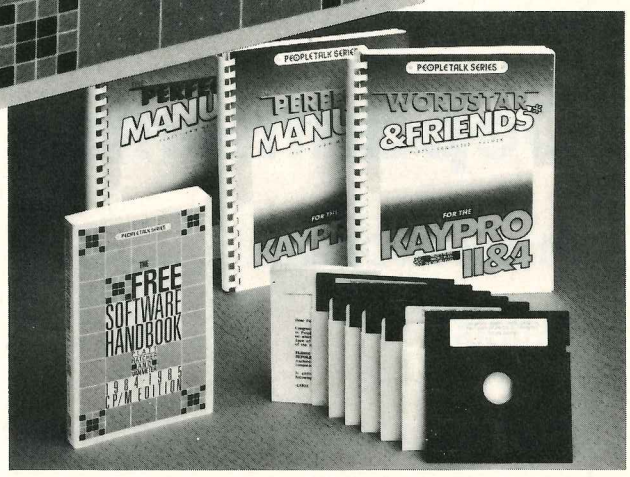

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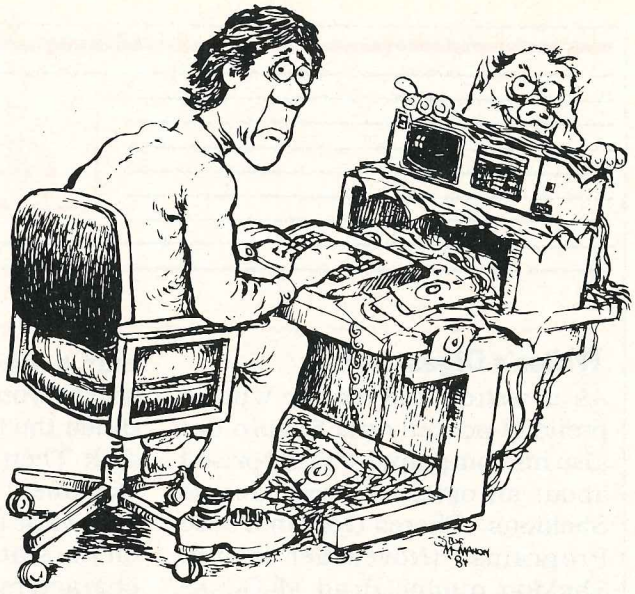
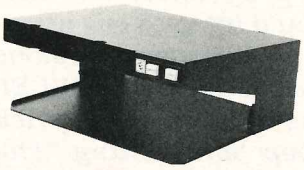


Porta-Enemy No. 1

D.M. aka Deskus Messus
His M.O. is to clutter your desk with diskettes and paper to the point where you can't find anything.

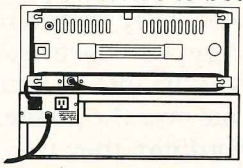


The **Porta-Micro Mate** (also known as the PMM) stores up to 20 of your most commonly used diskettes in the included plastic library boxes, as well as the keyboard, under the computer saving 1/3 of your desk space. The PMM's new sturdy steel base holds any transportable to a comfortable viewing angle.

DEALER INQUIRIES INVITED

Porta-Enemy No. 2

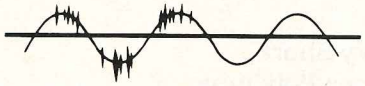
S.C. aka Switchus Contortium
A dangerous M.O. in that everyday when you come in to turn on your computer and printer, you must lean over in a contortionistic fashion to find the switches to both units.



Two rear mounted power sockets allow you to plug-in both your computer and printer with just one wall connection.

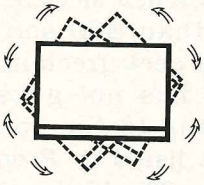
Porta Enemy No. 3

S.G. aka Surgus Glitchem
The most dangerous of the three evils, S.G. can do the most damage, thats because a spike of electricity can be sent across the power line and *Strike* your computer when it's on.



The PMM has the surge protection built-in so it doesn't have to be added on to protect your equipment.

Available in two models, the PMM comes as a stationary unit or mounted on a swivel base for 180 degree positioning.



The companion aluminum printer stand completes the organized work area with bottom load paper feeding.

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Letters

Writer's Digest writes

As a writer and editor who is proud of not only his Kaypro but also his company, I was surprised about an omission from George Sheldon's "There's Gold in Those Programs" (November issue). Sheldon quotes Brad McGehee extensively, but never mentions that Brad has edited two fine editions of *Programmer's Market* for my company, Writer's Digest Books. When McGehee says that more than 600 software publishers seek freelance submissions, he's not guessing; he's referring to the specific publishers listed in *Programmer's Market*. The 1985 edition is just off the press.

A general comment: thanks for *PROFILES*. We need the information you provide.

William Brohaugh
Editor, *Writer's Digest*
Cincinnati, Ohio

Kudos to our artists

Sure it's a great magazine. The articles are timely, and the ads introduce us to great new add-ons. But I want to offer my kudos to Joyce Kitchell for her *wonderful* column head heads. Please have her contact me. I need to have my portrait done in her inimitable style. Also in an artistic vein, Rick Geary is a crazy man! Best all around illustration goes to *PROFILES*!

Ken Kligerman
Sacramento, California

Many respond to Westcott

The article on "Word Processing for Profit" by Tod Westcott, November, tells us that in WordStar, to find the number of characters you've typed "you must finish the file, then save it on the disk. Then re-open the file in Non-Document Mode (N), go to the end of the line (^QC), and the figure is on the status line labeled FC (file characters)."

Not necessary. Just turn off the page break toggle, ^OP, and FC appears on the status line, as does FL (file lines, which includes lines with dot commands).

M.S. Smith
Annandale, Virginia

I have implemented some of Mr. Westcott's ideas. . .My clients are mostly busy sales representatives. Usually they write out what they need typed; however, lately we hit upon the idea of them dictating to me over the phone. I just plug in WordStar, they talk, and I type! This method is as fast as taking shorthand and really better because a rough draft is produced immediately.

Marcy Sanders
Arlington, Texas

I began word processing for profit two years ago and my business has grown to gross $500-$1000 in a typical week. At $2 per page and up, I charge a lot more than Mr. Westcott does and still have all the business I can handle. But we offer top quality and maximum convenience, so people pay with a smile.

Larry Short
Owner, PolyType
Pomona, California

Widespread concerns

Often we receive many letters expressing the same concerns. Rather than print all those letters, we will respond here to key concerns many have expressed since our December/January issue.

Yes, we have lined up a review to compare the new Perfect Writer software with the old, and with WordStar. And we have requested the new Perfect programs from the manufacturer. When we receive them, we will begin the review.

As is the case with public domain programs, we suspected you'd bring to our attention new and improved versions of the public domain SWEEP programs mentioned by Dick Lutz. Keep 'em coming. The best version we've seen yet is labeled "XF 1.0 by CDM—File Transfer Program for CP/M—10/31/83." Besides doing everything NSWEEP does, XF.COM presents the full command menu automatically each time you invoke XF from CP/M; lists the next 22 files with a tap of the J (Jump ahead) key; and lists the last 11 files with the G (Go back) key. XF's menu includes some as-yet-unimplemented features like mass output and hex dumps. (Our wish list for more options includes the ability to execute .COM files from the menu, to see all salvageable erased files and to unerase those you've tagged.)

Wants programs

I would like to see you put programs in your magazine like all

the other specialty computer magazines do. The only way to get new programs to play with on my machine is to buy them, belong to a club (I hate clubs), or be fortunate enough to own a modem and have enough money for the phone bill to browse the numerous bulletin boards.

Lon L. Lawrence
Albuquerque, New Mexico

The sources you dislike—clubs and bulletin boards—are those with the richest collections of what you seek. That's one big reason we devoted most of this issue to them. Other sources include books available in local book stores and public libraries (e.g., Practical Basic Programs, *edited by Lon Poole, Osborne/McGraw-Hill); local computer newspapers, and magazines more technically oriented than ours (e.g.,* Byte*). Though we remain eager to publish good programs that either relate to articles or have broad appeal to our readers, we feel that our current balance between prose and code is about right. Let this be an appeal for letters from others who think it is not.*

User's list dropped

It seems that the NATKUG Users Group listing appeared once in the January/February 1984 issue of *PROFILES*, and then the listing was gone. As you can imagine, this has seriously hurt our efforts to increase our membership over the past six months. While interaction with Kaypro Corporation has been much improved in recent months (through the efforts of Mr. Richard Conde) we have failed to get NATKUG re-listed in *PROFILES*. We are listed in the Master KUG list properly; if you are to continue the user group listings, I would like you to make up for lost time and re-list NATKUG immediately.

Steven L. Bender
National Kaypro Users Group
Queens Village, N.Y.

We hope you enjoy this issue's complete listing of all 200-plus known Kaypro Users' Groups worldwide. Yes, we know how valuable that listing is to the lost and lonely—and to those, like you, who want to help them. Now, however, because of the list's substantial size, we cannot run it more often than every six months or so.

PROFILES welcomes your letters. Though we can't publish them all, and must edit some, we do read every last one and appreciate (most of) your comments, criticisms, and suggestions. Please send your letters to:

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Q&A

by Tom Enright

We welcome and read all your letters. Some of the letters are of general interest and are printed in the Letters column; others are pleas for technical help. Those questions that lend themselves to simple, concise answers are dealt with here, while the more advanced topics develop into articles or discussions in the Technical Forum.

Due to the volume of mail we receive, we simply can't respond personally to every request for assistance. For questions requiring a more immediate reply, you should contact your dealer. Kaypro Technical Support is now giving preference to dealer calls over end-users. This means that it will be even more difficult to get them on the phone. They are still at (619) 481-3920, or write to Kaypro Software Technical Support, P.O. Box N, Del Mar, CA., 92014. Please include a daytime phone number.

DataStar problems

When I bought my Kaypro 2, I received DataStar free and tried one day to follow the instructions for running it. I got as far as trying to put it onto a clean disk with CP/M on it. The disk now gives me a file of "DATASTAR.$$$". I am told that this means there is not enough room on the disk to fit all of DataStar with a full copy of CP/M.

But if the software was sold bundled with the machine, isn't it possible to load the CP/M and DataStar on one single-sided disk?

Max Hartshorne
Greenfield, Massachussetts

Your problem is a misunderstanding of what CP/M is. The files on your CP/M diskette are transient programs. CP/M exists on the systems tracks of the diskette, and in ROM. The transient files serve other purposes.

What you need to do is format two diskettes with the "B" (blank) option on the COPY menu. This gives you a clean, bootable program diskette and a data diskette. Next you need to transfer the DataStar program files, not the sample data files, to the new diskette. Transfer the program files with PIP, not with COPY. The COPY program copies the entire diskette; it cannot move individual files. Check the DataStar manual to find out which files you need to move. PIP the sample data files, if you are going to use them, to the second diskette. This is your data diskette.

When you create your data files and forms definitions, specify that they will be on drive B. This will give you much more space to work with than if you try to put everything on one diskette.

Kaypro 2 and Kaypro 2

Change and new products are always exciting to see come along, particularly in the "high tech" fields such as computers. Unfortunately this has created a small problem for me because I own an older Kaypro 2, while my brother recently purchased a new Kaypro 2X. My computer has single-sided drives and my brother's has double-sided drives. I find that my brother and I cannot easily exchange software. Specifically, what would it take to modify my old 2 to make it compatible with the 2X? If hardware expenses are prohibitive, what can we do in terms of software to help the problem?

Douglas P. Bergen
El Cajon, California

You can approach this problem from either end, hardware or software. The hardware approach is more expensive, but results in almost complete compatibility. The software solution is free.

To upgrade your old 2, you will have to replace the ROM and your disk drives. You can find conversion kits advertised both in PROFILES *and* MICRO CORNUCOPIA. *Any conversion kit should come with a diskette of new systems software to replace your old COPY and CONFIG programs. Once you add this ROM and new drives, you can nearly duplicate your brother's machine.*

The software solution came with both Kaypros. Your brother's machine can read single-sided diskettes if you tell the computer that they are there. When you put a single-sided diskette in a double-sided drive, immediately warm boot the machine, enter ^C. When the computer is warm booted, it looks at the diskettes in both drives. If one of them is single-sided, that drive shifts into single-sided mode. At this point software can be transferred at will.

Your brother's Kaypro should have come with a program called SSCOPY expressly to for-

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mat or copy single-sided diskettes. Another solution would be to format any diskettes for swapping on your computer rather than on your brother's. The only thing to be careful of is formatting diskettes that have already been formatted double-sided. Rub a magnet over both sides of the jacket on double-sided diskettes before formatting them single-sided.

Multiple WordStar copies

Is there any way, other than buying MailMerge, to get multiple copies of one print-out when using WordStar? With ten copies of a 5-page file it becomes very tedious. I have on occasion appended multiple copies of a file end-to-end, but this seems rather primitive. Are there any patches that can be made to WS, WSOVLY1, or WSMSGS to do this?

Peter W. Holloway
Charlottesville, Virginia

There are no patches to any of the WordStar files that can do what you want. The cheapest solution to your problem is to buy MailMerge or use a XEROX machine. Sorry.

Disk drive cleaning

On page 91 of the November 1984 issue of *PROFILES* there is an ad for the "Byte Guard" disk cleaning kit. This ad states in part: "guarantees their kit for 260 cleanings or one year (five working days a week)" and "no alcohols or other fluids are needed."

Page 9-1 of the Kaypro Technical Manual states that "under commercial use there is no rea-

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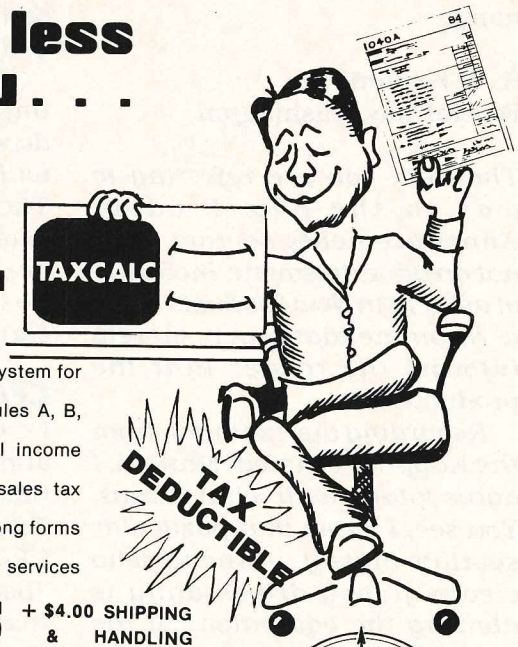

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son to clean drives more often than twice a year" and further cautions, "Use care in selecting a cleaning kit. Many of the drive head cleaning kits on the market are very abrasive. Cleaning is done by the liquid solutions, not by mechanical scrubbing."

I am very familiar with your editorial disclaimer, but this may be going a bit too far. Disclaimer or no, you do have some sort of responsibility for this ad that cannot be avoided morally by printing disclaimers.

Perhaps the Byte Guard kit is a wonder product, but on the surface it appears that the ad may be diametrically opposed to Kaypro's technical instructions for the tender loving care of computers manufactured under their name.

K. W. Forslund
Federal Way, Washington

The item you are referring to was in the New Product Announcements section. It is not an advertisement. Inclusion of an item in New Products is not a recommendation; it merely informs the reader that the product exists.

Regarding the quotation from the Kaypro Technical Manual, I agree totally with what it says. You see, I wrote that particular section myself. Anyone who cleans floppy drives daily is abusing the equipment. If the atmosphere is dirty enough for that, it's unhealthy for you, not to mention your computer. I keep my own computer in my living room, next to the kitchen. It is therefore subject to cooking greases in the air and smoke particles. I also smoke about two packs of cigarettes a day, mostly while working at the computer. I clean my diskette drives once every five or six months whether they need it or not. I have never had any trouble with dirty drive heads, and my particular environment could be termed dirtier than most.

Manufacturers' claims are always aimed at selling their products. Also remember that they are illustrating the durability of the product, not recommending that you clean your drives that often. The reference to "no alcohols or other fluids needed" means that their cleaning disks come with the solution already on them. You don't have to add the solution yourself.

So, Byte Guard does not imply that daily cleaning is acceptable. Neither does it work without any cleaning solutions. They put the solution on for you. And, no, there is no conflict between Kaypro's Technical policies and Byte Guard's claims.

CP/M and more memory

I own a late-model Kaypro 2'83 and am interested in upgrades that will allow me to use a larger TPA with CP/M. I have read that CP/M 2.2 can be modified to use "banked" memory, and I know that there are add-ons that will run under CP/M+. I have two basic questions for which I know there are probably no easy answers:

—Generally, will programs that run under CP/M 2.2 be able to take advantage of the additional transient memory available under CP/M+?

—Is there a CP/M enhancement available that allows a Z80 to access and keep track of additional 64k banks of memory?

Robert Royar
Louisville, Kentucky

Phew, I'm glad all our letters aren't this hard. First, you wouldn't want to switch in 64k banks of memory. That would put your program and the operating system out of reach of the processor. Memory banks are usually switched in and out on much smaller boundaries, such as 8k or 16k blocks. Kaypro, and most other computers, use this exact scheme to access code in the ROM. The trick is, program code cannot be in the bank of memory being replaced by the new bank.

CP/M+ was designed to optimize bank switching of memory. As a matter of fact, CP/M+ should have at least 128k of memory to function optimally. It will work with less memory, but not efficiently. Programs written for CP/M 2.2 will not usually be able to take advantage of the extra memory available under CP/M+. The only gains would be a few programs that search out the end of the TPA and use the intervening space for buffering. There aren't too many of them. The only other gains would be with software specifically written for that environment. There is just not enough of a market. Everyone is on the 16-bit bandwagon.

Adding the extra memory and bringing CP/M+ up on a

Kaypro is an interesting project. But count me out. You can get more speed for less money with the 16-bit machines already on the market. The entire concept of CP/M+ was to give 8-bit machines a better chance against the 16-bit computers when small 16-bit computers where first available. Unfortunately the idea never really caught on. The fight for CP/M+ seems to have died a quiet death when Osborne folded.

Typer problems

I've got a small problem with the Weinberger Revised Typer listing as published in your October issue. When I run it through the compiler, I get an "Undefined Line Number(s) 65," and the compiler aborts. I am not in any sense a programmer and tried a couple of things from the SBASIC manual, but got the same results. There wasn't anyone at our last Kaypro User's Group meeting familiar with the program or the language. Could you please straighten me out?

John F.
Fresno, California

There is no reference to a line 65 in the revised listing. The error message you describe can result from not closing a procedure with an END statement, as well as actually trying to jump to a nonexistent line. Don't worry about making a typo when entering or modifying a program. It's the number one programming error, even among the most experienced programmers.

Errors and announcements

This is as good a place as any to make some corrections on items in our last issue.

On page 14 I stated the clock speed of the 4'84 was 5MHz. It should read 4MHz.

The fix to DataStar (page 15) can be done without DINSTALL. Using DDT, change the byte at 02B9 from FFh to 00h. Change the same address in both DataStar and Formgen. If you prefer, Kaypro Technical Support will still send you the DINSTALL program. The DDT patch merely gives you an alternative.

The *Millionaire* game reviewed in the July/August 1984 issue is no longer available in the CP/M format. Blue Chip Software has decided to market it only in PC-DOS/MS-DOS disk format.

Juki printwheel update

Royal typewriters use the same printwheel as the Kaypro/Juki printers. They will sell directly to end users. The address is: Royal-Adler Business Machines 1235 Central Avenue Hillside, New Jersey 07205 □

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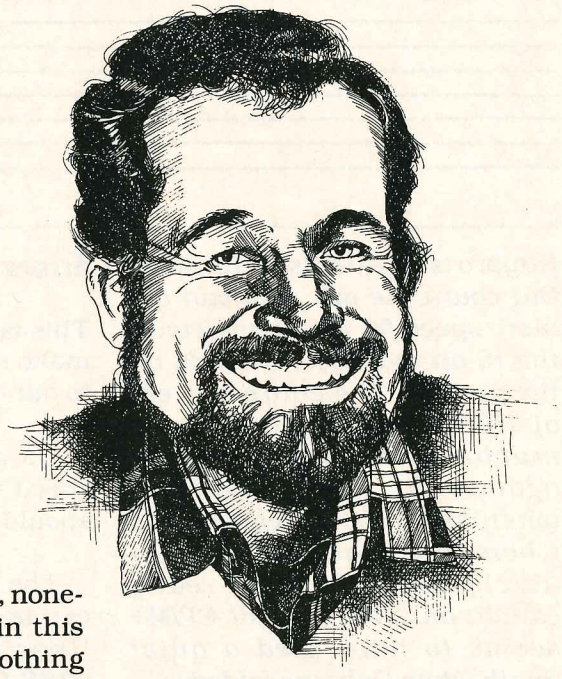

1984 batters microcomputing's better side

by Tom Foote

Our last issue described Christmas gifts; this issue was to cover the more human side of microcomputing—the process of getting help with those gifts through users' groups, bulletin boards, and donated (public domain) software—the process of taking that all-important leap from machines and manuals to real live, and abundantly helpful, *people*.

I feel this human side of microcomputing is its best side, for it unites frustrated users in sharing common crises, solutions, and the lowest and highest extremes of human emotion (usually in that order). Indeed, it introduces us not only to others, but also to the reassuring potential of strength in numbers. Best of all, the many great people who give so much of themselves to microcomputing have a way of rubbing off on you.

This issue covers all these sources of help with articles, Brock Meeks' list of favorite bulletin boards, and Richard Conde's roster of Kaypro users' groups.

Taking a beating

Though our treatment of the above sources is upbeat, microcomputing's human side is, nonetheless, being pummeled in this country's press—to say nothing of the courts (witness Judge Robert Fratianne's remark about the Tcimpidis case: "It was explained to me. I've seen WarGames. I understand the problem.").

More precisely, a few irresponsible folks are flagrantly misusing their modems to attack computers and people. Government agencies and corporations are understandably angry about computer break-ins, information theft, and electronic vandalism. And the media are having a field day with the sensationalism inherent in microcomputing's shadier sides—clouding distinctions between hackers and criminals, and saying little about the immeasurable good work of microcomputing's majority. (See this issue's many examples.) Worse still, it's escalating. Richard Stanza wrote "The Night of the Hackers," (*Newsweek*, November 12, 1984) describing the nation's less reputable bulletin boards, what he called "hangouts for a new generation of vandals." He followed it a month later with "The Revenge of the Hackers" (*Newsweek*, December 10, 1984) noting a threat to blow up his house and quoting the following from a West Virginia bulletin board: "I'm sure you guys have heard about Richard Stanza. . . He's the guy who wrote the obscene story about phreaking in *Newsweek*. Well, my friend did a credit card check on TRW. . .try this number, it's a Visa. . .Please nail this guy bad. . .Captain Quieg."

The revenge story made national front page headlines—indeed, it was *USA Today's* December 6 cover story.

It gets worse. In its lead article in "Nationline" titled "Home computer network links neo-Nazi groups" *USA Today* (December 17, 1984) reports "neo-Nazi groups in the USA and Canada are linked by a home computer network that allows subscribers to obtain lists of Jews, suspected communists and 'race traitors,' one of the USA's leading white supremacists says."

Out of hand at a high cost

The events, and the exposure, seem to me to be getting a bit out of hand; and at a very high cost, I predict, to microcomputing's better side. The words "guilt by association" come to mind and worry me.

Furthermore, rest assured that

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the more out of hand it gets, the more action we'll see—both appropriate and inappropriate—from all branches of government: judges, lawmakers, and enforcers.

Irrespective of whose side you take—if any—I fear the bottom line for law-abiding bulletin board lovers like you and me is this: What's occurring now is sure to mold the image and rules of microcomputing for a very long time. It's damaging us very quickly and, perhaps, substantially.

Solutions?

Surely inappropriate government action can be minimized by the good ideas and responsible action of those closest to the problem.

For example, I'm not convinced that mainframe owners have done their utmost to prevent break-ins. And somehow, when they have as much information on us as does TRW's credit evaluation system, I think I should be convinced.

Nor do I think bright young people are given enough cerebral challenges—in school, at home, on television, or elsewhere. Yet young minds hunger for such challenges.

Moreover, I don't think it outlandish for the worried owners of mainframes to open a port or two to put that cerebral energy to work for them, e.g., with cash awards to callers for money saving solutions to pressing technical problems.

Above all, I am certain that we users have not done all we can to police ourselves and make clear our concerns about irresponsible behavior and the damage it will do to reputations and freedoms we cherish.

It seems we still have a choice: fighting for creative solutions by responsible people close to the problem or trusting in the creativity of government (a contradiction in terms?). Put that way, it seems we have no choice but to fight—responsibly.

Our cover story

Because the complicated and unresolved issues surrounding computer misuse are heavy on the minds of many we temporarily step out of our usual noncontroversial character, to bring you People v. Tcimpidis—a yet-undecided case that involves many of those issues. Because it is likely to establish precedents for those issues, People v. Tcimpidis is doubtless the biggest case in microcomputing today.

Peggy Watt was first to break the story and has been reporting on it in *InfoWorld* ever since. We were delighted that Watt agreed to tie her reports together for Kaypro users in *PROFILES*.

None of our business?

Some may write that *PROFILES* has no business covering such material—like the man who wrote saying David Gerrold has no business mentioning Ronald Reagan. (As long as David keeps our readers happy with the truth—*and stays away from inkers*—he's free to mention any one he wants.)

If it's any solace to those writers, I can only lament that we face every incentive to remain noncontroversial. Controversial pieces are much harder work

Yes we know this is out of character for us. But in our judgement, the implications for many Kaypro users in this particular instance warrant the coverage.

Rest assured that this establishes no new direction for *PROFILES*, and that we intend to give you much more of the stuff we already know you like. □

ILLUSTRATION BY JOYCE KITCHELL

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July/August '84

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- LOGO on the Kaypro
- Education with PILOT
- Computers and literacy

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- World of online databases
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FINDBD54.COM: Checks an entire disk, reports bad sectors, and then creates a special file containing those sectors. You save a bundle on disks.

CAT2: This a group of programs which create and maintain a single directory of all the programs you have on all your disks. Even keeps track of which programs are backed up and which aren't.

UNSPOOL.COM: Use your KayPro II and print files at the same time. Doesn't slow down system response!

DUMPX, DU-77, COMPARE, SUPERSUB, FORMFEED, DIR-DUMP, . . . and all have documentation on disk.

KayPro Disk K3
Games

KayPro Disk K4
Adventure

This disk contains one 191K game, Adventure. ADV.COM: This is the latest, greatest, most cussed adventure ever devised by half-mortals. This is the 550-point version so the cave is greatly expanded and the creatures are much smarter.

KayPro Disk K5
MX-80 Graphics

KayPro Disk K6
Word Processing Utilities

KayPro Disk K7
Small C Version 2 Compiler

KayPro Disk K8
Small C Version 2 Source

KayPro Disk K9
ZCPR

KayPro Disk K10
Assemblers

KayPro Disk K11
Library & Checkbook Programs

CHECKS: This has been a very popular group of programs. Categorizes checks so you can keep track which are tax deductible and which get charged to which projects. Includes source and excellent example check files. Very powerful.

LIBR: This is a complete set of library routines which let you group files into a single file called a library. Then CP/M sees them as a single program, but with the library routines, you can list them out separately, run them separately, or divide them up again. Almost like a unix environment.

DISPLAY, VLIST, PGLST: Additional screen and print utilities.

KayPro Disk K12
FORTH

KayPro Disk K13
Source of fig-FORTH

KayPro Disk K14
Smartmodem Programs

KayPro Disk K15
Hard Disk Utilities

KayPro Disk K16
Pascal Compiler

KayPro Disk K17
Z80 Tools

KayPro Disk K18
System Diagnostics

Just as we finished editing the routines on this disk, we received a copy of KayPro's diagnostic disk. The memory test and drive exercise, routines on this disk are more powerful than KayPro's versions. (Plus, it's only $12!) Setup for KayPro II and 4.

KayPro Disk K19
Prowriter Graphics

Kaypro Disk K20
Color Graphics Routines

Kaypro Disk K21
SBASIC Routines & Screen Dump

SBASIC: Finally a disk of SBASIC software. There are some good examples of structured programming on this disk (including one program written both ways so you can see the difference).

SCREEN DUMP: This is a screen dump for all Kaypros new and old. You can buy a similar package elsewhere for $60.

Kaypro Disk K22
ZCPR (Again)

This disk is filled with ZPCR files. You get ZPCR for the Kaypro II, Kaypro 4, and the Kaypro 10. This version is fixed so that you can pass control characters (such as cntl-P) to the system and you can choose to have it recognize the semi-colon for drive select (as well as the colon). So you can enter "B;" or "B:" to select drive B. Super neat!

ZPCR, for those of you who don't know, makes CP/M a lot friendlier. It searches drive A for any .COM file it doesn't find on the current drive, the TYPE command scrolls text 24 lines at a time, and a new LIST command outputs a file to the printer.

Kaypro Disk K23
Fast Terminal Software & New BYE

Kaypro Disk K24
MBASIC Games & Keyboard Translator

We sifted through many, many games before coming up with these gems. All will work on any Kaypro and all come in MBASIC source.

USOPEN shows you the fairway on the screen. You select the club and direction for each stroke. After you reach the green the display shifts to show details of the green and flag. For one to four players.

DUCK is an offshoot of aliens (pardon the pun). Hunter tries to shoot down ducks while ducks try to bomb the hunter. (Much fairer than real life.)

CASTLE is an adventure in which you select your attributes (strength, dexterity, and intelligence) and you get to purchase arms and protection. Great documentation and very interesting game.

KSTROKES is a keyboard translator similar to Smartkey. Bill Forbes did an excellent job creating this program. You can create and save translation files on disk. The program even includes a table which generates WordStar commands from the Kaypro's keypad! You can define 8 keystrokes at up to 63 characters each.

Kaypro Disk K25
Z80 Macro Assembler

Kaypro Disk K26
EPROM Programmer & Character Editor

Kaypro Disk K27
Typing Tutor

A complete typing tutor for beginners and experts. Written in Australia, it comes complete with source. This was customized for Kaypro II, 4 and 10 by Barry Cole of WLAKUG.

The documentation says you can learn to touch type in 8 hours (probably a little longer for mortals).

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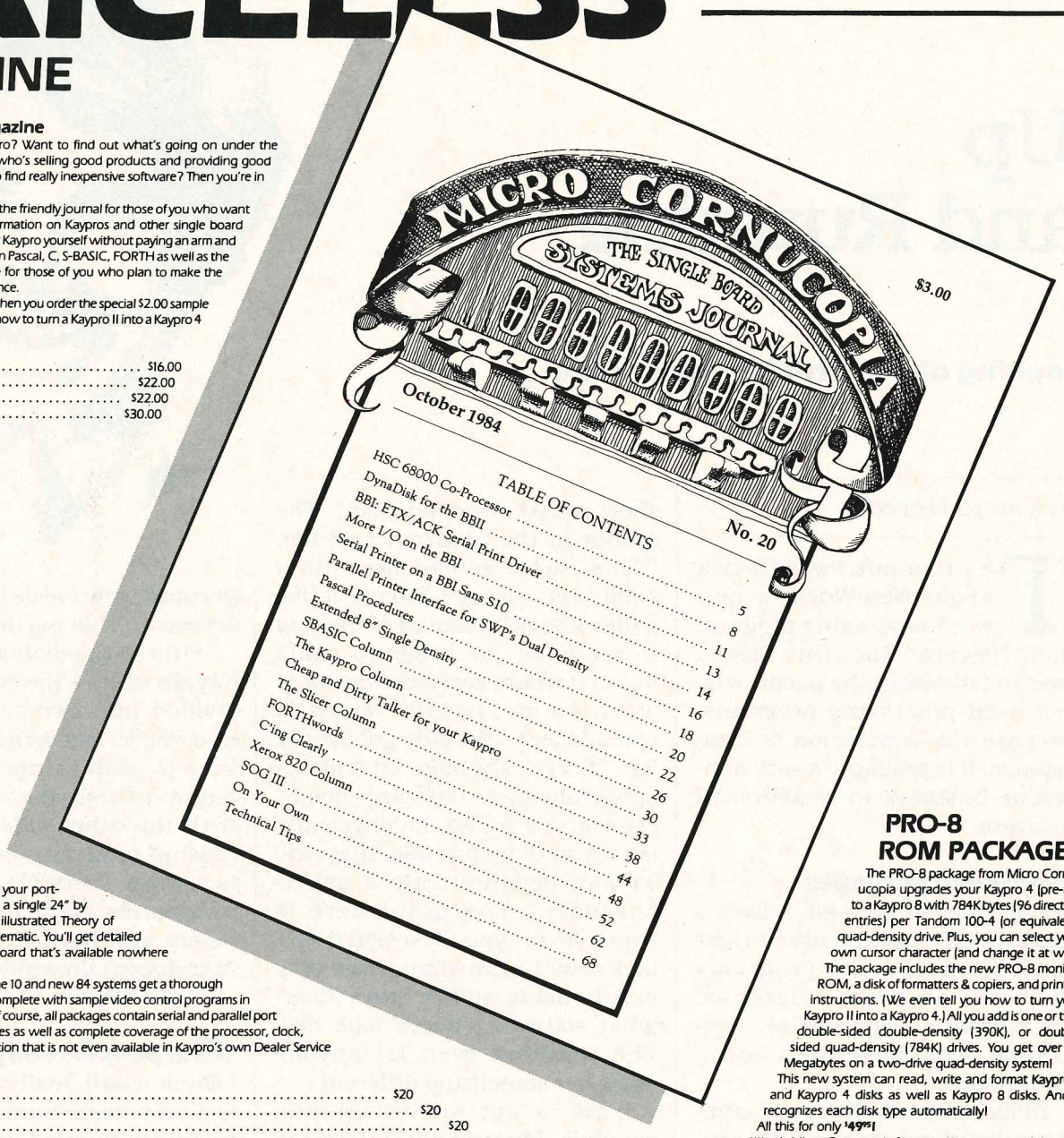

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Up and Running

Looking at a WordStar work-alike

by David Gerrold

This time out, I want to talk about **NewWord**, a new word processing program from NewStar, Inc. But first, I have to talk about the people who *use* word processing programs. Because the conclusion is inescapable: It is probably a very dangerous business to recommend software.

People and packages

People tend to get—ah, what's a good word?—excited about their computers and the programs they run on them. Vigorous. Enthusiastic. Aggressive. Passionate. And sometimes downright *nasty*.

I'd like to think that most computer decisions are carefully considered, but I'm not sure that's really the case. There are the logical factors in every decision as well as the illogical ones. You choose your machine and your software not just because they look like they will do the job, but also because on some level they represent your idea of the way a computer and software *should* work.

Example: I once saw a lady sit down in front of a Kaypro running a very popular, very sophisticated financial management package and announce, "Okay, show me your spreadsheet." The author of the program told her, "This isn't a spreadsheet, it's a single-entry ledger. You use it like a checkbook." Instead of looking to see what the program could do—if it would serve her needs as well as or better than a spreadsheet—the lady got up and left. "Sorry," she said. "If it isn't a spreadsheet, it isn't any good." (The author had to be physically restrained from inserting the woman headfirst into a paper-shredder.) The point here is that—after you disregard her lack of tact—the woman had very clearly made up her mind about what software should look like. She wouldn't even let anyone show her something different.

This is not an uncommon example. The user isn't interested in how elegantly coded the software is—nor if it's three seconds faster or twelve dollars cheaper. The user is primarily interested in the *interface*.

Let me put that in English: the user wants to know what the program looks like on the screen and how easy it is to put information in and get it out again.

And it seems obvious to me that it is in the arena of word processing that the battle is fiercest. But then again, word processing accounts for the largest part of the personal computer market. Of course, the battle is going to be fiercest in this particular arena.

Witness the dichotomy among Kaypro users—the community is divided into two camps: WordStar vs. Perfect Writer. The members of each camp are only too happy to tell you what's wrong with the *other side's* word processing program: Perfect Writer is buggy, WordStar has weird commands, Perfect Writer is inefficient and hard to learn. WordStar doesn't do windows.

And so forth.

What people really like

I think what's really at work here is a very basic human operating principle: people like to be right. After you've chosen your computer and invested in your software, you like to believe that you made the right decision. And therefore—by illogical extension—it's not just the best system for you. It's the best system. Period.

"—I mean, the guy had a three-year-old Lanier—really!—and he had the *nerve* to tell me that his dedicated word processor was a better buy than my Osborne! Well, I certainly told him! I said, 'Can your Lanier balance your checkbook? Can it play *Adven-*

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ture? Can it run a database? Will it—'"

I haven't heard such intense arguments in years: "You couldn't give me a Chevy! I wouldn't be seen dead driving one!" "Oh, yeah? Well I know a guy who found the rattle in the door of his Ford was a Coke bottle! How's that for quality control?"

Meanwhile. . .there's a new kid in town named NewWord and he says that *he's* the fastest gun in the West and he's a-gunnin' for WordStar right now! Ya better find the Marshall! I'll go get the Doc!

In other words, I expect some rather noisy disagreements here. . ..

NewWord described

NewWord is a WordStar "workalike." Which means that it feels like WordStar, looks like WordStar, acts like WordStar, and produces WordStar compatible files.

And that's the real bottom-line question here: It's not enough for a program to mimic the number-one (and for all practical purposes, the standard) word processing program on the market. What are the *advantages* in buying NewWord over WordStar?

And if you already have WordStar—as most Kaypro owners do—then the advantages of NewWord would have to be considerable to justify the investment.

I think the company is aware of this. NewWord is available from NewStar, Inc. The standard price of the product is $249—which would make it a terrific bargain for anyone who needed quality word processing software—but not so appetizing for someone who already has that *other* program. In recognition of this, NewStar is offering NewWord to Kaypro and Osborne owners for the significantly more attractive sum of $100.

And that reduces the essential question to this: Does NewWord offer $100 worth of advantages for the Kaypro/WordStar user?

I think so.

If I hadn't been given a review copy, I'd have anted up the C-note; but then I'm a professional writer. I spend between four and twelve hours a day at my keyboard, so considerations of ease of use and keystrokes and speed of disk-access are all-important to me—as well as to most of the other authors I know who use word processors.

If you do a lot of word processing, you'll get your money's worth.

On the other hand. . .if you don't do a lot of word processing, then the issues of keystrokes and functions and speed will not be worth a $100 investment to you. The real question you have to answer is *what are your needs*? (But then, this is the same question you have to answer with any hardware or software purchase.)

Advantages

That said, here are the advantages of NewWord over WordStar 3.30:

First—and I consider this NewWord's most important feature—the authors of this software weren't afraid to use the character attributes of the video display, and in the Kaypro computer this is a very powerful feature. You see, the Kaypro screen is capable of displaying characters in reverse video, underlined, half-intensity, and blinking. (You can also switch the cursor on and off; somewhere I have a small program that will even turn the cursor into an unblinking block.) Best of all, the Kaypro screen can display these attributes simultaneously or in any combination. You can even display characters underlined *and* blinking *and* reversed *and* half-intensity, all at the same time. This is not a feature to take for granted. A lot of video displays can only show one attribute at a time. Period.

On the Kaypro screen, the result is a "What you see is what you get" display. Normal text is shown at half-intensity. Boldface and double-strike text is shown at normal intensity, giving the effect of **boldface** on the video screen. Underlined text is shown underlined. Marked blocks of text, for copying or deleting, are shown reversed. (I wonder if it could be changed to a blink? I wonder if I could stand to look at a screen that had a block of text blinking at me. . .?)

Contrast this with WordStar, which only displays its special printing effects as control characters. Example: ^Sunderline^S or ^Bboldface^B. It isn't really obvious what you've done, and you don't get a very clear sense of what the final text will look like on the page. Even worse, it's possible to forget to put in the second underline or boldface toggle. I once set my computer to print out a 600-page novel overnight. The following morning, I found out that everything after page 150 had been *underlined*. With NewWord this kind of disaster is simply impossible. The screen shows you what's underlined and what's boldfaced and what isn't.

Again, let me point out that this is the kind of thing that's

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important to writers—it may not be important to accountants, hackers and database-users. But this one aspect alone has convinced at least three professional authors of my acquaintance to switch from the *other* program to NewWord.

Indeed, it is in the direct comparison with that *other* program that NewWord shows how well thought out a piece of software it really is. Consider its file handling, for example. If you want to use WordStar on your hard disk, you have to keep a copy of the program and its overlays in every user area you wish to work in. This can eat up disk space in a hurry. I know 10 megabytes sounds like a lot; you'd be surprised how quickly you can fill it, especially if you have to duplicate your software. With NewWord you only need one copy of the program (and overlay files) in user area 0—or any other user area you choose; just change it in the installation. Once you've booted NewWord you can log onto any user area of any disk drive simply by typing **L** followed by the number and letter, and a carriage return. Or you can access NewWord from any other user area, or any other disk, simply by typing **A:NW**. Easy. NewWord keeps track of where its overlays are.

More important, it lets you keep all the chapters of your novel in user area B6, separate from the canned paragraphs for your fan letters, which are in A7, while your collection of dirty limericks is safe in B2. If you want to copy a file from one user area to another, you simply prefix the filenames with the appropriate letter/number: B2:LIMERICK.

Speaking of scriptwriting—or any other form of text that requires format changes throughout the document—NewWord allows imbedded ruler lines. That is, you can insert canned formats where needed; then if you automatically reformat a large section of text, the special-format sections will retain their specific margins. Because I do a lot of scriptwriting, I like this feature a lot. I intend to get a lot of good use out of it.

Chaining and nesting

Another feature I particularly like—strike that; this is a feature I find to be *absolutely essential*—is that NewWord allows you to chain and nest documents. Why is this so important? Try working on a long document and you'll see. Using NewWord's chaining and nesting abilities, you can write your great American novel with each chapter as a different file, then create a command file to print the final draft out all at once. Believe me, it's a lot easier to write your book as a series of short files than to try to operate on one long file. (At least, in the current state of the computer art. . ..) The disk access time alone is enough to put gray in your hair.

There's another advantage to using nested files too: You can assemble complex documents out of boilerplate paragraphs. All you store on disk are your paragraphs and command files. Several people I know who do professional word processing say this feature is an absolute necessity for large applications. I can believe it.

Other features

Here's another nice little feature worthy of mention—whenever you save a file (^KS—save and resume edit), NewWord returns to the same place in your file, thereby making the ^QP command irrelevant. So NewWord uses ^QP as a "find page # " command. Type ^QP and a page

number and NewWord will take you right there. Nice.

NewWord also has multiple line headers and footers and an unerase feature that lets you yank back deleted text. I haven't played with either of these yet, but it's nice to know they're there when I need them.

Want more? How about this? When you print out a document, the first thing NewWord asks you is "How many copies?" WordStar does not print multiple copies. NewWord does. I like to print out two copies of every final draft I do—one for the mail, one for the files—so I find this a very useful addition.

Still on the subject of printing, NewWord comes with its own mailmerge features built in; you don't have to buy a separate program to handle form letters and mailing lists. (Again, this is valuable to you only if it's something you have a use for.) And of course, once again, it is WordStar standard.

By the way, NewWord's help messages are written in English (mostly), and, as in WordStar, you can choose the level of help you want to display.

And finally, NewWord's manual is a handsomely prepared textbook, clearly and carefully written. It's divided into two parts. First, there's the "how to use the program" training section; then there's the "NewWord Encyclopedia"—which is exactly what it sounds like: an alphabetical listing of functions commands, uses, and notes.

Quirks

All that said, now let me give you the caveats.

Well. . .not caveats. Quirks. The things that are different from WordStar that you may *not* like:

First, you can run a spelling checker from NewWord with the

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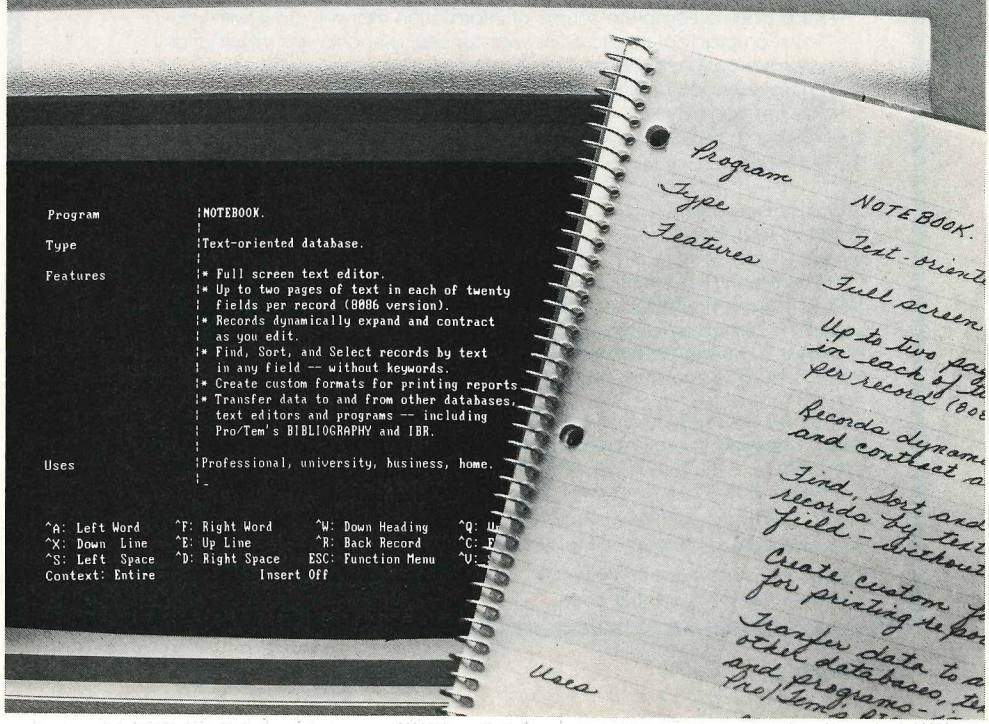

'R' (run a program) command, but your spelling checker is going to have to be in the same user area as your file; so if you have your files scattered across a lot of different user areas, you are going to bump up against that limit. One way around this is to operate on a workfile in your base user area (where the spelling checker also resides) and then copy it to its final resting place before exiting NewWord. This somewhat lessens the value of the program's ability to access different user areas, but it's a very minor quibble. (I don't use spelling checkers that much anyway. My spelling checker is in my head.)

NewWord does not issue a form feed before printing a document, so you have to check that your printer is at the top of the page before printing—or put a .pa command at the beginning of the file.

NewWord does not allow spooling. WordStar will let you edit while you are printing something else. (The printer will clatter every time you lift your hands from the keyboard.) NewWord doesn't. This isn't a problem for me because I usually take a break while the document is printing; novels I print out overnight. (About twice a year, I finish a novel.) But some people may not wish to give up WordStar's spooling ability, and this may be an important consideration.

And then there's the little matter of the ^T command. ^T deletes the word to the immediate right of the cursor. In WordStar, the command deletes only the word. In NewWord, the command deletes the word *and the following space*. Putting the space back is an extra keystroke. I like the way WordStar does it better. Score one for MicroPro.

Slightly slower?

Finally (and I have to admit that this is a very subjective opinion; I haven't taken the time to run any benchmarks—I'm a user, not a technician) NewWord feels just the tiniest little bit slower than WordStar on screen updates and disk accesses. It's not enough to be annoying, and I find NewWord's advantages more than valuable enough to outweigh this point, but I do get that feeling from the program. (On the other hand, another recent reviewer said he felt that NewWord was faster than WordStar. If anyone wants to take the time to do a speed comparison, I'll be glad to report the results in this space.)

Overall

In summary, I like NewWord. I'd rather use it than WordStar. It works. (The only way to crash it that I've found is to change disks without logging on to the new one.) Even allowing for the very minor qualifications listed above, NewWord offers significant advantages over WordStar. I've been recommending it to most of my friends who use WordStar and I pass the same recommendation on to you: If you do a lot of word processing (it used to be, we could just call it typing), check out NewWord. You will definitely get your $100 worth of use out of it—and probably a lot more!

All right, WordStar, the next move is up to you. . . . □

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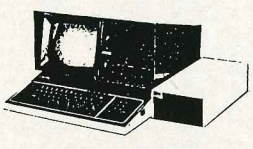

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Accounts Payable **1.** Daily Voucher Report **2.** Daily Credit Report **3.** Checks with Detailed stubs **4.** Check Register **5.** General Ledger Transfer Report **6.** Cash Requirements Report **7.** Transaction Register **8.** Open Voucher Report **9.** Aged Payables Report **10.** Detailed Vendor Activity Report **11.** Summary Vendor Account Report **12.** Vendor Mailing Labels

Payroll **1.** Federal Tax Tables **2.** State Tax Tables **3.** Payroll checks with stubs **4.** Payroll Check Register **5.** Monthly Payroll Summary **6.** Quarterly Payroll Summary **7.** General Ledger Transfer Report **8.** Detailed Employee File Listing **9.** Produces 941 Worksheet **10.** Prints annual W-2 Forms **11.** Employee Mailing Labels

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Free Lunch

Organization—computer style

by Dick Lutz

How do you keep track of where your files and programs are? Unless you're a new Kaypro user and have only a few diskettes still carefully segregated by content, chances are you have either (1) a master cataloging system or (2) serious confusion.

Without doubt, #1 is preferable. And if you're a new user, starting off with the right habits is a good idea.

Fortunately, there's an excellent cataloging system in the public domain. Originally produced by Ward Christensen, whose name is virtually synonymous with usefulness and quality, its component programs have been revised and refined over the years by Christensen and others to the point where they're nearly foolproof. In this column, we're dealing with them in the form of MCAT, XCAT, FIND, and NULL, which includes appropriate .DOC documentation files.

Your master catalog

The cataloging system allows for up to 1,000 diskettes. Each is assigned a three-digit number, electronically "stamped" on the diskette by creation of a file with a name like "-.406." The leading hyphen causes this file to be listed first in alphabetized directories and flags it for the cataloging system as the diskette's number. This is because in ASCII, punctuation characters have a lower value than other characters. So when the directory is sorted in alphabetical order, this file is printed first. Just look at the ASCII chart in your User's Guide and you'll see what I mean. If you assign numbers carefully, you can categorize your diskettes—000-099 for master copies of key software, 100-199 for backups, 200-299 for correspondence, etc.

The program NULL.COM is supplied to create this disk "stamp." A "null file" takes up a directory slot on the diskette but uses no file space. You can create a null file more quickly (unless you're running CP/M 3.0) with the command:

SAVE 0 B:-.406

which uses CP/M's built-in SAVE function.

Once you've stamped your diskettes with such numbers you can catalog them quickly. In drive A, place your master catalog diskette containing the cataloging system files, your favorite utilities, and a "priming" file called MAST.CAT. It can be made with WordStar (in non-document mode) or any text editor. Begin with a left parenthesis and end with a right parenthesis plus a carriage return; on each line list a file you *don't* want included in your master catalog listings. For example, if you keep STAT, PIP, and D on every diskette, your MAST.CAT might look like this:

(D.COM
PIP.COM
STAT.COM)

Once set up in this fashion, you can place a diskette to be cataloged into drive B and enter the command:

A>MCAT B:

Quickly, MCAT will inventory the diskette in drive B, sort the filenames, and integrate them into the MAST.CAT file on drive A. (Earlier versions of the system do this in two or three steps requiring separate commands, but are more flexible.) After you've done several diskettes, MAST.CAT looks like Listing 1, with a line for every occurrence of every file. If you have the MCAT.ASM assembly language file, you can easily alter it with your text editor to include user numbers for each file or not.

Listing 1

SCRMBL21.COM,.002;5
SD-92.COM,.002;5

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```
SD-92.COM,.901;0
SD-92.DOC,.001;0
SD-92.DOC,.002;5
SD-92.DOC,.901;0
SELLEXPN.PC,.001;8
SERIAL.SAV,.001;9
SETUP,.001;9
SK.COM,.001;0
SK.COM,.002;0
SKPATCH.COM,.001;0
SMARTKEY.COM,.001;0
SORT.CMD,.001;B
SORT.CMD,.001;E
SORT.COM,.001;0
SORT.COM,.002;0
SP.SUB,.001;B
SPECIALS.CMP,.001;B
SPELL.COM,.001;0
SPELL.COM,.001;0
SPELL.COM,.002;0
SPELL.DOC,.001;B
SPELL.SUB,.001;B
SPELL2.SUB,.001;B
```

XCAT reads MAST.CAT, formats it, and generates the MAST.LST (see Listing 2). This gives you a printable directory. With it, you can quickly find the diskette number for any file. You can search out duplications and free up some diskette space. You can get organized, once and for all!

Of course there will be times when you'll want a sub-list of only certain files, either as hard copy or as a screen display. FIND gives you that, with plenty of options. Entering the command:

FIND MAST.LST MYFILE will display all lines in MAST.LST that have the characters MYFILE in them. If you want a file you can review with your text editor, you add something to the command:

FIND MAST.LST MYFILE >FILELIST.001

You can include more than one string of characters in the search by using the stile character (|) between them, like this:

FIND MAST.LST MYFILE|.TXT|WS >FILELIST.001

You can use wildcards * and ? with FIND, and the backslash (\) acts as a stand-in for a carriage return so that you can distinguish WS from NEWS. That is, in a search for files with names beginning WS, you'd enter the command:

FIND MAST.LST \ WS *.*

CAT.COM can be used similarly. Other options are described in the documentation files provided with the cataloging system.

One final note: If your programs include FIND.COM as part of The Word Plus, be sure you rename the cataloging system's FIND.COM something else, like FIND51.COM (the name under which it may be delivered) to avoid accidental obliteration of one or the other during a PIP operation.

Super directory

You may not need something as elaborate as the master cataloging system. Or you may want an additional way to keep track of what's on a diskette. SD.COM can do that for you and provide a lot of options along the way. It's intended as a replacement for CP/M's built-in DIR command, and it's a perfect supplement to D.COM, which most users prefer to either DIR or STAT. We're concerned here with version 9.2, dated 7/27/84. Keep in mind that, as with all public domain software, more than one version is likely to be around, and there will be some that do more and some that do less.

Like DIR, SD accepts diskette names and wildcards, so you can command:

SD B:X*.*

or

SD B:X???LTR?.084

to get an alphabetized display of all files on drive B whose names fit the X*.* or X???LTR?.084 criterion.

You can add options to a command by preceding it with a space and a dollar sign, like this:

SD B:*.* $FANS

Here are the options and what they do:

Listing 2

```
SCRMBL21.COM  -  002/05
SD-92    .COM  -  002/05  901/00
SD-92    .DOC  -  001/00  002/05  901/00
SELLEXPN .PC   -  001/08
SERIAL   .SAV  -  001/09
SETUP    .     -  001/09
SK       .COM  -  001/00  002/00
SKPATCH  .COM  -  001/00
SMARTKEY .COM  -  001/00
SORT     .CMD  -  001/11  001/14
SORT     .COM  -  001/00  002/00
SP       .SUB  -  001/11
SPECIALS .CMP  -  001/11
SPELL    .COM  -  001/00  001/00  002/00
   (etc.)
DONE: 676 FILE NAMES
      616 UNIQUE NAMES
```

ILLUSTRATION BY JOYCE KITCHELL

S—List system files.
F—Put output into file SD.DIR.
Un—List files for user n only.
A—Include all users.
AUn—Include all users from n up.
N—No "paging."
P—Print the output.
D—Search all disks on line.
4—Use 40-character width for output (or 6 for 64, 8 for 80, etc.); this is useful if you intend to edit the file or insert comments after file names.

Like the cataloging system, SD usually comes with its *.ASM files, and there are some user options that can be selected at assembly time—that is, "hard-wired" into the program. If you've never assembled a program before, it's easy. Just make the appropriate substitutions in the obvious places, enter the command:

ASM FILENAME

then

LOAD FILENAME

You should then be able to execute the program by typing its file name.

Which to use?

I use *both* SD and the cataloging system. With SD, I produce the SD.DIR file. Then I rename it to the diskette number, so that the file -.025, for example, serves not only as the number stamp but as the super directory listing as well.

Another trick that's useful is to give each diskette a second name beginning with a hyphen—like -LETTERS1. In alphabetical directories, it will show up immediately after the number, providing a quick reminder of the category of material on the diskette.

In any case, whether you use one or both of these systems, it should help speed up your computing. You'll finally have everything at your fingertips. And isn't that what you bought your computer for? □

The master cataloging system and SD are available on many BBS systems, from TBKUG (Tampa Bay Kaypro Users Group), 14 Cypress Drive, Palm Harbor FL 33563, and from various other sources of public domain software.

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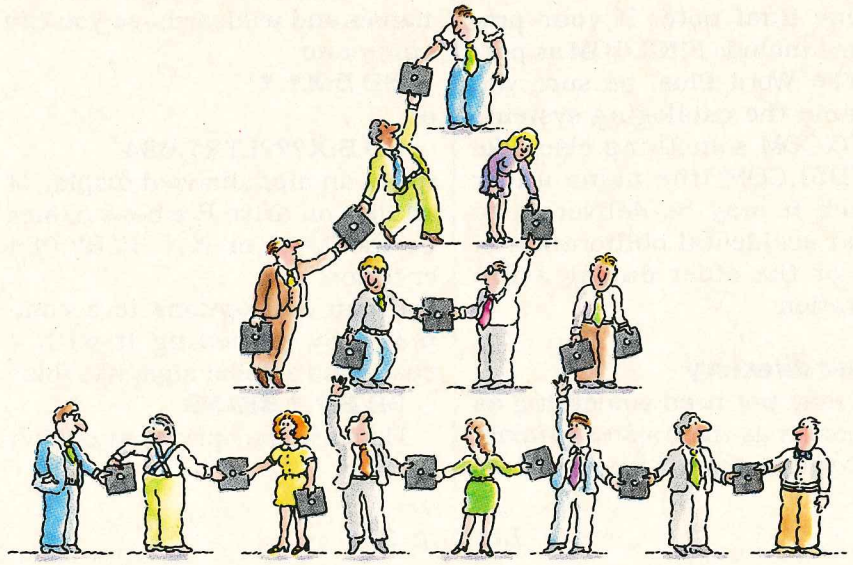

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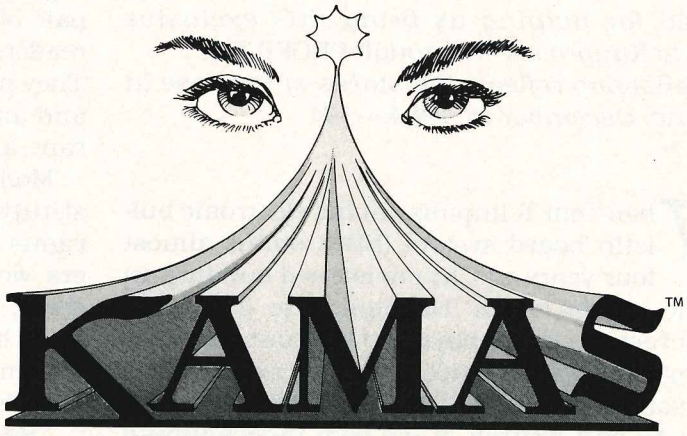

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Use a Modem—Go to Jail?

Pac Bell reaches out and jolts sysops worldwide

by Peggy Watt

Sensing that Pac Tel's action against Tom Tcimpidis is probably the most significant case in microcomputing today, we asked the journalist who knows most about it, Peggy Watt of InfoWorld, *to summarize all she has learned while covering the case since its start. Watt agreed, saying she appreciated the chance to consolidate in a monthly feature magazine all her clips from* InfoWorld, *microcomputing's major weekly news magazine. Our deepest thanks to Watt and* InfoWorld *for helping us bring this exclusive directly to Kaypro users through* PROFILES.

The following reflects the status of the case at press time, December 14, 1984.—TF

When Tom Tcimpidis put his electronic bulletin board system (BBS) online almost four years ago, he envisioned building an electronic gossip forum. He wanted to join other early microcomputer hobbyists trying out their new technological toys, to trade tips and swap public domain software. He was eager to try the Heath BBS software he had written in his own programming language. He hoped his board, "The Mog-Ur" — named after a fictitious class of magicians in Jean M. Auel's *Clan of the Cave Bear*—would become well known and appreciated in Southern California's tight and growing online community; maybe it would even glean some out-of-state regular callers. Word of a good BBS usually spread on other boards. Tcimpidis had no idea The Mog-Ur would make headlines.

Just a few months short of The Mog-Ur's third anniversary, the board went down for reasons much more drastic than routine maintenance. Los Angeles police detectives and Pacific Bell Security officers visited Tcimpidis' Granada Hills home on May 16, 1984. The police served him with a search warrant and carted away thousands of dollars worth of his computer equipment as evidence in a case against The Mog-Ur—and maybe electronic bulletin boards in general—that was still uncertain more than half a year later.

To security officers of Pacific Bell, it's a clear case of telephone fraud. They spotted the offense in early May: two messages from an anonymous caller, listing an AT&T telephone credit card access code and a pair of Sprint long-distance codes, and exhorting readers to "enjoy." The phone cops took a printout. They paid a visit to Devonshire Division of the LAPD and another to the district court for a search warrant, and soon The Mog-Ur was in custody.

Months later, lawyers argued online about Constitutional free speech and search and seizure rights. System operators and bulletin board-watchers wondered how to keep it from happening to them. Tcimpidis, who put The Mog-Ur back online with borrowed equipment and backup software within a week of the police shutdown, still was astonished at the way it all happened.

"Rather than approach me, they put the cops down on me," he said. Tcimpidis has said all along he didn't know the controversial messages were on his board until the police dramatically called them to his attention. In fact, they weren't among the board's current messages May 16 when police and two members of Pacific Bell's security team arrived at his Grenada Hills home to confiscate The Mog-Ur. Tcimpidis, puzzled, sought and retrieved the offending messages from his hard disk storage system that kept copies of all messages ever posted on the BBS. His cooperation seemed to appease the telephone security officers, "as they began to realize I wasn't a 12-year-old trying to start World War III," he said sardonically.

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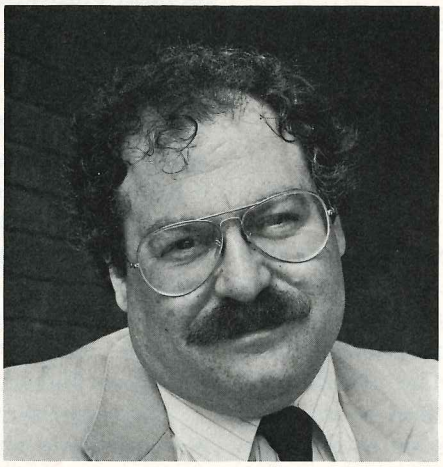
The bust

The pair of Pacific Bell security officers took charge of the search; Los Angeles Police Detective Damon Loomis, who usually handled robbery investigations, stood by. He didn't know much about computers, he said; later, he was doubtful the city would even prosecute the case. "It appears he'd have to have willful knowledge of the messages," Loomis said of Tcimpidis' liability. "The guy appears to be a hobbyist." The detective stopped the security officers from scrutinizing Tcimpidis' income tax returns when they came across them, Tcimpidis noted; and he helped convince the telephone cops they didn't need to take every piece of computer equipment in sight. Tcimpidis explained he needed some of the equipment in his work as a computer consultant and free-lance engineer. They settled for taking only the equipment that made up The Mog-Ur: a Heathkit terminal and monitor, 5 1/4-inch disk drive, hard disk and Hayes Smartmodem.

Tom Tcimpidis– defendant



Charles Lindner–his lawyer

Tcimpidis struck back in kind. He left terse messages on as many boards as he could call, telling of his bust and recalling Orwell with "1984 might, indeed, be here..." One reader was outraged attorney Charles Lindner, who called the bust "ridiculous." No sysop (system operator) could be expected to be glued to his or her terminal, reading every message as it was posted, he said. He likened the scenario to the commonplace cork bulletin board in the neighborhood grocery: "Would they go shut down Safeway?" Tcimpidis said he tried to keep an eye on the board, but had counted on a friend to help watch some sections, including the one where the messages appeared. The Mog-Ur had accrued nearly 100,000 messages from hundreds of callers over the years. Lindner offered to defend Tcimpidis for the out-of-pocket expenses that a quickly established defense fund could pay.

A short celebration

By mid-June, they thought they'd won. The police returned Tcimpidis' equipment. The Los Angeles District Attorney decided there was insufficient evidence for a felony charge and turned the case over to the city attorney's office. An associate in that office assured Lindner the matter would be dropped after an informal office hearing. "They lose. We win," Lindner said cheerfully. Friends celebrated The Mog-Ur's third birthday with a cake frosted with the words, "Victory is such sweet dessert" along with the sarcastic observation "Use a Modem—Go to Jail" (accompanied with a picture of the red circle-and-slash international sign of forbidden action).

Who's in charge?

The celebration ended in August. Assistant City Attorney Steve McKee told Lindner his client had missed his hearing, but the phone company hadn't, and that the city decided to file misdemeanor charges against Tcimpidis. Both Lindner and Tcimpidis swore they received no hearing notice. The attorney was furious. "I was not notified. My client was not notified," Lindner says. "In criminal law it's assumed when a city attorney makes a statement he stands behind it." Tcimpidis faced a misdemeanor charge of telephone fraud, which could mean up to a year in jail and a $10,000 fine.

As the case unfolded, it became apparent Pacific Bell was playing a more active role than simply as fraud victim. The phone company's security team did most of the legwork. It was Pacific Bell officials who filed the affidavit that was the basis for the search warrant granted by Superior Court Judge Robert Fratianne. They offered the evidence to the judge, who acknowledged he wasn't very familiar with computers but, "It was explained to me. I've seen *WarGames*. I understand the problem." It was Pacific Bell that examined Tcimpidis' confiscated equipment. And, Lindner asserted, it may have been the phone company that pressed the Los Angeles City Attorney to file charges. "It's the city attorney's office bending to pressure from the telephone company, and shows a lack of integrity in that office," Lindner said.

The Los Angeles City Attorney's office and Pacific Bell staunchly deny any political maneuvering. City Attorney Ira Reiner denied his office ever promised not to file charges. "There wasn't any indication by the city attorney's office that I recall, that it would not be prosecuting," Reiner said. Steve McKee, the assistant city attorney who initially handled the case, said the hearing offered no new evidence, but he "reviewed the case again" and recommended prosecution.

Tcimpidis faced a misdemeanor charge of telephone fraud, which could mean up to a year in jail and a $10,000 fine.

Pac Bell defends actions

Pacific Bell Security Manager Thomas Cassani said his officers only offered the evidence and cooperated with police, acting the same as any private citizen who saw a crime. "We can't do anything without the law enforcement's help," said Roger Orr, Pacific Bell public information officer who fielded most calls about the case from computer-users and press. "Telephone fraud last year cost $22.8 million to California residents," he added. "This would be one element of that total." He said it wasn't the phone company's concern that someone other than the owner of the computer equipment might post messages promoting telephone fraud. "I think the courts will have to decide that," he said. "Until then, we'll be finding evidence and presenting it to police."

The Mog-Ur raid wasn't the first time Pacific Bell had rallied against online phone fraud. But past cases hadn't been 32-year-old computer professionals like Tcimpidis, whose board sported a policy statement cautioning against "questionable" messages. Most others were adolescent computer whizzes who offered pirated software along with tips on beating the long-distance tolls, and a personal visit by police or telephone cops and a chat with their parents usually took care of the problem.

What's in a name?

But Pacific Bell security officers insist The Mog-Ur is a pirate board. They particularly raised their eyebrows at the name of the section in which the messages were found: "The Underground"—"obviously criminal," one security officer said. Tcimpidis said he named the section after Merlin's mythical meeting place, where the magician's apprentices were trained. On Tcimpidis' Mog-Ur, the Underground section was for hackers—in the time-honored sense of the word, not as a synonym for teen-age computer trespasser, as the mainstream media sometimes apply it. In The Mog-Ur's Underground, apprentices to the new technology could trade ideas and technical tips. First-time callers could not enter the Underground, as the sysop's attempt to weed the curious from the serious. But, unbeknownst to most callers, calling a few days later gave anyone access. Tcimpidis admitted later his method probably relied unduly on luck, but the odds had gotten worse as more computerists went online. "Three years ago computers were expensive enough that only people who were really interested would be on a bulletin board," he said. "The average age of the user was in the mid- to late 20s. The average age now is probably not 20. You can spend $100 on a computer and plug it into your TV set."

After the bust, attorney Lindner recommended that other sysops avoid words like hacker, pirate, and phreak. He said "I personally would name my boards after courses taught at the Harvard Business School." Mog-Ur's Underground was soon renamed the Open Forum.

The rechristening of that section was only one of several name and procedure changes that occurred as the story of The Mog-Ur traveled online. Sysops around the country took another look at their boards. They knew what they meant with slang or sometimes careless terms, but would the telephone cops see their slogans as casually as other users? And Pacific Bell confirmed it was bulletin board-hopping with the best of them. In fact, Pacific Bell monitored boards not just for itself, but on contract for AT&T, GTE/Sprint and MCI, security officers said.

Pac Bell security officers insist The Mog-Ur is a pirate board.

Pinning down the real culprit

The phone company didn't care much about copyrighted software, and generally conceded libelous or obscene messages might be protected as free speech. The only thing they cared about was telephone fraud, and if the bulletin board was the medium that encouraged it, they'd watch them. "A lot of damaging information can be spread very

quickly through electronic bulletin boards," said an officer on Pacific Bell's San Francisco-based six-member security team. He was willing to speak publicly, but asked his name not be used because of the phone company's policy of allowing only public relations personnel—who are often unfamiliar with new computer technology—speak to the media. "Not all (BBS users) choose to pay the phone bills that go with it, and sometimes that involves cheating some long-distance carrier," the security officer said. Pragmatic sysops and hobbyists had to admit the phone company has a point; blue, black and silver boxes to sidestep phone line tolls go hand-in-hand with some hobbyists' online travels, and using someone else's phone credit card does reduce the cost of long-night modem calls.

"We as a corporation, no matter what we do, are going to be accused of going after people," the security officer added. "I have nothing against bulletin boards, as long as people pay their tolls. Whatever we do, people out there are working on ways around it." But the security team rejects the popular analogy of electronic bulletin board systems and the cork bulletin board in a neighborhood grocery. "If you put my credit card number on a store bulletin board, I'll take it off," the security officer said. He stated the phone company would go after the store manager "if I can prove the store manager conspired to put (the message) up."

"I have nothing against bulletin boards, as long as people pay their tolls."

That's what distressed Tcimpidis and even a few skeptical sysops: the phone company and even the police said they don't care who left the message. The person they're sure was involved is the one who provided the bulletin board, so that's who takes the rap. Lindner says "Tom is accused because he ran the board. He is not the guy who posted the number. . .they are going after the medium, not the message."

The phone company's conclusion is partly pragmatic: it's sometimes hard to pin down who left the message, especially on boards that don't require ver-

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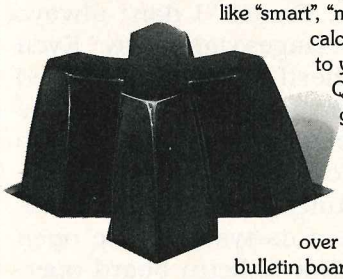

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ification or ask callers to leave their real names. Their conclusion is also consistent with the letter of the law: California Penal Code 502.7, under which Tcimpidis was charged, requires neither proof of loss or even that a working phone number be involved to charge for phone fraud. The statute allows charges against "any person who publishes the number or code of an existing, cancelled, revoked, expired or nonexistent credit card, or the numbering or coding which is employed in the issuance of credit cards, with the intent that it be used or with knowledge or reason to believe it will be used to avoid the payment of any lawful telephone or telegraph toll charge." That a computer is involved doesn't change anything, said Allan Nadir, the assistant city attorney handling the case. "It's just another means of defrauding the phone company," he said. "As long as there's fraud or intent to defraud, it doesn't matter that the card isn't good."

The law requires no proof of loss nor even a that working number be involved.

Twists and turns

The above facts hit Tcimpidis even harder when he found the same AT&T credit card number on other Southern California boards in messages dated a month or more before it appeared on The Mog-Ur. "There are some systems that clearly do cater to illegal activities," he said. "Why weren't they busted instead?"

Tcimpidis found a software glitch in his own system months after the bust, which complicated the matter. An anonymous caller posted the trouble-making message on The Mog-Ur March 29, and could mark it to remain on the board no more than 30 days, under the restrictions of the system. Pacific Bell discovered the message May 11, but it wasn't on the system when police served Tcimpidis with a warrant May 16. Tcimpidis found a flaw: his board software would delete a message for the same number of days it had been posted, then would repost it. He suspected the fateful AT&T number disappeared and resurfaced several times, at about two-week intervals, in the six weeks between posting and bust. Electronic intricacies aside, the following would be hard to explain to the judge: when Tcimpidis got his equipment back and was assured the case was dropped, he cleaned The Mog-Ur's hard disk and purged it of data that might later be needed as evidence.

Another twist surfaced: Tcimpidis was acquainted with the owner of the AT&T card that appeared on his system. In mid-March, he worked on a free-lance video job for technician Terry Donahue, who contracted for a two-day project with Murray Krow Productions, whose AT&T card number was on The Mog-Ur. Krow said his telephone credit card is often used on the job by his employees making business calls. He complained to Pacific Bell when about $80 in unfamiliar calls showed up on his March bill, but was uninterested beyond getting the charges removed. Being drawn into the bulletin board case caught him by surprise, he said; he didn't know anything about computers. "I haven't any interest in being a telephone ambulance chaser," he said. Lindner acknowledges the link probably heartens Pacific Bell, but states "unfortunately this does not explain how this guy's card ended up all over L.A. two months before Tom worked for him." Lindner promises to prove that in court.

Sysop reactions

The above link turned some sysops lukewarm on the case. Others said they were careful to read their board regularly, to the point of checking with a portable computer during a break at work or school, and it couldn't happen to them. Others shook their heads at a hobby requiring more risk and responsibility than they had anticipated. "It scares me," said Ingrid Nolley, of Pasedena, Texas. "I don't always have time to read all the messages right away." Even a pair of Phoenix area sheriff's deputies offered expert testimony to bolster Tcimpidis' case. They keep an eye on their board, but they don't try to verify the identity of every one of the dozens of daily callers to the Maricopa County Sheriff's Office BBS, said Deputy Ken McLeod, a co-sysop to the open access system. "I don't think bulletin board operators should be the ones the law enforcement agency goes after," he said. But, he added, a sysop can't shirk all responsibility.

Lynzie Flynn, whose North Hollywood BBS Lynzie's Motherboard hosts Tcimpidis' defense fund, switched to a subscriber-only system to better control access to the board. "I started watching my system very closely now," she said just weeks after The Mog-Ur's shutdown. "It takes a lot of time, but since what happened to Tom, I have to." Tcimpidis himself decided to implement a subscriber system December 1, charging a one-time $15 fee for full access, and asking for callers' real, full names,

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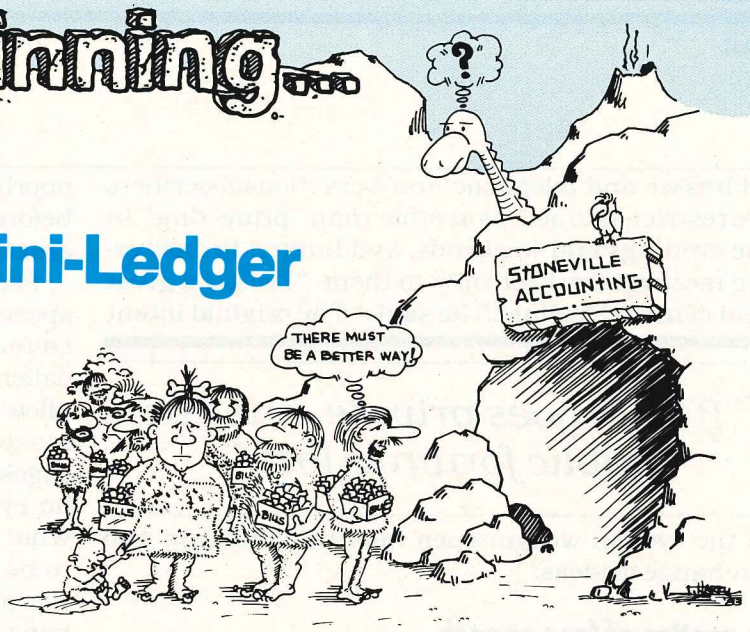

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addresses and telephone numbers. Nonsubscribers are restricted to access at other than "prime time" in the evenings and weekends, and limited to answering messages written only to them. "I've got a great deal of mixed feelings," he said. "The original intent of the system was an open information forum and exchange of ideas."

"If Tom goes private, another public forum is lost."

A matter of free speech

Attorney Lindner, who was just getting acquainted with online communications when he entered The Mog-Ur fracas, says one of the sorriest reactions is boards tightening and even closing in fear of phone company surveillance. "If Tom goes private, another public forum is lost," Lindner says. "Free speech always has its dangers. The question is whether free speech is worth it." He calls the new electronic communication "the great equalizer" of the 1980s, equivalent to the six-gun of the 1880s. "There is something very serious at stake here," he added. "For the first time since Tom Paine plastered broadsides outside of Boston, there is a means for a single individual with an idea to transmit that idea to tens of thousands of people."

Loss of that new communications forum, still in its infancy, rankles those who cite the First Amendment rights of free speech in rallying for The Mog-Ur. "Whether the listener can be held responsible for the utterances of the visitor is the question," says Dave Hughes, whose Old Colorado City Electronic Cottage in Colorado Springs has hosted political debate between local lawmakers and candidates, and hot discussion of the Tcimpidis case. "I maintain we're closer to what the framers of the Constitution had in mind than ever before. In an electronic democracy, sysops have become the representatives."

Chicago attorney Paul Bernstein, who recruited lawyers across the country on his Lawmug BBS and CompuServe's Lawsig to help prepare the legal papers for the case, never doubted the case had First Amendment implications. "I'm personally, professionally and intellectually offended by this type of threat," he said. However, he feared the phone company's persistence would prevent a new technology from reaching its potential. "Computers have become not a dehumanizing factor, but a humanizing one," he said. "I hate to see an ill-conceived, poorly thought-out prosecution shutting out all that before it has a chance to find its place. A lot of new areas of law are going to be carved out."

Pacific Bell denies it's trying to restrict electronic speech, though their security officer's advice does sound like censorship. He recommended sysops tell callers, "leave your message here, and if I like it I'll allow it to go." He said the phone company expects sysops to check their boards carefully and read messages regularly—before they are posted for the public eye, if possible. "There's an implied consent of what you allow to go on," he said. "The final word is to be in control of what you're running." He denied the phone company is asking too much of a hobbyist. Pacific Bell won't bust the sysop for one wayward message, the security officer said. They look for evidence that the sysop knew about illegal activity on the board. Whether they can provide such evidence will be at the heart of the Tcimpidis case.

He also recommends every legitimate board post a welcome message, to be viewed by all callers upon connection, saying the board will not tolerate illegal information in messages. "If you say at the top that this information is not encouraged, not condoned and will not be tolerated, you should have no problem," he said, adding he firmly believes a potential troublemaker will go elsewhere if a board appears unreceptive to pirate-type messages. But, he warned, the sysop's actions speak loudest: "We'll take a look over time and see if it's just for show."

"Free speech always has its dangers. The question is whether free speech is worth it."

Attorney Bernstein said he used to have a thorough disclaimer in his welcome message, cautioning callers against posting questionable material and defining his responsibility as sysop, not censor. "But you don't want to read a lot of garbage when you log on," he said. "You've got to keep your welcome messages brief." Lindner, on the other hand, advised sysops to emphasize their boards' legitimate nature at the onset. "It won't necessarily stop them from prosecuting, but it will help your argument in court."

Unfinished business

Lindner hopes The Mog-Ur won't have to go to court. He plans to move the case be dismissed for insuffi-

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cient evidence. And he intends to appeal any denials. But he isn't eager for a drawn-out courtroom fight. For one thing, Tcimpidis' defense fund is paying the barest of his basic out-of-pocket costs. And he applies any good criminal lawyer's philosophy: end the case wherever he can, to his client's best interests. "Everybody's up for the drama of the courtroom," he says. "I want to win it any way I can." Assistant City Attorney Nadir, however, said he expects the case will go to a full jury trial, noting Tcimpidis pleaded not guilty and the city doesn't plan to drop the charges.

But battle lines are being drawn regardless of this case's outcome. "If the phone company's going to harass computer users, computer users are going to start harassing the phone company. And it's not a battle I think the phone company can win," Lindner said. Tcimpidis, particularly, wonders why Pacific Bell is willing to chance alienating a potentially powerful ally and dangerous foe, in computer-users. "A lot of people would have gladly cooperated before," he said. "But the chance of it has been greatly diminished." Computer columnist and author Jerry Pournelle put it more bluntly. "Don't they realize they could be making a lot of powerful enemies?" he asked. Pournelle prodded some phone company officials to meet with system operators and bulletin board users, to try to work out a cooperative plan to fight pirate boards—which, more than one well-intentioned sysop noted, give them all a bad reputation. But Pacific Bell security officers prefer to stay out of the limelight, and officials deferred on public discussion of the Tcimpidis case until its conclusion.

One security officer was noncommittal about working with sysops. "There are some things as a corporation legally we can do and are ethically empowered to do," he said. "We're not going to give them the programming to change their boards, or be a watchdog out there. Anybody with access to the California Penal Code can read what it says. If people want to report illegal information for investigation and perusal by this office, we'll react."

(continued on page 87)

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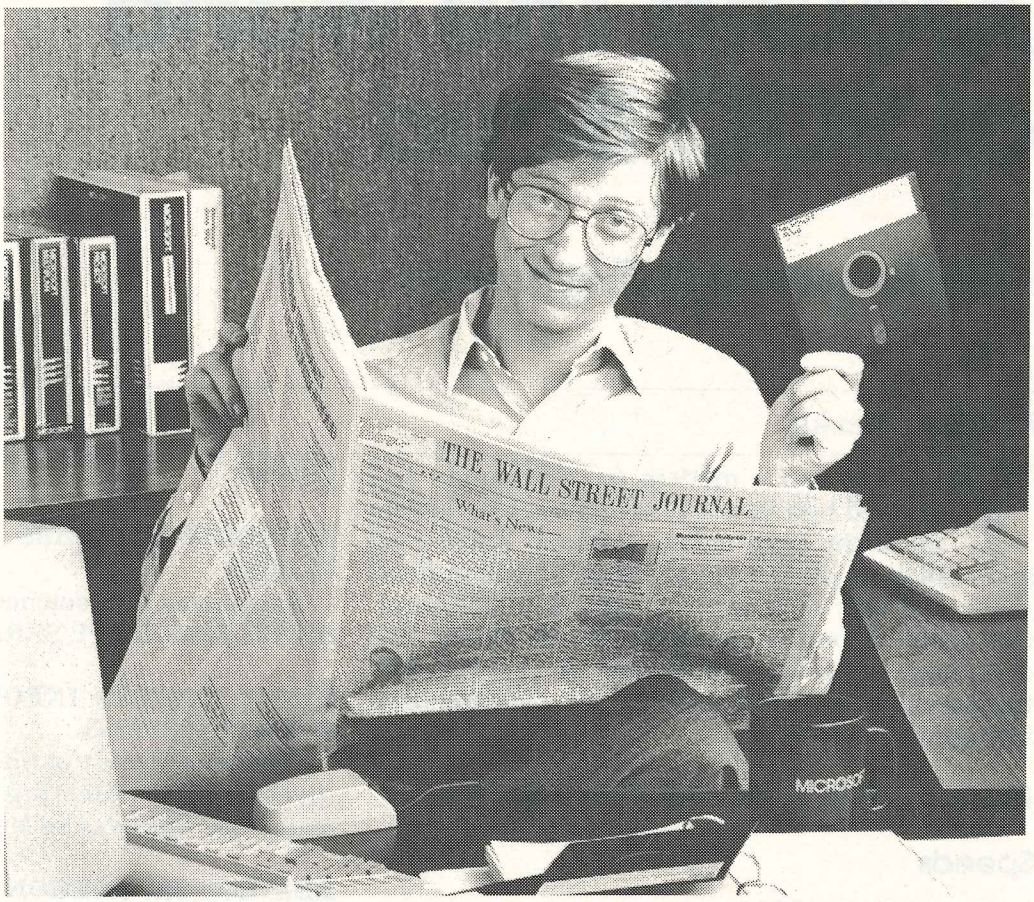

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D—Database/Public Domain Software
E—Experimental
F—Foreign
G—General
K—Kaypro specific
L—Legal
M—Medical
P—Political
R—Religious
S—Scientific
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W—Writers/Literary
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The list

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CrosNest II (415/341-9336) San Francisco, CA 3;D,T

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FORT FONE FILE FOLDER (414/563-9932) Ft. Atkinson, WI 3;G,T

Central location for updates and distribution of the communications program MEX. MEX's creator, Ron Fowler, is one of the sysops.

FREELANCIN' (713/488-2003) Houston, TX 3;G

Unique board in that it encourages crash attempts. Many good message bases. The sysop likes to chat and developed the software himself.

GASNET (301/344-9156) Greenbelt, MD 1;S,T

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LOGAN SQUARE RCP/M (312/252-2136) Chicago, IL 3;G,T

Has a variety of special interest databases. The information changes daily on drive B.

MBBS Headquarters (213/653-6398) Los Angeles, CA 3;G,W

Runs under experimental software, designed to use a Kaypro 2 to its fullest advantage. Nice BBS program, some interesting discussions.

McGRAW-HILL BOOKS (212/823-8392) New York, NY 1;W

You can order any McGraw-Hill book right online. In addition, this is a meeting place for writers and editors—in an informal way.

MEADOWLARK (403/484-5981) Edmonton, Canada 3;G,D

Origination point for public domain programs, NSQueeze, LBRDISK, and other machine language programs.

MOG-UR'S HBBS (818/366-1238) San Fernando Valley, CA 3;G

The board that has made nationwide news. Only BBS in the nation to have been busted.

(continued on page 81)

Digging Through Dog Biscuits

On scavenging for the best in public domain CP/M software

by Ted Silveira

Some of you may remember an old TV game show on which the grand prize was three minutes in a supermarket. The winners would charge down the aisles, scooping up laundry soap, steaks, TV dinners, champagne, and dog biscuits. I thought these people were crazy. Why bother with the frozen chow mein? Why not head straight for the filet mignon?

About two years ago, I found out. I called a computer bulletin board for the first time, because I'd heard these bulletin boards had some free public domain programs. I didn't just find *some* programs; I found *hundreds*. I had no idea what names like SAFRAM.AQM and FLS15.OBJ meant, but I was overcome by greed. All this, for free? Suddenly I was dashing from one bulletin board to another, grabbing everything in sight. Hundreds of dollars in phone bills later, I woke up to find I had over 400 public domain programs, including a great many dog biscuits and a few bottles of Dom Perignon.

To those of you who don't already know about public domain software, I hope to pass on what I've learned—how to find this free software, how to figure out what it is once you've found it, and how to separate the wonderful from the worthless.

What is public domain software?

There are people who love to spend their free time writing programs, not because they dream of being rich, but because they have the urge to tinker. Once done with their programs, they release them into the public domain. In other words, they say that you can use these programs, copy them, change them, and give them to your friends, all for free—no licensing agreements need to be signed, no money changes hands.

The largest group of public domain programs contains utilities—programs that help with the housekeeping chores every computer demands. For example, SD (SuperDirectory), requires just one command to list all files in all user areas on your disk—in alphabetical order within user area—while also giving the size of each file, and space left on the disk. UNERA30 (UNERAse) can recover a file you accidentally erased. FBAD56 (FindBAD) marks any bad sectors on a disk so your computer won't try to use them. And NSWP207 (NewSWeeP) does everything but floors and windows—it lets you copy, delete, rename, view, squeeze, and unsqueeze batches of files on one disk after another without ever having to warm boot.

Though utilities make up the single biggest group, you'll also find many other kinds of programs. There are business programs—general ledger, payroll, and database programs, as well as spreadsheet overlays and special dBASE II programs. There are communications programs—like MDM740, MEX112, and KERMIT—that let your computer talk to any other computer. There are word processing aids like GENINDEX, which can build an index for a WordStar file. There are games, programming languages, weather forecasting programs, math and statistics programs, perpetual calendars, and more. The master catalog of one big computer bulletin board lists over 4,000 files.

How good?

You may ask, "How good can free programs be?" They *can* be very good, but, of course, not all of them are. Some, in fact, should be dumped in the nearest electromagnetic field—programs with bugs that will send your computer off to chase its tail, programs that are obsolete and should be decently retired, and programs that just don't do anything worth having done. (I once picked up a program that signed on, told me my machine had a Z80 processor,

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and then signed off.)

Many other public domain programs are genuine bargains. They may be a little slower than their commercial counterparts, or not quite as slick, but they work and they're free. Take the public domain footnoting program, FTNT14, for example. It isn't as polished as FootNote or Documate-Plus, and it doesn't come with a bound manual, but it does what it's supposed to do—place footnotes in a WordStar file. Or take BUSINESSMASTER, a complete set of business programs (general ledger, inventory, payroll, and so forth) that was once sold commercially. When the company brought out a new version, they released the old BUSINESSMASTER into the public domain (though you still have to buy the manuals). It's as good a program as it ever was; it's just not as hot as the newer one.

Finally, some public domain programs are absolutely first class. For communications, public domain programs like MDM740 and MEX112 are better than most commercial programs. In utilities, NSWP207 has practically no commercial competition. And in my opinion, Richard Conn's ZCPR3, an enhancement of CP/M 2.2, is better than Digital Research's own CP/M Plus.

Some, in fact, should be dumped in the nearest electro-magnetic field.

You need to be aware, though, that all public domain programs, good and bad, come with a warning—when you use them, you're on your own. If a program suddenly crashes, taking your last six hours of work with it, it's *your* problem. You may be able to get help by talking to a friendly programmer or by leaving a message on a bulletin board, but there's no 800 number to call for technical support, bug fixes, updates, or refunds. (Then again, that's true of some commercial programs, isn't it?)

How to get public domain software

One excellent way to obtain these programs is to call computer bulletin boards (*see list in this issue—Ed.*), many of which have hundreds (sometimes thousands) of programs available. I get most of my programs this way, transferring them directly from the bulletin board to a disk in my computer. This method has two big advantages. First, you get the very latest programs from the bulletin boards, often months before you can get them anywhere else. Second, you don't have to worry about finding the programs in a disk format that suits your particular computer—not a big problem for a Kaypro, more serious if you also have something like a Sanyo or an NEC.

Of course, the bulletin boards have disadvantages, too. To hook your computer to the telephone line, you need a modem, which can cost from $60 to $600. You need a communications program, like MDM740, that can use the XMODEM protocol for transferring files. And you have to pay the phone bill, which can run quite high if you do a lot of long distance calling.

Another very good way to get public domain programs, especially if you're just starting out, is through a local computer users' group . These groups usually meet once a month to share problems, information, news, and public domain software. Kaypro owners (along with Osborne owners) seem to be especially fanatical about starting users' groups and adapting programs to their machines. But any CP/M users' group worth its name will have built up a library of public domain programs which members can copy. Most charge you nothing, except the price of the disk if you didn't bring your own.

Of course, finding a local users' group may take some work, though KUGs (Kaypro Users' Groups) seem to be everywhere (*see list in this issue—Ed.*). Call up local dealers and ask about users' groups. There's usually at least one person in any store who knows about such things. You should also look out for any local computer magazines—my area has a free bi-weekly called *Computer Currents* that lists group meetings in every issue. If you know other people who own computers, ask them about users' groups. If you have a modem, leave a request for help on any local computer bulletin board.

A third way to get public domain programs is to contact one of the national CP/M users' groups. Both CP/MUG (CP/M Users' Group) and SIG/M (Special Interest Group for Microcomputers) have huge public domain libraries and print catalogs, from which you can order as many disks as you want. But there are disadvantages to this method, too. By the time the catalog gets to you, the programs are usually well over six months old—a long time in computer circles. Both groups charge you for copying, shipping, and the price of the disk itself (CP/MUG $13-17 and SIG/M $6). CP/MUG carries Kaypro, NorthStar, Apple CP/M, and 8" single-sided, single-density disks, while SIG/M carries only the 8" disks. And both groups sell programs only by the disk. So even if you just want one program from a particular disk listed in the catalog, you have to buy the whole disk.

Finally, in various computer magazines (including *Profiles*), you'll find ads for a few commercial operations that handle public domain software. Micro Cornucopia, for example, has 27 disks of public domain software for Kaypros at $12 a disk. Workman Associates charges $32.50 a disk, but they sift out most of the junk (as does Micro Cornucopia), so you get more good programs on each disk than you do from CP/MUG or SIG/M.

Detail on how to reach the above organizations appears at the end of this article under *Sources*.

Selecting jewels from the junk

Although public domain software is free, you have to choose what you want almost as if you were buying commercial software. If you're getting your software from bulletin boards, you can run up hundred dollar phone bills with ease. If buying disks from SIG/M at $6 each sounds like a bargain, remember that their catalog now lists over 200 disks. And even if your favorite bulletin board is a local call or your users' group charges no fee, the sudden introduction of several hundred new files can leave your disk cataloging system in ruins.

I once got a program that signed on, said my machine had a Z80 CPU, and signed off.

So you must choose, but how? Ideally, you'll have the chance to test the program on a machine just like yours. More often, you'll have to rely on other people's recommendations or simply stumbling across a new program on your own. To sift out the worst junk, try asking yourself the following questions.

Will the program do something useful or fun for you? If not, pass it by. This advice is not so easy to follow. I find myself attracted to nifty mailing list programs and to impressive accounting programs. But my life is such that I get by just fine with my addresses on index cards and my accounts in a manila envelope.

Will the program run on your Kaypro? Many public domain programs, like SD and NSWP207, will run on any CP/M machine. Other programs need to be adapted to different computers, including communications programs, like MDM740, and any program that uses fancy screen displays (like half-intensity or reverse video). In these cases, look for a version of the program that's been adapted for Kaypros (usually marked with a KP in the name, as in MDM740KP), or be prepared to adapt it yourself. Still other programs have been written for specific computers such as Zenith or Osborne—avoid them unless you're fluent enough in assembly language to make major modifications. And finally, remember that not all Kaypros are exactly alike. A program written for a new Kaypro 4'84 may not run on an old Kaypro 2 and vice-versa.

Does the program require any special software or hardware to work? A program to print graphics with an Epson dot-matrix printer won't work if you only have a daisy wheel printer. A mailing list program for dBASE II won't help you if you don't own dBASE II. And a program to place footnotes in a WordStar file will be useless with Perfect Writer.

Does the program require any work to make it run? Programs that you find as .COM files—NSWP207.COM, UNERA30.COM, FBAD56.COM—are usually ready-to-run, but a few take some work. To get MEX112.COM running, you'll have to use ASM.COM and DDT.COM (these came with your computer) to modify the program for your Kaypro. The job isn't difficult, though it can seem daunting to a complete novice.

You'll also find many public domain programs distributed as files that have the file type ASM. These text files, called source files, contain programs written in cryptic-looking assembly language. To make these source files into COM files you can run, you must use ASM.COM and LOAD.COM (which come with CP/M). You'll also probably have to change a few values in the source file in order to adapt the program to your computer. You *do not* have to be a programmer to do these things. You *do* need to know what assembly language is, what hexadecimal numbers are, and how to run ASM and LOAD. If you don't have a friend to show you the way, you'll find there are a number of good books on the basics of CP/M. (The Digital Research manual on CP/M that came with your computer is not one of them.)

The same sorts of cautions apply to source files written in other languages, like C or Pascal. You need the right language to turn them into COM files, and you'll probably need to know at least a little about the language itself.

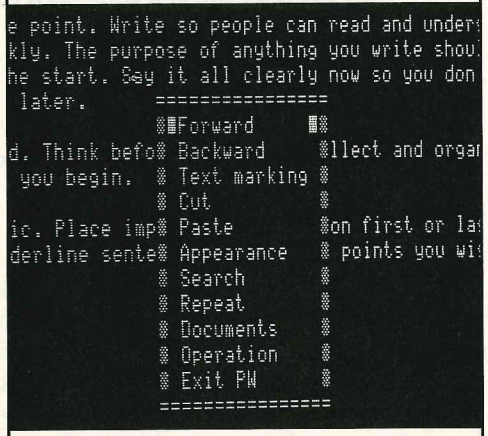
Asking these questions won't guarantee that every program you get will be a winner. But it will help cut down the clutter on your disks.

(continued on page 59)

10 Powerful Reasons for Kaypro® Owners to Stop Using Their Old Perfect™ Software.

The Perfect™ Software that came bundled with your Kaypro® was good. But now, there's a whole new Perfect Software 2.0 series—Perfect Writer,™ Perfect Calc™ and Perfect Filer™ programs—that's even better.

1 New Perfect Software 2.0 is easier to use.



Perfect Software 2.0 features pop-up menus that use simple English language words. You can handle every function with the touch of a single keystroke, so you never have to memorize complicated commands again. And because Perfect programs share common commands, you only have to learn one to know how to use them all.

2 New Perfect Software 2.0 is more convenient.

Now you can handle important document utilities, plus move from one Perfect program to another, without having to exit to CP/M.® That saves you time!

3 New Perfect Software 2.0 is backed by comprehensive customer support.

Answers to your technical questions are as close as your telephone. Just call our special customer service number and get instant help!

The New

4 The new Perfect Writer program comes with a spelling checker and thesaurus.

They're both included with the program! The Perfect Speller™ disk helps you prevent spelling mistakes. And the new Perfect Thesaurus™ disk helps you choose exactly the right word for what you're writing. So now it's easier to write better.

5 Format and print your document in one simple step.

Just select the print option, and automatically format your document at the same time. And Perfect Writer features support most popular printers, too.

6 The new Perfect Filer program lets you build larger databases. And store them on one disk.

```
Last name: Wilson__________ First: Robin_____________________MI: B__

  Address: 3427 West Oak Street_____________________________________

    City: Costa Mesa__________ State: California ________ Zip: 92626____

Home Phone: (714) 555-1234

Entry Date: 10/18/76              Soc. Sec. No.: 123-34-6789

1st Quarter Quota: $__1000.00_    Actual: $__1050.00

2nd Quarter Quota: $__2000.00     Actual: $__1995.00

3rd Quarter Quota: $__2500.00     Actual: $__2595.00

4th Quarter Quota: $__3000.00     Actual: $__5000.00

Perfect Filer Version 2.00  (c) 1984 Perfect Software, Inc.
                        Press ESC for the menu
```

You can sort your Perfect Filer database according to nine different numerical and alphabetical categories.

Now you can put up to 128 different fields in each Perfect Filer record—room for more information. And you can store up to 16 databases on one diskette.

7 The new Perfect Filer program is more versatile.

You can manage your information like never before. Sort records according to nine different criteria, alphabetical and numerical. Plus, you can automatically transfer data between files.

```
  !     a     !     b     ! c ! d ! e ! f ! g
 1
 2SALES INTERNATIONAL
 3Yearly Sales
 4
 5                                          QUARTERS
 6                                  QUOTA
 7NAME          SOC SEC NO  1ST   2ND   3RD   4TH   1ST
 8
 9Wilson, Robin  123-34-6789   1000  2000  2500  3000  105
10Jones, Mary    371-23-2345   1000  2000  2500  3000   95
11Scott, Kewin   5==============0  2000  2500  3000  140
12Juarez, Sam    5%View        ▒▒0  3000  3500  4000  210
13Mills, Cathy   6% Text marking %0  3000  3500  4000  220
14Smith, Joy     4% Cut & Paste  %0  3000  3500  4000  210
15                % Appearance   %
16                % Repeat       %       TOTAL SALES   980
17                % Datasheets   %
18                % Operations   %
19                % Exit         %
20                ===============
21
22
Memory available: 29920 (91%)
```

You can transfer data from your Perfect Filer database to a Perfect Calc spreadsheet and use it to develop projections, reports and analyses.

8 Use Perfect Filer data to build your new Perfect Calc spreadsheet.

Here's capability you never had until now. Use the Perfect Filer program to enter and sort alphabetical and numerical data. Then, you can transfer the data to a Perfect Calc spreadsheet, without any modification, and use it to develop sales reports, projections—virtually any kind of analysis.

9 Regional recalculation saves you time and keystrokes.

Spreadsheet operation has never been so simple. With regional recalculation, you can change some numbers, without changing them all. What's more, you can move blocks of data around your spreadsheet without having to rekey information.

10 New Perfect Software 2.0 is easier to get.

Now the best news of all. The new Perfect Software 2.0 family is available now at a special price just for Kaypro owners. Just send us your old master diskettes and we'll send you the new Perfect program of your choice. Do it today—and start working faster, easier and better!

Perfect Software 2.0 series is compatible with all Kaypro II and Kaypro 4 models originally bundling Perfect Software.

Please send me the Perfect Software 2.0 programs I've indicated for $89 plus $5 handling for each program, with my old master program diskette (s).

☐ Perfect Writer
☐ Perfect Filer
☐ Perfect Calc

☐ SPECIAL! Get the Perfect Library with all three programs for just $234, plus $10 handling.

California residents add 6% sales tax.

Enclosed is my check for the amount of $_____ payable to THORN EMI Computer Software, Inc.

NAME _____

ADDRESS _____

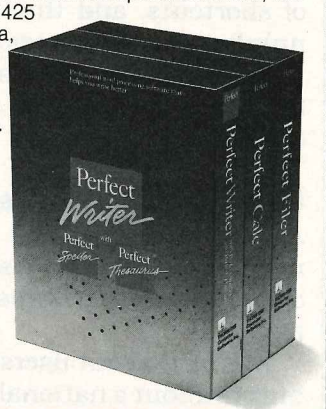
CITY _____ STATE _____ ZIP _____

TELEPHONE _____

PLEASE PRINT CLEARLY

Mail to: THORN EMI Computer Software, Inc.
P.O. Box 10425
Costa Mesa,
CA 92627

Allow 6 to 8 weeks for delivery.



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Perfect™ Software 2.0 for Kaypro®

Good Things From Bad Sector

Reflections of a small-is-beautiful users' group

by Ben Fong-Torres

Two years ago, when I bought my Kaypro, I knew next to nothing about computers. Now, with 24 months, dozens of word-processed articles, and a few crashes and other crises behind me. . .I *still* know next to nothing about computers.

Sure, I can process words—that's what I bought the computer for. But what else it does is one of life's new mysteries, and I'd just as soon not know. As it is, I've got these nagging feelings—that I'm not even using Perfect Writer right; that I'm missing all kinds of shortcuts, and that I could be cutting out any number of annoyances if I only knew some secrets.

In short, I feel like I'm still floundering around, a beginning swimmer in a rushing, white-water river of ROMs and RAMs.

Users' group to the rescue

At least I did till just recently, when I went to a meeting of a Kaypro users' group in San Francisco called Bad Sector. It was like stumbling into a rescue party.

I'd heard about users' groups; Kaypro informs all buyers about a national organization that sends out newsletters for $12 a year. And I'd heard of BAKUP, an Oakland-based group that numbers several hundred members and meets every month.

But I got a different feeling about Bad Sector from the newsletter I found one day in my mail. The group sounded loose, casual, fun. But, above all, useful. First, there was a disk that was free for the copying called "greatest hits utilities" that, among other things, would "unerase" any file wiped out by accident, would turn my computer and printer into a typewriter, and could locate and block out bad sectors on disks so I could still use them.

Also available to members was an advance copy of Perfect Writer's applications manual, which would answer a number of my long-nagging questions about formatting.

At their next meeting, there'd be a discussion of modems and a presentation by Derek McKay, author of Plu*Perfect, an enhancement program for Kaypros and Perfect Writer software.

And there'd be "assorted hardware havoc, fine liqueurs and desserts!"

It sounded intriguing. What floundering Kaypro user could resist?

First meeting

The meeting took place in the Haight-Ashbury flat of Ray Barnes, 26, a computer technical writer. Eighteen people sat and stood around a dining room that could comfortably seat about eight; I spotted a couple of familiar faces, among them Robert Foothorap, a photographer and a co-founder of Bad Sector.

Guests were asked to introduce themselves: Phil, a nurse, said he's interested primarily in word-processing; Foothorap uses the Calc program to run his business; Sievert is writing a book; Jim is a former Radio Shack user who's about to switch to Kaypro; John is interested in FORTH and wants help hooking his Perfect Writer to his Epson. There were a tutor, two attorneys, a phone company employee, several writers, a civil engineer, a psychologist, and two representatives from Perfect Software, which is headquartered across a bridge in Berkeley.

Among three women attending, two worked for computer-related companies; the third was Amy Tan, a free-lance writer and co-founder of Bad Sector.

Questions, answers, and rich conversation

Throughout the introductions, the main purpose of a users' group was made clear: People had questions; invariably, others had answers. Or at least clues. One person got a "bad sector" message when he formatted a disk. When he tried to find the bad

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ILLUSTRATION BY RICK GEARY

sector, he was greeted with: "No bad sector."

"I'd throw the disk out," said Barnes. But he also offered a suggestion: "If you have the new CP/M you can format on either drive. It's a tick and goes away. No big deal."

People had questions; invariably, others had answers.

Foothorap offered two disks of friendly tips on Perfect's writer, calc and filer software; Barnes mentioned a new Kaypro Users' Handbook that fleshes out Kaypro's own thin manuals. A guest told the group about a section of an independent guide to Perfect software "that I found invaluable, three pages of undocumented commands." Barnes suggested he photocopy those pages so that "Bad Sector" can make them available to anyone interested. Agreed.

Barnes spoke briefly about lap computers—the white pages phone book sized computers. He's done some research, he said, and at the next meeting, there'll be a demonstration of the two he likes most. And if enough members want to buy one, he might be able to swing a discount. "It's power shopping," he said.

Foothorap offered to host an informal tutorial on Perfect Calc. "Just sign up and some Sunday afternoon, we'll make it work." Tan offered a similar meeting for would-be Perfect Writers.

After a break for coffee, drinks and slices of diet-busting Black Forest cake (guests were asked for $5 to cover costs), Derek McKay from Plu*Perfect set up a Kaypro and took the floor. But his first sentences were loaded with obtuse computerese, and, soon, half the group had moved off to have informal chats in the kitchen, in Barnes's bedroom (where a Kaypro lay on his bed) and in the hallway.

Bad Sector's beginnings

Tan, 31, told how Bad Sector got started, just over a year ago. "Someone told me, 'I know someone who bought the same computer as you; you might want to make a connection.' My interest was to have someone to go to whose computer I could borrow if mine broke down. And that was Robert Foothorap. I told him I was interested in starting a group for support purposes, and to exchange information. I didn't want something like BAKUP, which is so big that I'd wind up spending 20 hours a week taking phone calls. I wanted something simple and fun." Through a computer store, she found Ray Barnes, who'd been to a number of BAKUP meetings and wanted to set up a group to meet in San Francisco.

Right away, the idea was a social, neighborhood group. "Amy set the atmosphere," said Barnes, "through her love for chocolate, liqueur and coffee."

Barnes also wanted an alternative to BAKUP, which, he said, is big, lecture-oriented and emphasizes "organizational functions: distributing public domain software, product news, and presenting lecture-type meetings in school auditoriums." BAKUP is an excellent group, said Barnes. But he prefers smaller meetings, "to let people meet other people, to spark ideas. Bad Sector," he said, stresses "support functions: sharing tips on using software, helping set up hardware, and exchanging ideas for new applications.

"We learn about our computers in three ways," said Barnes. "From reading, from talking to someone else, or from figuring it out ourselves out of frustration. It's sure better to talk to someone rather than sitting through four hours 'cause the manual didn't have it right."

Barnes, Tan and Foothorap have taken turns hosting Bad Sector meetings, and they share the administrative work. "We lose money sometimes but we don't care," said Barnes. "It's a party for us."

"The computer is my life. It's great finding people as fixated as you are."

"It's almost like a religion," said Tan. "The computer is my life. It's great finding people as fixated as you are."

Plans for the future

Barnes, Tan and Foothorap aren't interested in Bad Sector getting much bigger than its current size (they have a mailing list of 45). "The idea is to get people to start their own group. If ours got too big it'd lose its character."

BAKUP, Barnes said, has more clout with manufacturers and stores. But, he added, Bad Sector has its own clout. Through Tan's friendships, the group has had representatives from Perfect Software at each of its four meetings. Tonight, one of her friends, Robert Glidden, president of Perfect, was attending.

Barnes motioned to McKay, who was surrounded by eight people who appeared entranced by Plu*Perfect. "Derek flew in from Los Angeles to be here. But he got to meet the president of Perfect. What could be better?"

Can a good thing last?

A few months after that meeting, however, the party was over; Bad Sector was no more. The mailing list had grown to 120; one co-founder found having meetings at his home too unwieldy; another felt left behind by Kaypro's rapid introduction of new models and operating systems. "A larger group like BAKUP," he said, "is able to divide up the learning tasks. But we had the feeling of being overwhelmed."

To keep things small and fresh, Barnes and company called a meeting for the purpose of passing a torch. It was picked up by, among others, Kathleen Martin, a career consultant with the Computer Learning Center. "Right now we're calling ourselves San Francisco KUG," she said, "but we're open to suggestions for a name." (The S.F. KUG can be reached at 3555 Broderick Street, San Francisco CA 94123.)

Meantime, Barnes moves on. "It was by and large a rewarding experience," he said, "but it was designed to be a group for people to cycle through, for breaking in new users. Now we've started up a new little group based on our current needs."

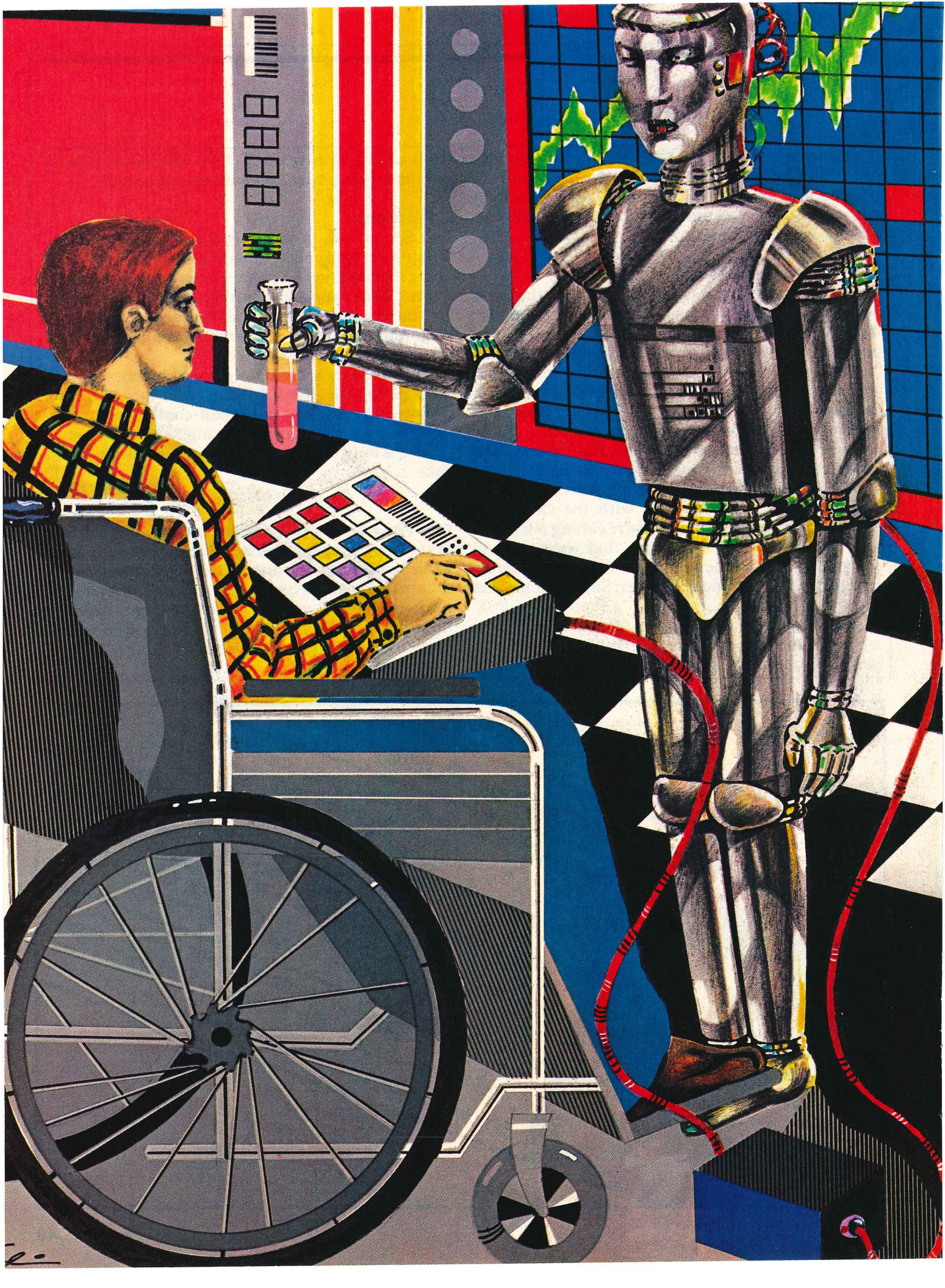
Reflections

Bad Sector was good while it lasted; SF KUG, or whatever it gets called, should also be useful. In my short membership—two meetings worth—I got the Perfect Writer applications manual; I got a disk that, for starters, has muffled the little squeaks that are built into the Kaypro II's early keyboards; I learned of the existence of *PROFILES*.

And, in Barnes, I found a computer consultant to replace the one I'd been using (who moved away). Barnes helped install a keypad configuration program and got my modem working.

Now, if only I could get his recipe for Black Forest cake. . . □

Ben Fong-Torres is a feature writer with the San Francisco Chronicle, *music columnist for* GQ Magazine, *and contributing editor at* Rolling Stone, *where in ten years as a writer and senior editor he wrote some 400 articles—"399 of them, unfortunately, before I got my Kaypro." His work has also appeared in* Esquire, Playboy, TV Guide, Parade, *and* American Film.



Miracle Workers

The disabled pioneer new uses for computers

by Milton Blackstone

I recently saw a bumper sticker that read "The disabled are a minority which anyone can join instantly." Statistics show that 60 percent of us will, at some point in our lives, become disabled. Computers, however, offer more hope to the disabled than any other development in modern history. Many wondrous computer aids have already emerged, and we've only scratched the surface.

The innovations come about because someone recognizes a need of a person with a disability and then successfully designs some modification or technique to meet that need. Often they learn later that many others with similar handicaps could benefit from the product; just as often, they discover able-bodied people find it useful too. Chances are that you now enjoy (or would like to) some add-on, device, program, helpful hint or expensive peripheral that came about in this fashion and is now the rage.

No one is more aware of this than we who make up the San Diego Computer Society Disabled Interest Group (DIGSIG). I'd like to share some of our group's activities, which may differ from the usual activities of most other user groups. Perhaps by unfolding some of the requests and accomplishments of our group, we might stimulate other cities, organizations or individuals to emulate our exciting and rewarding experiences.

What's DIGSIG?

We started our subset of the San Diego Computer Society, DIGSIG, in April 1982 to assist people with impairments of all types. We felt that in becoming familiar with the use of computers and computer-related aids, they might enhance their independence, communication capability and general well-being. The past few years have proved us right, and I believe this is only the beginning.

DIGSIG meets monthly. We make a point of advertising that our meetings are open to able-bodied people as well as those with disabilities. In fact, we encourage some of the more expert members in our San Diego Computer Society to take active roles as advisors, helpers, and mentors. We try to match our disabled members with those who might have common interests. And in some cases, some of our disabled folks have taken on this role with other disabled members. This arrangement permits more frequent contact than just at monthly meetings. There are no dues or charges except voluntary donations of $5 per year from those who can afford it, to help cover the cost of getting out our monthly newsletter, *The Hot Digity Sig News*. Our newsletter is particularly important to the many disabled who cannot attend our meetings because they are bedbound or without transportation, despite the occasional visits they may receive from our more active members. If they have modems, they can keep in more constant touch via DIGEX, our remote bulletin board system (RBBS).

RBBS to the rescue

Thanks to Kaypro Corporation's donation of Kaypro 10, many are able to visit us via our 24-hour RBBS. Our system, which can be accessed with 300/1200/2400 baud (we use a Racal-Vadic Triple Modem), is known as DIGEX, (Disabled Interest Group's Electronic eXchange.) The phone number is (619) 454-8078, and we welcome anyone concerned in any way with the handicapped community. Ours is an "open board," meaning callers don't need a password to log on, and although we have not made a concerted effort to publicize DIGEX's existence outside of our area, it is becoming nationally known.

We maintain a message system and file transfer bank that includes files for a variety of machines

ILLUSTRATION BY EDWIN FONTANEZ

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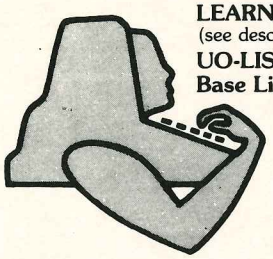

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besides the Kaypro. Steve Sanders, sysop of the famous Bandit Board of Tampa, Florida, graciously donated his K-Net RBBS software for us to use. In addition, we have a couple of databases. The databases, not yet completely configured, will cover names, addresses and phone numbers of all who wish to be listed—some with additional information about themselves—plus a listing of our lending library and equipment bank inventory.

We solicit donations of equipment and make it available to those who can't buy their own.

We actively solicit tax-deductible donations of equipment and make it available to those who cannot afford to buy their own without jeopardizing their government benefits, or those who want to try it out before making a purchase. Another database we expect to implement soon is a "surplus" bank. People will list all kinds of computers, therapeutic aids, and equipment not currently being used and available for loan to others. This will be combined with requests by others looking for such opportunities. Thus we hope to achieve our primary goal—getting the equipment into the lives of those who most need it.

So, what's the big idea?

Most exciting is our role in helping to bring together individuals and the information, modifications, assistive devices and application programs that help them to function better. But equally important is informing manufacturers who have produced some device or program for a completely different market about how that product could serve the handicapped community as well. We're not geniuses by any means, nor even degreed computer scientists, but those of us who are able-bodied and have been around the disabled seem to understand their problems better than most.

We learned recently, for example, that several before us attempted to start groups similar to DIGSIG, but these groups did not last. One able-bodied computer scientist who had fostered such an attempt is now actively involved with us and made an observation about why others before us had failed. They, like most knowledgeable and well-meaning experts, thought they had some great ideas that could benefit certain handicapped peo-

ple. However, no one bothered to talk with those folks to find out if the ideas were practical, or even desirable. Some great devices were produced, but no one wanted to use them.

How DIGSIG works

DIGSIG operates a little differently. For example, whenever someone new shows up at a meeting, one of the first things we ask is, "What would you like a computer (or computer related device) to do for you?" It may take another meeting or two before we get a meaningful response, but then we have a direction to pursue—together. Consequently, we've come up with a few ideas that we've passed on to individuals or companies who have indicated they might modify their existing products to include our recommendations.

One of the more common alterations we find ourselves making is an alternative to multi-key execution as it's required on so many computers. The IBM PC, for example, requires that the control, alternate, and delete keys be struck almost simultaneously to warm boot the system, a task that many physically impaired people find difficult, if not impossible. One of our members designed a hardware solution to this obstacle: a single button that achieves the same result. Two of the reset button's wires are connected to the back of the power supply between the connector pin and connector shell.

This problem can also be solved through software. We feature a "key-lock" program, among others, on our Kaypro RBBS. This program allows the user to depress a number of keys and keep them locked on until he wishes to depress the final key needed, thus accomplishing the double- or triple-key functions so commonly used, like ^C.

Other aids

Others request special switches of various designs. We have built pressure, pillow, thumb, and foot switches that function with the slightest pressure, plus ball, chin, eyebrow, head, and remote switches. One of the more recent developments we've discovered is the "gaze switch," which allows the user to execute commands by use of "scanners"—menus or function key selections are made simply through the movement of the eyes.

Input devices of all types have come into being because they were needed by the physically impaired. We try to keep alert for innovative designs we feel might help some of our members. We make a point of contacting the people responsible for these new products, sometimes making suggestions that could broaden their markets—something near and

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For example, we've worked with Design Technology, which developed an inexpensive lightpen called the "Flexidraw." By attaching the lightpen to an adjustable headband and adding a knee switch, one of our quadriplegic members was able to test newly written software that allows users to scan or write commands that execute a variety of programs, hands-free.

One plausible and long overdue idea was an "articulated arm."

Not long afterward, we had a demonstration by Touch Technologies, a company that has developed an "authoring" program called Class. We were delighted to see that Touch Technologies used exactly the same equipment and technique to input and interrupt their program (they had worked in conjunction with Design Technology), so that people for whom keyboard input was not feasible could still implement Class. They are currently configuring a similar application to be used with their interactive videodisk presentations. I'm sure we'll be seeing extensive adaptations of this application for a variety of uses.

Articulated arm

A popular game at DIGSIG is "Druthers." "Druthers" is played by saying something like, "If you had the best brains in this field available for a week and an unlimited budget—what would you like them to develop for you?" Excluding the obvious choices, like Dr. Gerrold Petrofsky's artificial muscle stimulation technique, which has successfully allowed some paraplegics to walk, the responses run to some of the most sophisticated robotic devices imaginable.

One of the first ideas, which seemed practical, plausible and long overdue, was an "articulated arm," which could do simple things like pick up a piece of paper, hold a glass, or move an object. Most severely impaired people need an attendant 24 hours a day to help them with the most menial of chores, and these attendants are partially paid by Department of Social Services allocations. The need for care could be substantially reduced if there were a "robot" or a "robotic device" that could take care of some of these nitty-gritty things. It would also afford the disabled some degree of privacy, which is otherwise very rare.

I first thought, "Certainly this technology already exists. How to find out whether such a device is available?" We wrote to Dr. Lawrence Leifer, then president of the Rehabilitation Engineers Society of North America (RESNA), and asked if an articulated arm, attachable to a motorized wheelchair and run off its battery, existed—and if it did, where we could get it. If not, could it, in his opinion, be developed, how much would it cost, and how long would it take? He wrote back saying he didn't think it existed, but that it could be developed, and it would probably take five years and cost in excess of $25,000. Later we spoke with an executive engaged in a good deal of industrial business with Japanese companies. He checked with his sources and reported that "it didn't exist, but the Japanese could develop such a device in about six months, and it could probably be delivered for about $5,000." This is still too high a price for the average person.

Meanwhile, we went to see Dr. Robert Murphy at San Diego State University's Mechanical Engineering Lab to ask if that project might be one they would take on. Dr. Murphy already had a commercially produced articulated arm, somewhat miniaturized, that the school had purchased for about $1,000. Some of his students were fascinated with the idea and the project took hold. They began to experiment with various functions for the arm to perform. They succeeded in incorporating sensors in an Apple computer-driven system that could locate a small object, find its center of gravity, pick it up, and deliver it to a chosen location. This remarkable feat was demonstrated by filling a Styrofoam cup with water and having the "claws" on the arm close tightly enough to grasp it but not squeeze the cup so much that it bent and spilled the water. It was a heartening experience.

Such a device is not yet available at an affordable price, despite the millions the government could save.

Priorities being what they are, I'm sorry to say that almost two years later, such a device is not yet readily available at an affordable price, despite the untold millions the government could save in benefits it pays to the disabled—not to mention the freedom it would afford our country's quadriplegic and paraplegic citizens. It's still being pursued, however, and it won't belong before a realistic "personal

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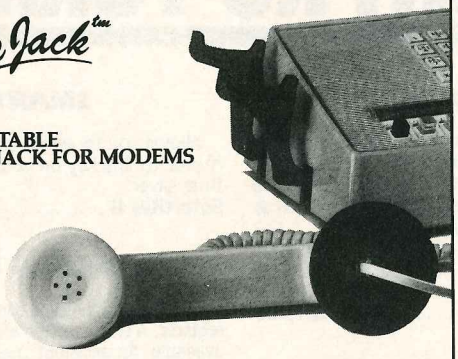

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Robots and remotes

Of course, some robots are already available. The "Omnibot" from Tomy Toys International sells for $250, and "Topo," Nolan Bushnell's Androbot, goes for $1,595, as does Heath's robot building kit. RB Robot's "RB5X" has a base price of $2,295, and "Hubot" from Hubotics is priced at $3,500, to mention a few.

To stimulate interest, an annual Tournament of Robots is sponsored by Advanced Computer Products of Santa Ana, California, which presents trophies and gift certificates in three robot categories: commercially built, radio controlled and home-built. Some 500 humans and 17 robots attended the Third Annual Tournament this past October. Shannon Meredyth, a 14-year-old from Hemet, California, won a $100 gift certificate for the robot arm he built from spare parts, a one-of-a-kind creation. I suspect that's the kind of ingenuity we have to look forward to.

Another popular "druther" is the wish to control one's own environment. We've configured systems for a number of people that enable them to turn their lights, radios, televisions and other appliances off and on and answer their doors and telephones. The system can also alert people who are deaf or blind, or both, if the phone or doorbell rings.

Other members are concerned about getting help in emergencies. We've been able to devise or recommend ways for vulnerable folks to signal for help, make emergency calls, or otherwise get assistance when they need it. There are also ways to do seemingly minor things like remind them to take their medication.

Environmental control is out of reach financially for most handicapped people, however, because it requires a computer system and remote electronic units such as BSRs or Radio Shack modules. Once again the power of the user group comes to the rescue. One of our most knowledgeable members expects to soon have a remote controller on the market that stands alone and simply plugs into any electrical outlet. The unit is self-contained and programmable, and will probably sell for about $20.

Speech and voice recognition

The hottest area of development is speech and voice recognition devices. Already our "primitive" development has unlocked unspoken minds and promises for thousands. . .and, as Al Jolson used to say, "You ain't seen nothin' yet!"

Texas Instruments has long featured speech

chips in its "Speak & Spell" toys. Yet these same simple devices have also aided disabled people in a limited way. About two years ago, TI came out with another voice-toy called "The Magic Wand." The Magic Wand was different in that it contained a scanner that was used over bar code—boxes containing groups of printed vertical lines like the ones on supermarket products. These vertical lines of various thicknesses and shades are digitized and produce a variety of sounds that can be programmed to reproduce speech. The Magic Wand, which unfortunately is no longer on the market, originally sold for about $60 and was later available for about half that. It even came with a story book; six of them were printed, in fact, and each contained a varied vocabulary. We were able to use the wand to create a very inexpensive "talking tool" by making photocopies and cutting and pasting to form specific phrases or messages that could be scanned to produce verbal output.

We were able to use the Magic Wand to create an inexpensive "talking tool."

We have other ideas for its application and were delighted to learn that we are not alone in our appreciation of the digitized bar code. At a recent Conference on the Handicapped held in Minneapolis, Minnesota, sponsored by a publication called *Closing The Gap*, no less than three presentations on bar code technology were made. We are still in touch with the TI division responsible for the Magic Wand, and we hope that we can encourage them to make this useful and inexpensive communication tool even more versatile (even if they no longer produce the Magic Wand). Others are already exploring additional uses that will, undoubtedly, result in products for the general public. When this happens, you can give credit to the handicapped community for keeping the fire burning.

We show our wares

Our Disabled Interest Group recently participated in the San Diego Computer Society's Annual Fair. We were asked to prepare a presentation and host a

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booth, too. Deciding to illustrate the power of speech devices, we featured a demonstration of member Gerry Schwartz's "Voice Print" recognition system, involving hands-off program execution and ideas on conducting a business or service from the home.

We also featured Digital Equipment Corporation's "DECTALK," a machine that offers the most versatility and the best voice quality we've heard yet. The DECTALK works off any RS 232 port and should be thought of not as a voice synthesizer, but as a printer—except that instead of converting type to text it converts text to speech. Anything that appears on the screen can be said in a choice of eight voices, or a customized blend. It even sings! Our demonstration was a gigantic hit—the crowds were at times five and six deep.

Pacific Office Products demonstrated its "DEST Workless Station," an optical character reader (OCR) that converts (some) printed type directly to disk, thus eliminating the need to key in anything. We had seen the DEST before and speculated that we should be able to interface the DECTALK to the DEST and possibly get the DECTALK to *verbally* read the text. We succeeded on the first day, and showed off a little on the second. The audience included several blind folks, one of whom was Bob Simmons, a blind attorney who was running for the U.S. Congress at the time. Simmons later told me that he'd been waiting since he lost his sight seven years ago for something like this. It would allow him to read all legislation, his mail, bulletin board messages, and so on in privacy and at his own convenience, rather that having to depend on another.

We are currently speaking with manufacturers of other OCRs, such as "Omnireader" and "The Personal Scanner." We hope they will see the benefit of providing us with a unit or two so we can focus our efforts on producing a more affordable alternative with speech-producing capability.

The future

All these developments and more have reinforced the belief I've held since first becoming interested in this "science-fiction" technology called computing: In the long run, next to the manufacturers themselves, folks with disabilities will most likely derive the greatest benefits from the advances of the next decade. I also believe that in the process of develop-

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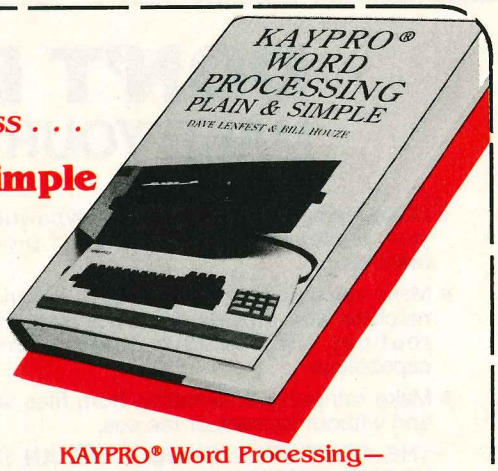

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The Man Behind DIGSIG

Milton Blackstone, father of a multiply handicapped son, founded the San Diego Computer Society Disabled Interest Group (DIGSIG) with the idea of helping the disabled learn to use computers to make their lives easier and richer. DIGSIG was the first users' group in the nation to address the needs of a membership with a variety of handicaps, ranging from blindness and deafness to quadriplegia and neurological disorders.

Since then, Blackstone has helped similar groups get started in a dozen other U.S. cities, and the former New York City television writer and producer, who moved to San Diego in 1967, now conducts workshops and classes and lectures extensively on the needs of the disabled and the ways computers can help meet those needs while affording greater independence.

The benefits to the disabled are at least as much psychological as physical. Blackstone cites some examples:

"We had one fellow who was a quadriplegic. He was extremely limited—he had some wrist movement—and he needed an attendant to do everything for him. If he wanted to turn off the lights or the radio, he needed someone to do it for him."

Taking advantage of his wrist mobility, he was able to learn to operate a computer by means of a special switch. It was a gateway to great new freedom. "He now controls his own home environment," Blackstone said with satisfaction, "and he needs an attendant only eight or nine hours a day instead of 24."

Because DIGSIG helped, the man became a computer science major and now is on the faculty of a San Diego area community college.

In another instance, membership in the DIGSIG may literally have been lifesaving.

"We have one fellow who is an ALS victim [amyotrophic lateral sclerosis, better known as Lou Gehrig's Disease]," Blackstone related. "Every time a meeting came around, he had less capabilities and needed more modifications. He became very despondent. Then we discovered a guy with the same condition who was the same age and who had lasted six years and was doing great."

The two were introduced, and the first man's "whole spirit completely changed. There was a huge difference, and his deterioration was arrested and he's sustaining the same level."

DIGSIG has become something of an unofficial clearinghouse for information about "assistance devices" for the disabled, and Blackstone says he's had calls for help from as far away as Korea. Still, he said, there's a long way to go; bureaucratic tangles and poor synapses between organizations serving the disabled have yet to be overcome. "There's lots of information," he laments, "but it's fragmented."

Despite the obstacles, Blackstone's enthusiasm seems undiminished. He and the other members of DIGSIG have the satisfaction of knowing they're on the cutting edge of technology—and that their innovations benefit not only other disabled persons but, in the long run, society at large. □

DOGS
(continued from page 43)

Sources for CP/M Public Domain Software

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Catalog free on request

Floppy Wars

How to decide which diskette will win for you

by Michael Wenberg

"You hear stories about it happening," said Scott Brown, a software programmer, "but until recently, it had never happened to me."

He picked a disk off his desk and pointed to the exposed surface. "One morning I discovered that my computer couldn't read an important file disk. I probably had 30 memos on the disk, plus a marketing report I needed that afternoon. I pulled the disk out of the disk drive, gave it a close look, and noticed that the oxide on the surface of disk was beginning to flake off. The disk was literally falling apart. Fortunately, I'd made backups. That's what saved my neck."

Brown tossed the disk back on his desk and continued. "What was surprising to me was that the bad floppy was one of the popular name brands."

Floppy disks—is there a difference among the different brands? Are name brands worth the extra price? Or do off-brand disks do the job just as well as their higher-priced brethren?

Some corporate heavyweights—3M, Kodak, IBM, and Fuji—are betting that the same people who buy name-brand cars, frozen dinners, blue jeans, and beer will also buy name-brand floppy disks.

It is a battle for the very soul of your computer. While it's easy to take a floppy disk for granted, this oft-ignored object is the unsung hero of the computer revolution. It is cheap, reliable, and fast. Many people think floppies are one of the main reasons microcomputers have reached their present level of popularity.

Elliot King, an editor for Gordon Publications, a publisher of computer trade magazines, says, "I think the floppy disk and the disk drive are the keys to the success of the personal computer. The floppy is compact, relatively easy to care for, and simple to use. Best of all, you don't need to be a computer expert to know how to use a floppy disk. It's like inserting a slice of bread in a toaster. Just slip the disk in a disk drive, turn on your micro, and you're ready to start working, playing, or whatever."

Although estimates vary widely, most industry experts agree that the average business computer user will purchase somewhere between 15 and 100 floppy disks each year. Today, some 70 distributors are selling floppy disks. Together they are spending millions of dollars in advertising in an attempt to convince you that their product is the best, the cheapest, the most reliable. Some tout multi-year warranties. Others boast product quality. And still others lead with low prices. So what are the differences among the different brands? Is one brand better than another?

Anatomy of a floppy

For the most part, defective disks are rare. Why? Partly because of better quality-control standards by the manufacturers. And partly because the 5 1/4-inch floppy disk is a relatively simple storage medium. With few exceptions, the basic components of all floppy disks are the same, whatever their brand names. All have a square vinyl sleeve that protects a thin disk of Mylar coated with a one-inch band of magnetic oxide. Punched through the center of the sleeve is a large centering hole that allows the disk drive spindle to engage the disk and spin it at dizzying speeds up to 3,000 revolutions per minute.

Most of the popular brands have a hub-protection ring covering the edge of the centering hole. The ring helps to protect the fragile Mylar disk from the wear and tear caused by the spindle's frequent grabs and repeated spins.

Every floppy has a head access window that allows the read/write head of the disk drive to scan the disk and either read from it or write information

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onto it. Off to the side of the centering hole is an index hole window. When the single index hole on the disk itself aligns with this window, a light beam inside the disk drive is completed. This tells your computer that one revolution of the disk has occurred.

The notch on the edge of the disk is the write-protect notch. When this notch is uncovered on a 5 1/4-inch floppy disk, information can be recorded or retrieved from the disk. Near the head access window, on the edge of the disk, are two alignment notches that help guide the disk into the correct position within the disk drive.

When inserted into a disk drive and given a signal to either record or play back information stored on the floppy disk, a magnetic read/write head moves across the surface of the disk exposed through its head access window. As the disk rotates within the vinyl sleeve, the read/write head either reads that pattern of magnetic particles on the disk and translates that pattern into usable information, or records information on the disk by reordering the magnetic pattern into its proper form.

Which floppy for you?

With only minor physical differences to distinguish one brand of floppy disk from the next, how do you choose the right floppy disk for you?

You can start by taking a close look at the quality of the workmanship. Keith Jeffries, the software test manager for Ashton-Tate, a major software publisher, thinks appearance is a major factor. "If you look at the underside of a floppy disk," says Jeffries, "you'll find that some have vinyl sleeves that are bonded at specific points, while others are are bonded all the way around. The continuous bond is the way to go. It helps to keep foreign particles out of the disk sleeve, where they can contaminate the surface of the disk."

Another factor is flexibility, says Jeffries. "I've found that the more flexible the disk, the better its operation. I know that seems to run contrary to common sense, but it's true. I don't buy disks that are too rigid. They just don't seem to work very well."

Ed McDermott, a Chicago computer retailer, always takes a close look at the surface of the disk. "If it has any visible flaws, spots, discoloration, or dust," he warns, "don't buy! Visible flaws are an indicator of potential problems down the road."

A reinforced hub ring is another indication of quality, says Jeffries. "Whatever the brand, make sure the floppy disk that you buy has a reinforced hub ring," he advises.

Most floppy disks do meet the minimum standards for saturation and resolution established by the American National Standards Institute (ANSI). Some manufacturers rate their products' life expectancy at 10 million passes before the oxide coating wears away. But to test the claim, you would need to run a disk drive continuously for more than three weeks.

These factors are important, and you should make sure the brand you buy meets the minimum criteria established by ANSI and provides some form of guarantee or warranty of the life expectancy of the product.

How do you choose? Start by taking a close look at the workmanship.

But as Keith Jeffries points out, warranties and guarantees are more a case of marketing hype than any real protection. "Sure, you can replace the disk," says Jeffries, "but what about the information that you lost? If you don't have backups, the warranty won't do anything about the lost data. When it's gone, it's gone, and no warranty is going to bring it back again."

Are name brands better?

When it comes time to purchase a new packet of floppy disks, many choose name brands. For example, Allen Miller, a Seattle aerospace engineer, looks for a combination of name brand and price. "I don't think I'd buy Kodak just because it is Kodak," says Miller, "but I do want confidence that a floppy disk is going to be a good product. Generic brands don't give me that confidence. I don't want to become a contributor to the horror stories floating around about defective floppy disks. So I stick with name brands. Even the most expensive disks cost less than $5. Using a questionable floppy disk is kind of like putting cheap gas in a Ferrari. It's done, but it's not very smart."

Despite his complaints, Keith Jeffries is another who looks for brand name. "I won't buy no-name floppies. They tend to be poor quality. But I'm not stuck with any one brand. I tend to switch back and forth among four different brands, depending on the type of information I'm storing. Normally I purchase Dysan. But I also use BASF and Verbatim. Price doesn't matter."

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City computer retailer, price is important for many computers users. "Off-brand disks are cheaper, in part, because the manufacturers don't support expensive ad campaigns. I sell and recommend off-brands. I don't have any more problems with off-brand disks than I have with name brands. Quality for most of the manufacturers tends to go up and down. If reliability becomes a problem, I don't carry the product."

Scott Brown always buys off-brand floppy disks. "Name brands are the exception in my disk holder," says Brown. "I protect myself by always backing up my work, and always checking a disk for errors before I begin to use it. Any problems I've had tend to be minor irritations. You always expect the floppy disk to work. It doesn't matter what brand you use, a floppy disk is only good if it works at that moment."

Unfortunately, you can never be sure that your floppy disks will always work properly all of the time. Brand name floppy disks have a reputation, deserved or not, for greater reliability. If you rest easier at night knowing your important data is stored on name-brand floppies, you should probably spend the extra money to buy them.

Be sure the brand you buy meets the criteria set by the ANSI.

The best protection you can have against defective floppies is to make sure you always keep a backup of your work. When it comes time to buy, take a look at workmanship. Beyond the physical look of the floppy disk, another important indication of current product quality is word of mouth. Because quality goes up and down, your local user groups can be the sources of the latest information about the brands you should stay away from.

Claims by computer retailers and manufacturers should be viewed with a jaundiced eye. Your local computer retailer will usually recommend the brand he or she has in stock. And that may not be the brand for you.

If you're convinced a particular off-brand floppy is the disk for you, you should probably continue to use it until you run into problems. If you are a novice computer user, name-brand floppies may be the way to reduce your risk and provide you with much-needed peace of mind.

(In the final analysis, the only floppy disks that

most people would agree on and that I wholeheartedly recommend are the disks made entirely out of milk chocolate. Manufactured by Software Toolworks of Sherman Oaks, California, the Chocolate Byte is a floppy disk that will never be considered defective and is guaranteed to last just a few minutes in the hands of most computer users.)

This oft-ignored object is the unsung hero of the computer revolution.

Floppy disk care

Most of us, at some time or another, have been guilty of leaving our floppy disks stacked on the edge of our desk or work station, or exposed in some other way to the ravages of the office or home environment. Whatever your brand, none is safe from dust, heat, or even the sun. All can affect the operating life of your floppy and contribute to disk errors.

Here's what you need to watch out for:

1. *Dust.* Manufacturers provide disk envelopes for a reason: They provide the first line of defense against dust and other potential hazards. Good envelopes are made of a synthetic substance called Tyvek, which is difficult to tear and doesn't leave fibers that can invade the disk's protective covering and disrupt the read/write head's ability to read the tracks. They can also protect the disk from spilled liquids.

2. *Magnetism.* The delicate magnetic field laid onto the disk tracks by the read/write head can be easily scrambled by the close proximity of common household and office devices, such as magnetized paper clip holders, or the magnetic waves sent out by a ringing telephone.

3. *Sun.* The nice view through the window by your desk may hold a hidden danger for your floppy disks. Ultraviolet rays also have been found to disrupt the magnetic particles on your disk.

4. *Heat.* Heat is another potential hazard to your floppy disks. Leaving a box of floppies in your car on a hot summer afternoon may be enough to warp the disk jackets. An overheated disk drive will also

(continued on page 80)

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Hard Disk Backup Programs

Choose one and sleep better at night

by David Chown

Probably the most intimidating piece of microcomputer hardware on the market today is the hard disk drive. Whether we are computer neophytes or "old pros," that magnificent chunk of whirling metal causes an occasional pause for reflection. The biggest worry is quite basic: What if something goes wrong? What if, in an electronic flash, *all* of our precious data is lost due to a hard disk malfunction? The answer is also very basic: The degree of potential catastrophe can be minimized by keeping duplicate copies of the information stored on the hard drive.

Most readers know the importance of making "backup" copies of our work (in my case, I learned when I had to reenter 200 records into a dBASE II file that I'd "thought" was copied to a floppy). The questions most Kaypro 10 owners have about backup tend to be: How is it done, how long does it take, and what does it cost? Answers to those questions can be elusive. The Kaypro 10 comes with "bundled" software for making backups, there are public domain programs available for that purpose, and there are commercial backup programs. Few Kaypro 10 owners (and certainly few potential owners) have the information at hand to help them decide whether to make do with "standard issue" or spend time and money obtaining additional software. This article compares the ease of use, speed, and cost of the available programs so users can better decide which route is best for them.

Backup problems

If hard disks were used exactly like floppy drives, there would be little need (other than speed, perhaps) for fancy backup utilities because all that would really be necessary would be PIP.COM. The obvious reason we have hard drives, however, is that they are not utilized "just like" floppies. Hard disks allow us to store much more information than would fit on one floppy diskette and also allow us to work with single files that are larger than a floppy diskette's capacity. These advantages can become bothersome when it comes time to copy the files, though. Part of a user's decision about what method of backup to choose depends in large part on the number and size of files being used. Some backup software copies small files to floppies and prompts the user when the diskette is full, but isn't capable of making a useable backup copy of a single file that exceeds the storage capacity of one diskette. The frequency with which backups need to be made is important. The infrequent user can probably get by with simpler backup programs, while those who must make frequent backups, or backups of large amounts of data, or (gulp!) frequent backups of large amounts of data will soon feel the need to acquire as fast a program as is obtainable. Further, some backup software is intended to copy *everything* on the hard disk each time a backup is done, while other programs allow selective backup of individual files. This difference is especially important if you have a single large file (such as a database) that must be copied often.

Available alternatives

There are essentially three sources of backup programs. One is the "bundled" software that comes with the Kaypro 10. Another potential source is the public domain, where the programs may not be "free," per se, but can be acquired at minimal cost. Finally, there are a couple of commercially produced backup programs available at fairly reasonable prices.

Bundled software

MUFBAR ("multiple backup and restore"—actually

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TIMING RESULTS: ONE USER AREA (Small Files)
Min.:Sec.
(Rounded to Nearest 5 Second Increment)

NAME	BACKUP	FORMAT	TOTAL	RESTORE
NEWSWEEP	8:45	1:05	9:50	5:45
PIP	8:05	1:05	9:10	5:10
K10BAKUP	8:10	1:05	9:15	Uses PIP, etc.
MUFBAR	9:10	1:05	10:15	3:50
FASTBACK	1:40	None	1:40	2:50

Figure 1

consisting of three utilities: MUFBACK.COM, MUFREST.COM, and MUFLOOK.COM) and PIP.COM are bundled with the Kaypro 10. PIP, the standby CP/M utility, exists primarily for single-file copying of files small enough to fit on one diskette. MUFBAR is specifically designed for hard disk backup. It creates a directory of hard disk contents that can be viewed with MUFLOOK and can back up the whole hard drive or selected files, even when one file exceeds the capacity of a single diskette. Unfortunately, MUFBAR is not especially fast in operation and tends to be harder than necessary to use, particularly for the relative novice.

The biggest worry is quite basic: What if something goes wrong?

Public domain software

There are two public domain programs for hard drive backup that are widely available. One is called BAKUP.COM (the latest version I've seen is BAKUP23.COM) and is available in a Kaypro 10 version (K10BAKUP.COM, naturally). This program is little more than a cataloging utility that produces a directory of the hard drive on the screen or on the printer and allows the user to copy the files in one user area at a time to floppy. The other program is called BIGBURST.COM. As can be surmised from the name, this utility is intended to be used in copying files that are larger than one diskette's storage capability. The original versions of both these programs were written by Gary Young of North Hollywood, California, and the programs are readily available on RCP/M systems around the country, as well as on the K10 utilities diskette from Micro Cornucopia in Bend, Oregon.

One other public domain file copy program should be mentioned because it is used so widely by Kaypro owners. That program is NEWSWEEP.COM (or NSWP.COM, as many of us know it). It allows us to do quite a few things, only one of which is copying files, but since it is so widely used for that task, it has become a "benchmark" standard for comparison.

Commercial offerings

The two commercial products being reviewed are KBAR, from Data Decisions, Inc., 220 North Willow Street, Little Rock, Arkansas, 72114 and FASTBACK (consisting of FASTBACK.COM and FASTREST.COM) from Ebert, Inc., 4122 S. Parker Road, Aurora, Colorado, 80014. FASTBACK retails for $99 and KBAR for $89.95. KBAR was written by Bud Shamburger, and FASTBACK was written by Philip L. Becker. While both do what they are intended to do quite well, and considerably more efficiently than the alternative programs, they differ considerably in the specific tasks for which they are intended. FASTBACK is more a "jack of all trades" program, in that it has enough options that it can be used to back up as little, or as much, as one wishes, depending on the circumstances. KBAR, on the other hand, is written solely for one use: making a backup copy of *all* the contents of an *entire* logical drive (A: or B: on the Kaypro 10).

Comparing the programs

Time is a valuable commodity, so it is logical that Kaypro 10 owners would be interested in how time consuming it is to use one backup program compared to another. None of us particularly cherishes the thought of dutifully spending "X" hours a week accomplishing the admittedly mundane task of protecting our work, especially if we later discover we could have cut that time in half. In fact, many users undoubtedly don't back up their hard disks as often as they probably should simply because it takes so

TIMING RESULTS: LARGE FILE (688k)
Min.:Sec.
(Rounded to Nearest 5 Second Increment)

NAME	BACKUP	FORMAT	TOTAL	# of DISKETTES	RESTORE
MUFBAR	11:10	2:05	13:15	2	4:00
BIGBURST	11:05	2:05	13:10	2	4:20
FASTBACK	2:45	None	2:45	2	3:10

Figure 2

long. The only way to get valid comparisons is to literally time (stopwatch in hand) the different backup utilities on the same version of each of the most frequently required backup tasks.

There are three typical kinds of backup tasks that readily come to mind. Sometimes it is necessary to make a backup copy of one user area. For me, this is usually the case when there is no more space on my hard drive, so I choose the user area currently least often used, make a backup, and free up the needed storage for other tasks. Occasionally the backup results from the need to copy one large file that won't fit onto one backup diskette. At other times (such as the very first time you turn on your Kaypro 10) it is advisable to back up the entire contents of the hard disk. I decided to compare the relative merits of the backup programs in action on each of these three tasks.

The method employed was simply to use each program to back up and then restore the same amount of information in each of the three backup situations described above.

Backup of a single user area

I first timed the backup of a single user area. My test data consisted of a user area on my Kaypro 10 that happened to contain 57 files of 440k (on the hard drive—which equals 372k when copied to floppy). This is a relatively simple task; consequently, several of the available programs could be used. One that cannot accomplish this task, however, is KBAR, because it cannot back up anything less than an entire logical drive. BIGBURST is also a specialized program inappropriate for this particular job.

Figure 1 summarizes how the programs performed. Of the relatively cost-free programs, MUFBAR took the longest to do the backup, but more than made up the difference by saving time on the restore function. The clear "winner" on this task was FASTBACK. Not only did it accomplish the backup more than four times faster than the other programs, it was fastest on the restore portion of the test, and it saves time on diskette formatting as well. Of all the programs tested, FASTBACK is the only one for which you do not have to pre-format diskettes; it formats as it goes. This is because FASTBACK "streams" data to the floppy, which necessitates a unique format that the program has to create. (FASTBACK diskettes cannot be read with standard CP/M commands like DIR; FASTREST.COM provides the capability to see the master directory created by FASTBACK.COM.)

As a long-time devotee of NEWSWEEP, I was somewhat startled to discover that PIP is actually a little faster. By the way, the times shown in Figure 1 for these two programs are without their respective "verify" options—using them adds approximately 25 percent to the times for both. I was also somewhat disappointed by K10BAKUP; it didn't perform any better than PIP on the backup and doesn't have a restore routine of its own (restoring is done with PIP or NEWSWEEP or the like). The sole redeeming feature of K10BAKUP is its ability to give you printed directories of the hard disk contents—that alone might justify acquiring it.

Tackling large files

The second backup task I measured was backing up the single large file. Not having a large enough file readily available, I created one with WordStar by inserting files into each other for what seemed an eternity (certainly reinforcing my long-held belief that it is best to write chapters, not books—and short ones at that). My finished product was 688k in one file on the hard disk. Program options diminished for this task because only three of them were capable of the job. Figure 2 shows the large-file timing results.

All three programs required two diskettes to hold the file I had created. Once again, FASTBACK was the clear winner, particularly regarding the time required to do the backup. As before, I was a bit disappointed by the public domain entry, BIGBURST, in this instance. Its results were no better than MUFBAR overall. In defense of the public domain programs, it is only fair to note that they were originally written for CP/M machines generically, and they pre-date, by quite a bit, later pro-

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TIMING RESULTS: ENTIRE LOGICAL DRIVE (4352k)
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NAME	BACKUP	FORMAT	TOTAL	# of DISKETTES	RESTORE
FASTBACK	16:40	None	16:40	10	21:25
KBAR	13:40	12:45	26:25	12	15:25

Figure 3

grams such as MUFBAR and FASTBACK. They were, no doubt, very valuable utilities in their day (and still may be for owners of brands that don't come with something like MUFBAR).

Hard drive backup

The remaining task I timed was backing up the entire logical drive. Technically, several of the programs could have been used, but for reasons I hope are apparent, I elected to use only KBAR and the two FASTBACK utilities. A quick mental extrapolation based on the results in Figure 1 told me that I didn't really want to do 16 user areas with most of the other programs.

My tests were made on drive A of my Kaypro 10. When the times were taken, it contained 4352k (120k free) in 303 files. Figure 3 shows the results on this task. Both KBAR (13:40) and FASTBACK (16:40) were considerably faster than MUFBAR would be (approximately one hour, 45 minutes) on the backup task, and both were much faster on the restore function. While KBAR performed both backup and restore faster than did FASTBACK, looks can be deceiving at times. It took me 12 minutes, 45 seconds to format the 12 diskettes required by KBAR to back up the A drive. As previously noted, FASTBACK eliminates this step. When formatting time is factored in, FASTBACK edges out KBAR. Further, FASTBACK needed only 10 diskettes, compared to 12 for KBAR.

Using FASTBACK and KBAR

I found both of the commercial programs to be good products. They both functioned as advertised (except my times were a bit longer than those advertised for KBAR) and performed flawlessly in completing their assigned tasks. Documentation for both was good. FASTBACK is packaged in today's prevalent style, a three ring binder, which may have been overkill in this case. Inside the thick binder were 11 lonely pages of documentation (after all, how much can you say about one hard disk backup program?), which proved more than adequate to describe the program's use. The copy of KBAR I received wasn't in a binder (although the retail version may very well be) but was accompanied by a glossy 10-page instruction pamphlet that very adequately explains how to use KBAR.

While FASTBACK is distributed in a fashion similar to most other CP/M software, KBAR is copy protected. The user receives a master diskette, a backup copy, and instructions to get a replacement from the dealer should one of the diskettes become damaged. The copy protection scheme is such that the program checks the master diskette's serial number before allowing a backup to proceed. That is, the program is executed from A0: of the hard drive, and the master diskette is placed in the floppy drive for a comparison of serial numbers. Once the numbers are checked, the program is supposed to either continue or flash a "PIRATE!" message on the screen (yes, I tried it just to see what would happen) and terminate. That's all well and good, except I run ZCPR3 on my Kaypro 10. (ZCPR3 is a fantastic public domain replacement for the regular CP/M command processor.) When I tried to run KBAR, with the master diskette in my C drive, all I could get was a warm boot; no message, no backup, nothing but a warm boot. Once I regressed my machine to an "ordinary" CP/M configuration, everything went as intended. Apparently, ZCPR3 and KBAR's copy protection routine don't like each other.

Conclusions

I feel that most serious users of Kaypro 10s should definitely consider purchasing either KBAR or FASTBACK. None of the other options even comes close to the performance of these two. FASTBACK is my personal favorite, mainly because of its greater flexibility and my aversion to formatting diskettes. If you have an unlimited supply of formatted diskettes, or want to format diskettes in advance to shorten actual backup time for some reason, then KBAR may be just for you. Bear in mind that it is an "all or nothing" proposition, though. Whichever program you choose, use it frequently, and sleep better at night. □

David Chown teaches at Texas Christian University in the business school.

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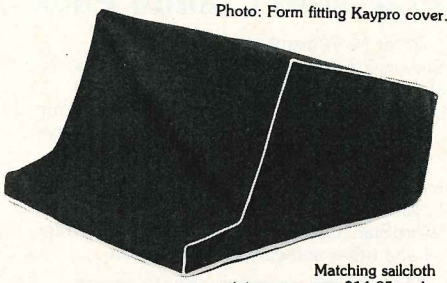

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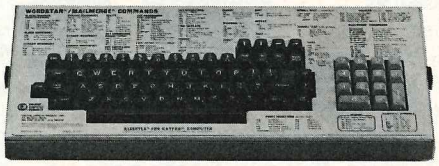

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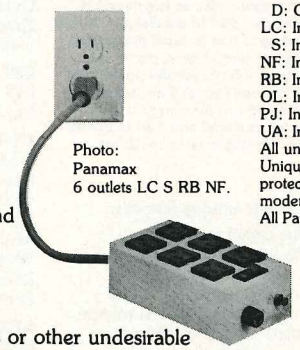

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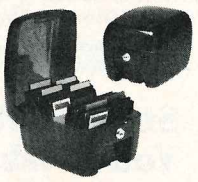

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Stop Tearing Up Your Disk Drives

If you're using your Kaypro as a printer buffer instead of a computer, you may be tearing up your disk drives. Disk drives are mechanical devices, they are often the first parts of a computer to go sour. No wonder. Everytime you feed your printer a file, the drives whirl madly until the printer has accepted the entire file. Sometimes this takes a long, long time.

If you're tired of hearing your disk drives grind down, you need a printer buffer. The best performance and price buffer on the market is the Consolink MicroSpooler. This computer-like tool absorbs files as fast as your computer can send them, and then patiently feeds or spools them to your printer a few bytes at a time.

The Kaypro can dump a file faster than a printer can accept it. This device will catch the file, quiet the disk drives, and let you compute again.

CONSOLINK MICROSPOOLERS

Description	List	Price
64 K P-P	$315.00	$279.95
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64 K S-S	$349.00	$299.95
64 K S-P	$339.00	$294.95
Two Cables	$ 56.00	$ 29.00

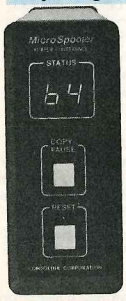

Photo: MicroSpooler 64 K P-P

64 K Stores and spools files as large as 64 K.
P-P Parallel Kaypro port to parallel printer port.
P-S Parallel Kaypro port to serial printer port.
S-S Serial Kaypro port to serial printer port.
S-P Serial Kaypro port to parallel printer port.
Cables Set includes one special male to female connector and one male-male connector.
*Please tell us model and type of printer you're connecting to your computer.

Includes these unique features:

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- Multiple copy function
- Temporary pause function
- Sleek internal power supply
- Comprehensive self test routine
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- Front panel reset
- 12 month factory guarantee

The MicroSpooler is an intelligent, feature-packed buffer. It is easy to install and operate. Merely place it between your computer and printer, then connect it with two cables, and feed files as large as 64K within seconds to your letter quality or dot matrix printer. The instant the transfer is complete, you can operate your computer again. The MicroSpooler does the rest.

The MicroSpooler comes in a variety of configurations. You can link your Kaypro to any popular printer with two inexpensive cables. Please check our low MicroSpooler prices. You won't find a more feature-packed or reasonably priced spooler around. Try the MicroSpooler of your choice for 15 days. If you are not completely satisfied with your purchase, return it for an immediate full refund. Your Kaypro deserves this attractive and useful accessory. Order a compact and powerful MicroSpooler for your computer today. Works with all model computers.

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MBasic	$ 39.95	$ 33.00
Microplan	$ 75.00	$ 57.00
Multiplan	$ 75.00	$ 57.00
Wordstar	$ 75.00	$ 57.00
BORLAND INTERNATIONAL		
Turbo Pascal 2.0	$ 49.95	$ 45.00
Turbo Toolbox	$ 49.95	$ 44.00
CDE SOFTWARE		
Checks & Balances	$ 74.95	$ 69.95
CHUCK ATKINSON PROGRAMS		
Quick Check Money Manager	$ 99.00	$ 79.00
Quick Check + AR	$195.00	$155.00
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All superior Wordstar enhancers		
COMPUTRONICS		
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CONTINENTAL SOFTWARE		
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KBAR	$ 89.95	$ 79.00
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Rembrandt Graphics Pak	$ 79.95	$ 64.00
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FOX AND GELLER		
QuickCode ★	$295.00	$225.00
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continued on next page —

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Stardrive lets you write, spell, draw, and calculate like never before. List price of *Stardrive* is $200. Central's current price is $149. Stardrive is available for Kaypros that have storage of at least 250k per drive. Order today to get this multi-pack of powerful programs fast.

Attention: *Stardrive* will give your text files new vim, vigor, and punch. A beautiful thesaurus. At last.

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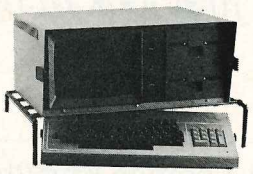

Simple, strong, sturdy, safe. These words describe an attractive, angled stand that provides a perfect spot to place your Kaypro. This stand is made from rounded, steel rods covered with a thick, shiny, soft, black polymer material that protects your Kaypro and table top from scratches. Unlike flat wood or acrylic panels used in other stands, the tough supporting rods of the Smart Stand (TM) do not obstruct air flow. In fact, since your Kaypro is lifted off the table top and gently angled by this stand, air rises up from under your computer, and flows freely through it to help keep it cool. When you're finished computing, you can slide the keyboard completely under the stand to create a working area on your desk. The Smart Stand is a super value at $34.95. Try it for 15 days. If not completely satisfied, send it back for a full refund. Matching 80 or 132 column printer stands are only $19.95 or $23.95. Order today to get the Smart Stand fast.

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Preview: The Kaypro 16

A first look at our MS-DOS machine

by Thomas Enright

Up to now *PROFILES* has steered clear of reviewing Kaypro's products because of our proximity to Kaypro Corporation. This article is a test; we will try to comment on a Kaypro product.

This article is not a full review; it's more a preview of a new product. The Kaypro 16, K16 for short, is Kaypro's new IBM-compatible computer. This article also marks the beginning of an expansion in *PROFILES* coverage. Now we have to cover the MS-DOS/PC-DOS world, as well as CP/M. Since the K16 operates in an entirely different environment from other Kaypro computers, further information on the K16 and MS-DOS will be published on a fairly regular basis. In order to appear in this issue, the writing had to be done in November. So, some of the things mentioned here may have changed.

This first installment will be limited mainly to the computer itself. (Besides, more time will be needed to get into the more arcane aspects of MS-DOS and IBM compatibility.)

To begin with, the Kaypro 16 is an XT clone, rather than a PC clone. A clone, in computer parlance, is one manufacturer's attempt, within the copyright and patent laws, to duplicate the product of another manufacturer. In this case Kaypro is attempting to duplicate the IBM PC XT, rather than the IBM PC. The difference is that the XT has a 10 megabyte hard disk and one floppy drive, rather than being a floppy-based machine.

Specifications on the Kaypro 16 are included in a box accompanying this article.

How it looks

The K16 looks like a Kaypro 10 with a different keyboard. Connecting peripherals to the output ports is done through an access hole on the left side of the chassis. The brightness adjustment, power switch, and keyboard connector are located on the rear panel in traditional Kaypro locations. A welcome departure from IBM practice is the inclusion of a reset button located next to the output ports. On an IBM, if a program hangs up and won't listen to the keyboard, you have to reset the computer with the on-off switch.

Keyboard layout is the same as IBM's PC keyboard— notably the RETURN and left-hand SHIFT keys. (Not everyone will be pleased with that news.) The RETURN key is smaller and most of its surface is cut away, leaving a standard size keytop as a target. Where your little finger expects to find the left-hand SHIFT key, it finds the reverse slash. The SHIFT key is further to the left. The right SHIFT key is also a rather small target, but in nearly normal position. Touch typists have been griping about this layout ever since the PC came out.

On the plus side is that the "feel" of the keyboard is excellent—stiffer than keyboards used on the rest of Kaypro machines. Another piece of good news is that the keyboard cable is *long*! It's four feet long

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when relaxed and stretches out to ten and a half feet. (At that distance, you would need a 25-inch monitor to read the screen.) The cable also uses the standard DIN connectors found on IBM machines. The keyboard latches to the front of the chassis just like other Kaypros when you need to transport the machine.

The internals

Kaypro's approach to IBM compatibility is a little different than most other clones'. The circuit boards consist of a motherboard and four IBM-compatible card slots. A processor card, a floppy disk controller card, and a video card have to be plugged in to make a functioning system. This leaves only one slot open for further expansion. Having the processor on a plug-in card does open the possibility of installing a different processor card in the future—a very interesting idea.

Kaypro's approach to IBM compatibility is a little different than most other clones'.

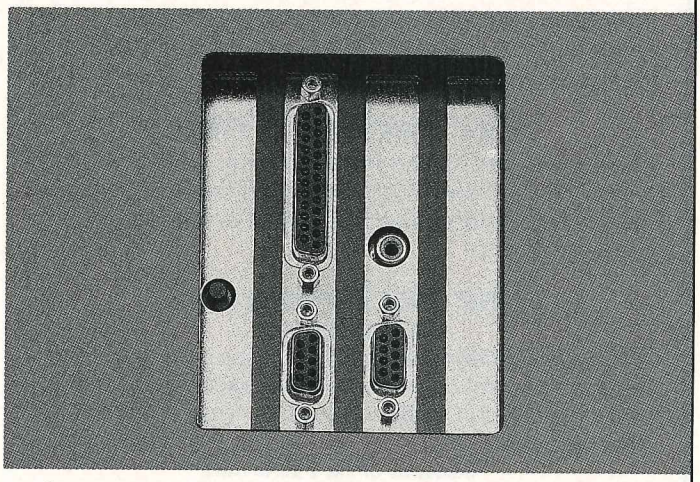
The motherboard is mounted upside-down with expansion cards plugging in from underneath. The entire card-slot area is enclosed in metal shielding to prevent interference from the high voltage around the CRT. There is no extra room inside the chassis; everything seems to have been put in with a shoehorn. Adding RAM chips or an expansion card is not as easy as on the IBM. The motherboard has to be removed from the chassis before chips or another card can be plugged in. This is not the most convenient arrangement for technicians or for adding new cards. But it is the only way all components could fit inside a standard size Kaypro chassis. Fortunately, there is no reason to get inside the machine very often.

The standard system comes with 256k of RAM, and the motherboard is socketed for a full 512k. Upgrading to 512k requires removing the motherboard, plugging in the chips, and reinstalling the board. Any RAM above 512k, up to the maximum of 640k, goes on the floppy disk controller card. The motherboard also carries the video decoding circuitry (more about that a little later) and the interface between the IBM-bus and the hard disk controller card. The hard disk controller card is mounted on top of the drive shield and is the same card used on the Kaypro 10.

Next to the 8088, on the processor card, is an empty socket for an 8087 floating point processor, if you need to do some real number crunching. Along with the 8088, the processor card is home to the 8288 bus-controller, the 8273-5A DMA chip, an 8253-5 timer, interrupt controller chips, and keyboard interface circuitry.

The color/graphics card functionally duplicates IBM's color graphics card, right down to the character set. Standard IBM connections for external RGB and composite monitors are on the video card. Internal video is taken off of the RGB lines and decoded on the motherboard into 16 levels of gray scale for the internal monitor. This lets the standard K16 run color/graphics software. The colors show up on the internal monitor as 16 shades of green, more than adequate for most uses.

The floppy-disk controller card houses the serial and parallel port connectors, besides the NEC PD765 controller. The parallel port is an IBM-compatible female DB-25 and the serial port is a female DB-9. In addition, the card is socketed for two more 64k banks of RAM. Populating these sockets brings the system memory up to the maximum of 640 kilobytes. The upgrade from 512k to 640k is reserved as a factory upgrade because a couple of other chips have to be replaced before the final 128k can be addressed.



One note of caution! Both the serial and RGB output ports are female DB-9 connectors located right next to one another. On the model that I have, admittedly pre-production, the ports have no labels. *Should anyone accidentally connect the wrong device to one of these connectors, it could damage either the computer or the connected device.* If Kaypro doesn't label either of these connectors, you should. You may know which one is which, but will everyone else who uses the computer know?

The operating system

IBM workalikes use a modified MS-DOS (MicroSoft Disk Operating System). IBM is the only one who can use true PC-DOS. The trick is to make the modified MS-DOS as close as is legally possible to PC-DOS. Since Microsoft wrote both MS-DOS and PC-DOS, the task is a little easier. So far, every piece of IBM software that has been tried runs on the Kaypro 16. Note that this is standard PC-DOS software, not specially modified Kaypro versions.

The most common rule-of-thumb tests for IBM PC compatibility are whether LOTUS 1-2-3 and Microsoft's Flight Simulator will run. Both of them run on the K16, right out of the box. The Kaypro Software Department has been making a concerted effort to test all the IBM software they can find. Graphics games, word processors, database packages, graphics drawing and painting software all run without modification. They can't test every program in the world, but they seem to be trying.

So far only one area of incompatibility has been found. The port addresses for an expansion chassis are not supported in the ROM. This means no expansion chassis can be interfaced to the Kaypro 16, at least not unless Kaypro makes its own interface card. Having only one extra card slot could be an important consideration for some users. The only other thing not implemented is the cassette port. But since IBM doesn't support the cassette port on the XT, I don't think anyone will complain.

Software

Like all other Kaypro computers the Kaypro 16 includes a bundle of software in it's purchase price ($3,295 at press time). The software bundle on the K16 includes programs for word processing, database management, spreadsheet manipulation, BASIC programming, and telecommunications. Whether more software will be added in the future is anyone's guess right now. A quick reference of the current software bundle is in the box accompanying this article.

The MicroPro series

Word processing is taken care of by WordStar 3.31p. This is the 16-bit version set up specifically for the

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Enhances any version of CP/M 2.2. Includes FASTCOPY, improved TYPE command, PUBLIC features, type-ahead buffer and more.

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	Subtotal	____
	California sales tax (6%)	____
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	TOTAL	____

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Plu*Perfect Systems

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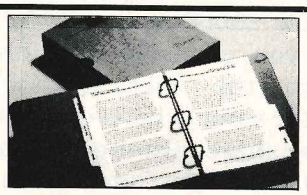
IBM PC, and therefore the K16. MailMerge is included with the WordStar package. MailMerge is the overlay file that allows you to print out form letters with personalized messages taken from your own data or mailing list file. It also lets you print out multiple copies of one or more files.

Using StarBurst, you build a system of menus for using the rest of your programs.

InfoStar is DataStar, ReportStar, and StarBurst linked together in one package. The InfoStar package is designed for database manipulation. The InfoStar package is menu driven, so you don't have to be a programmer to operate it. DataStar is the database portion, ReportStar is a sophisticated report generator, and the InfoStar program is the connecting link between them. Using DataStar you design your own entry screens for the information you want to keep track of. ReportStar lets you specify what you want the printed report to contain. It's not limited to just information that already exists in the data file. You can have it do mathematical calculations for the report, or even select records based on numeric calculations.

StarBurst is a little more difficult to classify. Perhaps "Systems Integrator" is the best name to give it. Using StarBurst, you build a system of menus for using the rest of your programs. StarBurst menus work with any software, not just MicroPro programs. The Kaypro 16 comes with its own MASMENU program, so including another menu generator may seem a little redundant. While MASMENU is intended for general-purpose use, StarBurst targets the business user. One person, using StarBurst, builds a series of linked menus for performing whatever functions the operator is required to do. That way, only one person has to be really proficient in operating the entire system. That person can be the owner, a key employee, or a hired



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Allows up to 2,500 customers and 1,000 invoices per month. Invoicing can access Inventory Module. Keeps customer names and addresses. Invoice prints on plain paper or any pre-printed form. Statements can be printed at any time.

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Allows up to 500 vendors and 600 invoices/mo. Records invoices and and handwritten checks. Prints computer checks on any preprinted form. Keeps vendor names and addresses.

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Allows up to 6,000 parts. Keeps 3 month history of unit sales as well as year to date. With AR, can be used as point of sale system (prints invoices, handles cash). Reports include Inventory Value and Stock Report, Internal and Customer Price List.

PAYROLL.....$125
Will handle up to 100 employees with six deductions per employee. Deductions may be determined as fixed dollar amounts or percentages, or referred to a table for automatic look-up. Tax tables are easily entered, or purchased separately.

SET OF FIVE.....$465
SET OF FOUR.....$395
SET OF THREE.....$325

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Osborne I & Executive	Sanyo
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TeleVideo	Cromemco
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Apple CPM	Others

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OR ORDER BY PHONE.
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INVENTORY—CONTROL

- **Retailer & Distributor System** - includes four cost/price fields, four locations, three vendors, re-order reports, inventory costing, and 12 months of sales history for each item which is great for purchasing and sales projections! Purchase Order and Invoicing options are available. **$295**
- **Manufacturer's System** - includes bill-of-materials with labor and overhead, parts required projections, parts "where used" summaries, sales history and re-order reports, indentured parts, work-in-process, and more. Makes planning and purchasing a breeze! Purchase Order option is included. Invoicing option is available. **$595**
- **Purchase Order Option** - takes the drudgery out of preparing and tracking purchase orders! It maintains your vendor file and open items, automatically adjusts on-order quantities when the P.O. is printed, adjusts inventory and open order items when shipments are received, and prints an "items received" report with subtotals for each invoice to aid Accounts Payable. **$100**
- **Invoicing Option** - speeds up invoicing, inventory, and Accounts Receivable! It enters sales, prints invoices, and collects information about your customer and the sale for tax and receivables purposes. It automatically updates inventory quantities and sales dates. **$100**
- **Affordable!** Compare these comprehensive systems with their price!
- **Proven** by years of use! These systems have been in use for many years including at Kaypro Corp.
- **Supported** by an established company of professionals that has grown through customer satisfaction since 1976. You take no gamble with this proven firm!
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consultant. Operators only need to know the operations they perform, nothing else.

The big advantage of StarBurst is that it can restrict the operator to only certain operations. Since each menu is designed by someone in-house, menus can allow access only to the programs that operators need to do their jobs. That can be an important feature with sensitive data files, or critical operations like backup or file deletion. Backup can even be set to run automatically when a job is finished. The operator can be sent a message to insert the backup diskette and press RETURN. The actual commands for backing up the data files would already be in the StarBurst file. Therefore, problems with operator error can be significantly reduced.

For spreadsheet work, you get CalcStar. CalcStar may not be the most popular stand-alone spreadsheet, but it does merge rather well with the other MicroPro software. MicroPro should be credited with originating the integrated software concept. Even in the 8-bit world, all of their software shares common commands for similar operations. That's what really makes software "integrated," not whether you load the whole shooting-match into memory at one time. Once you're familiar with one MicroPro package, learning the others is much easier; the commands are the same wherever possible. Data file formats are also shared throughout the line. You can load a DataStar file into CalcStar and work with it.

BASIC and modems

IBM's BASICA interpreter uses information from the IBM ROM in order to function. Since IBM doesn't have a sense of humor when it comes to copying its ROM, other computers cannot run the BASICA interpreter. The answer to this problem is Microsoft's GW-BASIC interpreter. GW-BASIC simulates, in software, what BASICA does with ROM calls. The result is that the Kaypro 16 should run any BASIC source code that runs on the IBM PC.

Modem communications are taken care of by Mycroft Lab's MITE. MITE stands for Mycroft Intelligent Terminal Emulation, a real mouthful. (Now you know why all those terse computer acronyms were invented.) Since Kaypro has switched to MITE on all of its 8-bit machines, it makes sense to continue the practice with its 16-bit machines. Anyone who has used MITE on another computer, even if it wasn't a Kaypro, will feel right at home. MITE remains one of the most powerful communications packages on the market. If it wasn't, Ashton-Tate wouldn't have integrated it into FRAMEWORK.

Putting it together

Current Kaypro policy is to ship hard disk machines with the software on diskettes. It's the responsibility of the end-user, or dealer, to load software on the hard disk. The idea behind this is to eliminate some of the problems encountered when computers are shipped with software already in place.

Since the hard disk is shipped blank, each computer is accompanied by an "autoload kit." This kit has all the bundled software on a series of numbered diskettes. Included on these diskettes is software to load everything automatically. All the dealer, or end-user, has to do is insert the first diskette and press the reset button. The hard disk is then formatted and all software is loaded automatically. The operator merely inserts the next numbered diskette when a screen message asks for it.

Overall impressions

Overall, the Kaypro 16 is an excellent value. An IBM PC XT similarly equipped would cost you over $6,000. The other XT clones all have suggested list prices at least $1,000 above the $3,295 of the K16, and without the software bundle. This price/value combination has been Kaypro's strong suit all along; why change now?

There are features of the K16 that I don't like—primarily IBM's keyboard layout, IBM's character set, and the inability to add an expansion chassis. Two of the three are features shared with IBM and can be changed with third-party upgrades, if you want to spend the money. Hopefully, Kaypro will save you the money and use a different keyboard on production machines. Replacing the video board may be a more difficult undertaking if internal video is to remain. The IBM character set on a 9-inch monitor is much better than the same thing on a 13-inch screen, but it doesn't match the clarity of other Kaypros.

The area of external expansion is a little more complex. There hasn't been enough time to find out if all external hard drives and/or tape drives use the expansion port addresses or another port address. That's a real consideration when the expansion chassis ports don't exist on a particular machine. External hard disks are available for the IBM PC that add up to 140 megabytes of storage, and some business or graphics applications need that much room. Also, in business applications, backing up the hard disk to tape is the easiest and most efficient method. That area is going to take some more research.

Even without external expansion, the Kaypro 16 has a lot of capability for an "Ugly Duckling" computer. Some people don't like the way Kaypros look—too boxy and utilitarian. If you keep track of advertising by competing companies, the term "Darth Vader's lunch box" may come to mind. My own thought is that Kaypro's appearance is a big attraction to a good many people. The word is functional. You aren't paying for the trendy modern-plastic look. Kaypros are working machines, not inbred show animals. □

The Kaypro 16 at a glance

Hardware

256k RAM standard.
- Field upgradeable to 512k.
- Factory upgradeable to 640k.

8088 processor (4.77 MHZ).

10 megabyte hard-disk.

360k DSDD floppy disk drive.

9 inch monochrome monitor built-in.

IBM compatible graphics.
- 200 × 640, 2 color.
- 200 × 320, 4 color.
- 25 × 80 text.

IBM compatible I/O ports.
- 1 Parallel printer port.
- Composite video output.
- RGB color video output.

Other I/O ports.
- 1 Asynchronous serial port.

The reset button IBM forgot.
1 available IBM expansion slot.
IBM compatible keyboard.

Software

MS-DOS 2.11 operating system.
GW-BASIC interpreter.
MITE communications software.
WordStar with MailMerge.
InfoStar data base management.
CalcStar spreadsheet program.
On-line tutorials.
MASMENU, systems integration.

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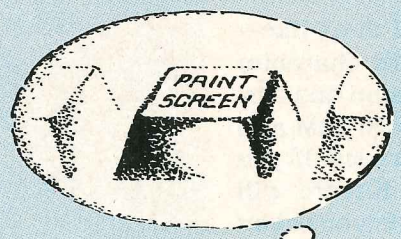

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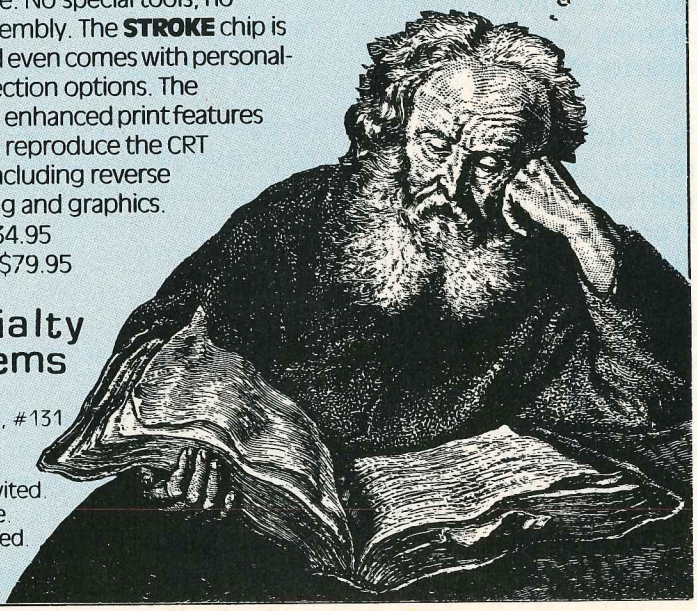

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FLOPPY WARS
(continued from page 65)

cause your floppy to expand, making the information saved unreadable during operation at normal disk operating temperatures. □

Michael Wenberg is a California-based freelance writer and former Managing Editor of Micro Discovery *magazine.*

Sources for Diskettes

Allenbach Industries, Inc.
2101 Las Palmas, Ste. A
Carlsbad, CA 92008
(619) 438-2258

Athana, Inc.
2730 Monterey St.
Torrance, CA 90501
(213) 775-3741

BASF Systems Corp.
Crosby Drive
Bedford, MA 01730
(617) 271-4000

Control Data
8100 34th Ave., S.
Minneapolis, MN 55440
1-800-328-6207

Dennison Kybe
(Elephant Memory Sys.)
82 Calvary St.
Waltham, MA 02254
(617) 899-0012

Dysan Corp.
5201 Patrick Henry Dr.
P.O. Box 58053
Santa Clara, CA 95050
(408) 988-3472

Kaleidiskettes
Allenbach Ind., Inc.
2101 Las Palmas Dr.
Carlsbad, CA 92008
1-800-854-1515

Maxell
60 Oxford Drive
Moonachie, NJ 07074
(201) 440-8020
Memorex
1-800-222-1150

TDK Electronics Corp.
12 Harbor Park Dr.
Port Washington, NY 11050
(516) 625-0100

3M
Data Recording Prod. Div.
3M Center Bldg. 225-5N-04
St. Paul, MN 55144
1-800-328-1300

Verbatim
323 Soquel Way
Sunnyvale, CA 94086
1-800-538-1793

Wabash DataTech, Inc.
Two Continental Towers
Suite 400
1701 Golf Rd.
Rolling Meadows, IL 60008
1-800-323-9868

AROUND THE WORLD
(continued from page 40)

KUGRAM RBBS (516/747-8308)
Garden City, NY 3;G
Message board only – BBS of the nation's largest KUG and father to the CompuServe Special Interest Group. Good Kaypro discussions.

OLD COLORADO CITY (303/632-3391)
Colorado Springs, CO 1;G, P, W
Combination of all things that are good about a BBS. Strong software (TBBS) and a good range of topics. Sysop is an outspoken advocate of the telecommunications potential.

OXGATE-dBASE II (408/378-8733)
San Jose, CA 3;D, T
dBASE II is available on this system to demonstrate software from independent software developers.

PAT VAC (213/306-1172) Venice, CA 3;X
Affectionately called "Pavlov's Cat." An electronic magazine for the Real Programmer whose defenses are down. Expect to find various flaky log-on and menu programs in the test phase. If you like a challenge, call this board.

PHYSICIAN'S RESPONSIVE INFORMATION SYSTEM (617/967-6889)
Winchester, TN 3;M
Kaypro RBBS; major focus is on medical software and information; online articles excerpted from medical journals.

PRO-COM DATABASE (813/937-3608)
Tampa Bay, FL 3;D
Private system. Membership is $25 per year. This is probably one of the best sources of public domain software in the nation.

RUTGERS UNIVERSITY, MICROLAB (201/932-3887) NJ 1;T, S
A good source of information on most aspects of microcomputers. Run by dedicated college kids.

SAUDI ARABIA (966-02-651-5259) 3;G, F
It's quite an experience to call this board. Crude message system, but for the location, I wouldn't complain. Much talk about the future of telecommunications in the Middle East.

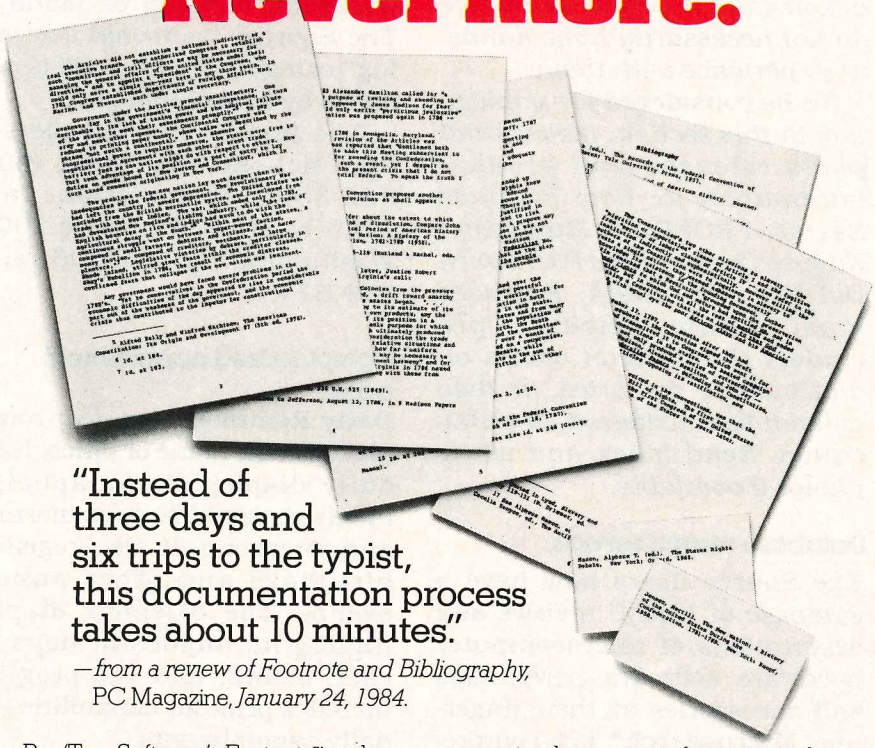
SIMMS 001: Network Headquarters (408/732-9190)
South San Francisco Bay, CA 3;G
Silcon Multiple Message System; thousands of files online. Annual membership $25.

WARLOCK'S CASTLE (618/345-6638)
St. Louis, MO 1;G
Actually, this is a role-playing board. Most of the input is interactive "gaming." The board is handled better than most whose topics are fantasy role playing.

WORLD PEACE R/CPM, THE (303/320-4822) Denver, CO 3;R, P
Run by an archbishop. Sponsored by the Church of World Peace. Information regarding World Peace Convention and information for church members. No religious affiliation necessary to contribute to discussions.

XANADU (213/906-1636)
Sherman Oaks, CA 3;G
Xanadu has nine different message bases running at all times. They range from technical discussions to humor. A varied and wide-ranging board – something for everyone. □

Footnoting a chore? Bibliographies a bore? Never more.



"Instead of three days and six trips to the typist, this documentation process takes about 10 minutes."

—from a review of Footnote and Bibliography, PC Magazine, *January 24, 1984.*

Pro/Tem Software's Footnote™ and Bibliography™ are being hailed as "manna from heaven" by scholars, lawyers, consultants, students, and other researchers who annotate their writings.[1]

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Footnote automatically numbers and formats footnotes in WordStar® files.[2] You can enter the footnotes anywhere in the text or in a separate note file. The program places the notes at the bottom of the proper page or moves them into the separate file.[3]

Bibliography compares citations in a manuscript with the entries in your own card catalog and constructs an alphabetized bibliography of all entries cited, or copies the entries to footnotes in the manuscript. Your bibliographic entries can have any format or length, and you can add them to your catalog with almost any word processor—or with Pro/Tem's Notebook,™ the text-oriented database manager.

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PRO/TEM

[1]Op. cit. supra. See also *Interface Age,* March, 1983; *Byte,* April, 1983; *Infoworld,* July 18, 1983; *Desktop Computing,* October, 1983.

[2]Footnote also works with the Select™ word processor.

[3]The Footnote diskette includes Pair,™ which checks that paired print commands for underlining, **boldface**, and the like are properly terminated. How often have you discovered that you forgot to terminate a print command only when printing a file?

Both programs run under CP/M,® CP/M-86™ or MS-DOS.™

New Products

by Susan Hyman

The following new product listings are not reviews, and should not be considered as tested endorsements. We have looked at some of the products, but we do not necessarily have hands-on experience with them.

To be considered for publication in this section, please send press releases and product information to: New Products Editor, PROFILES Magazine, Kaypro Corporation, P.O. Box N, Del Mar, CA 92014. Releases must specify which Kaypro models the product works on and include the price, or they will not be considered for publication. Send black and white photos if available.

Database search service.

The Source users now have a database of 15,000 reviews and descriptions of microcomputer hardware, software, peripherals and accessories at their fingertips. **Microsearch™** is a comprehensive and continuously updated reference service about microcomputers designed exclusively for The Source subscribers.

Microsearch™ provides answers to questions about compatibility, the availability of products and current prices. It also includes reviews of hardware, software, accessories and services from over 176 microcomputer-oriented periodicals. The database consists of three major services: product literature from the manufacturers, summaries of reviews and general articles relating to computer products, and a directory listing the names and address of over 3,000 manufacturers. Microsearch™ also permits key word searching.

Microsearch™ is billed at The Source's standard connect-time rates of $20.75 an hour weekdays and $7.75 an hour evenings and weekends, and can be found in The Source's "personal computing" category. The service is produced by Information, Inc.

The Source, 1616 Anderson Rd., McLean, VA 22102 (800) 336-3366. Information, Inc., 1725 K St. N.W., Suite 1006, Washington, D.C. 20006 (202) 833-1174.

Computerized appointment book.

Daily Reminder is a year-round diary for the home or office. Each daily display shows appointments or reminders for morning and afternoon. It also registers birthdays and other annual events. The calendar display highlights important days for each month, and the program includes printout capabilities for daily appointments.

$39.95. International Computer Products, 346 N. Western Avenue, Los Angeles, CA 90004.

Hard disk backup and restore program.

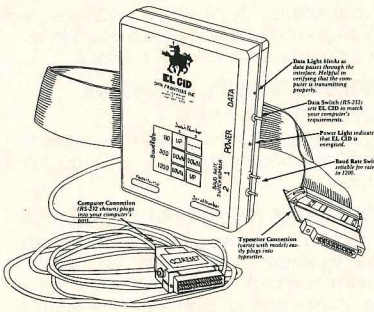
KBAR is designed to facilitate fast, easy backup procedures on the Kaypro 10. It differs from the program provided with the machine because it does a complete backup of the entire disk.

KBAR, in one pass, will copy all of the data stored on drive A or B to a sequential series of floppy diskettes with little user interaction. KBAR, which stands for Kaypro Backup And Restore, is also fast, copying five megabytes in approximately 11 minutes. The program will also restore the same amount of data to disk in about 14 minutes, and provides help screens upon demand. KBAR will not allow the user to restore to the wrong disk without warning, and the user can abort operation at any time with the escape key.

$89.95. Data Decisions Inc., 220 North Willow St., North Little Rock, AR 72114 (501) 371-0979.

Typesetting interface.

The **El Cid** composition device interfaces any model Kaypro with Compugraphic and Varityper typesetting machines. The device translates the ASCII code from your computer so that the typesetter can understand it.



El Cid works with any word processing program. Prices are from $700 to $1,600 depending on the model of your machine. Rebuilt typesetters can also be purchased from $2,000 up.

Warren Graphic Communications, 2543 Broadway, San Diego, CA 92102 (619) 232-5901.

ISIS utilities for CP/M.

The **ICX Toolkit** provides the CP/M user with complete manipulation of ISIS-II formatted floppy disks, as well as full ISIS emulation.

The ICX file transfer utility programs provided with the kit

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support bidirectional, wildcard transfers directly from disk. They also can perform directory listings, file deletion and disk initialization.

The ISE ISIS emulator included with the kit allows execution of ISIS software like PL/M, Fortran, ASM and LINK. This feature makes ISIS development tools available on any CP/M-based system.

$250. Western Wares, P.O. Box C, Norwood, CO 81423 (303) 327-4898.

Online newsletter for Kaypro owners.

The Kaypro Knews, available on The Source, is a bimonthly publication oriented to Kaypro and CP/M users. It includes product, software and publication reviews, as well as information on public domain software. Articles on any aspect of Kaypro use or general computing are also published.

Some of the categories covered are Kaypro troubles, Modem7 information, online comedy and computer addiction. The publication is not affiliated with Kaypro Computers or Non-Linear Systems. It can be accessed through the command level of The Source by typing: PUBLIC 182 DIRECT

Mike Guffey, Editor, The Kaypro Knews, 10231 Gulfstream, Sugarland, TX 77478.

Electronic crop management.

Farmers and growers now have a computer tool to help manage their crop production data—a record-keeping program called **Crop Audit**.

The program has a built-in crop budget and work schedule to help plan cash flow needs months in advance, and then insures that employees perform the right job in the correct field. Automatically updated inventories of seed, fertilizer, chemicals and crops are done by storage location.

Crop Audit's extensive field history scans over acres and years to identify the most productive practices and varieties. Fertility reports compare nutrient applications with the latest soil and leaf tissue tests. Harvest and sales reports, which adjust each load by weight and moisture, assure accurate records of production, sales and inventory. The program also separates and summarizes direct and overhead costs by field, crop or operator.

$595. FBS Systems, Drawer 248, Aledo, IL 61231 (309) 582-5628.

Typing tutor.

TYPE-RITER provides 64,000 randomly generated practice drills for improving typing speed and accuracy, plus a beginning typing tutorial. After each lesson, words-per-minute scores are displayed. The student then has the option of storing that score on disk for future reference.

TYPE-RITER is menu-driven and includes a manual.

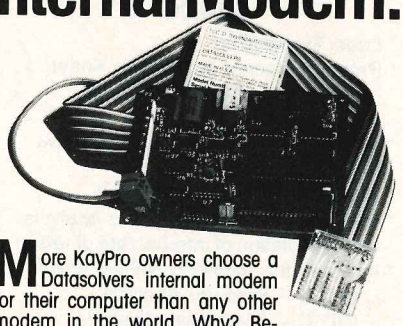
$39.95. Orange Microware, 4418 East Chapman, Suite 311, Orange, CA 92669 (714) 639-8106.

Portable letter-quality printer.

The **Riteman LQ** is small and light enough to carry in a standard 3" briefcase. It weighs 6.6 pounds and measures 2.5" X 7.8" X 11.7".

The printer accommodates 8

Your Kaypro Just Isn't the Same Without a Datasolvers Internal Modem.



More KayPro owners choose a Datasolvers internal modem for their computer than any other modem in the world. Why? Because when you buy a Datasolvers modem you get the most modem for your money! And, the best modem for your KayPro.

Back in 1983, we introduced the first internal modem for KayPro, the **DS300AD**. Today we sell more of these 300 baud, auto-answer/auto-dial modems than ever before. In January of this year, we presented the **DS1200SMT** series to you, the KayPro user. The **DS1200SMT** is a Hayes compatible smartmodem, 1200-300 baud. The response? Incredible!

Now we are pleased to tell you about the newest internal modem option for your KayPro...the DS300SMT, a Hayes compatible, 300 baud smartmodem. Guess you could say..."we're getting smarter!!"

With a Datasolvers internal smartmodem your computer can communicate by phone with other computers and time-sharing systems anywhere in North America! Our smartmodems can dial a number, answer the phone, transmit and receive data, and then hang up the phone automatically!!! The Datasolvers smartmodems are some of the most sophisticated you can buy, yet easiest to use.

All of the Datasolvers internal modems come complete with software on diskette (or you can use MITE, the new communications software now being bundled with KayPro's) and installation is easy with no drilling, soldering or computer modification needed. Also, for a limited time, all our modems come bundled with $50.00 worth of free time on NewsNet!

If you're ready to communicate with other computers, to access information services, time-sharing systems, or use bulletin boards, then you're ready for a Datasolvers modem...the best selling modem for the KayPro. It just makes sense to have an internal modem for a portable computer.

Don't settle for anything less. The Datasolvers modems are available thru KayPro dealers across the country. If you would like to know the dealer nearest you, give us a call!!

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* Instruction Booklet

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  - Forms 4797, 4952, 5695
  - Forms 6251, 6252
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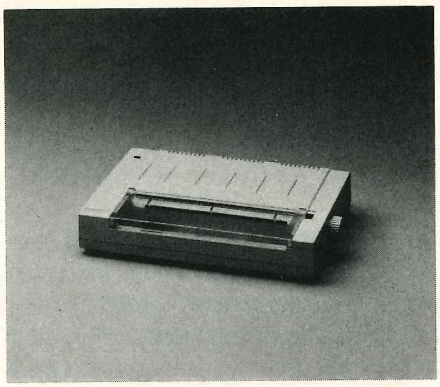

1/2" paper, with a maximum printing capacity of 80 characters per line. It has a print speed of 12 characters per second, a printing pitch of 12 characters per inch, and a 96-character ASCII character set.

The Riteman LQ with parallel interface is a friction feed printer that features bidirectional and logic seeking printing. It also uses a unique rotating character drum with a changeable ink roller, instead of the standard daisy wheel and ribbon cartridges.

$299. Inforunner, Airport Business Park, 431 Oak St., Inglewood, CA 90302 (213) 453-6688.

Video tape rental software.

VIDEOSYS is a system for tape and customer inventory management in video tape rental stores.

The program is menu-driven for daily transactions, which include tape check out and check in, maintaining customer lists, monthly membership dues payment, and tape inventory. VIDEOSYS also creates a daily report of tapes due for a given day, and enables the store to print customer and tape files in numeric or alphabetical order.

$600. Advanced Concepts Inc. of S.C., P.O. Box 12035, Rock Hill, SC 29731 (803) 329-2725.

Investment analysis program.

Designed for attorneys, accountants and investment counselors, **Investment Plan**™ provides evaluations of investment options for clients.

Unlike calculations-oriented software, Investment Plan™ guides users through an evaluation using a series of yes/no, multiple choice, and fill-in-the blank questions. The menu-driven package contains recent federal tax law information, and determines the effects it has on the user's investments.

Investment Plan™ will evaluate preferred and common stocks; zero coupon and traditional bonds; money market accounts; real estate, loans and mortgages; mineral interests; qualified plans; benefits; IRAs and more. Analysis is based on financial theories of net present value, internal rate of return, compounded cash flow, opportunity cost, and projected future values. Up to five different schedules enveloping 20-year spreads can be made for each investment.

The program automatically considers depreciation, investment tax credits, depletion allowances, and deferred income.

$800 or $1200 with portfolio capabilities. Benefit Analysis Inc., 996 Old Eagle School Rd., Suite 1105, Wayne, PA 19087 (215) 923-0808.

Forth textbook.

A new book on the Forth computer language, *Mastering Forth*, is a comprehensive introduction to the new International

FORTH-83 Standard and all its extensions.

It gives careful treatment to the CREATE—DOES> construct, which is used to extend the language through new classes of intelligent data structures. The book, which is the required Forth textbook at the University of California and other large universities, gives the reader an in-depth view of input and output, from reading the input stream to writing a simple mailing list program. Each topic is presented with practical examples and numerous illustrations.

$20.00. Written by Robert J. Bradie Company. Can be ordered through MicroMotion, 12077 Wilshire Blvd., Suite 506, Los Angeles, CA 90025 (213) 821-4340.

Emulator/analyzer.

The **UDL** transforms your personal computer into a work station for software and hardware checkout. It includes an 8K ROM emulator, a bus state analyzer, PROM programmer, generic software support diskette and all necessary cables.

The UDL uses target-independent hardware to allow state analysis, ROM programming and full emulation capabilities without wait states. The target support packages include symbolic real-time trace disassembly and debugging facilities including the ability to display and change registers, target memory and I/O ports while stopped at a breakpoint, as well as single-step and program branching.

$2395. Orion Instruments, 172 Otis Ave., Woodside, CA 94062 (415) 851-1172.

Information storage and retrieval program.

SeekEasy is a free-form filing program that lets the user file any information he wants, up to two screen lines per entry, without confining field lengths. There's no need to designate key words for searching during data entry, either. The program accepts misspelled, imprecise or incomplete requests for a search, and displays the information it finds in "most likely item first" order.

SeekEasy is self-prompting and can handle data files up to four million characters. It can accommodate up to 42 entries per search.

$87. Demo disk for $15. Correlation Systems, 81 Rockinghorse Rd., Rancho Palos Verdes, CA 90274 (213) 833-3462.

Three financial software packages.

THE FINANCIAL INSIDER™ series are financial planning tools designed specifically for laymen.

THE FINANCIAL INSIDER I™ will compare any investment with tax sheltered gain to any non-tax sheltered investment and any level premium life insurance policy to any newer life insurance products. It will also calculate the return on a single deposit investment.

THE FINANCIAL INSIDER II™ does all the above, plus the following: a life insurance comparison that evaluates the shortened premium payment period plans as well as level premiums; a special comparison of any level premium cash value life insurance policy to any term insurance policy; a calculation of monthly loan factors like remaining balance and interest paid; and an illustration of a complete monthly loan amortization schedule.

THE FINANCIAL INSIDER III™, in addition to all the functions of the above two programs, does: a life insurance replacement comparison; a term versus whole life insurance comparison; a tax-sheltered gain illustration; a loan factors calculator with more features; and a mortgage amortization illustration that allows for variable interest rate loans as well as others.

$99.95, $199.95 and $299.95. ACS Software Publishing Company, P.O. Box 82363, San Diego, CA 92138 (619) 223-5331.

Computer/printer tables.

These two tables have 3/4" walnut woodgrain plastic tops and black 27" high frames. One has a 16" slot for bottom feed printers and both have a top surface diameter of 24 X 20 inches.

$58.90. Royal Seating Corporation, P.O. Box 753, Cameron, TX 76520 (817) 697-6421. □

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The Netherlands
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Kaypro-Club Deutschland
Buro Klempp
Brandauer Weg 11
6101 Modautal 2
West Germany
Heiner Klempp

KUG Belgium, Dutch
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Molenbeek 6
Belgium
Charles de Grave

KUG Belgium, French
Steenweg op Ninove 987
1080 Brussel
Belgium
Charles de Grave

KUG France
Kay-Praxis
5, Quai du Roethig
67200 Strasbourg
France
Francis Busser

KUG France
L'OUF
132 Rue de Rennes
75006 Paris
France
Bill Graham

SIKO
Roberta Piper
Route 1, Box 160
Murphysboro, IL 62966

LISTED BY STATE

AK

ANKOR
Mr. Loren Marshall
1705 Bartlett Drive
Anchorage, AK 99507
B Phone#:907/563-5770
H Phone#:907/563-7440

FAIRBANKS KUG
Mr. Dann Farquhar
P.O. Box 82516
Fairbanks, AK 99708
B Phone#:907/452-5299
H Phone#:907/488-9377

AL

KUS MOBILE
Mr. Michael J. Sommers
2601 Pollard Lane
Mobile, AL 36606
B Phone#:205/476-9960
H Phone#:205/471-3296

AZ

YAVACUG
Ms. Julie Woodman
P.O. Box 68
Kirkland, AZ 86332
H Phone#:602/442-3820

AZKUG
Mr. Don A. Williams
3913 W. Solano Dr. N.
Phoenix, AZ 85019
H Phone#:602/841-5333

PHOENIX KUGES
Mr. David Newman
4140 East Highland
Phoenix, AZ 85018
H Phone#:602/954-9324

PKUG
Mr. Stu Keller
6883 E. Kings Ave
Scottsdale, AZ 85254
B Phone#:602/273-7967
H Phone#:602/991-6717

NAZKUG
Mr. Jim Sullivan
P.O. Box 1471
Sedona, AZ 86336
B Phone#:602/282-7787

TKUG
Mr. Mark Holland
P.O. Box 12083
Tuscon, AZ 85732-2083
B Phone#:602/748-7400

CA

KAYPOWER
Mr. Jack Holliday
853 North Dickel
Anaheim, CA 92805
H Phone#:714/821-3928

CATALINA KUG
Rev. Robert Berton
P.O. Box 1615
Avalon, CA 90704
B Phone#:213/510-0098
H Phone#:213/510-0096

HAYPROS
Mr. Ted de Castro
18841 Vineyard Road
Castro Valley, CA 94546
B Phone#:415/486-5251
H Phone#:415/581-8882

SOBAYKSIG
Mr. Bob George
546 Douglas Street
Chula Vista, CA 92010

SKUG
Ms. Marty Meyer
7001 Brookcrest Way
Citrus Heights, CA 95621
H Phone#:916/961-8810

NSGVKUG
Mr. Patton Lewis
8335 Camino Sur
Cucamonga, CA 91730
H Phone#:714/982-5295

FULLKUG
Mr. Bill Walls
3241 Topaz Lane
Fullerton, CA 92631
B Phone#:714/634-2800 X149
H Phone#:714/528-8949

DIGSIG
Mr. Milton Blackstone
1301 Dellcrest Lane
La Jolla, CA 92037
B Phone#:619/459-8255
H Phone#:619/454-7300

LAKUG
Mr. James W. Swanner
15818 Hawthorne Blvd
Lawndale, CA 90260
B Phone#:213/542-7351

INLAND EMPIRE KUG
Mr. Bill Pote
25183 Van Leuven St.
Loma Linda, CA 92354
H Phone#:714/796-9261

UCLA/USC KUG
Mr. Richard Baum
Poli-Sci Dept.-UCLA
Los Angeles, CA 90024
B Phone#.213/825-1987
H Phone#:213/825-4331

NOCCCKSIG
Mr. Roger Maxwell
4111 Lincoln Blvd #340
Marina Del Rey, CA 90291
H Phone#:213/391-5840

MVKUG
Mr. Randy Tincher
27481 Los Banos
Mission Viejo, CA 92691
H Phone#:714/581-1638

SBKUG
Mr. Kevin Wheeler
P.O. Box 390088
Mountain View, CA 94039
H Phone#:415/656-3385

CONEJO VALLEY KUG
Victor A. Diaz M.D.
2257 Michael Drive
Newbury Park, CA 91320
B Phone#:805/499-6723

K-WEST
Ms. Peggy Lloyd
1924 Beryl Lane
Newport, CA 92660
H Phone#:714/645-9868

TUSKUG
Mr. Hank Wildermuth
505 City Parkway West
Orange, CA 92669
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KAYFUN
Mr. Larry Welling
222 Laurel St. Unit 310
San Carlos, CA 94070
B Phone#:415/345-1688
H Phone#:415/593-9981

BAD SECTOR
Ms. Amy Tan
3515 Sacramento
San Francisco, CA 94118
H Phone#:415/346-9328

BAKUP
Mr. Alan L. Rubin M.D.
490 Post St. Suite 544
San Francisco, CA 94102

GREENKUG
Mr. David Reinhart
Fort Mason, Bld. E
San Francisco, CA 94123
B Phone#:415/928-5496

KAY*FOG RBBS
Mr. Bond Shands
P.O. Box 11135
San Francisco, CA 94101
B Phone#:415/621-2366
H Phone#:415/821-1485

COLAVKUG
Mr. Arnold Joyal
1105 Coleman Ave MD 750
San Jose, CA 95108
B Phone#:408/289-2404

SANTA BARBARA KUG
Mr. Shawn Miner
P.O. Box 2007
Santa Barbara, CA 93137
B Phone#:805/963-9431
H Phone#:805/684-8838

SCKUG
Mr. Keith Redfield
1005 Cedar Street
Santa Cruz, CA 95060
B Phone#:408/425-7166

SRKUG
Mr. Carl Davies
4772 Sunshine Avenue
Santa Rosa, CA 95405
H Phone#:707/538-0691

SDCSKSIG
Mr. Jim Gaston
9235 Lake Hill Road
Santee, CA 92071
H Phone#:619/562-3901

NOCOKUG
Mr. George Guy
707 Solana Circle East
Solana Beach, CA 92075
H Phone#:619/755-4911

STOCKTON KUG
Mr. Harold Cook
10162 North Davis Road
Stockton, CA 95209
B Phone#:209/466-5097
H Phone#:209/477-4712

SFVKUG
Mr. Robert Williamson
18639 Ventura Blvd.
Tarzana, CA 91356
B Phone#:213/996-5722

TUG
Ms. Carol Manning
P.O. Box 323
Tehachapi, CA 93561
B Phone#:805/822-3604

K-PAC
Mr. Scott Stokkers
2839 Pacific Coast Hwy.
Torrance, CA 90505
B Phone#:213/326-0833

WESTLAKUG
Mr. Ben Pierce
21 Thornton Ave. #5
Venice, CA 90291
H Phone#:213/396-7773

VCKUG
Mr. Richard Bumgardener
1956 Pelican Avenue
Ventura, CA 93003
B Phone#:805/656-5156
H Phone#:805/656-6613

NSDCKUG
Mr. James Parkinson
171 Unity Way
Vista, CA 92083
B Phone#:619/726-1224
H Phone#:619/726-8843

COVINA KAYPRO CLUB
Ms. Carol Hermann
200 N. Grand Ave #272
West Covina, CA 91791
B Phone#:213/283-0231

SSGVKUG
Mr. Kenneth Carrasco
P.O. Box 9253
Whittier, CA 90608
H Phone#:213/696-4890

WOODHILLKUG
Mr. Jerry Scheir
22554 Tiara Street
Woodland Hills, CA 91367
B Phone#:213/361-6234

CO

AKUG
Mr. Don Voltmer
117 South Spring Street
Aspen, CO 81611
B Phone#:303/925-5544

SMDKUG
Mr. Russell Shurts
P.O. Box 225 4100 S. Parker Rd
Aurora, CO 80014
H Phone#:303/690-6542

KUAFC
Dr. Phil Squire
305 West Magnolia
Fort Collins, CO 80521
B Phone#:303/491-5068
H Phone#:303/484-1883

GREELEY KUG
Mr. Jim Hoogeveen
P.O. Box 5118
Greeley, CO 80631
H Phone#:303/330-4817

DKA
Ms. Jackie Naugler
P.O. Box 1507
Wheatridge, CO 80034
H Phone#:303/422-2996

CT

NWCONKUG
Ms. Paula Xanthopoulou
Marvelwood School
Cornwall, CT 06753
B Phone#:203/672-6612
H Phone#:203/672-6058

CTKUG
Mr. Richard Jager
P.O. Box 9235
New Haven, CT 06533-0235
B Phone#:203/372-6294
H Phone#:203/372-8014

FL

SFKUG
Mr. Seth R. Krieger
4801 S. University Dr. #305
Davie, FL 33328
B Phone#:305/434-2200

KAPPA
Mr. O.P. Willingham
P.O. Box 1563
Gulf Breeze, FL 32561
H Phone#:904/453-3723

JACKSONVILLE KUG
Ms. Joan LeClere
1848 Woodleigh Drive West
Jacksonville, FL 32211
H Phone#:904/721-2259

K-ORLANDO
Mr. Gary Smith
1212 East Colonial Drive
Orlando, FL 32803
H Phone#:305/896-9797

TBKUG RBBS
Mr. Steve Sanders
14 Cypress Drive
Palm Harbor, FL 33563
H Phone#:813/937-7249

TAL-KUG
Mr. C. Henry Depew
3312 Lake Shore Dr. W.
Tallahassee, FL 32312
H Phone#:904/386-1665

TAMPAKUG
Mr. John Lankford
11502 North Nebraska Ave
Tampa, FL 33612
H Phone#:813/971-1384

PBKUG
Ms. Ann Marie Kaufman
5200 N. Dixie, Apt. 601
West Palm Beach, FL 33407
H Phone#:305/842-3787

GA

KUGA
Mr. George Bush
2173 West Broad Street
Athens, GA 30606
B Phone#:404/549-0337
H Phone#:404/549-0394

SAVAKUG
Mr. Nathan Coleman
P.O. Box 30010

JAIL

(continued from page 36)

Implications for the future

Future investigations and charges could well depend on the disposition of The Mog-Ur case. The case has caught the interest of national mainstream media, as well as electronic bulletin board news sections and computer publications. Bulletin board users mounted a letter-writing campaign to the Los Angeles City Attorney's office, unusual for a misdemeanor charge being heard in municipal court. Observers on both sides said it's probably too late for the city to back off gracefully, and many of the online lawyers are eager to tackle the issue of electronic freedom of speech. Even the case's quirks don't deter those who worry about the big picture: "I think we should support it if we believe in bulletin board communications," said Terry Gray, a computer science professor at the University of California at Los Angeles. He likened hobbyist computer communications to the CB Radio craze but added, "I don't suspect networking and message systems are a fad that will die out."

More BBS's appear daily. But their future growth and character could be substantially molded by precedents set in *People v. Tcimpidis*. □

As a reporter for InfoWorld, *Peggy Watt has also covered robots, artificial intelligence, people making news in microcomputing, and computer use at the Democratic Convention and the White House.*

The Brand NEW

Fancy Font 2

printed this ad on an Epson FX printer

Letter Quality on Your Kaypro

Say goodbye to correspondence quality and hello to *Fancy Font*'s high-resolution, proportionally spaced, letter quality. Fonts are available in sizes from 6 to 72 points; styles include Roman, Bold, Italic, Script, Old English, and more. All this on low-cost dot-matrix printers. *Fancy Font* is an easy-to-use software package, developed by SoftCraft, Inc., for CP/M and IBM PC compatible systems; no special hardware or installation is required.

New Features Now Available in Version 2

The latest version of *Fancy Font* takes advantage of the phenomenal resolution of the Epson FX and RX printers to achieve laser printer quality. High resolution versions for the Toshiba 1350, 1351, 1340 and the Epson LQ-1500 will soon be available.

This version boasts a greatly expanded set of formatting commands, including word-wrap. Special typesetting features such as kerning and automatic ligature formation are provided by an optional utility.

As part of our library of fonts and utilities we have packages that make *Fancy Font* directly compatible with Wordstar, Microsoft Word and Valdocs; if you know how to use any of these word processors then you already know how to use *Fancy Font*. Alternatively, you can still use almost any word processor, including Perfect Writer, to create a text file to be printed with *Fancy Font*.

Create Your Own Characters

Hundreds of fonts are available in our font library, and furthermore, you can create any new characters or logos you like, up to 1 inch by 1 inch. A database of over 1500 characters is included that makes it possible to print foreign languages and mathematical notations.

Font Style Samples

small large **Bold** *Italic*

Sans Serif *Script* Old English

"The quality of print is excellent and the variety of type styles is even better." Pat McKeague, Infoworld 5/2/88

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Numerous Applications

Fancy Font customers are constantly discovering new applications.

- Business and personal letters
- Articles for publication
- Mailing labels from databases
- Custom forms, invoices, signs
- Mathematical Notation, Greek
- Super- and Sub-scripts
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- Name tags, badges
- Newsletters, brochures
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Trademarks: Fancy Font (SoftCraft), Wordstar (Micropro), CP/M (Digital Research), Valdocs (Rising Star), Microsoft, IBM

Order NOW — (800) 351-0500 — M/C Visa

MSDOS and CP/M versions are available for the following printers: Epson MX FX RX, IBM Graphics, Star Gemini 10X Radix Delta, TI 850 855, Inforunner. MSDOS versions only are available or will soon be available for: Toshiba 1350 1351 1340, Epson LQ-1500, C.Itoh Prowriter, NEC 8023. Specify printer when ordering.

SoftCraft, Inc., 222 State St. #400, Madison, WI 53703 (We've moved from California) orders: (800) 351-0500 from Wisc: (608) 257-3300

Fancy Font System	$180
Fancy Font Demo Disk	$10
Calif. and Wisc. residents add sales tax	6.5% or 5%
Outside US add $10 postage (only $2 for demo)	$10 or $2
Diskette Format: (Kaypro, Epson QX10, Osborne DD, IBM PC, 8" CP/M, Apple CP/M, Victor)	
Printer: (Epson FX, Epson MX, etc.; see box at left)	

$7.50 of demo cost is applicable towards Fancy Font purchase.
CP/M requires 64K, MSDOS 128K memory.
Fully transparent 8-bit printer interface required on Apple and CP/M.

GEM PATCH for WS

Say *goodbye* to print commands in BASIC. Forget the hassle of remembering and then entering the required dot commands into your document.

GEM PATCH details how to take full advantage of the versatile options that are buried in WS and your dot matrix printer.

Print Menu Options Include:

FUNCTION:	STD	*GEMPATCH*
Double	YES	YES
Bold	YES	YES
Underscore	YES	YES
~~Strikeout~~	YES	YES
Std Pitch 12	NO	YES
Alt Pitch 17 cpi	NO	YES
Italics	NO	YES *
Wide	NO	YES
Sub Script	NO	YES
Super Script	NO	YES
Under Line	NO	YES

Compare Defaults:

FUNCTION:	STD	*GEMPATCH*
Std Pitch	10 cpi	12 cpi
Right Margin	65	up to 79
Lines/Page	66	72
Printed Lines	55	62
Insert ON/OFF	ON	choice
Omit Page #	OFF	choice
Help Level	3	choice
Vert Space	1/6"	11/72"

A 79 column by 62 line page produced using ***GEM PATCH*** can contain 37% more information than a standard 65 by 55 page.

Easy-to-follow directions show you how to patch your copy of WS to add *all* of the above new features. There are no extra disks or programs to run. And all of the regular functions of your WS will operate normally.

GEM PATCH is available for WS 3.0 and 3.3 and these printers:

EPSON FX/MX/RX-80/100
STAR Gemini-10X/-15X and Delta/Gemini/Radix-10/15
OKIDATA 84/92/93

(*OKI comes with Correspondence Mode instead of Italics.)

To order, please specify WS 3.0 or 3.3, your printer, this ad, and send $12.95 ppd. to:

GOODNIGHT DESIGN (K2)
18525 Collins St. #A4
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(CA res. add 6-1/2% L.A. Tax.)

Tempted but not convinced? Send for a free flyer. The original layout for this ad was composed and printed using WS/GEM PATCH.

Users' Groups

Savannah, GA
31410-0010
H Phone#:912/897-5940

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Mr. Robert Rausch
P.O. Box 68
Warner Robins, GA
31099
H Phone#:912/922-1811

HI

KHUG
Mr. Randall P. LaRiviere
109 Uhaloa Place
Hilo, HI 96720

HPCUA
Dr. Hector Robertin
3140 Waialae Avenue
Honolulu, HI 96816
H Phone#:808/735-4738

IA

IOKUG
Mr. Norman McCoy
P.O. Box 1250
Ames, IA 50010
H Phone#:319/338-0612

KUGIG NEWSLETTER
Ms. Alice Petersen
3010 Regency, Apt.40
Ames, IA 50010
H Phone#:515/232-8276

INKUG
Mr. Don Wright
105 Sleepy Hollow
Council Bluffs, IA 51501
B Phone#:402/633-4620
H Phone#:712/323-3317

KORNFIELDS
Mr. Warren Boe
Univ. of Iowa Bus/Admin
Iowa City, IA 52242
B Phone#:319/353-5379

ID

IDAKUG
Mr. Don Duncan
3180 Molen
Idaho Falls, ID 83401
H Phone#:208/529-2763

IL

CUKUG
Mr. Larry Auld
809 West William
Champaign, IL 61820
B Phone#:217/333-3280
H Phone#:217/359-8536

KAYMKUG
Mr. Doug Stevenson
2157 North Seminary
Chicago, IL 60614
B Phone#:312/525-3900
H Phone#:312/871-6587

IL

SKYP
Mr. Chris Gruber
4800 S. Lake Park
Apt 1605
Chicago, IL 60615
H Phone#:312/373-4584

DEKUG
Mr. John Paek
P.O. Box 366
DeKalb, IL 60115
B Phone#:815/756-5555
H Phone#:815/758-5544

KOOC
Mr. Charles E. Davis
433 Elder Lane
Glenview, IL 60025
H Phone#:312/724-4048

WILKUG
Mr. Bruce Meyers
314 S. Campbell
Macomb, IL 61455
B Phone#:309/298-1626
H Phone#:309/833-5153

WESUBKUG
Mr. Bernard Ostrofsky
23 River Road
Naperville, IL 60540
H Phone#:312/420-7314

PCKC
Mr. R. Goetz
12110 S. 87th Avenue
Palos Park, IL 60464
H Phone#:312/488-6010

CENILKUG
Mr. Fred Gain
P.O. Box 2487
Springfield, IL 62705

CHIKUG
Ms. Cecelia Carlson
605 Illinois Road
Wilmette, IL 60091
H Phone#:312/256-4279

IN

SOINKUG
Dr. Joan Doyle
713 South Woodlawn Ave
Bloomington, IN 47401
H Phone#:812/336-5457

EVANSVILLE KUG
Mr. Henry Rust
7125 New Harmony Road
Evansville, IN 47712
B Phone#:812/464-2488
H Phone#:812/963-5152

NIKUG
Mr. George C. Lindsay, Jr.
7024 Melody Lane
Ft. Wayne, IN 46804
H Phone#:219/432-5717

CIKUG
Mr. Jim Frakes
5230 East 65th Street
Indianapolis, IN 46220
B Phone#:317/251-5437

OASIS KUG
Mr. Peter Jongsna
7849 Taft Street
Merrillville, IN 46410
H Phone#:219/769-6131

M-KUG
Mr. John Barker
16453 Ireland Road
Mishawaka, IN 46544
H Phone#:219/256-9988

TERRE HAUTE KUG
Mr. Carl Walters
662 Ohio Street
Terre Haute, IN 47807
H Phone#:812/232-4774

KS

WICHITA KUG
Mr. Doug King
813 Fabrique
Wichita, KS 67218
B Phone#:316/268-4321
H Phone#:316/686-5609

KY

KLUG
Mr. Richard Saunders Jr.
P.O. Box 23698
Lexington, KY 40503-3698
B Phone#:606/273-8600

KKUG
Mr. John Pitcock
P.O. Box 35393
Louisville, KY 40232
H Phone#:502/239-0700

LA

SOLOKUG
Mr. Michael Budden
2107 Dennis Drive
Hammond, LA 70401
B Phone#:504/549-3697
H Phone#:504/542-1541

KUGNO
Ms. Mona C. Freeman
3724 Ole Miss Drive
Kenner, LA 70065
H Phone#:504/466-6390

ARKLATEX
Mr. Tony Simmons
P. O. Box 37844
Shreveport, LA 71133
H Phone#:318/797-6696

MA

CAPE COD KUG
Mr. Wayne Theroux
331 Sandwich Road
East Falmouth, MA 02536
H Phone#:617/540-3958

CPM/KUG
Mr. Edward Cole
8 Tanglewood Road
Paxton, MA 01612
H Phone#:617/753-7049

BOSKUG
Mr. Lee Lockwood
27 Howland Road
West Newton, MA 02165
H Phone#:617/965-6343

MD

BALTIMOREKUG
Mr. Eric Friedman
5709 Ranny Rd.
Baltimore, MD 21209
H Phone#:301/367-4454

COLUMKUG
Mr. Mark Sheppard
10527 Tolling Clock Way
Columbia, MD 21044

KUD
Mr. Dan Carl
12883 Hall Shop Road
Highland, MD 20777
H Phone#:301/854-0115

CKUG
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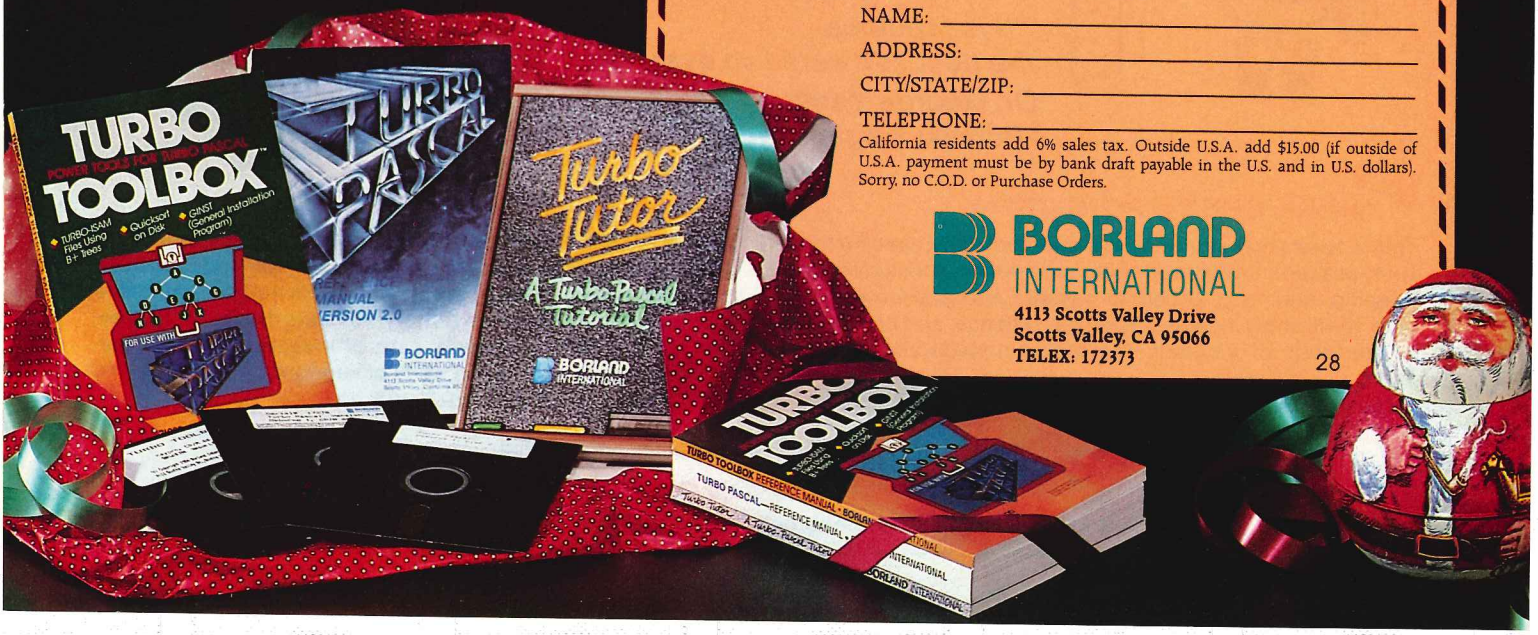

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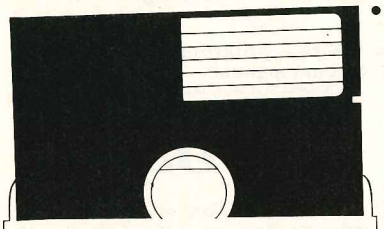

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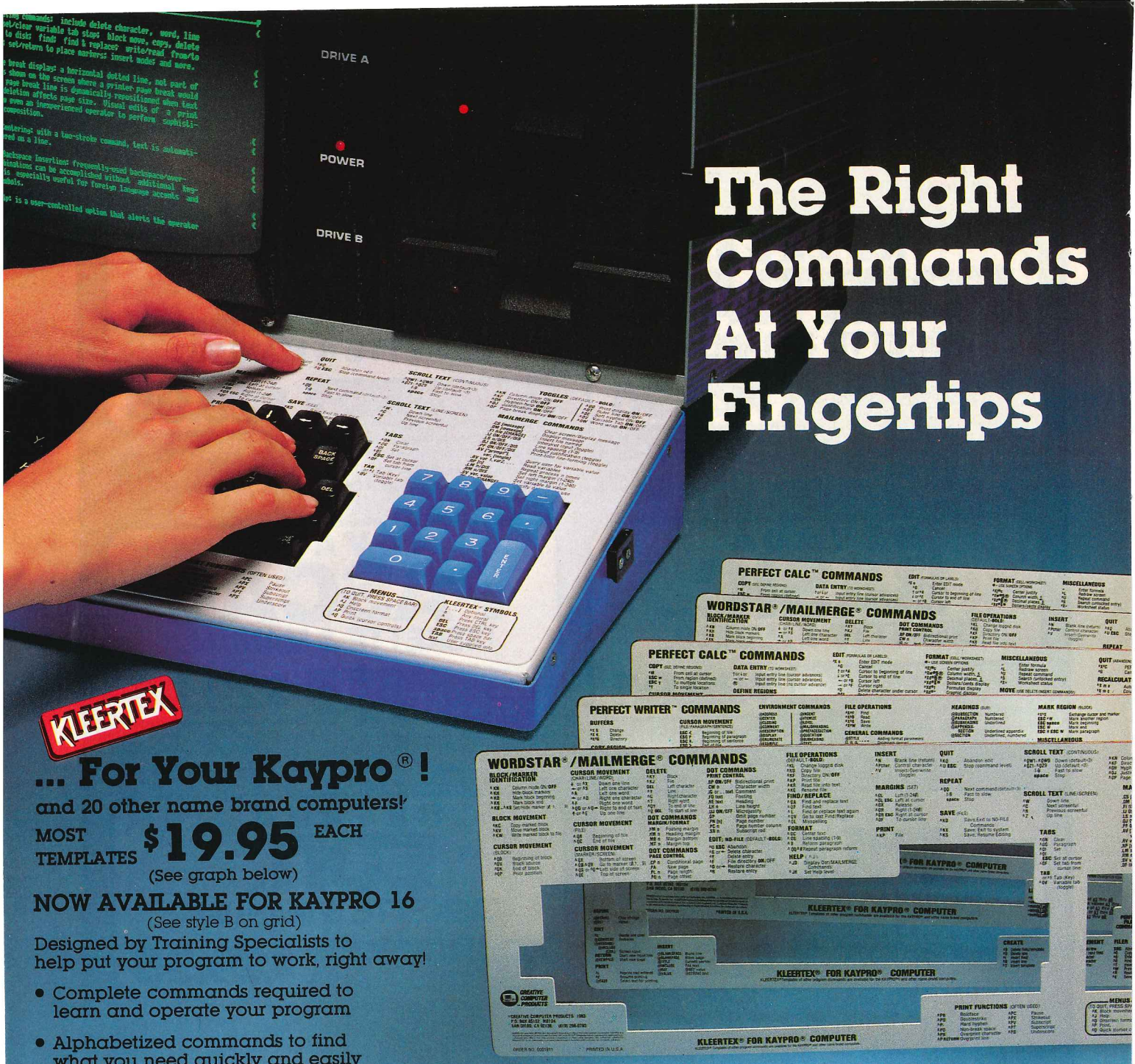

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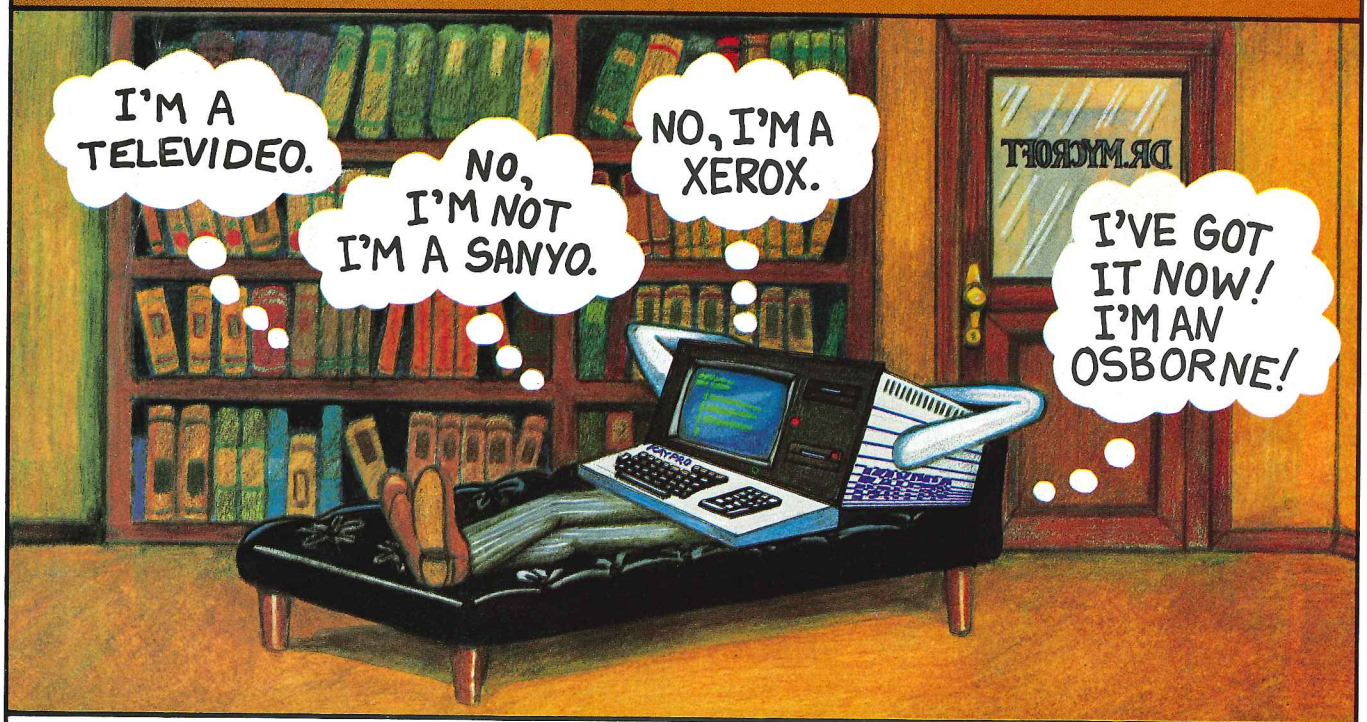

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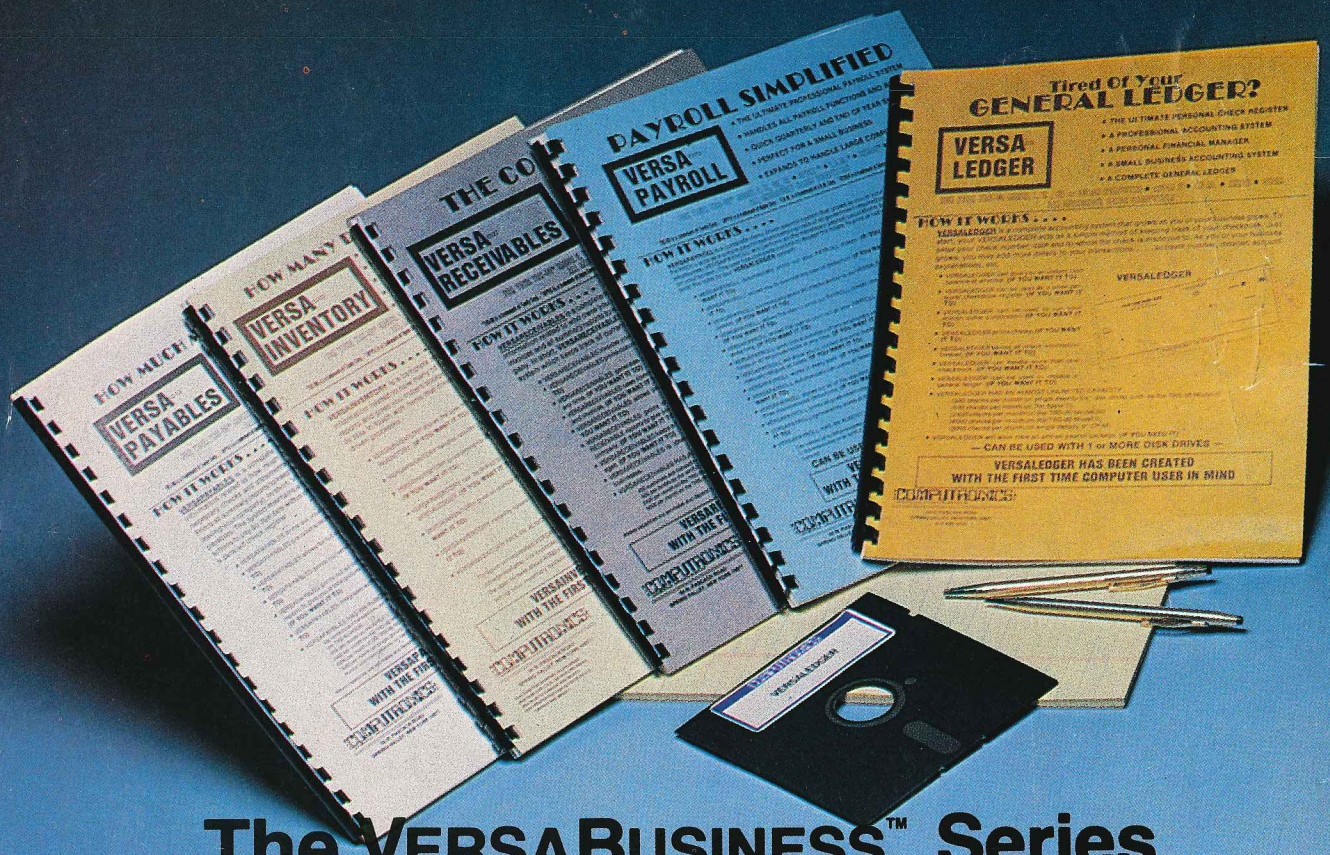

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