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PROFILES

The Magazine for Kaypro Users
December/January 1985

Stocking stuffers

Special gifts section

Peripherals round-up

and more. . .

[redacted]

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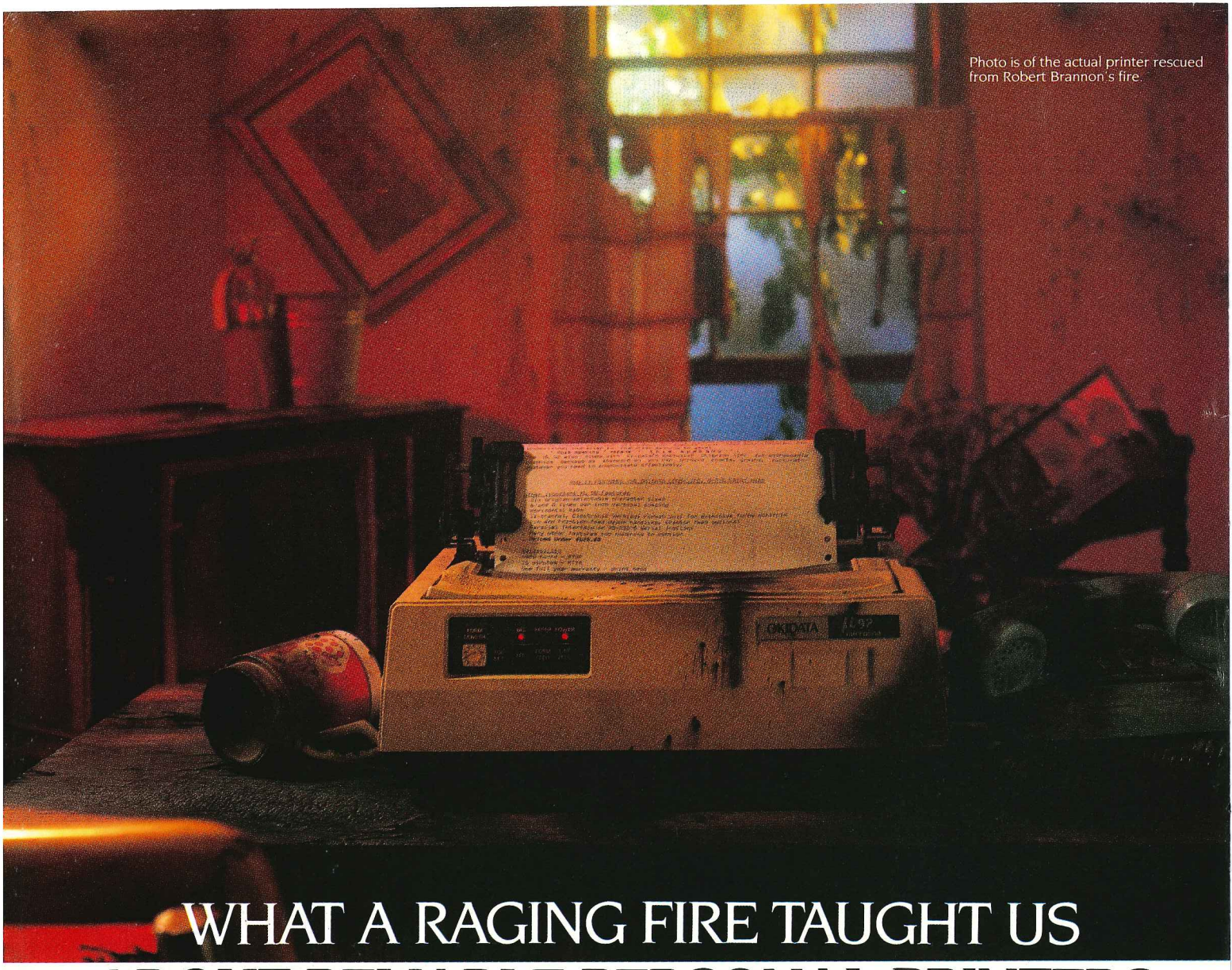

Photo is of the actual printer rescued from Robert Brannon's fire.

WHAT A RAGING FIRE TAUGHT US ABOUT RELIABLE PERSONAL PRINTERS.

That's a printer? We've always known that Okidata makes the toughest printers, but Robert Brannon really proved it. A fire left his Microline 92 looking more like a pile of charred Silly Putty® than a printer, but being an optimist, Mr. Brannon took it to his Okidata dealer to see if anything could be salvaged.

The service department at Wolff Computers in New York City wasn't quite as optimistic, especially when they saw that the heat of the blaze had actually melted the casing and molded the plastic onto the internal workings of the printer.

But willing to try anything once, they plugged the unit into one of their computers, snapped on the print mode, tapped the printhead lightly, and Robert Brannon's smokey, burned, half-melted Okidata did just what it had always done . . . it printed. It printed fast and it printed beautifully.

Red-hot performance. We're not surprised. The durability of Okidata printers has become downright legendary. With a printhead that lasts well beyond 200,000,000 characters and a warranty claim rate of less than 1/2 of 1%.

Okidata speed and versatility have become famous as well. The Microline models print data at rates up to 200 characters per second. That's three pages a minute. There's an additional print mode for enhanced or emphasized text. And their letter quality rivals a daisywheel for clarity with full graphics printing capabilities.

Okidata printers are fully compatible with all popular software packages and personal computers. Special configurations are available for IBM and Apple Macintosh™ at no extra cost. And if you're like Mr. Brannon and occasionally need a little service, it's easy to find at Xerox Service Centers nationwide.

Every now and then any printer can have a rough day, but the Okidata Microline printers are built to take it. Call 1-800-OKIDATA (609-235-2600 in NJ) for the Authorized Okidata Dealer nearest you. Okidata, Mt. Laurel, NJ 08054.

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WHAT IF THE TORTOISE COULD ALWAYS BEAT THE HARE ?

ELECTRONIC RAM DISK

Tired of spending so much of your computer time waiting for programs to load, compile, recalc or sort? Check these time comparisons!!! Now a lowly Kaypro II or 4 running at 2.5mhz (alias Tortoise) can even out run a 4 mhz Kaypro 10 with Winchester Hard Disk (alias Hare).
*Benchmark test data (see below)

You'll find SUPERSPEED for all disk access action with this multiprocessing Electronic RAM Disk. Comes with memory space user selectable from 256K to 1 mb; has dual centronics connectors; optional external power supply design. This RAM disk can be configured as drive A or D; runs at 6mhz; operates as printer buffer while simultaneously storing and retrieving data to the RAM. This add-on will be a real time saving asset to your Kaypro 2, 4, 2-84, 4-84

Socketed without RAM chips **$199.00**
Assembled & Tested 256K, 512K, 1mb
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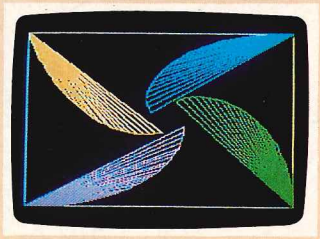

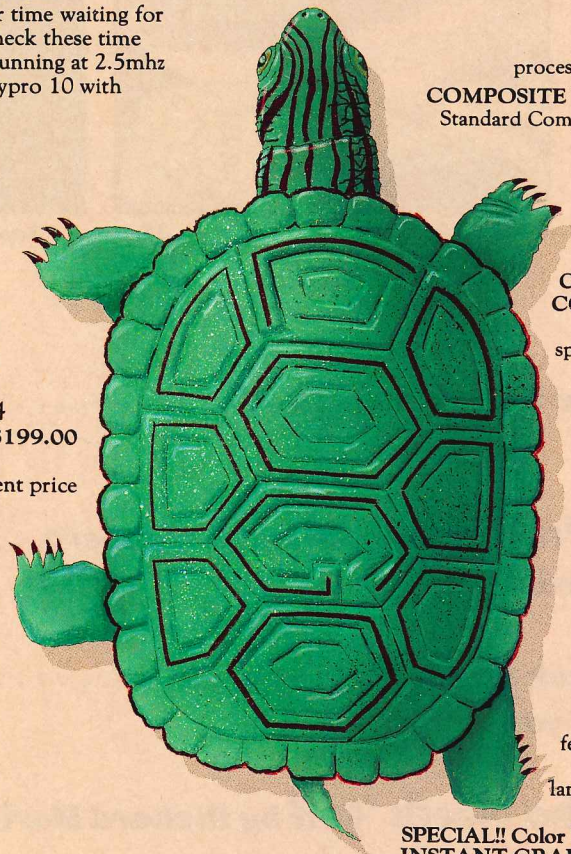

TLC® LOGO is also available for all Kaypros with internal graphics (2-84, 4-84, 10). No modifications required. This Standard Version uses the internal screen, has 16,000 pixel resolution, multiple turtles, multi-processing, vectors and many LISP commands . . . **$99.95**

COMPOSITE VIDEO GENERATOR — Allows connection of a Standard Composite Monitor. An absolute necessity for those who need a larger screen or bigger characters.
Kaypro II, 4 — **$59.95**
Kaypro 2-84, 4-84, 10 — **$89.95***
*Includes a new character set which generates a character cell size readable by a standard composite monitor. All graphics included.

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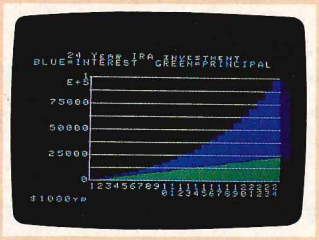
COLOR BOARD — for Kaypro II, 4, 2-84, 4-84, 10 & Robie. 256x192 Pixel resolution, 16 colors, 32 sprites. Software includes three editors, drivers, screen dump to printer and disk, six-month subcription to Micro Cornucopia. Generates standard composite color. RF modulator is required for color TV operation. Plug in installation . . .**$245.00**



COLOR BOARD SOFTWARE — TLC LOGO featuring multiple turtles, multiprocessing mode, fast, easy to use and easy to learn. This is the graphics language the schools rave about. There are many facets to TLC LOGO including LISP commands . **$129.95**

SPECIAL!! Color Board and Deluxe Version of LOGO . . . $299.95

INSTANT GRAPHER 2.0: allows bar charts, stacked bar charts and line graphs. Accepts up to 24x24 arrays or 180 points per plot. Reads numbers directly from Perfect Calc, CalcStar or other standard disk print files. Screen dump to printer program on color board disk also works . . . **$50.00**

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*Time in Seconds

	2.5 MHz Kaypro		4 MHz Kaypro		4 MHz Kaypro 10
	Floppy Disk	**Ram Disk**	Floppy Disk	**Ram Disk**	Winchester Hard Disk
Load Perfect Writer	8.37	**2.46**	7.64	**1.76**	6.57
Load Perfect Calc	10.35	**3.16**	9.44	**1.87**	7.19
Load Perfect Calc + 14KFile	12:04.01	**3:33.26**	10.48.00	**1:51.08**	6:20.37
Recalc 14K PC File	10:19.00	**2:27.36**	9.31.25	**1:17.78**	5:30.53
Page down PC File	25.24	**8.01**	22.49	**4.32**	17.55
Load LADDER.COM	10.90	**3.31**	9.38	**2.12**	6.60
WARM BOOT	2.82	**.64**	2.22	**.46**	2.69
Load M BASIC	5.79	**1.64**	5.43	**1.12**	2.55

As you can easily see even a 2.5 mhz Kaypro with RAM disk is faster than a Kaypro 10 using a hard disk. A 4 mhz Kaypro with RAM disk is significantly faster.

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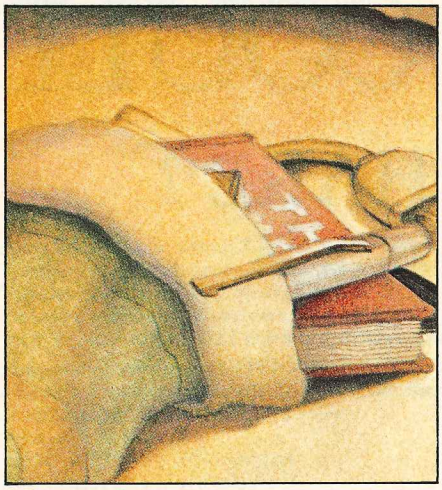
PROFILES



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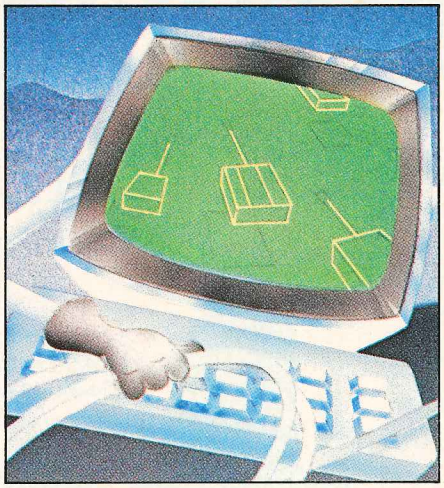

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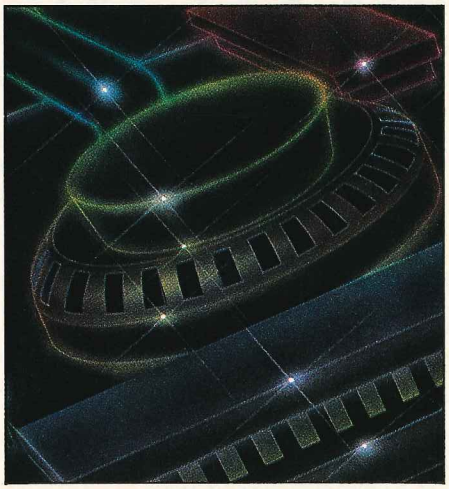

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The Magazine for Kaypro Users

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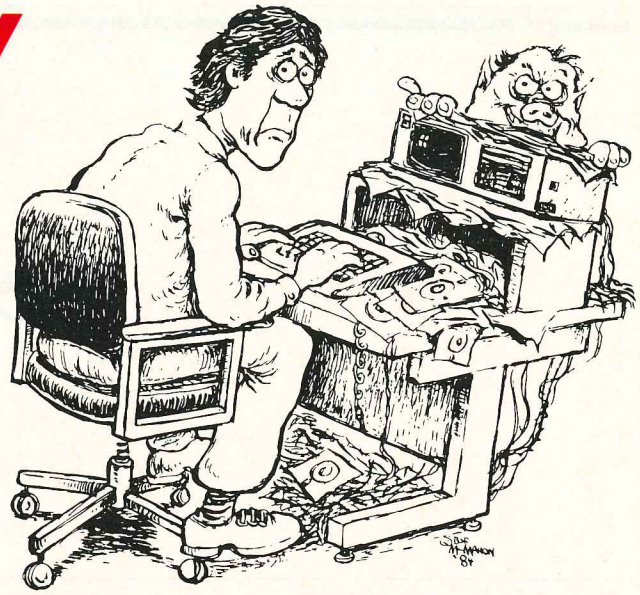
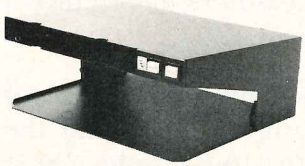


ELIMINATE the Evil Lurking around your Computer!!

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.

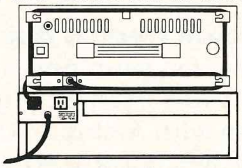


The **Porta-Micro Mate** (also known as the PMM) stores up to 20 of your most commonly used diskettes in the included plastic library boxes, as well as the keyboard, under the computer saving 1/3 of your desk space. The PMM's new sturdy steel base holds any transportable to a comfortable viewing angle.

DEALER INQUIRIES INVITED

Porta-Enemy No. 2

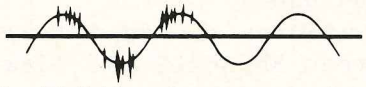
S.C. aka Switchus Contortium
A dangerous M.O. in that everyday when you come in to turn on your computer and printer, you must lean over in a contortionistic fashion to find the switches to both units.



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

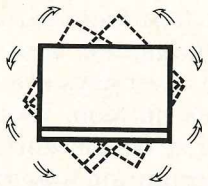
Porta Enemy No. 3

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

Gerrold comes up short

You folks sure put out a great magazine. The fact that it's the *only* magazine that I read cover-to-cover says quite a bit, in my opinion. The fact that it's a *computer* magazine, and I read it cover-to-cover says even more (in my wife's opinion, too). You put together a consistently helpful, and entertaining magazine, well-designed and printed. Keep up the excellent work!

I've especially been enjoying David Gerrold's column. He's easy to read. Informative. And usually accurate.

Usually? Well that's a judgement call in this case. May be you can help me figure out what the heck he meant in the October 1984 issue, when he got to talking about the coiled cable that runs from the keyboard to the back of the computer.

He wasn't even fifteen words into the column when he started describing this new, better-than-provided cable that measures an astounding twelve inches. (?) Then he goes on to explain that the standard cable, which comes with the computer is six inches.

Now I'm not the kind to just jump up and point the finger and holler "You're wrong!" but I'd swear I got one with my computer that was six *feet* long! However, based on his consistent standard of measure all the way through the article, I'm left wondering if I am in possession of a unique Kaypro computer.

David Darrow
Santee, California

I was wrong. Thank you for the kindly-worded correction. A global search and replace, changing inches to feet, should make that column say what I meant it to.—DG

Credit where credit is due

Thank you for your fine article about my trans-Pacific computer connection with Arthur C. Clarke during the writing of *2010*.

Kaypro's people knocked themselves out for us, and I'm glad to see them getting credit. At the same time, the article should also have mentioned David Rothman, author of the forthcoming book, *The Silicon Jungle*.

David, not "Destiny," brought Kaypro and *2010* together. He was researching his future chapter and he wanted to talk to Mr. Clarke via computer. We had a mutual goal. Since David was pleased with his own Kaypro, he proposed to me and Arthur that your company supply similar machines to us, to facilitate the connections.

In addition—via long distance between MGM/UA and Alexandria, Virginia—David spent countless hours with me in rehearsal for my link with Arthur's Kaypro.

Thank you.

Peter Hyams
MGM/UA Entertainment Co.
Culver City, California

David Rothman does, indeed, deserve the credit for bringing Kaypro and 2010 together. Our thanks to you, David, MGM/UA, and all the others who made it happen.—TF

Information broker speaks out

I am writing after reading the very interesting article, "Fast Facts" by Roxanna Wright in the October issue.

As an information broker with clients all over the U.S., I work on a daily basis with a variety of databases. I am very familiar with the problems which face those using this valuable new approach to information retrieval.

First, at present the University of California library system does not provide online searching to the general public, though some provisions are made for members of the medical profession.

I would also like to point out that although database systems such as Dialog's Knowledge Index and BRS's After Dark are relatively inexpensive, I think potential users should be aware that it doesn't take very much online

time to run up a large bill. Using their more technical equivalents, the costs add up even more quickly. Many of my clients who have tried doing their own searching complain that it turns out to be more costly and much more difficult than they had expected. They also discover that some research/library experience is essential if a complete and competent job is to be done. However, they are disappointed to find that many librarians are, in fact, not adequately trained in database searching. For this reason, my clients turn to those trained in online database research.

Finally, it should be pointed out that it is not all that easy to obtain copies of articles cited when doing bibliographic searching. Thus, the use of trained professionals whose services include document retrieval is equally important. Until the time that "full text" retrieval is cost-effective and possible for all cited references, users should consider not only how and where they will do initial searching, but what they will do once they have acquired their "shopping list."

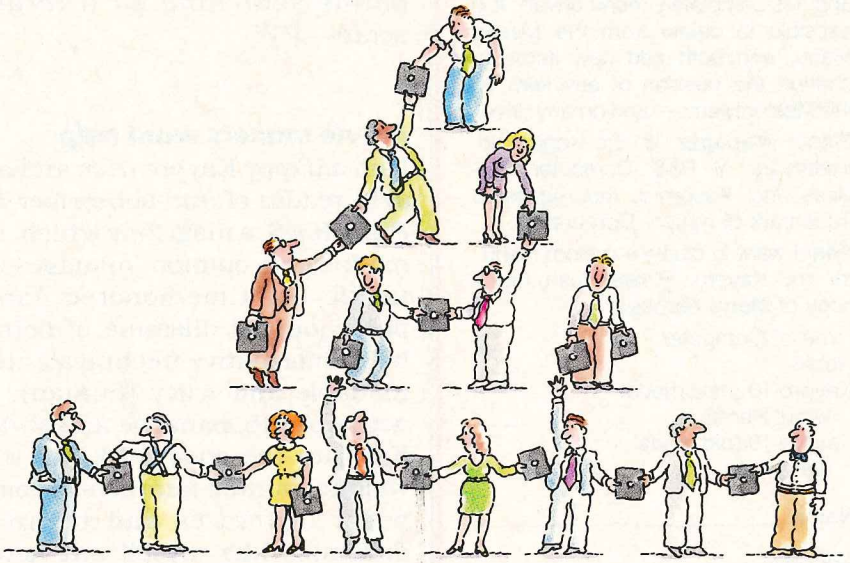
For these reasons I suggest that readers re-read "Fast Facts" and then contact qualified professionals before undertaking extensive searching on their own. While online databases are relatively "user friendly" and increasingly accessible, those computer owners who plan to "do-it-themselves" should be aware that, indeed, it is *not* as easy as it might first appear.

Edith F. Anderson, Ph.D., M.L.S.
Library & Information Consultant
Del Mar, California

I certainly agree that online research can be confusing and expensive to the new user. That is why so many database publishers offer classes, training materials, and free introductory online time.

The sometimes frustrating process of learning new systems is all too familiar to computer users, I'm afraid. For those who need to use online services frequently, going through that process probably will be be worth it in the long run. But for occasional users or

THE END OF SOFTWARE FREEBIES, NOW AVAILABLE FOR KAYPRO.



Finally there's a foolproof way to protect software against unauthorized duplication. And the technology is all on the disk itself.

The new Prolok™ disk doesn't need add-on hardware. Instead each diskette is marked with a unique, physical "fingerprint." No two are alike. A precise description of the individual print is encoded magnetically. The fingerprint AND the description must match exactly before the software is decrypted and released to the system. No match, no access.

Its genius is its simplicity and familiarity. Prolok looks like an unprotected disk, loads like an unprotected disk, works like an unprotected disk. The user feels immediately at home and in command. It's as easy as A >PROLOK B: filename.

Backups are easily made via normal system utilities. However, to be read they must be accompanied in the system by the original Prolok disk.

Prolok puts the casual copier—and even the deliberate pirate—out of business. It barely increases the price of your product, yet it makes sure your customers don't buy one program and copy ten.

Several command line slash (/) options are built into Prolok diskettes for customized security, depending on your needs.

Software can be loaded easily onto Prolok diskettes using any system from a PC to commercial mass duplication equipment.

Prolok is an engineering breakthrough of Vault Corporation, which has been successfully safeguarding software since the inception of security disk technology. Over 2000 businesses and organizations protect their valuable programs with Prolok.

Simply contact Vault Corporation at 2649 Townsgate Road, Suite 500, Westlake Village, CA 91361. Or phone Kenley Holmes at (818) 574-8594. And find out why software freebies are becoming a thing of the past.

PROLOK.
SOFTWARE PROTECTION, RIGHT ON THE DISK.

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MENU MANAGER™ FOR THE KAYPRO™ 10 & ROBIE

Finally, it is possible to make changes in the Master Menu of your Kaypro 10 or Robie. You no longer have to have a menu loaded with programs which you may never use. You can now add those programs, such as accounting packages or mailing label routines, which you use regularly in your work.

In short, you are now in control. Design a Master Menu that will make your work more effective and efficient. **Menu Manager** allows you to modify your Master Menu.

Menu Manager has been designed with Kaypro 10 and Robie users in mind. The program is easy to use, and it is completely menu driven. It is possible to delete from the Master Menu, and both add new items or change the position of any item on the Master Menu — and on any drive.

Menu Manager is the registered trademark of P&B Computer Services, Inc. Kaypro is the registered trademark of Kaypro Corporation.

Yes! I want to create a custom menu for my Kaypro. Please rush me a copy of **Menu Manager.**

Type of Computer:
Robie ____
Kaypro 10 (new model w/out Perfect) ____
Kaypro 10 (old model w/Perfect) ____

Name: _____

Address: _____

City: _____

State: _____ Zip _____

1 **Menu Manager** $59.95
Shipping & Handling 3.00
Washington Residents Only add sales tax of $4.80 . . . ____
Total . . . . . $____

☐ Check ☐ VISA
☐ Mastercard

Card No.: _____

Expiration Date: _____

Signature: _____

Phone: ( ) _____

Send Order to:
P&B Computer Services, Inc.
13701 N.E. Bel-Red Road
Bellevue, WA 98005
(206) 641-7390

those who want to tap online resources without taking the time to learn online database searching, use of the services of a qualified information consultant is an attractive alternative. (Anyone looking for a professional online searcher would do well to consult the Directory of Fee-Based Information Services.*)*

The University of California library system does offer searching for a fee to members of the general public as time and staffing resources allow. Each library on each campus determines which services it can afford to offer, however. Larger campuses such as Berkeley and Los Angeles offer online searching on a larger scale.—RW

Movie makers want help

I am a happy Kaypro user, and an avid reader of and subscriber to *PROFILES*, a magazine which, in my humble opinion, manages to tackle the time-honored computer journal dilemma of being both informative (technical) and readable and witty (human)... with aplomb, panache and style. Keep up the good work; for the vast uncounted numbers of computer illiterates and techno-dummies like myself out here, your publication actually *does* make a difference!

Now, down to brass tacks.... The area in question is motion pictures—and I know there are a lot of fellow *PROFILES* subscribers who would appreciate some in-depth assistance on how to make their Kaypros do the job better...

In a metaphorical sense, Kaypros are doing to the computer industry what Volkswagons did to the automotive industry. They're cheap, reliable, and easy-to-use. Also, you don't have to be a genius or computer whiz to figure them out. By and large, this is all true. But there are still some large gaps here and there—and the point of this letter is to urge both you (the excellent editorial staff of *PROFILES*) and the Kaypro Corporation to listen to people like me and help us out.

Miguel Tejada-Flores
Venice, California

We hope you liked the October issue's cover-story on the making of the movie 2010. *We're also planning an issue on unique applications of Kaypros to the professions (see November's "Forward"). You could help by putting us in touch with Kaypro-aided movie writers who would write well for* PROFILES. *(Ditto for those of you out there who know of unique applications in other professions.) Also see "Writing for* PROFILES" *in this issue.—TF*

Praise/problems for subscriptions

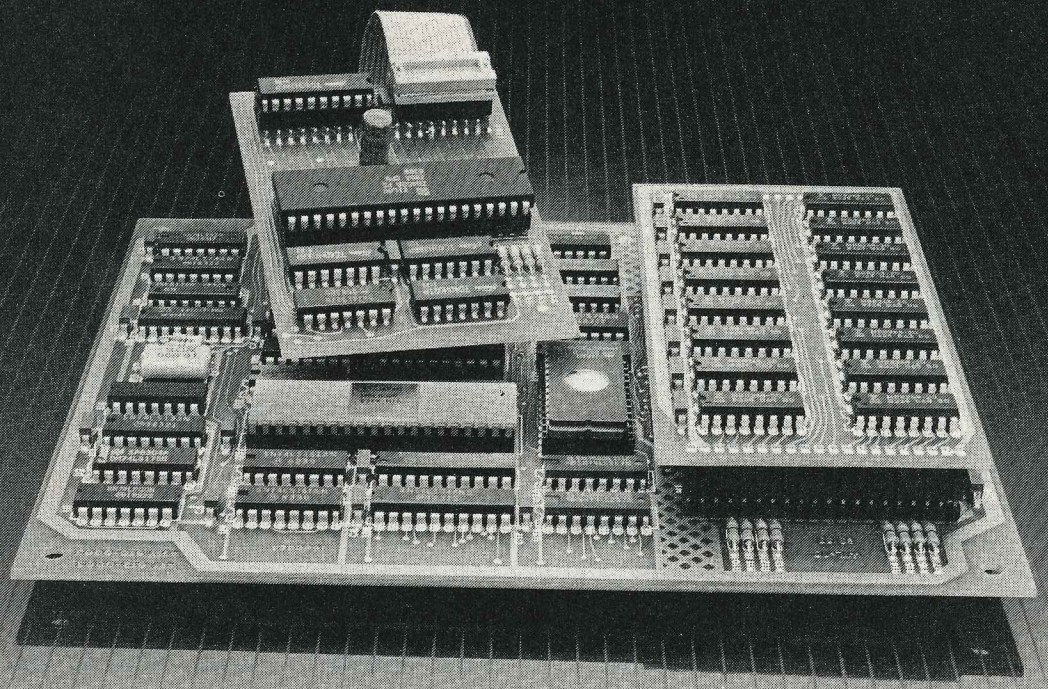
Many thanks for producing a magazine as enjoyable as *PROFILES*. It has certainly smoothed domestic relations between my Kaypro 10 and me, and the advertising has allowed me to purchase some very useful products.

I am writing principally about your renewal information. Each issue has exhortations to renew now and save, but neglects a critical piece of information: when the current subscription expires. Please give us a quick course in label decoding so we can continue receiving *PROFILES* without interruption.

Bruce Kleinschmidt
Old Sacramento, California

It just so happens that we've started the process of upgrading our subscriptions operation — and new labels is the first step. On this issue's label, your expiration date will be easily recognizable, such as OCT '85. And don't worry, no trial subscriptions will be terminated until you've had a chance to renew.

MS-DOS, CP/M-86 and RAM Drive For Your CP/M Computer



Now you can dramatically expand the software capabilities of your CP/M computer with CO-POWER-88 from SWP Microcomputer Products.

Introducing CO-POWER-88, the powerful 16-bit, 8088 co-processor that upgrades your Z-80, CP/M computer to run both MS-DOS and CP/M-86. What's more, MS-DOS on the CO-POWER-88 is format and data compatible with the IBM-PC.

Available in 2 RAM sizes, 128k and 256k, the CO-POWER-88 runs at a quick 5.33 MHz. It gets its power from your computer's power supply and uses a maximum of just 750 mils at +5 volts.

Installation is simple.

When you order your CO-POWER-88, you'll receive two circuit boards: the Z-80 adapter board and the main processor board. You'll also receive a complete owner's manual and easy-to-follow installation instructions.

When your package arrives at your door, the world of 16-bit processing is just minutes away.

CO-POWER-88 does not replace your Z-80, so you can still run CP/M.

Imagine the versatility, compatability and power that CO-POWER-88 gives you, allowing for both CP/M and MS-DOS, IBM-PC compatibility processing.

SWP

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And, as an added feature, CO-POWER-88's RAM can be used as a high-speed simulated disk drive when processing under CP/M.

How IBM-PC compatible is the CO-POWER-88?

Most MS-DOS, IBM-PC software will run under the CO-POWER-88. To inquire about a specific program, call or write us.

Contact your local SWP dealer, or order direct by mail.

If you own a Kaypro, Morrow, Zorba, Actrix, Osborne, Bigboard, Xerox 820-II, or SWP ATR8000, then CO-POWER-88 is for you! Contact your local SWP dealer, or use the convenient mail order coupon below. Better yet, for fastest delivery, use your credit card and shop by phone.

Credit Card Orders Save Time!
Call 817-469-1181 or 817-861-0421 And Order Now

Or Mail Coupon to: SWP, Dept._____, 2500 E. Randol Mill Rd., Suite 125, Arlington, TX 76011

Please ship the following:

☐ 128k CO-POWER-88 with MS-DOS @ $400.00 + $10.00 shipping.
☐ 256k CO-POWER-88 with MS-DOS @ $500.00 + $10.00 shipping.
☐ CP/M-86 (16-Bit Disk Operating System) @ $60.00 + $5.00 shipping.

Configurations: (check one) 5 1/4" drive ____ or 8" drive ____

Brand of Computer _____

☐ I want to learn more about the CO-POWER-88. Enclosed is $1.00, (no checks please) for more literature, including a comprehensive listing of MS-DOS and CP/M-86 software that runs on the CO-POWER-88.

Method of payment:

☐ Personal Check enclosed (must clear bank before shipping)
☐ Certified Check or Money Order enclosed.
☐ Charge the following credit card:
☐ Master Card ☐ Visa
Credit Card # _____
Master Card Bank # _____ Exp. Date _____

Subtotal: _____ + Shipping _____ + Sales Tax (Texas Residents add 5%) _____
= Total Enclosed: _____

Name _____
Address _____
City _____ State _____ Zip _____
Phone (h) (____) _____ (w) (____) _____
Signature _____

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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 an immediate reply, you can do what we often do: call Kaypro Technical Support at (619) 481-3920, or write to them at Kaypro Software Technical Support, P.O. Box N, Del Mar, CA 92014. If you write, please include your daytime phone number.

Improved Perfect

Enclosed is a letter I recently sent to Perfect Software. I am enthusiastic about Perfect Writer, but I find the limitations of Perfect Formatter to be at best annoying. I am not satisfied with "work arounds" mentioned in *PROFILES* and *Kugram*, and am convinced that significant improvements are possible.

Perhaps if enough Kaypro owners voice their displeasure, we can get an upgrade. I really think PW is the best around, and that both Perfect Software and Kaypro owners would benefit from enhancements to PF.

John Caywood
Virginia Beach, Virginia

You may be interested to know all rights to the Perfect Software series have been purchased by Thorn EMI Computer Software Inc. They claim to have re-written the whole product line and are planning availability for this month. The news release I saw promised a price-break for owners of the old software. I would contact THORN EMI for further details on upgrading from the older versions. They can be contacted at:

THORN EMI Computer Software, Inc.
3187-C Airway Ave.
Costa Mesa, CA 92626
(714) 751-3778

Neither Kaypro Corporation nor PROFILES *assumes any responsibility for the suitability or quality of any of this new software. We haven't seen any of it yet.*

Olympia printer

I need some assistance. I recently purchased my first printer, an Olympia electronic compact NP, and have not been able to find an installation package to utilize the full capabilities of the printer. I exclusively use WordStar as my word processor. I attempted to install the printer myself but when opening WINSTALL there was a WSU.COM file which was missing. Any knowledge about what happened to this file on the WordStar disc?

Chip Johnson
San Francisco, California

The WSU.COM file is not missing from your disc, it was never there. WSU is the uninstalled version of WordStar that comes on distribution disks from MicroPro. The WordStar that came with your Kaypro is already installed for the computer, and the terms of Kaypro's contract with MicroPro state that the uninstalled version is not to be distributed. This is also to make pirated copies of WordStar more difficult to distribute.

WINSTALL is perfectly happy to re-install the installed WordStar you already have. When WINSTALL asks for the name of the file you are installing, type WS.COM. This lets you change the printer driver to whichever printer you want. I'm not familiar with Olympia printers so I don't know whether it emulates any of the printers that WordStar directly supports or not. Since your printer is probably letter-quality, you should choose "backspacing standard" printer. This is the generic choice for a letter-quality printer. Your only other

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choice is to patch WordStar, through WINSTALL, for the specific codes your printer uses. Unless you are experienced at this type of thing, it would be a good idea to get some help from a local Kaypro User's Group or your dealer.

Juki print wheels

I recently purchased a Kaypro 2X business system, with Juki daisy wheel printer. The problem I have been unable to solve is finding out who manufactures compatible print wheels (besides Adler Business Machines, Inc., as listed in the user's manual).

My dealer informed me that the printer "emulates" a Diablo 630, but is unsure of Diablo print wheel compatibility. A representative at Kaypro gave me the same reply.

The software I wish to purchase uses either dot-matrix or letter-quality printers. However, unless I can find another lead on print wheel manufacturers, I am forced/blocked from expanding into a particular business area, or I am forced to purchase another printer!

I am sure there are other users out there experiencing the same or similar problems. Can you give us any clues out of the dilemma?

JoAnn Heckman
Budd Lake, New Jersey

Your dealer was right in that the Juki printer responds to Diablo 630 commands. The Juki printer does not, *however, take Diablo print wheels. The print wheel that came with your printer gives you access to all standard ASCII characters. This is fine for most software, but not for specialized types of word processing. To the best of my knowledge the only other print wheels which will fit are*

DMS III

Easy. Powerful. Fast. The most versatile Data Management System for your Kaypro

No Commands to Learn
Completely menu-driven, DMS-III is the essence of simplicity. With no command "language" to learn, you can easily have DMS-III up and running thirty minutes after your first boot. It will guide you smoothly through form- or file-building procedures, at the same time creating its own menus. DMS-III runs on your Kaypro or any system with CP/M or MS-DOS and 200k per drive.

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DMS-III has proven itself in four years of service in applications as varied as its users. Complex file-handling capabilities make DMS-III ideal for client bases, tickler files and job cost accounting for architects, attorneys, churches, doctors, dentists, property managers, and all types of service and professional firms.

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BRIEF SPECIFICATIONS:

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Interfaces with:	Most word processors
Source Language:	Microsoft Basic compiled

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Only $295 at your Kaypro dealer. Ask for a demonstration and a copy of our brochure. Or call us directly at (214) 586-5102.

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MasterCom is a full featured, smart terminal and file transfer utility for Kaypro and other CP/M computers and all IBM PC-DOS compatible computers. It is easy to use for the beginner, yet has the features and speed for the advanced user. No long training is required. You will be communicating immediately using the descriptive pull down menus.

We are so enthusiastic about **MasterCom** that we provide a 30 day money back guarantee. If you don't like it, return it!

MasterCom can:

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MasterCom includes the following features: auto-dial, auto-answer, host mode unattended operation, directory display, batch transfer, file viewing, file rename, file erase, wild card file specification, stored responses invoked by a single key stroke, filter or ASCII display option for received control characters, on-line selection and revision of communication parameters. **MasterCom** supports most file transfer protocols, including Christensen XModem, Xon/Xoff, line at a time (time delay or handshake) and speed throttle.

MasterCom is available in most disk formats. A single user license is $49. COD, prepaid, MasterCard/Visa and authorized purchase orders accepted. U.S. orders are shipped UPS surface ($5) or UPS air ($7). International orders shipped airmail ($10). Same day shipment on most orders. Call our software HOT LINE:

906/228-7622

The Software Store

706 Chippewa Square

Marquette MI 49855

those made for Triumph Adler electronic typewriters. I have tried to find them myself, and it's not easy. Your letter didn't state why you needed some other print wheel. I will assume that your expansion needs require printed characters not found in the ASCII character set. If this is the case, you will have to find some source for Adler print wheels and hope they can deliver one with the special characters you require. Otherwise your only recourse is to buy a new printer. Should you be forced into this option, be certain you can get the print wheels you need before purchasing the printer.

Kaypro four-eighty-what?

Could you please explain to me the differences between the Kaypro 4'84 (which I have) and the older Kaypro 4? I have noticed in the "Logo" ad on the first page of September *PROFILES* that one must specify which Kaypro 4 one has, in ordering some of the "Logo" accessories. What are the changes that have been made in the 4'84 that causes this, and what other changes have been made in the development of the newer model.

Stephen G. Goldberg
Logan, Utah

There are several differences between the '83 and '84 series machines. The most obvious ones are the use of half-height drives in the '84 series. Kaypro '84 series computers also have two serial ports on the back instead of the one port on the '83 series. The clock speed, not related to the real-time-clock, has been speeded up from 2.5MHz to 5MHz in the '84 series. All Kaypro computers now use the same character set used by the Kaypro 10; including graphics characters. The '84 series also comes with a real-time-clock and a built in-modem.

This boils down to a completely different mainboard to accommodate the changes. That is why the accessory manufacturers need to know which machine you have. Hardware accessories for the '83 series will not work on the '84 machines. Applications software that ran on the '83 series will run on the '84 machines as long as it doesn't use any of the Greek characters found on the '83 series. On the '84 series, and the Kaypro 10, that area has the graphics character set. The video commands on the '83 series are a sub-set of the commands on the '84 series. That means that all commands from the '83 series still work and a bunch more have been added. Software such as CONFIG and COPY will not run on a different model, but the standard CP/M utilities (as outlined in Digital Research's manuals) will.

DataStar

I would appreciate it if someone could explain to me why I can't get DataStar to print out the form by using CTRL-U. The form and data are sent to the printer, but everything is printed on one line.

I have checked with my local representative. He tried to use DataStar on a different printer and had the same trouble.

Keven Wilfley
Hood River, Oregon

It sounds like you need to run the DINSTALL program on your copy of DataStar. DINSTALL will only ask if you are running MP/M and if you want line feeds to the printer disabled. You

should answer both questions by pressing N, for no (don't press RETURN).

The only way I was able to duplicate your problem was to disable line feeds through DINSTALL. DataStar should have been installed before you got it.

WordStar plus Gemini

I have been trying to interface a Gemini 10x printer with WordStar. WordStar seems to do everything I want as a piece of software. The printer's control codes are identical to an Epson 80 but the menu interfacing of the printer does not provide for variable line spacing.

My machine also came with several Xerox copies of corrections for the software and user's guides. Is there any way to get a single bound copy of the up-to-date guides?

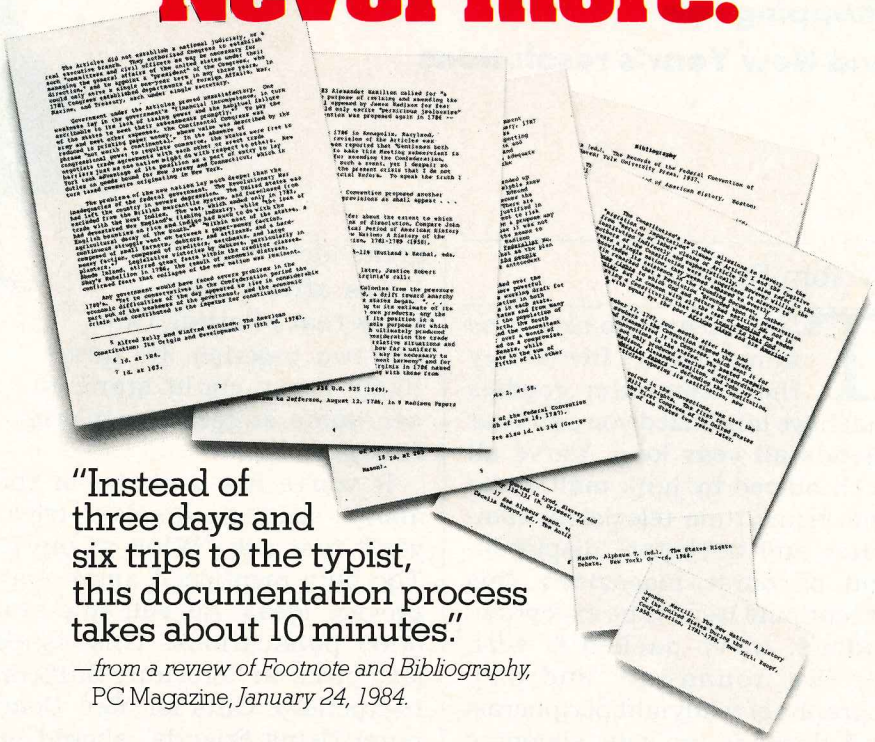
Peter Bluestein

You are correct in that WordStar does not recognize variable line height for dot-matrix printers. Varying line height is supported only on letter-quality printers having that capability. To gain control over line spacing, you'll have to patch the control strings into User Patches 1 through 4.

Unless you have patched WordStar before, I would suggest you get help from someone who has. The first time you install patches in WordStar, having someone around who has done it before can save a lot of aggravation.

You should be able to get updated copies of Kaypro manuals through Kaypro Technical Support (whose address appears at the start of this column). □

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.*

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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.

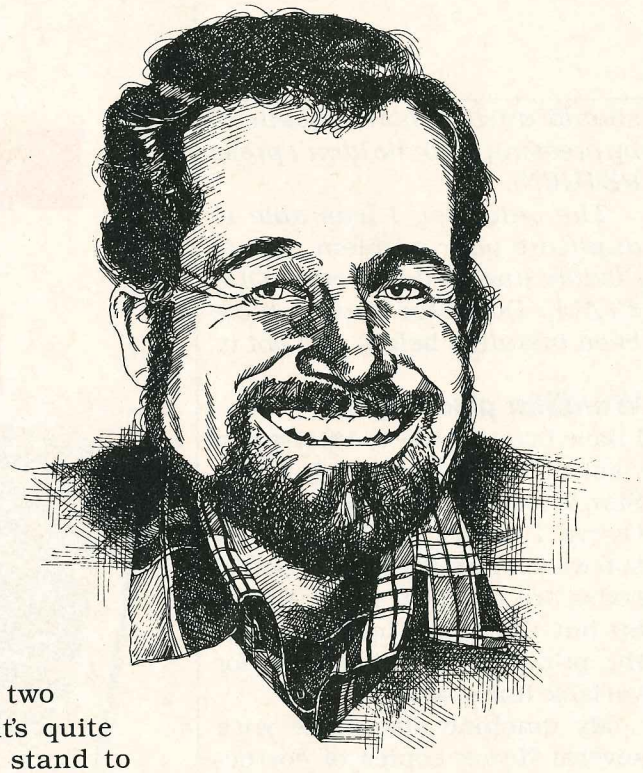
[2]Footnote also works with the Select™ word processor.

[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™

Foreword

Shopping tips and New Year's resolutions



by Tom Foote

This is the season to be. . . free to indulge!. . . free to buy those computer goodies that have tantalized you and your friends all year long. You've all been blitzed by junk mail, radio and prime time television, computer and bookstore displays—and, of course, magazines. This exceptional issue is no exception. Indeed, we've packed it with reviews, round-ups, and photographs of ready-gift peripherals and doodads for your shopping pleasure. And putting this one together has been a pleasure for us. Indeed, it's turned us on to stuff for which our knowledge had heretofore been— uh. . . peripheral.

Tips for shoppers

Yea, yea, we know that you experienced users could teach us a few tricks on shopping for hacker friends. But we also know that many readers are new at this. Worse still, we suspect there's an outside chance that some of you might actually stoop to this: strategically placing this issue where friend or family will most likely see it—turned to that page displaying the gift you want. Can you imagine anybody doing that? (Or does it sound like a great idea? I was afraid you'd think that.) Putting two and two together, it's quite likely many could stand to see some suggestions in print. Here goes. . .

If you're not a victim of the above "strategic display" trick, you'll first ask "What to buy?" The blitz mentioned above may provide ideas. So will this and other publications. This issue's lead piece on "Stocking Stuffers: Inexpensive Gifts for Your Computer-Using Friends" should be especially helpful with gift ideas and more shopping hints. So should this issue's round-ups of printer buffers, modems, power conditioners, as well as the pieces on programs for academic writing and the Advent Turboboard—though these are more expensive than the stocking stuffers.

If you're about to buy something very expensive, or very user- or computer-specific, be sure to first test your ideas on whomever you're buying for. Subtle hints, or direct questions could be in order, depending on the gifts and personalities involved. If hinting at a gift before it's given isn't for you, then take the safer route of buying something with broader appeal—e.g., a gift certificate to a computer or bookstore, or even the chocolate diskette or Bit Banger—all detailed in "Stocking Stuffers."

I, however, have two more inexpensive broad-appeal gift suggestions: two books that have been so useful in my own computer work, I feel now's the perfect time to tell all.

For all Kaypro users—indeed, all users of CP/M—I emphatically recommend the book, *CP/M and the Personal Computer*, by Dwyer and Critchfield ($19.95, Addison Wesley). It's lucid, succinct, delightfully graphic, and most wide-ranging in terms of subjects and anticipated readership experience. Subjects covered include much on CP/M, then some on word processing, accounting, database management, BASIC, C, assembly language; and, these operating systems: CP/M Plus, CP/M-86, MP/M, IBM PC-DOS and UNIX. This book is truly the rose atop that ever mounting dung heap of absolutely awful computer books.

If you or your computer friend

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use WordStar, my second most cherished reference is a must: *WordStar and CP/M Made Easy*, by John D. Lee ($17.95, Wiley). This book's not nearly as classy as the Dwyer book. My version's not even typeset. Indeed, it looks like it was printed directly from clean, though daisy-wheel copy, directly from a WordStar file. Though the graphics won't win art awards—the formatting, boldfacing, and other neat tricks should convince you this guy's a WordStar ace. They'll also give you good ideas for your own documents. Lee writes in the preface: "The first purpose of this book is to help absolute beginners to make a start with WordStar with step-by-step training. . . The second purpose. . . is to help established users to become more proficient." In my view, he's accomplished both objectives with superb organization and clarity. In fact, I have lots of WordStar documentation, including MicroPro's latest dealer's "Technical Support Reference Manual"—which I do find valuable—especially for detail on patch points. But when I need WordStar to do something off-beat, I go to Lee's book first. And 95 percent of the time, his comprehensive index guides me to a clearly worded solution—amidst no less than 45 chapters and 11 appendices!

Let me buttress these conspicuously positive remarks with this: I have never talked to anyone promoting these books, and to my knowledge, I have had no association whatsoever with anyone who stands to benefit from their sale. I found them on my own, and they've simply proven to be outstanding examples of what computer publishing should be. If only software documentation were as good.

New year's resolutions for documentation: Help from an old engineer

I remain absolutely awed by all that my microcomputer can do, especially relative to the clumsy IBM 1620 mainframe I learned on decades ago. But in my view there's much going down in microcomputing today that's absolutely unforgivable. Like the docu-obfuscation that accompanies so much of even the latest versions of "modern-day" software.

A reasonably well respected engineer has written: "The more minutely you describe something, the more you will confuse the reader's mind and the further you will remove him from knowledge of the thing described."—Leonardo da Vinci, circa 1490. The father of user-friendliness, you say?

Though one would hope that five centuries would produce some improvement, to this day, minute descriptions which confuse many, seem to be the rule—especially among the smaller software outfits. Oh yes, I've hounded the presidents of the companies who most deserve it. And, every single one has said, in essence, "Yes, we have improvements in the works which respond fully to each of your suggestions." We'll see.

For those I have not been able to get to, let me suggest some New Year's resolutions that customers should demand until satisfied; just some documentation basics that should help us all get along better.

In keeping with Leonardo, be it resolved that all documentation henceforth contain: 1) a short abstract right on the title page, revealing exactly what all the product will accomplish; 2) a short tutorial, again, right up

(continued on page 78)

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Micro Cornucopia . . .

KAYPRO USERS DISKS
for KayPro II, 4 and 10

$12.00 each

The following are full disks of software assembled for the KayPro. Each program has a .DOC (documentation) file and many come with source.

KayPro Disk K1
Modem software

This disk is absolutely priceless if you will be using a modem to communicate with bulletin boards, other micros or mainframes.

MODEMPAT.COM: Menu selection of baud rate, bits/character, stop bits, & parity for serial port.

MODEM7.COM: Very popular MODEM 7 configured for KayPro.

MODEM7+.COM: This is MODEM7 & MODEMPAT combined - you can communicate with anything!

KMDM795.COM: Super-version of MODEM7 set up for KayPro.

TERM.MAC: Commented disassembly of the TERM program you get with your KayPro so you can configure it for any interface.

SQ/USQ.COM: Programs to squeeze and unsqueeze files for faster transfer.

KayPro Disk K2
Utilities

Really oodles of spiffy little (and big) programs to help you get full use of your KayPro.

ZESOURCE.COM: A true Zilog format disassembler for 8080 and Z80 object(.COM) files. Now you can turn .COM files into . MAC files.

UNERA.COM: Simply enter "UNERA" followed by the name of the file you just erased and presto, the erased file is back! A lifesaver.

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

PACMAN.COM: Despite the KayPro's lack of graphics, this one looks and plays amazingly like the real thing! Keep it hidden.

ZCHESS.COM: Chess with a 1-6 level look ahead.

OTHELLO.COM: You learn it in minutes, master it in years.

BIO.COM: Generates custom graphic biorhythm.

MM.COM: Master Mind.

WUMPUS.COM: Classic wumpus hunting.

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

A complete Epson MX-80 printer graphics package including example files. (Same as K19.)

KayPro Disk K6
Word Processing Utilities

A powerful line oriented text editor that looks like Unix's EX, plus a scad of text utilities written in C which handles pretty printing, shortening a file, multiple space output, add tabs, remove trailing whitespace, and more. Also includes **ROFF.COM** a very neat text formatter.

KayPro Disk K7
Small C Version 2 Compiler

This is a greatly extended version of Ron Cain's Small C compiler. Version 2 has more expressions and larger library, true subset of Unix C. Disk contains compiler, documentation, and library—everything you need.

KayPro Disk K8
Small C Version 2 Source

This disk contains the source (written in Small C) of the Small C version 2 compiler. Get K8 if you want to try extending the compiler. (You must have K7.)

KayPro Disk K9
ZCPR

ZCPR: The big news on this disk is the self-installing version ZCPR available only from Micro C. Once you have ZCPR in your CP/M, you'll never go back to straight CP/M! For instance, ZCPR searches drive A for any program not found on drive B, so, even an empty disk in drive B appears to contain every program on A. It's great for text editors, compilers, etc. Works on KayPro II and 4.

EX14: a super replacement for SUBMIT.

Plus many more: **TREK, FIX, FIND, SNOOPY ALIENS and DIF2.**

KayPro Disk K10
Assemblers

We've received a lot of requests for a Z80 assembler. So Dana put in some long hours getting the Crowe Z80 assembler to run on the KayPro (and every other Z80 machine).

CROWECPM: This is a first class Z80 assembler. We use this assembler daily (and we included its source). Takes standard Zilog mnemonics.

LASM: This is a more powerful version of the ASM assembler you received with the KayPro. This will link multiple programs together at assembly time.

PRINTPRN: This program makes it easy to print the listing files generated by the Crowe assembler.

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

Yep, this is FORTH, one of the most unique, most extendable languages known, and for a paltry $12.00. This disk contains not just one FORTH, but two, along with an editor, decompiler and 8080 assembler! The editor even uses the cursor control keys.

FORTH: This is true fig-FORTH.

KFORTH: A very nicely extended version of fig-FORTH.

PLUS, all the rest of the FORTH goodies. (Forth Heaven!)

KayPro Disk K13
Source of fig-FORTH

All this disk contains is the 40K ASM source of fig-FORTH with the hooks in place for the KayPro. This disk is for FORTH hackers who just can't leave anything alone. (Look, you probably have faults, too.) The source of FORTH is here because there isn't room on K12. This is the only disk that isn't stuffed.

KayPro Disk K14
Smartmodem Programs

This is the disk for you if you have a Smartmodem compatible modem.

SMODEMK: Smartmodem program set up for the KayPro (and source).

XMODEM: Lets you remotely control your KayPro from a distant computer.

KAYTERM: This is the information you need to run or write modem software on the KayPro.

KayPro Disk K15
Hard Disk Utilities

This disk is for the KayPro 10 or any KayPro with a Winchester drive. With these routines you can not only backup files (with printed directories of the backup disks), you can also break up large files. The backed-up files are not encoded (as they are with KayPro's backup routine) so you can access them on any system.

KayPro Disk K16
Pascal Compiler

This is a real Pascal compiler. It supports only a subset of the language (no records, pointers, booleans, reals or complex) but it generates a real .COM file. Everything is on this disk: the compiler, its source, example programs and documentation.

KayPro Disk K17
Z80 Tools

This is for those of you who are into Z80 assembly language.

XLATE.COM: A very good 8080 to Z80 translation routine.

DASM.COM: An easier to use version of ZZ-SOURCE (the Z80 disassembler). This full disk includes source and documentation for both routines.

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

This is a complete Prowriter printer graphics package written by the same Micro C subscriber who wrote the MX-80 graphics package. Plot points, lines, circles, boxes, and more. Examples, documentation.

Kaypro Disk K20
Color Graphics Routines

PACMAN.COM: This is a deluxe version of pacman for MicroSphere's color graphics board.

PIE.COM: Pie Chart generator.

SKETCH.COM An easy way to sketch color graphic designs. You can even use a joystick with this software (see Micro C issue #15 for joystick interface).

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

This disk contains interrupt-driven terminal programs for all Kaypros. If you are tired of being limited to 1200 baud when you use your Kaypro as a terminal then take heart. With these programs, your Kaypro can outrun the big boys by receiving and sending up to 19,200 baud without dropping a single character!

Also, a new version of BYE that not only lets you run your Kaypro remotely, but also figures out whether you have a 63K or 64K system so it will run with any Kaypro using an external modem.

Something special for your Kaypro!

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

This is a real Z80 macro assembler! Syntax closely follows RMAC and MAC. Also includes pseudo-ops to support conditional assembly etc. No .phase or relocatable code.

Kaypro Disk K26
EPROM Programmer & Character Editor

This is the software for the Kaypro EPROM programmer written up in Issue #18. This software and the programmer turn your Kaypro into a very powerful development system. You can read ROMs, write ROMs, save data on disk and restore data from disk. Plus, you get a character editor which will help you design custom character ROMs for the non-graphic Kaypros!

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).

NEW!

Kaypro Users Disk K28
Modem 730

One of the most versatile modem programs available. Files and overlays are included to assemble a usable version of MDM730 for a Kaypro II, 4, or 10 using an external modem.

NEW!

New Schematic Packages

Finally, a complete schematic for your portable Kaypro, logically laid out on a single 24" by 36" sheet, plus a very complete illustrated Theory of Operation that's keyed to the schematic. You'll get detail information on your processor board that's available nowhere else.

For instance, those of you with the 10 and new 84 systems get a thorough rundown on your video section complete with sample video control programs in assembly language and Pascal. Of course, all packages contain serial and parallel port details and programming examples as well as complete coverage of the processor, clock, I/O, and disk controller (information that is not even available in Kaypro's own Dealer Service Manual!).

Kaypro Schematic Packages

Kaypro II & 4 (pre-84) **$20.00**
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Micro Cornucopia Magazine

Want to speed up your KayPro? Want to find out what's going on under the KayPro's hood? Want to know who's selling good products and providing good support (and who isn't)? Want to find really inexpensive software? Then you're in the right place.

Micro Cornucopia (Micro C) is the friendly journal for those of you who want to stay abreast of the latest information on KayPros and other single board systems, or want to upgrade your KayPro yourself without paying an arm and a leg. We have regular columns on Pascal, C, S-BASIC, FORTH as well as the popular "On Your Own" feature for those of you who plan to make the KayPro your ticket to independence.

You can get all this and more when you order the special $2.00 sample copy. In fact, you'll even find out how to turn a KayPro II into a KayPro 4 (or KayPro 8).

Edited and published by David Thompson

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Sample Issue (turn your II into a 4)	$ 2.00

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Pro-8 ROM Package

The PRO-8 package from Micro Cornucopia upgrades your KayPro 4 to a KayPro 8 with 784K bytes (96 directory entries) per Tandon 100-4 (or equivalent) quad-density drive. Plus, you can select your own cursor character (and change it at will).

The package includes the new PRO-8 monitor ROM, a disk of formatters and copiers, and printed instructions. (We even tell you how to turn your KayPro II into a KayPro 4.) All you add is one or two double-sided double-density (390K), or double-sided quad-density (784K) drives. You get over 1.5 Megabytes on a two-drive quad-density system!

This new system can read, write, and format KayPro II and KayPro 4 disks as well as KayPro 8 disks. And it recognizes each disk type automatically!

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Watch Micro Cornucopia for more KayPro compatibles.
Call or write for information on the other KayPro II and 4 ROMS from Micro Cornucopia.

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With this nifty little plug-in board, your Pro-8 ROM can access up to four 5¼" drives. You just plug a four-drive 34-pin cable into this board and you can add up to two additional drives.

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The Plus-4 Decoder Board for only **$39.95**

Watch for 4-84 and 10-84 compatible ROMs coming soon.

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Up and Running

David cleans out his catch-all box.

by David Gerrold

Sometimes this column writes itself.

Occasionally—not as often as you might think—I am given a free book or piece of software. If I can't get to it immediately, I put it into a box on the shelf behind my desk. When the box overflows, it's time to do a cleanup column. This is it.

dBASE too

Paul W. Heiser sent me a copy of his book, *Mastering dBASE II The Easy Way* (published by Prentice Hall). It's a useful general reference, and if you're trying to learn dBASE II (not the easiest language/program to learn) you'll get your money's worth out of it. But the same is also true for several thousand other books about dBASE II which can be found at your local computer store, book store, software store, and computer show. I've got seven of them on my shelves—if one doesn't have the answer to a specific question, another will. If Heiser's book were the only dBASE II reference, it would be well worth a user's attention. But you'll have to see for yourself if this book fills your needs because the real question is, what are your needs? There are dBASE II books for programmers, beginners, business applications, and so on. I don't think anybody's going to make any money publishing a book on dBASE II any more; the market is glutted— the buyer is going to have to do some serious browsing and make up his own mind.

Good games

Walt Bilofsky's company, The Software Toolworks, sent over copies of MYCHESS and AIRPORT.

MYCHESS first. This chess-playing program has been around for a while; but for my money it's still the best chess-playing program available for a small computer. And this is no casual judgment either. I have to play chess against a machine because I can't find very many human opponents who play on my level. A few years back, I had one of Fidelity Electronics' Chess Challengers; I would keep a game going almost all the time, checking back to see if the electronic critter had made its move yet several times during the day. I used to whup the by-gollies out of that Chess Challenger so regularly that my friends used to accuse me of cruelty to microchips. (Maybe so.) When I bought a copy of MYCHESS, I sold the Chess Challenger to a fellow who was leaving to spend 6 months at the south pole. I'm sure he got good use out of it.

Very quickly, I found that MYCHESS is a whole other class of opponent. The program is *mean*. If it were a football player, it would weigh six hundred pounds, run on tracks and eat raw goats for breakfast. MYCHESS forced me to stop being lazy at the chessboard and start playing at my best level again.

MYCHESS is a championship program. It has a U.S. Chess Federation ranking of 1568 (when running on a 4MHz Z80) and it has consistently placed in the upper ranks in every tournament in which it has been entered.

Now, Software Toolworks has added a graphics display to MYCHESS—the original version used alphanumeric characters. MYCHESS now displays a very crisp readable chessboard on your Kaypro screen. The only problem I have with MYCHESS is that I can't leave a game running for several days. I can either use my Kaypro for my writing or for playing chess, but not both at the same time. Sigh. I may have to buy a second Kaypro.

ILLUSTRATION BY JOYCE KITCHELL

And now, the AIRPORT game. This is a flight-controller's simulation. You have a real-time video display in front of you. You see airplane markers moving across the sector you control, and your job is to keep them all out of each other's way while directing some of them to landings and others to new courses.

I think Ronald Reagan should have been made to play a few rounds of this before he fired the air traffic controllers. In fact, I think anyone who complains about being left in a holding pattern for 45 minutes ought to spend an equal amount of time with this simulation. This game is not for the chicken-hearted. In fact, it should probably come with a bottle of Grecian Formula 16. I did not have gray hair the first time I sat down to play AIRPORT. I know one hacker who actually erased the game from his hard disk and gave his master copy to a friend; he was spending so much time trying to beat the game that he wasn't getting any work done. (You have been warned. It's one of those games.)

MYCHESS and AIRPORT are both available from The Software Toolworks, 15233 Ventura Blvd., Sherman Oaks, CA 91403. MYCHESS is $34.95; AIRPORT is $19.95. Shipping is $2 more. California residents add 6% sales tax. Or you can just send for the catalog. It's well worth a look. Highly recommended.

One last note: Walt Bilofsky also gave me a copy of MYCALC, his spreadsheet program, for evaluation. I promise I'll get to it "Real Soon Now."

Favors

The point has been made over and over that the biggest asset to a computer user is a friendly computer store. It bears repeating. In one sense, we are all pioneers. We are still in the first decade of the personal computer age and, to a great extent, we are all still dependent on each other. (Remember the first ten years of the automobile? Or manned flight? Or even the first ten years of high-fidelity? Same thing.)

Let me illustrate: last time around, I nearly missed a deadline. I live in the San Fernando Valley; *PROFILES*' office is just north of San Diego. The disk I mailed south hadn't arrived on the day of the deadline, thanks to the efficiency of the US Post Awful. The copy deadline was less than two hours away, not enough time to drive, and I don't have a working modem attached to my Kaypro. What to do? (I have a Cat Novation, left over from several years ago, but it requires a telephone handset that fits snugly into place—and when I replaced all my telephones in a fit of modernization last year, I ended up with new-fangled handsets that don't fit my old acoustic modem.)

On a long shot, I called Programs Unlimited (11672 Ventura Blvd., Studio City, CA 91604), and asked if they could help me out. Programs Unlimited is one of the two best Kaypro dealerships in Los Angeles and well worth your attention if you're in the neighborhood. Salesperson, Mark Widawer said, "Sure, come on down!" He put my disk in a new Kaypro, called San Diego—and after a couple of false starts—last issue's column made it safely to press.

I am grateful to Programs Unlimited, and this polite mention is my way of saying thanks.

I mentioned we had a couple of false starts (problems with Suprterm). Widawer finally connected a Hayes Smartmodem to the computer and sent the column off forthwith using Mite (Kaypro's replacement for

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Suprterm). It was the first chance I'd had to see the Hayes in action, running with Mite, and I was very impressed. I was also impressed with Mark Widawer's commitment to service, his familiarity with the equipment, his expertise, and his general attitude of helpfulness. This is the level of service that a customer needs from a computer store. It's clear that the success of any computer store—and I can think of several good examples to prove this point— goes beyond what merchandise is on the shelves. It is clearly a reflection of the employees' enthusiasm for the product and their willingness to share that enthusiasm with every person who walks in the front door. That enthusiasm is the asset that makes the difference.

The success of any computer store goes beyond what merchandise is on the shelves.

And finally—Pascal

Way back in the cybernetic pleistocene (1978, to be precise), the only computer language available for my North Star computer was North Star (N*) BASIC. It was such a powerful implementation of the language that even after I switched over to CP/M, I continued to favor N* over MBASIC. Even though N* BASIC is not available on CP/M, a company in Texas called Micro Mike's offers a CP/M workalike called BAZIC. BAZIC runs noticeably faster than N* because it was written to take advantage of several very powerful Z80 instructions. (The original N* BASIC was originally written for the 8080 chip.)

On the other hand, MBASIC is the de facto standard for BASIC. It has string arrays and lets you define variables as DAYCOUNT or MILEAGE instead of D3 and M2. BAZIC offers neither abilities—but it does allow multiple-line, user-defined functions (infinitely nestable!) and that allows the user to write truly structured code. You can simulate Pascal's procedures and functions this way— and it was that specific strength that kept me using the language even when other BASICs offered a host of other advantages.

Like SBASIC, for example. SBASIC is a truly structured implementation of BASIC. It's a compiled language, and it allows procedures, functions and labels, and long names for variables. It has a cleaner structure than most compiled languages, allows optional line numbers and isn't too hard to learn, if you're an experienced programmer. Those are its good points. The documentation isn't going to win any awards, but it's understandable.

But there are problems with the language that a serious programmer will quickly discover. For one—it has a very poor random number generator. One of my first tests for a language is a benchmark program called STARS. It puts dots on the screen randomly and blinks them randomly. If you can see a pattern, then the random number generator isn't truly random. This would be forgivable. I could patch in a machine-code random number generator—a function to check the refresh counter would do it—except that SBASIC's way of incorporating machine code into programs is just plain kludgy. The language has deficiencies.

And that's the real issue here. There are problems in certain areas of SBASIC, while other areas work like a charm. Until the software department recently switched to C as the in-house language, a good many very useful utilities on the Kaypro system were written in SBASIC; but the more you work with it, the more you realize that SBASIC is not the language it could have been—and should have been. It's the closest thing yet to a hybrid between BASIC and Pascal; but if you're going to go to this much trouble with a new language, you might as well go all the way and jump into Pascal, or even C, because both of these languages are available in very powerful implementations—and there is a lot of very real support available, including a number of very good books on both. The same can't be said for SBASIC. If you use this language, you are on your own.

And that brings me, finally, to TURBO Pascal, by Borland International, Inc. You've seen the ads, you've seen the rave reviews. You don't need me to repeat all that. What is important about TURBO Pascal—especially if you're going to have to learn the language as well as the compiler— is that it's easy! (Dare I say fun?) You can learn how to use the compiler in half an hour. And—the compiler will help you learn how to use the language. TURBO is the first sensibly defined compiler that I've ever used. If it finds an error in your code, it tells you what the error is, puts you back in the editor, and takes you straight to the

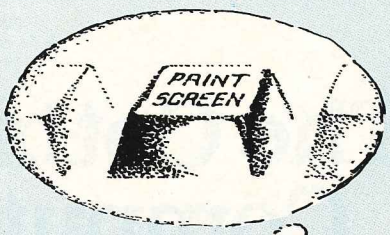
error so you can fix it. (TURBO's editor uses WordStar conventions, so you don't have to learn a new editor.) You can fix the error and resume compilation immediately. The compiler is fast—so even a long program can be quickly debugged of syntax errors and typos. In this case, finding errors is actually a rewarding experience, because you get to deal with your mistakes immediately. Other compilers I have used (for Pascal, as well as for other languages) are frustrating, because you have to go back and forth between editor and compiler over and over and over.

My primary reason for sticking with BASIC has been that you can test your program simply by typing RUN. (And if you have a compiler for your BASIC, once you have debugged your program using the interpreter, you can then compile it for faster running.) But Pascal is a more efficient language than BASIC, more powerful, and faster. TURBO Pascal's implementation now makes the language as accessible (and almost as easy) as any implementation of BASIC.

In addition (this is the gravy!) Borland International provides exceptional telephone support for their users. I checked in with three different questions (of varying stupidity) and was quickly informed of the fix in each case. I was mightily impressed.

It's a little early for predictions, but I suspect that TURBO could very easily become the de facto standard in Pascal just as MBASIC has become the standard in BASIC. It wouldn't be unwelcome. I'm having fun with TURBO. All compilers should be this easy to work with. □

STROKE OF GENIUS



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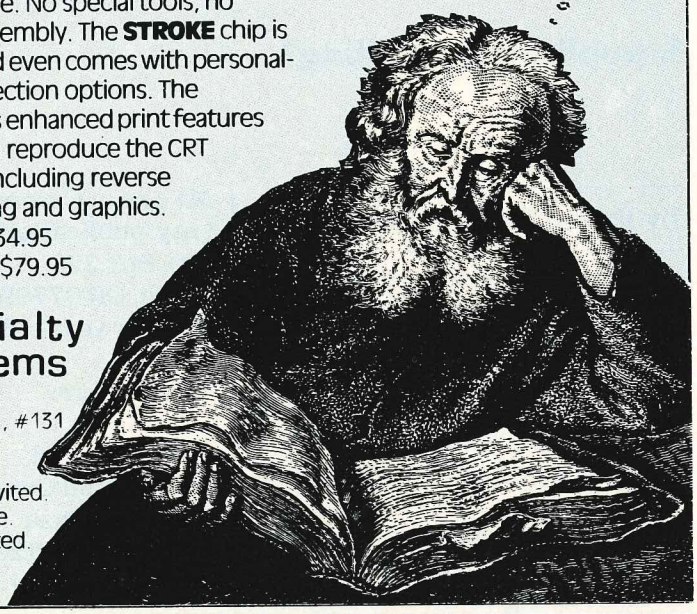

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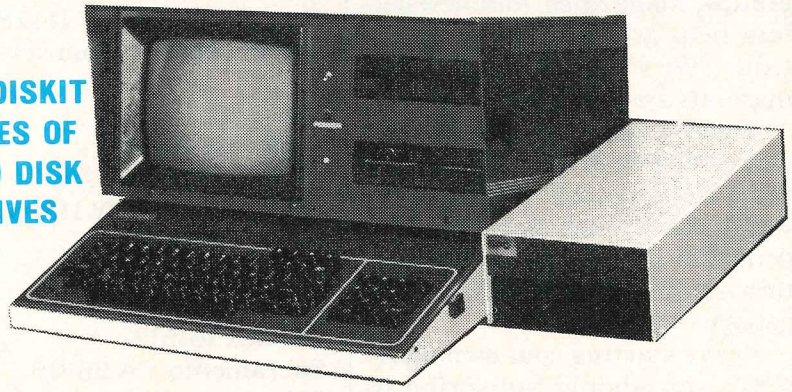

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The Cottage Computerist

Is publishing your bag?

by David Thompson

Computers and information seem to go hand in hand. What with text editors, card filers, database managers, and scientific calculators, it's obvious that computers are filling an important informational void.

However, computers have created a new void that is probably at least as big as the one they are filling. For you see, now we need good machine-specific information about our computers. Users' groups, magazines, and newsletters help provide that information. (We've all learned that manuals are just not enough!)

Where there's a new need, new careers follow. In this month's column we will look at computer magazines and newsletters: demands on publishers and editors, graphic design, and how to get started.

Before starting your own newsletter you should subscribe to several publications in the field. (Even if you never do start your own newsletter or magazine, the information in the better publications is still a real bargain.) Those I recommend are:

Magazines:

Byte
P.O. Box 590
Martinsville NJ 08836
$21 per year U.S.

Micro Cornucopia
(my publication)
P.O. Box 223
Bend, OR 97709
$16 per year U.S.

Newsletters:

Boston Kugel
The Boston Computer Society
3 Center Plaza
Boston, MA 01208
(no price listed)

Piece of Kayke National Newsletter
P.O. Box 28360
Queens Village, NY 11428
$8 per year U.S. (quarterly)

Pro-Gram
c/o Frank Fallon
30 East Williston Ave.
East Williston, NY 11596
$15 per year U.S.

Push & Pop
P.O. Box 161513
Sacramento, CA 95816
$10 per year U.S.

Are you right for the job?

First, let's distinguish between publishers and editors. In new publications, one person may handle both jobs—along with those of writer, editor, art director and paste-up person—but publishing and editing are separate roles. Publishers handle the business end: arranging money matters (paying for typesetting, printing, etc.), subscriptions and advertising. Editors arrange for (and often write) the articles and columns, the real meat of the publication.

To be a successful publisher, you need to be organized, reasonably good with money, and understanding of editorial needs.

To be an good editor, you've got to love what you are covering because a writer/editor's feelings often come through very clearly. If you don't enjoy your subject, then chances are your audience won't enjoy reading the magazine.

Command of the English language is essential to good editing. Yet something about English encourages creative obfuscation and technical absurdity—see, isn't that clear? Friendly but understandable technical information is such a rare commodity that it soon generates a very loyal following.

Publications are very demanding masters for both publishers and editors. If you begin a newsletter you are committing yourself until death do you part (your death or the newsletter's). Publications are really bottomless pits into which you pour hours and hours of sweaty prose. And the

ILLUSTRATION BY JOYCE KITCHELL

financial rewards can be meager.

At first, putting out the newsletter will be exciting, but after two years the thrill may have worn off. You may have trouble finding new things to write about. You may even begin to wonder if anyone cares whether you find something new or not.

On the other hand, there are some of us for whom the written word and the printed page are like drugs. We see ourselves in print once and we can't stand it until we're in print again. We enjoy reading what we've written. "Hey that's really good!" we say to ourselves. "I must be a very fine person!" (Which, of course, is absolutely true!) I would be really suspicious of any writer or editor who said he didn't enjoy reading his own articles or publications.

The magical blend of type and paper

One of the reasons I like to see my words printed on a page is because they look so nice there, standing out sharp and black on that smooth white field. A well-designed printed page can't be beaten for communicating ideas.

Choice of typeface, paper, and layout is a very important part of this communication. What I see on my computer screen bears little resemblance to what you are now reading. Oh, the words are the same, but there is a real difference in the reader's reaction. (Why do you think magazines spend so much on typesetting?) Even the way you react to the illustration of me at the top of the page effects how you process these words.

Take a copy of *PROFILES*, *Micro Cornucopia*, *Byte*, *ProGram*, or any other small or large publication that you have on hand. Thumb through each of them looking very closely at how articles are handled and how the magazine is put together. Then, put them aside (don't peek) and answer the following questions for each publication.

How do the articles begin? How do they end? Can you get the gist of an article by skimming through the first paragraph and the subheads? Are the articles easy to follow? Do listings stand out from the regular copy?

Is the typeface easy to read? What kind of paper is used? How is each magazine bound?

How do these things affect you, the reader? Is there anything irritating about the publication? Do you get a general impression of friendliness or chilly distance?

Starting out

The easiest publication to start is a newsletter. And there are about as many ways to start a newsletter as there are newsletters. However, there is a very easy way to get your feet wet in this business. You can start (or volunteer to be editor for) a newsletter for your Kaypro (or CP/M) User Group. If you find that newsletters are really your bag and you want to make publishing your full-time occupation, all you'll have to do is expand on that base.

You have many options for expansion of a newsletter. You can become a local computer advertising medium, and you can get paid classified and display ads for local merchants. You will find that widespread free (or very cheap) distribution to all of a user group's members, for example, will make your newsletter attractive to individual and corporate advertisers. The larger its circulation, the more valuable your newsletter is to advertisers.

You can also expand a users' group newsletter by providing free space for local news, so that other users' groups in the area don't need their own publications. *Push and Pop*, the newsletter from the Sacramento Microcomputer Users' Group, seems to be moving in this direction. (It also has really excellent articles, so I recommend it for anyone who is interested in computer languages and operating systems).

You could expand the audience for a local newsletter by emphasizing general interest articles rather than simply covering meeting dates and local personalities. The First Osborne Group newsletter began as a local group magazine but soon became the main independent publication for Osborne users nationwide. It currently has 13,000 subscribers.

Take a look at some of the national Kaypro newsletters (*ProGram*, *Piece of Kayke National Newsletter*, and *The Boston Kugel*). Perhaps you can fill a need they aren't meeting, or perhaps you can do a better job.

Of course, you may want to find a product that isn't yet supported. The Turbo Users Group newsletter was begun to support just such a product.

No matter which way you plan to grow, starting out with the support of a local club offers big advantages because you have an information base and help nearby. As your audience grows, you can get more and more information from them.

What to do?

Consider doing a newsletter (or even a magazine) as your route to independence. Even though you'd be crazy to make such a long-term commitment, there are more than a few of us you'd be joining. (And I wouldn't trade *Micro C* for anything.) □

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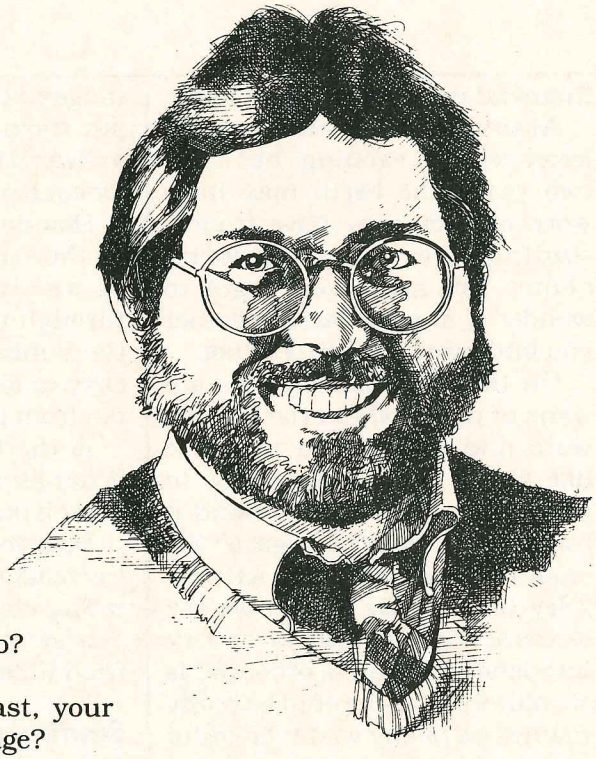
Life at 300 Baud

What an 1850's mining town and the Space Shuttle have in common.



by Brock Meeks

While writing this column a few things happened on the way to the disk.

I picked up a freelance writing assignment and made contact with a book publisher. Next I checked in with NASA to get an update on the Space Shuttle, and the latest experiments on board. Finally I nosed my way around the former electronic headquarters of the "Gary Hart for President" campaign.

I did all this and never left my house. Instead I journeyed via my electronic carpet: a Kaypro 2 and a 300 baud manual-dial modem.

You too can duplicate my trip (and probably more)—on the three Bulletin Board Systems (BBS) we'll cover this month. One board is run by an accomplished author and his dog; the next by everyone's favorite uncle—Sam; and the last, by one of the electronic community's most outspoken activists.

All ready to go? Let's check our communications survival kit. Modem communications program rescued from beneath coffee cup?

Check.

Pen and paper for taking copious notes (you don't really trust your buffer do you?).

Check.

Jazz cued up on stereo?

Check.

And last, but not least, your favorite imported beverage?

Check.

OK, let's log-on.

For writers

Board Name: The Notebook
Location: West Palm Beach, FL
Phone Number: (305)686-4862
Hours of Operation: 24 hrs. daily
Log-On: Password required
Baud Rate: 300
Data Format: 8 data bits; 1 stop bit; no parity

Notebook is dedicated to professional writers and editors. You don't have to be a published writer to use Notebook, but some of the downloading functions are limited to those who have published credits.

The official figurehead for this BBS is a dog—J.D. Pitt—a real pit bull. However, the actual force behind the board is "assistant" sysop Karl Meyer.

Admitting that J.D. often fails to live up to his title as sysop, Karl is the one who handles the routine work. "But the pooch takes criticism a lot better than I do," says Karl.

Karl has written many magazine articles and over 84 novels. He started Notebook to bring together writers who are actively using modems. "I saw a couple of notices on other boards where publishers wanted authors," recounts Karl, "so I decided that since most writers now have word processors, and probably modems, I would just open this (Notebook) as a general service to the writing community."

Although Notebook serves the professional writing community, if you are an aspiring writer this board is still a great place to call. The "pros" are open to giving help and advice.

"We all remember the days when we couldn't give a byline away," says one of the board's more popular authors.

To log on the board takes only a phone call. However, until you become a verified member, you are allowed only to read messages, not leave them. When you log-off, you are prompted to apply for full access.

The board currently holds 19 files in a "lending library." Some of the files include: Authors

ILLUSTRATION BY JOYCE KITCHELL

Wanted, Book Markets, About Time (a file of registered complaints against less than honorable publications), Associations for Writers, Men's and Women's Fiction Markets, and even a file for the Greeting Card Market. There's definitely some quality stuff here.

The board draws calls from famous authors, as well as writers from overseas. One guy actually logs on from a small village in the French countryside. He's an American writer, and likes to "stay in touch."

If you're interested in writing, or on the lookout for some new markets, this is the place for you. If you are as yet unpublished, call and ask some questions. If you leave your phone number, don't be surprised if the phone rings and someone greets you with, "Hi, I saw your request on the Notebook and thought I'd call. . ."

Maybe truth is stranger than fiction after all.

Blast off board

Board Name: GASNET
Location: Greenbelt, MD
Phone Number: (301) 344-9156
Hours of Operation: 24 hrs. daily
Log-On: No password required
Baud Rate: 110/300
Data Format: 8 data bits; 1 stop bit; no parity

Ever wonder how things are going with the Space Shuttle? No? Since mid-1982 over 70,000 other people have. And thanks to GASNET (Get Away Special Network) they have kept informed.

This board is dedicated to the Space Shuttle missions, and more specifically, with the different experiments on each mission. "Get Away Special" is the name given to the project.

GASNET sysop Bob Pincus says, "When the GAS team was forming, we thought it would be a good idea to have some kind of environment where all the experimenters could discuss flying their experiments with each other, and a BBS seemed the most expedient method available."

Because the system is so impressive, NASA has demonstrated it as a prime example of interactive technology.

After logging on, answer "yes" to the request for "more information?" The text which fills your screen is an explanation of the project and purpose of the BBS. Next, you get the main menu.

From the main menu look at the "Bulletins" section. Here you will find a wealth of information about the Space Shuttle and the experiments it flies. Located here also is the "New Users" file. One of the more interesting sections of the board is the listing of those signed up to "fly" experiments.

The diversity of the prospective experimenters is tremendous; e.g., an experiment by the Swedish Space Corporation is currently sceduled right next to the Booker T. Washington Middle School experiment.

The board gets calls regularly from experimenters in Japan, Canada, and France. But anyone interested in the Space Shuttle is welcomed to call.

At the present time anyone may leave a message on the board. However, the message gets put in a "holding tank" until Bob can "clear" the message for incorporation onto the main message base. Bob says "It helps keep the kids off the board."

GASNET fell victim to the "War Games" syndrome of last year. This happened when a 14 year old discovered a secret "backdoor" password. The kid then proceeded to delete the entire message base. (What ever happened to greasing doorknobs?)

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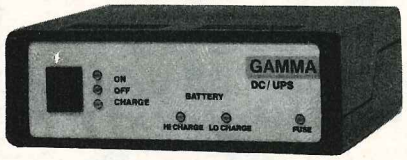

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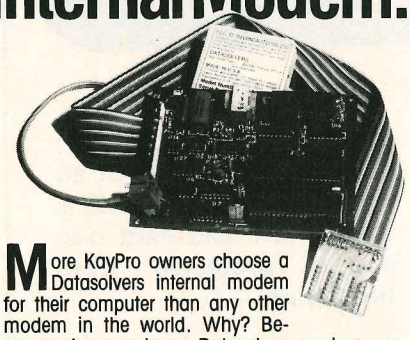

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Fortunately the system is backed up daily and there was no great loss to the system.

And if you want to fly an experiment? Well, you'll need some background first.

Currently anyone may order the *GAS Handbook*. This is available through an online ordering system; just notify the sysop when you log off that you would like to receive a copy. This will tell you, among other things, that to fly a 2 1/2 cubic foot, 60 pound experiment, you'll need to come up with $3,000 in cash. (In my book, cheap at twice the price.)

Electronic seer

Board Name: Old Colorado City
Location: Colorado Springs, CO
Phone Number: (303) 632-3391
Hours of Operation: 24 hrs.
Log-On: Password required
Baud Rate: 300
Data Format: 8 data bits; 1 stop bit; no parity

If you log on to this BBS, I'm sure you won't be disappointed.

The sysop, Dave Hughes, is somewhat of a celebrity among the nation's BBS network. He has been called everything from the electronic network's "poet laureate" to an "electronic seer."

The board is set up as an Old Colorado Mining City; its main menu reads like a street map from the 1850's.

The main menu offers the Pony Express (a private mail section), the Opera House (where the literary types gather for some not-so-high brow discussion), or Roger's Bar (where political discussions flow as freely as warm ale). You can also Chat with the Mayor (that's Dave), stop by the Cracker Barrel to espouse your favorite philosophy, step into the Schoolhouse (where educators from all over discuss computers and education), or make your way to the Wagon Park (where various brands of computer hardware are discussed with refreshing candor).

Do read the help files (located in the "Town Hall" and "City Clerk" sections). This describes the system, and how to make your way around.

Dave's "electronic cottage," as he calls it, was the first BBS in Colorado. As such, it serves as a grassroots base for electronic causes (including the only electronic election headquarters in the latest democratic campaign). Dave is constantly urging his users to support "electronic uprisings." The first of these is a well documented case of Dave and the users confronting City Hall (the real one) about a new zoning ordinance. (Dave and company won.)

The maximum time allowed per session is 20 minutes. That's hardly time for an initial rundown of the board (but great for making you work efficiently).

If you are new to BBSs, or an "Old Pro," this board can provide hours of enjoyment (in 20 minute increments, of course.)

Please hang up now . . .

Looks like my time is up for this issue. I encourage you to get involved in the electronic community—it's as close as your keyboard.

As Oliver Wendall Holmes said, "Many ideas grow better when transplanted into another mind, than in the one where they sprang up."

* ::: DROP CARRIER ::: * □

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Stocking Stuffers

Inexpensive gifts to please your computer user.

by Anne Wayman

Picking the right gifts for your computer-using friends need not be complicated. You don't need to know a bit from a byte or spend lots money. Even if you can't tell hardware from software, a little understanding of the problems those friends face can help you choose what to stuff in their Christmas stockings.

Diskette organization

Floppy diskettes have a way of multiplying. A storage box is, at first glance, an obvious gift. But be careful—there are all kinds of fancy storage systems: plastic boxes, revolving files, vinyl 5 1/4" briefcases, rolltop locking trays, etc. Most cost more in terms of space and money.

You can keep it simple, and still be a hero. For example, each diskette has to be labeled to be useful. Often the labels provided with diskettes are small and have lines or borders limiting how much you can write. Also, diskettes are often recycled, requiring new labels.

The inexpensive solution: Avery makes a 1-1/2 x 4 inch self-stick mailing label with perforated edges for use in most printers. These make excellent labels for diskettes (and envelopes!). There's plenty of room to write and they can be removed when a new label is needed.

A supply of *felt tip* pens in an attractive holder rounds out the set. (Pencils and ball point pens are out because their hard sharp points damage the diskette's recording medium.)

Speaking of recycling, there's a nifty tool available for doubling the capacity of single-sided diskettes. Flip-It is a product which allows you to snip a square notch in the diskette's side, much like a hole punch. This lets your computer get to the other side of the medium. (A heavy-duty hole punch also works—the only difference is the hole will be a semi-circle instead of a square.)

And to help unreinforced diskettes to last, why not get a package or two of hub reinforcing rings? These work on the same principle as the paper ones do for notebook paper, protecting the hole from wear and damage.

Master diskettes—the originals bundled in the software package—should be kept separate from the working copies. Then if disaster strikes and wrecks the working diskettes, those distant masters will be safe for making new working copies. Though they shouldn't be used often, masters must be easy to locate; there's nothing more frustrating than wanting to copy a program and not being able to find the master. The solution? Plastic pages with pouches for holding diskettes in a 3-ring binder. These work well for masters because each diskette label is easy to see, the protection provided is excellent, and the notebook can be handily stashed on a bookshelf.

Keeping track of ideas

Ideas need to be captured when they occur, and they usually crop up in the middle of doing something else. If, in the middle of a complicated spreadsheet process, the solution to the mailing list problem presents itself, it's easier to use pencil and paper to note the idea than to exit the spreadsheet and go into the database. A bulletin board near the computer offers handy place to put notes and ideas where they can be seen and not lost. The board is also ideal for posting flow charts of current programing projects.

Post-It paper by Scotch Brand (3M) is another way to get ideas in writing and in view without exiting a

ILLUSTRATION BY SUSAN GALLAGHER

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program. There are three sizes—the smallest is about an inch square, medium is three inches square and, the largest is 3 x 5 inches. Each has a band of non-permanent glue at the top so they can be stuck with impunity on desk tops, walls or even the computer itself and their canary color makes them easy to spot.

If your computer lover has lots of desk space, a desk pad of blank paper provides fertile ground for roughing out flow charts, project notes, or just plain doodling. When the paper is filled, it can be torn off,

A disk drive cleaning kit is an item any owner could use.

leaving another blank page. Also available are blank monthly calendar pads for scheduling and notetaking.

Many computer users cherish their old issues of computer magazines. Remembering where that article appeared and then *finding* it is "no problem" with magazine binders. These let your friend group magazine issues by year or subject into one book, then label that grouping. This provides instant reference and removes magazine clutter forever.

Maintenance

Computers are sturdy, but like any complicated tool, they require tender loving care—inside and out. A disk drive cleaning kit is the sort of item any computer owner could use. Ask for the 5 1/4" version since all Kaypro machines use 5 1/4" floppy diskettes. Your local Kaypro dealer should be able to help you select the best brand.

The computer screen (the CRT) ought to be squeaky clean since the user stares right at it, often for hours. There are special CRT cleaning solutions available in spray and cloth form. Made without silicone or abrasives, these can often do double-duty for cleaning the rest of the system's exterior.

Help your friends keep their machines clean and trouble free by slipping a computer dust cover under the Yule tree. They're available in all styles and colors for printers and computers (some even with lace trim!).

While you're at the computer store, see if they offer gift certificates. There isn't a computer user around who doesn't enjoy poking around a computer store and a gift certificate provides an excellent excuse.

Free software

Software is what makes computers so darn useful, but it's easy to spend hundreds and still not get the right package, especially when you're not the one who's going to use it. Public domain programs, on the other hand, make excellent stocking stuffers. These are programs written by computer "hackers" usually for fun or challenge. Instead of being copyrighted, they're placed in the public domain to be copied and used freely by anyone.

These programs range from small utilities that will bring back an erased file to genuine, if unsophisticated, spreadsheets. A wide variety of games are also available. There's no guarantee, but the price is right—free, or no more than the cost of a diskette plus copying. Your dealer may offer this; your local users' groups are sure to.

Books

Books are always good gift bets. Our resident columnists have covered many of the notable ones, including *How To Get Free SoftWare*, *The Complete Handbook of Personal Computer Communications*—both by Alfred Glossbrenner, and PeopleTalk's *Free Software HandBook*.

Consider a gift certificate for a computer book. Although certificates may seem impersonal, they're often the best solution unless you're positive about the title. Indeed, since the veritable explosion of computer books could bury you, you'll be wise to let the reader make the choices.

If your friend is the frustrated type, buy 'em a Bit Banger.

Odds and ends

Static electricity can cause data errors and other problems with microcomputers—to say nothing of how it stings ones fingers. If your computer friends have complained about this, consider getting them an anti-static desk pad. The mat is a thin rubberized pad with a grounding cord. It slips under the computer and absorbs all surrounding static (including that which your fingers bring).

Traveling with computers can be a heavy proposition. Fold-up luggage carts or over-the-shoulder bags make welcome traveling companions. The carts with wheels zip you through airports while the shoulder bags are great for train, subway, or car

travel.

Last but not least, don't overlook workstation aids. A copy holder, for propping open books, etc., makes a great gift for the student. And wouldn't an inexpensive printer stand be perfect to replace that ugly orange crate used by your friend, Elaine?

These items and more can be found in a computer supplies catalog. The one often sent to me is from UARCO, out of DeKalb, Illinois; there's many others. All are mail order businesses, most have a toll-free number for ordering and provide some sort of guarantee. (UARCO offers a 30-day trial period and "satisfaction guaranteed.") The main advantage of these outfits is price—you can save up to 25% on some items. But there are disadvantages, which include: not being able to inspect the products, waiting for delivery, and potential hassles with someone hundreds of miles away if anything goes wrong.

Fun gifts

If all these ideas sound boring—then get more creative. If your friend is the frustrated type, buy 'em a Bit Banger. This is a foam rubber hammer, great for disciplining uncooperative machinery.

And if your computer user has a sweet tooth, how about a chocolate diskette? These come packaged in a diskette case which can be used for real diskettes, once the chocolate is eaten (see photo in this issue's Potpourri of Computer Gifts).

How do you spell relief?

As much as we users love our computers, they can be frustrating—to the point where we need a diversion. A good novel, magazine, or puzzle can provide the all-important escape hatch. Moreover, such amusements have often saved a project, when nothing else seems to work, by giving the brain a rest and allowing a fresh return to the problem.

Finally, don't overlook a subscription to *PROFILES*! It may be the best gift of all for your computer lover because it keeps on giving all year long. □

Anne Wayman is a freelance writer living in San Diego. She was formerly a Senior Editor on the PROFILES *staff.*

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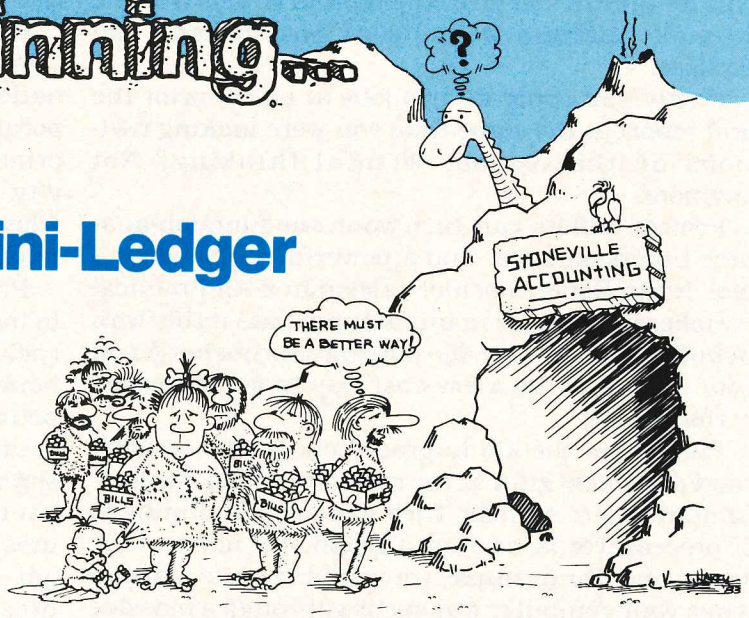

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Double Your Power at Print Time

Printer buffers let you do two jobs at once.

by Michael Wenberg

It's late Friday afternoon. The boss walks up to your desk, tosses two 30 page reports next to your computer, then asks you to make revisions to each and print two new copies. As he walks away, he mentions that he needs the job done in one hour.

You do some quick calculations and realize that his request is impossible. An hour for the revisions plus 30 minutes to print the reports equals trouble. To make matters worse, your boss doesn't like excuses.

If only you could do two jobs at once—print the first report at the same time you were making revisions on the second. Wishful thinking? Not anymore.

Printer buffers can turn your one-function-at-a-time microcomputer into a powerful multi-tasking tool. Brian Souci, a senior salesman with Practical Peripherals, a buffer manufacturer, puts it this way, "A buffer is somewhat like putting a turbocharger on your computer. It's a low-cost way to get increased performance."

Remember the kid in grade school who couldn't walk and chew gum at the same time? Most microcomputers are similar. They can crunch numbers, or process words, or draw a graph, but never at the same time. For example, you couldn't write a memo while your computer was sorting through a massive list of names and addresses. Most microcomputers can't do two things at once.

Of course, there are exceptions. Multi-user computer systems, for instance, are increasing in popularity because they let several users, tied into one central computer, through individual terminals, perform an assortment of different tasks at the same time. For the most part, however, the single-tasking computer still reigns supreme.

Buffer as bucket

Imagine the printer buffer as an electronic bucket between your computer and printer. When you're ready to print, your computer quickly dumps the data into the bucket. Once the bucket is full, it takes over in feeding your printer in dribbles. While your printer plods along, your computer is completely free to help you work on that second report.

Buffers, by their very nature, get little notoriety. "It's not an esoteric device," says Kevin Egan, national dealer sales manager with Quadram Corporation, makers of computer peripherals including printer buffers. "But as people want more productivity out of the workstation," he continues, "devices such as printer buffers are increasing in popularity."

Printer buffers provide a nearly trouble-free way to increase a computer's effectiveness. Let's say that each working day, on the average, you spend three hours at your computer—75 percent of your time pounding your keyboard and the remaining 25 percent printing hard copy of your work—letters, spreadsheets, outlines, reports, whatever. That's two hours and 15 minutes at the keyboard, and 45 minutes cooling your heels while your printer does its job—each working day! Multiply the number of minutes you spend waiting for the printer by the number of working days in one year, and you'll start to see the picture. A buffer can save time and money. In short order, it can even pay for itself through increased productivity.

Choosing your bucket

Buffers come in many shapes and sizes. Some buffers are simply circuit cards that plug inside the computer. Others, called stand-alone or in-line buff-

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ers, occupy their own box. With a stand-alone buffer, instead of attaching your computer directly to the printer, you first attach it to the buffer, and then plug the buffer into your printer. Still another type of buffer attaches directly to your printer.

Buffers, like printers, come in either serial or parallel input versions. However, many are also available with a number of input/output combinations. Quadram Corporation offers parallel in/out, serial in/out, parallel in/serial out, or serial in/parallel out buffers. The right combination for you depends on your computer and printer. For instance, if you need to use serial output from your computer and you just purchased a parallel input printer, you need a serial input, and parallel output buffer combination.

What's the right buffer for you? Let's take a look at what some manufacturers offer.

Circuit card vs. in-line vs. printer enhancer— this is no contest. The circuit card printer buffer may be perfect for some computers, but not the Kaypro. Most buffer manufacturers suggest that if you own a Kaypro you should consider either an in-line buffer or a buffer that attaches directly to your printer.

RAM is one of the computer industry's catchwords. Manufacturers bandy about RAM capacity the same way that car companies talk about horsepower. Some of the new PC-DOS software packages demand 512K of RAM for effective use. Others require 256K of RAM, while the eight-bit world gets along nicely on 64K of RAM.

Fortunately, buffer makers offer their wares with a wide selection of RAM. Quadram Corporation, for instance, carries a line of buffers containing from 8K to a hefty 512K of RAM. Interactive Structures offers buffers in the range of 32K to 128K. And Practical Peripherals' buffers contain up to 256K. Their salesman, Brian Souci, says that "64K is probably the most popular size, but we sell a lot of expansion modules. Anything up to 256K fills 99 percent of the requests we get."

More memory or less?

But how much memory is enough? One rule-of-thumb for picking a buffer with the right amount of memory is to base your selection on the average size of the documents you print. Typically, an 8K buffer can store 4.5 double-spaced pages, with about 250 words per page. A 64K buffer can store 36 pages, and a 512K buffer can handle 300 pages. So, if the bulk of your printing tasks are one or two page letters, buying a 512K buffer is a perfect example of RAM overkill.

Buffer expandability and price are also key considerations. The Shufflebuffer from Interactive Structures is easily expandable to 128K. Practical Peripherals offers 64K RAM modules that take about "30 seconds to install," according to Brian Souci. You can also upgrade the Quadram buffers, says Kevin Egan. "A user can upgrade the buffer themselves," assures Egan. "There's no need to send the buffer back to the factory or the dealer. All they need is a screwdriver." Expandability means that as you begin to discover more uses for your microcomputer, you won't need to trade your buffer in for a model with more RAM-power.

Like most things, however, power has its price. Quadram's Microfazer Print Buffer starts at $179 for the 8K model and soars to a nail-biting $1,395. The 32K Shufflebuffer from Interactive Structures is $349, the 64K version is available for $399, and the 128K model is $499. These are manufacturers list prices, so you can frequently find them discounted to a more attractive price.

Extra features

Although some buffers can be spartan, others offer useful options. (Which explains the wide range of prices.) Chief among these is the multiple print option. On many buffers, press a button and voila! Your printer spews out an additional copy. The Quadram buffers, for example, retain information in their memory until you either dump in a new document, or wipe the buffer memory clean. This means you can print as many "originals" as you want.

The Shufflebuffer features random access printing. Meg Ostertag explains that this feature partitions the buffer's memory into separate sections. For example, you can send a report to one section of the buffer's memory, and its cover letter to another section. The buffer then sends the report to the printer, followed by the cover letter, freeing you to do other things.

If you use a serial printer, then you should consider the different available baud rates. (If you use only a parallel printer, then you can skip this.) Baud is the measure of the speed at which data is transmitted—over the telephone, to a printer, to another computer—in bits per second. The Practical Peripherals in-line buffer, for example, has a selectable input or output baud rate of from 75 to 19,200. This means you can dump information into your buffer at a high rate, and then output it from your buffer at the lower rates accepted by your printer.

Don't ignore the "hidden" extras. Buy an in-line buffer, for example, and you'll automatically need an extra cable costing an additional $30 or more. Most buffer manufacturers offer one cable with each pur-

chase. When you get a price quote on a buffer, make sure a cable is included.

Other uses

Dave Moracco, of Consolink Corporation, notes that buffers have other uses. For example, one insurance company uses buffers to send information to its agents at night when the phone rates are low. This way, computer files aren't accessible from remote locations. The local agent can download the contents of the buffer in the morning. With the recent publicity computer break-in artists have received, the subject of data integrity is at the top of many manager's minds. Using buffers prevents anyone from getting into the main files on the computer. The most damage they can do is overwrite information in the buffer, and that will be immediately obvious. There isn't any way someone can alter information because they can't read what's in the buffer or on disk. Also the buffer retains a record of the call, so if anyone tries something, the company will have a record of it.

Brian Souci adds that with the increasing popularity of graphics, more and more computer users are turning to the plotter for colorful hard copies of their work. Which causes a problem, he noted, because "if you thought printers are slow, plotters are dead." Not only are plotters slow, but graphics requires that a tremendous amount data be transmitted to the plotter. The combination of slow operation and large amounts of data make plotters a natural application for buffers.

Interfacing

Most of the buffers in this overview were touted by their manufacturers as being "software and hardware transparent"; i.e. able to work irrespective of the hardware or software driving them. This does not mean, however, that getting everything to interface properly will be trouble free. For example, the many variations of the so-called RS-232 C "standard" serial interface have left many a user screaming. So have other interconnect requirements like agreement between parity bit, word size, protocol, and hardware handshaking. If you require serial interfacing, don't lay your money down until you're assured your dealer will help you in getting it all to work.

Parallel interfacing, on the other hand, is merely a plug-it-in-and-use-it proposition. Ideally, your buffer should not be dependent on any one printer or input/output device. But to be safe, make sure that if your new buffer doesn't work correctly with your system, you can return it for one that does the job.

Overall

Buffers don't get the attention they deserve. In the flashy battle for newer, bigger, and more powerful computers, these valuable workhorses get lost in the shuffle. Most of them don't have cute nicknames, or a big-name spokesperson. Brian Souci says, "Buffers are used for a rather dull job. The exciting thing is that they can do the job, and save you money." Dave Moracco characterizes buffers this way: "Once you sit down with a buffer, you'll never let go. But if you haven't used [a buffer], you don't miss it." Quadram's Kevin Egan says, "Once a user has a buffer, you can't get it away from them."

Despite their image problems, buffers remain a sure-fire bargain for boosting your productivity.

A buyer's guide to buffer manufacturers:

Consolink Corporation
1840 Industrial Circle
Longmont, CO 80501
(303) 651-2014
MicroSpooler 16K - 64K: $219 - $339

Interactive Structures, Inc.
146 Montgomery Ave.
Bala Cynwyd, PA 19004
(215) 667-1713
Shufflebuffer 32K - 128K: $349 - $499

MPC Peripherals Corporation
9466 Black Mountain Rd.
San Diego, CA 92126
(619) 578-9222
Omni-Buffer 64K: $399

Practical Peripherals
31245 La Baya Dr.
Westlake Village, CA 91362
(818) 991-8200
Microbuffer In-line 32K - 64K: $299 - $349
(up to 256K with memory modules)

Quadram Corporation
4357 Park Dr.
Norcross, GA 30093
(404) 923-6666
Microfazer Buffer 8K - 512K: $179 - $1,395 □

Michael Wenberg is a writer/editor with Ashton-Tate. He was formerly Managing Editor at Micro Discovery *magazine.*

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Modem Round Up

A guide for selecting your link to the world.

by Jack Streater

The first step in choosing a modem is, of course, to decide whether to get one at all! For many Kaypro users, if a modem isn't already indispensable, it's probably destined to become an important tool soon. Now, how do you decide which one to buy?

You have probably seen a profusion of modem ads and articles, explaining what they do and how they do it. Certainly an important first step is to read as many of these as you can. Although you don't have to know how a modem works in order to use it, you should try to learn as much as you can about them before plunking down your cash.

Uses: information services, bulletin boards

The best known use for modems is to connect personal computers to any of the numerous information services around. These provide news, stock quotations, sports results, airline flight schedules and reservations, games and entertainment, online discussion groups, and more. You can also research magazine and journal articles and get instant access to information you'd normally find in encyclopedias or libraries. Of course, you pay for these services—and some of them are expensive. Indeed, you can find yourself with huge monthly phone bills if you're not careful.

Electronic "bulletin boards" offer *free* information and public domain software via modem. Of course, each new program requires time and effort to learn.

Modems and the world of work

Modems are also widely used in the working world. For example, modems enable many Kaypro owners to work at home while connected to computers at their offices. And businesses transmit documents to offices, customers, or suppliers, via modems. Indeed modems allow publishers (including *PROFILES*) to transmit their articles directly to typesetting computers.

Modems also enable you to link to and command the tremendous power of mainframe computers. You write your programs using your micro's word processor, then zip the file via modem to the mainframe. The mainframe runs the job, and the modem helps bring the output back to your micro. This lets you patch mainframe output (e.g. tables and figures) directly into documents you write on your word processor.

If, in your mind, the above benefits don't justify a modem's cost, then don't buy one yet. Perhaps you'll change your mind, or new features will emerge, or your needs will change, convincing you the time is finally right. But if you've decided that you're ready to go shopping, you have a huge selection to choose from, and choosing won't be easy.

Meeting your needs

Modems offer many combinations of speed and complexity. Simple, slow ones (300 baud) cost the least, while fast ones (1200 baud) with many features cost much more.

If you expect to use your modem a lot, especially for transferring long files or as an extension to another computer, then you should probably spend the necessary $400-600 for a fast one (1200 baud). In the long run you'll be glad you did. For business use, 1200 baud modems are by far the best.

Almost all 1200 baud modems are relatively smart. Note that most 1200 baud modems can also

(continued on page 42)

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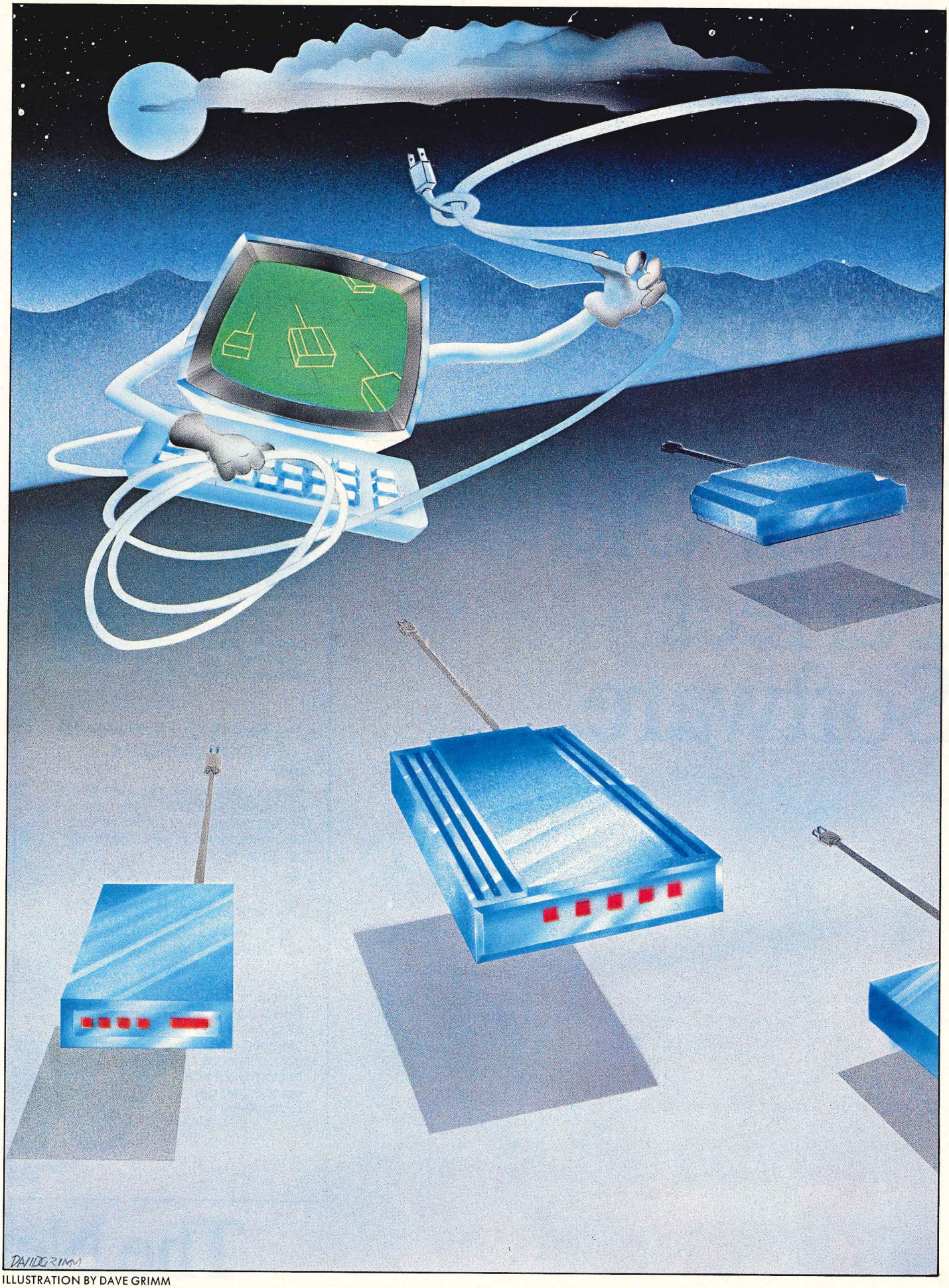

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10 Powerful Reasons for Kaypro® Owners to Stop Using Their Old Perfect™ Software.

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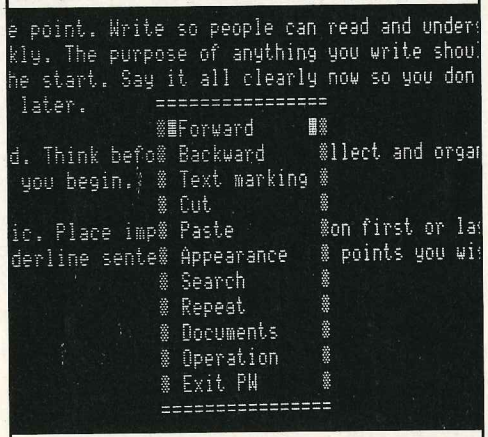

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    City: Costa Mesa__________ State: California _______ Zip: 92626____

Home Phone: (714) 555-1234

 Entry Date: 10/10/76              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

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                          Press ESC for the menu
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 1
 2SALES INTERNATIONAL
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 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, Kevin   5=================0  2000  2500  3000  140
12Juarez, Sam    5%■View        ■■0  3000  3500  4000  215
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%)
```

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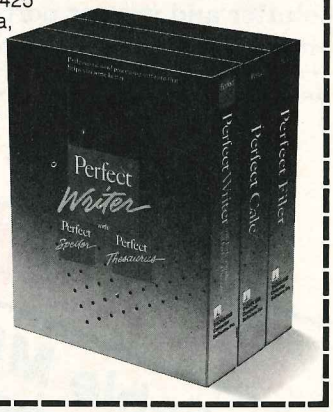

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MODEM
(continued from page38)

operate at 300 baud—in fact many 1200 baud modems automatically detect the speed of the modem at the other end and adjust accordingly.

If you plan to use your modem only occasionally and are simply going to subscribe to CompuServe, The Source, or one of the other services, you can probably get started for under $100 with a "dumb" and slow (300 baud) modem. On the other hand, if you want to link your Kaypro at home to the computer at the office, you may need a smart modem at the office that can answer the phone and connect the office computer to it automatically.

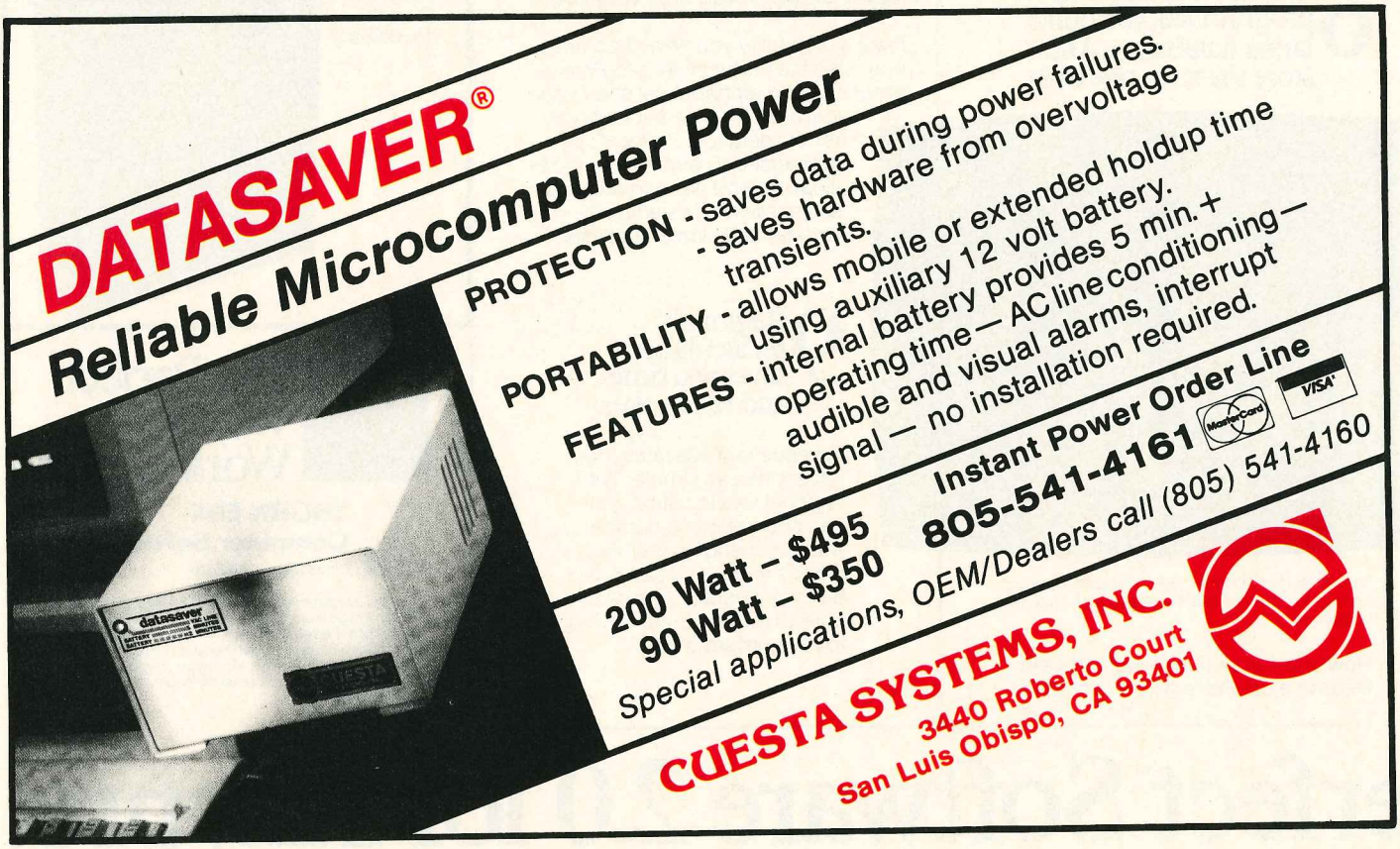
You'll also have to choose between an internal or an external (stand-alone) modem. There are pros and cons for each: In general, the installation of an internal modem requires more work than hooking up a stand-alone modem. It can also be scary if you aren't used to tinkering inside electronic equipment. However, the job is not as difficult as it may seem, especially if the modem comes with complete and well-written instructions. Many Kaypro owners with almost no electronic background and a minimum of mechanical aptitude have successfully installed internal modems. Once installed, the advantages of an internal modem include less desk clutter and greater portability. The initial prices of internal modems also tend to be lower than for external ones with comparable features.

If you want to change computers (say from a Kaypro 2 to a Kaypro 10), or loan your modem to a friend, doing it with an external modem is much easier than with an internal one. There will be no need to remove it and reinstall it in the new computer. And of course, external modems take less time to hook up and get going.

There are a few things all the modem ads and articles don't tell you. First, you don't just need a modem—you need other things as well, such as cables, software, and perhaps more. Next, prepare to put in some time to hook up everything and get it working. You have to connect the modem to your telephone line, which may be as easy as plugging in a connector or as hard as installing extension cables, plugs and adaptors. (My nearest phone outlet was several rooms away from my "computer room.") Finally, like everything else about your computer, it will take you time to learn to use the modem and its software. But once you get it all working, you're sure to enjoy exploiting the power your modem offers.

Quick reference guide

Table 1 reveals features and other information on 16 different modems which work with any Kaypro model.



External 3ØØ bps modems

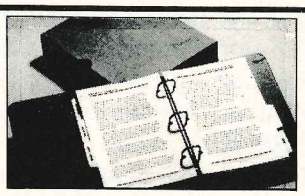
Make and model	Features	Price
Anchor Automation Inc. VOLKSMODEM		79.95
Anchor Automation Inc Signalman Mark X	D,A,H,B,R	169.ØØ
Anchor Automation Inc Signalman Mark VII	D,A,H,B,R	159.ØØ
Hayes Microcomputer Products Smartmodem 3ØØ	D(P,T),A,H,S	289.ØØ
Novation Inc. JCAT	A	149.ØØ
U. S. Robotics Inc. Password 3ØØ	D,A	199.ØØ

External 12ØØ bps modems

Make and model	Features	Price
Anchor Automation Inc. Signalman Mark XII		399.ØØ
Cermetek Microelectronics 12ØØ modem	D(P,T),A,H,B,R	595.ØØ
Hayes Microcomputer Products Smartmodem 12ØØ	D(P,T),A,H,B,R	599.ØØ
Novation Inc. Smartcat +	D,A,H,B,R,S	499.ØØ
Prentice Corp. Popcom X1ØØ	D,A,H,B,S,V	475.ØØ
Prometheus Products Promodem 12ØØ	D,A,H,B,R,S	495.ØØ
U. S. Robotics Inc. Password	D(T,P,M),A,H,V	449.ØØ

Table 1

(continued on page 44)



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MODEM

Internal 300 bps modems

Make and model	Features	Price
Datasolvers Inc. DS300AD	D,A	199.00

Internal 1200 bps modems

Make and model	Features	Price
Datasolvers Inc. DS1200SMT	D,A	427.50
Legacy Computer Systems Kaypro Int modem	D(P,T,M),A	429.00

All models listed use either the Bell 103 or Bell 212 protocols, for 300 or 1200 baud respectively—the acknowledged standards for computer telecommunications. (A protocol is a set of rules and procedures for the electrical signals transmitted between modems over telephone lines.) If your modem uses either of these protocols, it should communicate properly with any modem (using the same protocol) at the other end.

All the external models use the RS-232 standard serial port interface. RS-232 ports usually use 25 pin connectors, with predesignated pins for specific signals. Most personal computers today, including all Kaypro models, have the RS-232 ports.

You'll notice immediately that the prices of the 300 baud modems are proportional to the features they offer. Also note that 1200 baud modems tend to have more smart features than 300 baud ones.

Unless the modem includes bundled communications software, you'll either have to obtain free or low cost public domain software or buy a suitable commercial package ($50-$150, depending on features). Allow for this, plus the cost of a connecting cable (typically $20-30), when estimating your total cost.

Doing your homework

To intelligently decide what features you require, you need to know a little about what each offers. Here are brief explanations of the features and their corresponding symbols in Table 1:

Autodialing (D) means that instead of picking up the phone and dialing the number yourself, the computer will do it for you. With autodialing, often-used phone numbers can usually be stored either in the modem's memory or in the communications software on diskette.

Auto-answer (A) means that you don't have to be present when someone calls your computer. Simply leave your computer turned on, with the modem and

its software set to await a call. This feature is essential for an office computer you plan to access from home during hours when no one is in the office.

Automatic hang-up (H) is also required for unattended operation. If the modem senses the loss of the carrier from the phone line, it must hang up in order to free the line for more incoming calls.

Recognition of a busy signal (B) is a requirement for certain modes of automatic redial (R). For some modems, automatic redial simply means you enter some keystroke combination, and the number is redialed. For other modems, the number is automatically redialed a certain number of times if a busy signal is detected.

Since 1200 baud modems can also operate at 300 baud, most of them are smart enough to recognize the speed of an incoming signal, and adjust their own speed accordingly (S).

Whether the modem permits switching back and forth between voice and data without loss of connection appears in Table 1 as a (V). This is a convenient feature—and can save extra phone calls when computer operators want to discuss something.

If you can, talk first to owners of the modem you want to buy—Kaypro Users' Groups are excellent places to find such people. There are many subtle factors that can't possibly be included in a table—and features don't all work the same on different models. Therefore, talk to people who use their modems for purposes similar to yours.

You may have to contact a number of dealers to find the model best for you. Most dealers only carry one or two modem brands. You'll find the Hayes line at most dealers. Hayes is to modems as IBM is to computers—well known, widely distributed, and considered by many to be the industry leader. They're also more expensive than some of the newer competitive models. You'll see frequent references to "Hayes compatible" modems, just like you see "IBM compatible" with reference to computers. However, not everyone agrees that Hayes modems are the "best buys"—just as the majority of Kaypro owners are not sorry they didn't buy an IBM PC!

To some degree, your choice may depend on which brands your nearby dealers carry. There are

(continued on page 80)

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Power Conditioners: Who Needs 'em?

Don't let dirty power rain on your parade.

by Richard Marini

Imagine, if you will, sitting at your Kaypro computer for several hours, perhaps writing the final chapter of your book, or doing some complex accounting. Outside a thunderstorm is brewing and suddenly lightning flashes across the sky. The lights in your home quickly dim, then brighten, but in that half second of darkness all your lovely work, which until a few moments ago had filled the computer screen in glorious green phosphorescence, is gone.

If you're lucky, the lightning only booted the system, wiping out just a few hours of labor. If not, the power surge it caused has destroyed a disk drive or two, fried some of your computer's delicate microchips or irreparably damaged a $500 software program. Whatever the damage, it need not have happened if only you'd bought a power conditioner or uninterruptible power source (UPS).

Contrary to what many small-computer users may think, these computer backup systems are needed not only for large, multi-million dollar mainframes. If you use your desktop Kaypro for anything more important than playing Ladder or Catchum, the price of a backup system is justifiable. At the least, you won't have to re-input data should something go wrong; at the most, it avoids the high price a computer-dependent business pays when the computer goes "down."

Following theft, power disruptions are the most common cause of computer and data loss, says Safeware, a leading computer insurer. In fact, power fluctuations cause an estimated 80 percent of all computer hardware and software problems.

To understand what a power disruption is, it is necessary to understand what happens to the electrical current before it reaches the wall outlet in your home or office. A good analogy is that of a river. Clear and unpolluted at its source, most rivers become dirtier and dirtier as they flow downstream, past cities and factories.

Electrical power, too, is clean and constant when it leaves the local utility. As the electricity moves down the line, however, electronic "noise" such as static, surges, spikes, transients, lags and other irregularities "pollute" the power. Such noise, because it occurs literally in microseconds, doesn't even ruffle tougher electronic machinery like typewriters and copiers. But, if severe enough, it can cause havoc with both software and a computer's delicate innards.

This electronic pollution has many sources. Wattage in a large office building, for example, may dip slightly every time the air conditioning system turns on. An oil-fired burner puts a 2,000-volt spike into the line whenever it starts up. Experts also note that many kinds of solid state electronic equipment, including, ironically, computer backup systems, dirty up the power lines with electronic noise of their own.

Line transients as strong as 20,000 volts are known to have occurred, although, happily, they are rare. In fact, a transient of 6,000 volts or more can melt the wiring in most homes.

Sags and surges

A study by Bell Laboratories found that sags (temporary decreases in voltage) account for 87 percent of power irregularities, and conditions of low power—including sags and outages—account for 91 percent of such fluctuations. Other statistics show that electric lines in most modern homes suffer more than 60 sags and over 2,000 spikes or surges

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annually. The study also concluded that, during an electrical storm, sags were more likely to occur than spikes (dramatic increases in power voltage). This is because power systems normally contain lightning suppression equipment, dampening the effects of lightning, and causing a momentary sag felt throughout the system. Surges, on the other hand, weaken as they pass through the system's own protection devices, although some claim these "psuedo-fuses" actually overcompensate and drain too much power, resulting in a power sag.

Most extreme among electrical fluctuations are brownouts and blackouts. These partial or complete disruptions in power can be caused naturally, such as when a storm takes out a power line. They can also occur intentionally, as when the utility company cuts back on output during periods of peak usage to avoid a total blackout. Without proper protection, both can result in complete and irrecoverable loss of time and data.

Two solutions

There are two types of power backup systems, power conditioners and uninterruptible power supply (UPSs). While the two types are distinct, there is some overlap in functions. Like an automobile spare tire, power conditioners spend most of the time completely unnoticed. But in an emergency, they're worth their weight in gold. As the name suggests, power conditioners take the "dirty" electricity as it arrives at your home and smoothes it out so it can more easily be used by the computer. Surges in power are suppressed, the electrical phase is adjusted and noise is removed.

Power disruptions are the most common cause of computer and data loss.

A UPS conditions the power and acts as a backup power source; either by storing power in backup batteries that kick in when needed, or by using batteries to power the computer at all times. This second method, in effect, supplies the computer with virgin electricity because the power comes not from the utility company but directly from the battery pack. Because more batteries are needed to supply primary power continuously, this second approach leads to the biggest and most expensive type of UPS.

In larger systems, the UPS is itself backed up by an alternate source of long-term electricity, usually a gas or diesel generator. Such a system can be prohibitively expensive. Therefore, UPSs for personal computers usually supply backup power from as little as few minutes to as much as several hours. With a few minutes of power, you can save everything on disk and shut the computer down. Several hours of power allows a computer-dependent operation to continue during all but the longest blackouts.

Because today's computers are extremely sensitive to electrical fluctuations, the transfer during a power interruption must be virtually instantaneous. In this regard manufacturers play some spirited games of one-upsmanship. One company claims that their unit responds in five or less pico (one-trillionth) seconds, while a competing brand's responds within a snail-like five-to-50 nano (one-billionth) seconds. What many *don't* mention is that numerous personal computers store a certain amount of power in their internal power supply which can itself, help keep things alive during the split-second transfer to battery power.

Worth the cost?

While the need for power conditioners and UPSs to protect multi-million dollar mainframes is fairly obvious, many users of smaller computers balk at spending from $100 to $500 on a backup system. Is it worth it?

"Even the computer used by a one-man consulting firm contains a lot of invaluable data," said Bob McCrie, editor of Security Letter, a publication on the protection of assets including electronic data. "In the event of, say, a damaging power surge, a backup could pay for itself solely in the labor saved from not having to re-input data."

Small firms that operate a network of personal computers also need protection. Not only is money lost every time the computers go "down," taking all computer-related business with them, but as a rule of thumb, it takes four hours of work to catch up for each hour of downtime. And this doesn't begin to include the cost of irrecoverable records.

Of course, perfect protection usually isn't cost-effective. Most experts suggest that many small-computer users require only a line conditioner to protect their computer. These, they say, should handle 95 percent of all power-related problems. For the other five percent, the cost of a UPS might not be justified.

Geography might also bear on the need for a backup system. Rather than unplugging the computer every time one of Florida's 1,000 annual thunderstorms threatens power lines, the Florida user might decide that the added protection a UPS gives

is worth the cost.

Most experts do recommend having at least a power conditioner if the computer, like the Kaypro, is "transportable" and will be taken overseas. Power supplies in many foreign countries are notoriously unreliable, especially in the Third World where brownouts and outages are not only common but sometimes regularly scheduled to ease energy demands. McCrie recommends checking with either the manufacturer or a retailer who carries the product to determine whether, with the correct converters, the backup can be used overseas.

How much is enough

Determining the size of the backup system needed is only a matter of following a simple formula. Multiply the computer's ampere rating by the voltage it uses. The resulting figure, Volt-Amps (VA), is one basis by which backup systems are rated. A backup rated at 300 VA, for example, is sufficiently powerful to handle a 250 VA computer. The smallest line conditioners available are rated near 150 VA.

Installation of a backup system is not complex. Many smaller systems look similar to multi-outlet extension cords. Plugged into a wall outlet, the surge suppressor is simply a large box containing one or more outlets. Some popular features include illuminated on/off switches and reset buttons. Such systems include The Spikemaster (Discwasher), The Max (Panamax) and the Surge Sentry (RKS Industries).

Other backups double as computer stands for transportables such as the Kaypro; e.g., the Porta-Micro Mate by SOS Computers. These often allow the plug-in of a printer and modem as well, with a master power switch controlling them all.

To accommodate the backup battery most UPSs are, by nature, larger than surge suppressors. Room-size UPSs for large computer mainframes are obviously out of the question for portable computer users, yet desktop versions are available. The Datasaver by Cuesta Systems and The Minuteman by Para Systems are both non-descript boxes which supply power for five to fifteen minutes—more than enough time to write your work to disk after the lights go out. Longer backup power is available from Gamma's DC/UPS. The Gamma will operate from its self-contained battery for 30 minutes to two hours. With this type of UPS, even a hurricane won't prevent you from working at the computer keyboard should inspiration hit. Of course, once the lights come back on, these units must be recharged before they're ready for their next bout with power failure.

Claims and counter claims made by backup system manufacturers can be confusing. The field is still too new for any universally-accepted standards. Evaluating a backup's worthiness to protect your computer by price alone is a mistake. *PROFILES* has not conducted any lab tests to determine the best backup systems available. But we can suggest you shop around, read up on the subject and, perhaps best of all, find and stick with a trustworthy retailer who will give you his or her uncolored opinion on which product will best suit your needs. Asking the following questions should also help:

Does the backup system you're considering contain a combination of components to provide multi-stage protection?

Extension cord-type surge suppressors often contain four or even six outlets. If it's just you and your computer, do you really need that many? A one- or two-outlet unit will do the job just as well and cost a lot less.

What, if anything, will you do in the event of a total blackout? If you're only going to write everything to disk, and read a good book until the power returns, you won't need a UPS with six hours of battery backup. Look instead to a unit that will power your computer for not more than 10 to 15 minutes. If, on the other hand, you run a business that grinds to a halt when your computers do, you'll need a larger UPS with more backup.

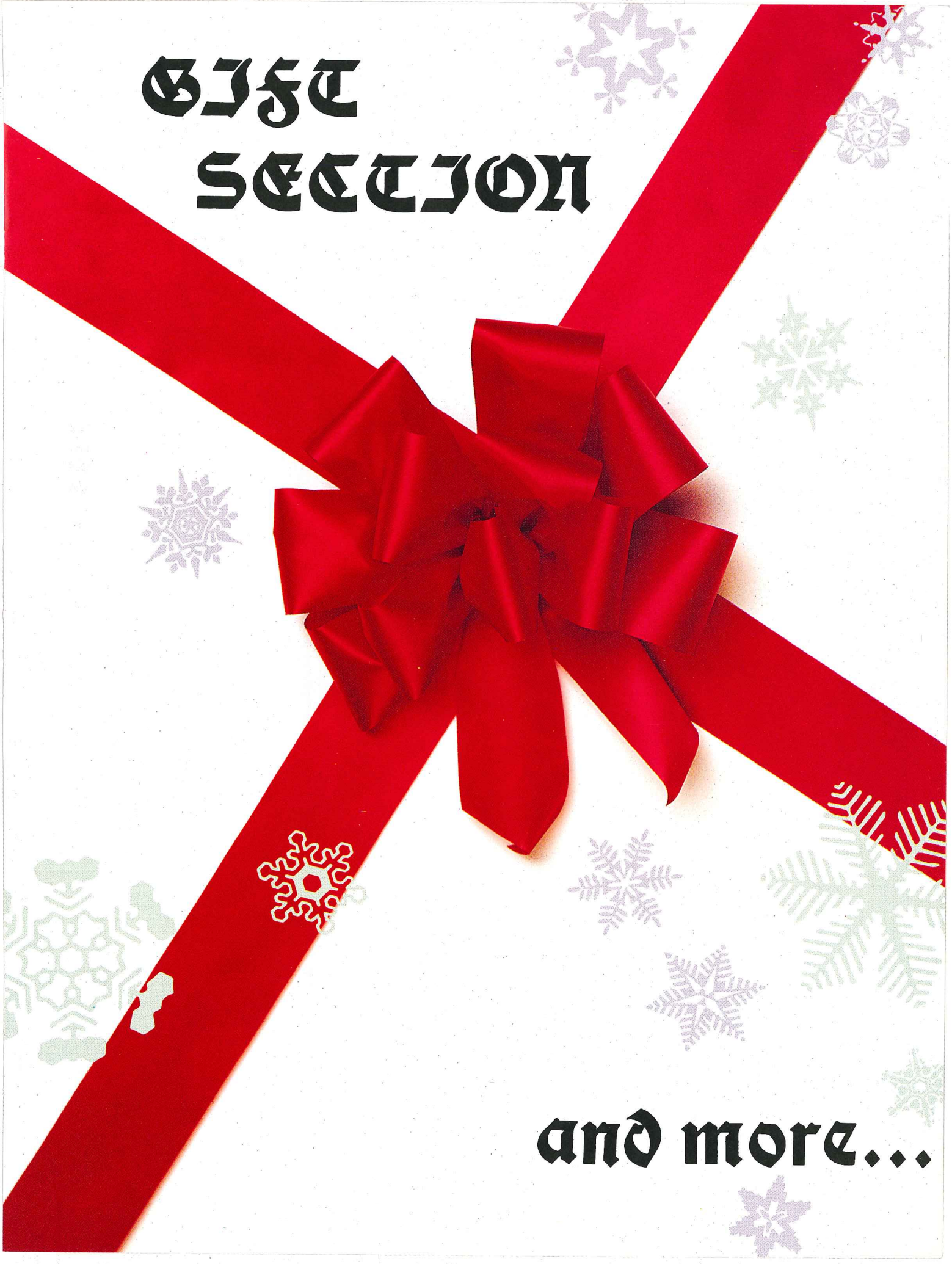
The future

What's the future for backup systems? They'll always be needed, according to most experts. As demand for electricity increases and utility companies face stiffening resistance to their expansion plans, electrical power quality is expected to further decline.

Fortunately, according to Bob McCrie, increased competition should spur computer and backup system manufacturers to work closer together in the design of complementary components. For computer users who previously were expected to do their own legwork to find an adequate system, this spells good news. They can, at last, see more computer makers who recommend power conditioners and UPSs designed with the needs of specific computer models in mind. □

Richard A. Marini is a New York City-based freelance writer living in a building with a very constant power supply. He's a regular contributor to the consumer electronics trade magazine Merchandising, *and his work has appeared in such magazines as* Science Digest, K-Power , *and* Frequent Flyer.

GIFT SECTION



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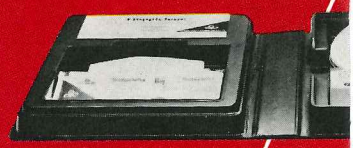

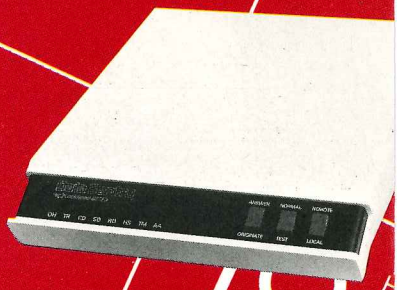

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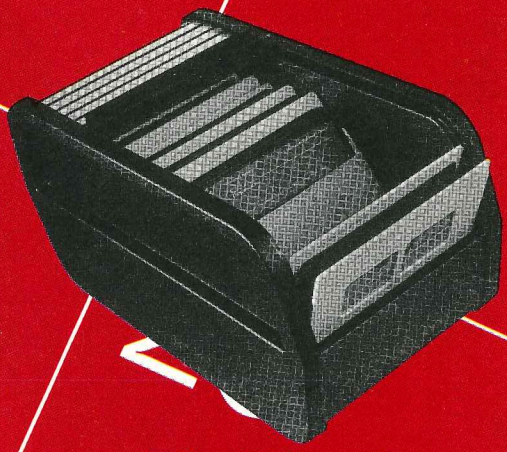

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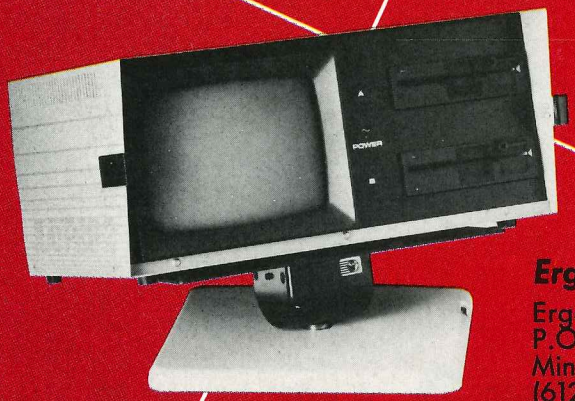

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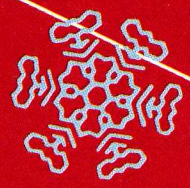

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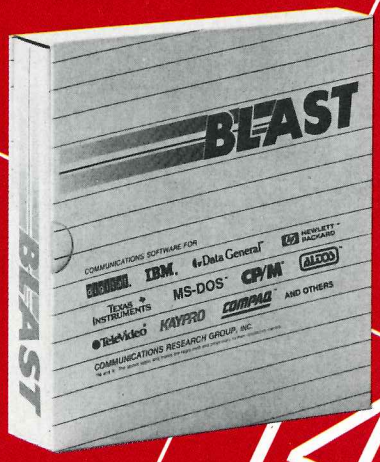

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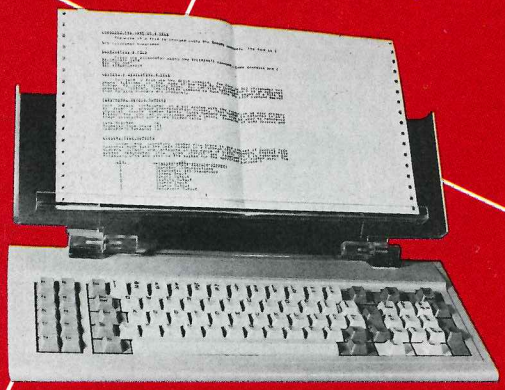

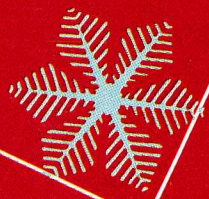

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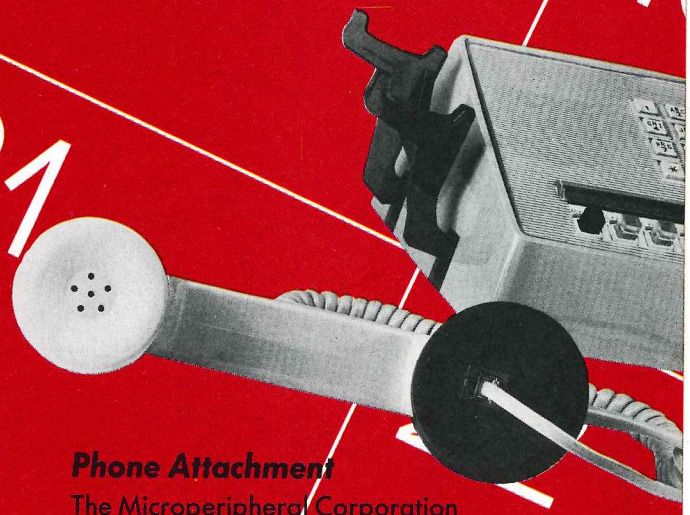

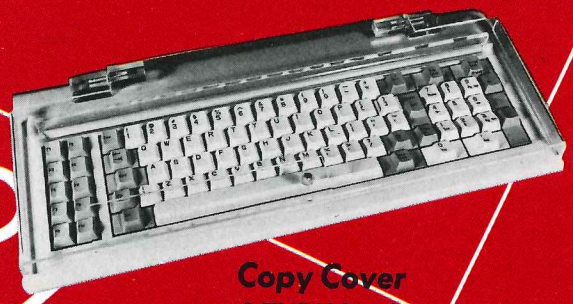

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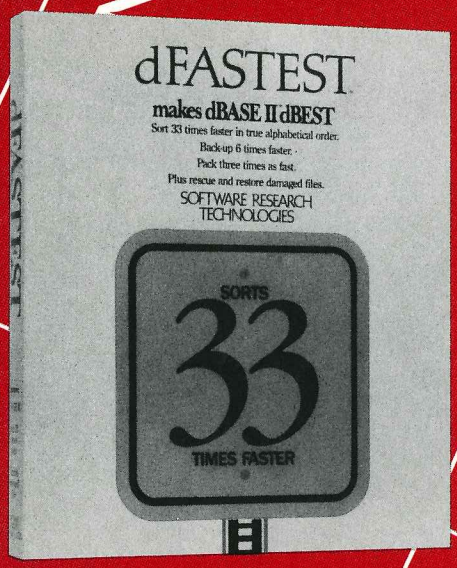

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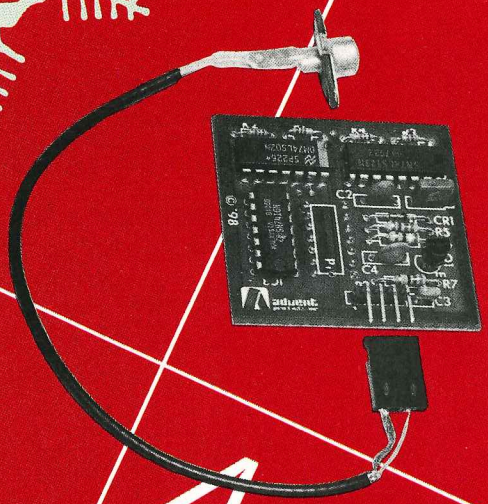

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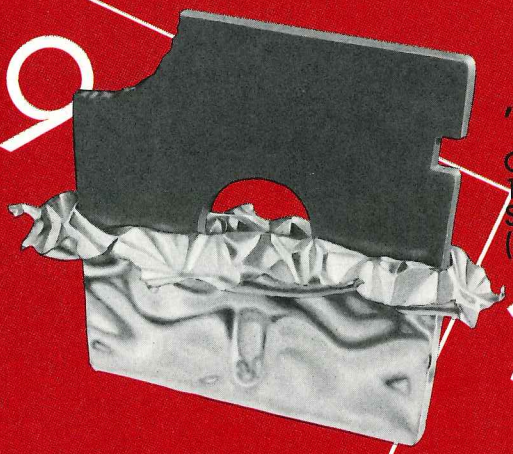

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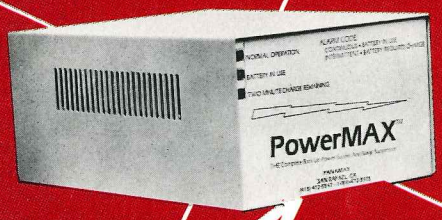

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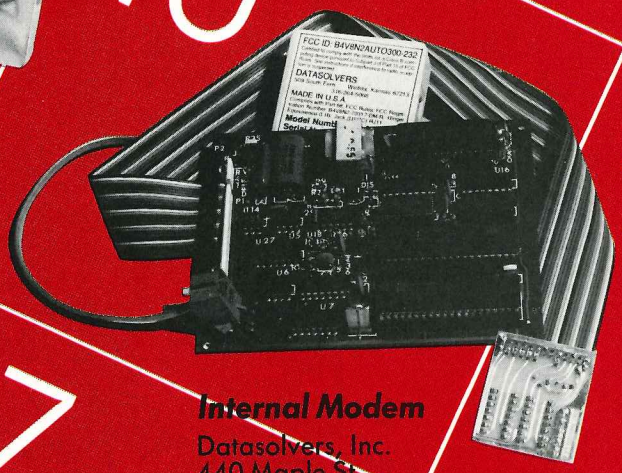

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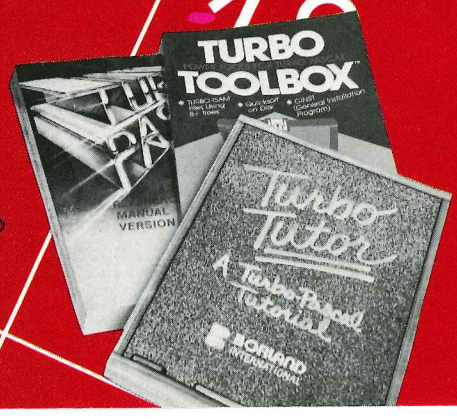

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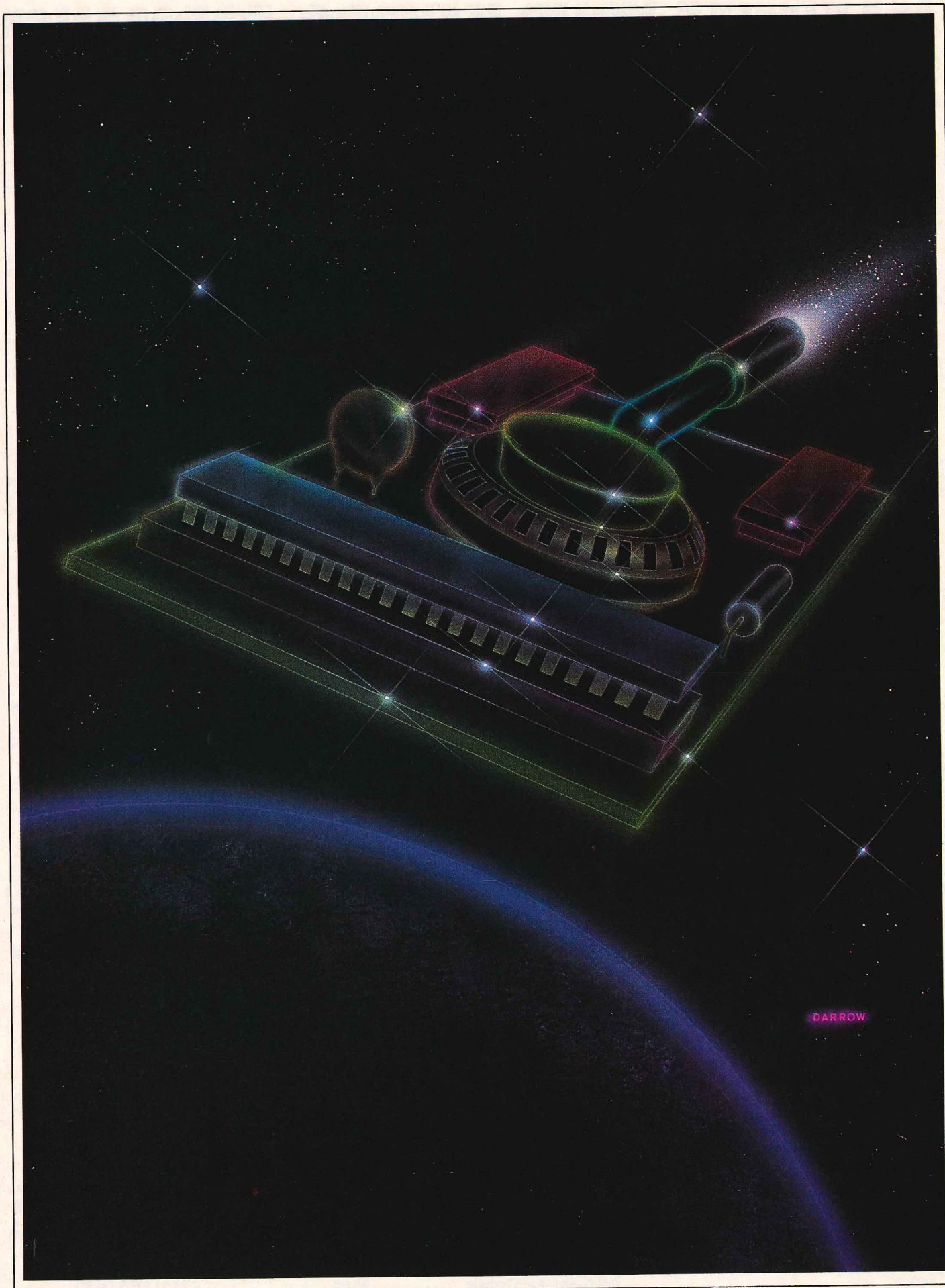

ILLUSTRATION BY DAVID DARROW

Reviewing the Advent Turboboard

Fast lane computing.

by David Schaal

When I first purchased my Kaypro 2 I was amazed at its speed, especially when compared to my cassette-based system. It seemed so fast that speed-up boards and other speed enhancers just didn't seem necessary. I have to admit, however, I found the fervor over higher computer speeds to be intoxicating. After all, the faster the computer, the higher my productivity, and isn't that what it's all about?

It was only when my text files became larger, my spreadsheets more complex and my time more valuable, that I began to think seriously about speed enhancers.

Speed is relative

There are many places in the computing process where computers can get slowed down: the actual clock speed at which the CPU (central processor unit) operates, disk accessing (the reading and writing to disks) and other Input/Output (I/O) functions, including keyboard input, and data transfer through the serial and parallel ports. Also, the way software itself is written strongly affects speed.

In reality though, the computer spends most of its time waiting for keyboard input. That's you. And that's something to keep in mind when comparing the true speed of computing with the computer's throughput (the actual speed for the computations to take place). In any case, having to wait for more than a few seconds in front of a computer gives the impression that things are going slowly.

Besides speed-up boards there are other ways to boost computer speed. For example, hard disks load and save files much faster than floppy disks. And RAM disks use memory chips to simulate disks. Both approaches can increase a system's throughput dramatically.

On the human side, I've found that I could increase my end of the quotient largely by using key definition software (such as the Backgrounder or ExtraKey) and learning to touch-type.

The Turboboard

The Kaypro 2 was originally designed around the Z80 CPU and chip set. The Z80 in the Kaypro 2 runs at a clock speed of 2.5 MHz and has largely been superseded by the faster Z80A and Z80B. In short, the Turboboard replaces the Z80 CPU with a Z80B which runs at twice the speed.

The Advent Turboboard retails for $99.95 and comes with a 90 day materials and workmanship warranty.

The manufacturers say you can expect up to a 60% increase in the CPU's operation. Later we will look at some of the timings I did to compare the two clock speeds.

Installation

The Turboboard concerns only the '83 series 2.5MHz Kaypros 2 and 4s. The newer '84 series Kaypros already contain a 4MHz CPU. The '83 series Kaypro are those that have full-height disk drives and only one serial port, while the '84 series Kaypros have two serial ports and half-height drives.

In Advent's advertisements as well as their installation sheet they remark "no soldering or wiring is required. Installation is easy even for the most nontechnical user." I was certainly hoping this was true as I own no soldering gun and have no plans on learning to use one soon.

Physically, the Turboboard is a 2 1/2" by 3 1/2"

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circuit board. The kit includes a switch which allows you to shift between 2.5MHz and 5MHz, as well as all the necessary hardware needed to make the modification.

The installation requires that you remove the computer's cover. This involves removing the four screws on both sides of the computer and the two small screws on the top. Be sure to use a properly sized Phillips screwdriver as the notches on the screws are easy to strip. I managed to do just that, although it was on a earlier non-related project.

Turboboard can only effect data that's in RAM or ROM.

Once inside the computer, use the installation sheet's photos to determine the location of the chips involved. Next remove the Z80 chip. This is done by prying the chip from its socket with a small screwdriver. I was a little nervous about this, but it did seem to come out fairly easily. One has to be sure *not* to bend the chip's pins.

Next, locate the chip marked U67 so that you can remove it and bend pin 8 away from contact with the circuit board. Unfortunately my U67 chip was soldered to the motherboard. The instruction sheet goes on to say that "If the chip is soldered into the circuit board, it must be desoldered, removed from the board and a socket installed in its place. Then the chip is to be reinstalled per the earlier instructions." (I think we just stepped beyond the abilities of the non-technical user, which includes yours truly.)

There's an easier way than desoldering the chip. The instructions say you can try to cut the pin on the chip while it's still soldered to the board. The problem is that the chip is crowded, leaving little room to get a tool in there. I tried my electrical dikes which were too big. However, the dikes did manage to scrape some of the pin's metal off on each successive snip. After about ten snips, the pin parted and I was able to gently bend the remainder away.

The next step is installing the Turboboard into the Z80 socket. This went easily. To finish the installation, attach one jumper clip to a chip pin (easy) and fasten the 2.5MHz-5MHz switch next to the reset button (also easy).

Apart from the minor snags, the installation is easy and the instructions are complete. Remember to disconnect power from your computer before you open it up. Before you make this modification, look to see if your U67 chip was socketed or soldered in. If it's soldered, purchase a (very small) set of wire snips to clip pin 8.

Replace the cover and power cord, and you're done. The whole installation took about thirty minutes (which includes my searching for my electrical dikes).

Testing

It's important to remember that the Turboboard can only effect the program or data that is in RAM (random access memory) or ROM (read only memory). It will have absolutely no effect on reading and writing to disks. I, therefore, tested the LADDER game first because the whole program resides in RAM. Wow! Little Mr. P ran right off the screen before I could get a chance to get him up the first ladder. When I ran my directory program, the screen filled with filenames so fast, it seemed almost instantaneous. Great—let's do some timing tests.

Benchmarks

The Sieve of Eratosthenes is a popular benchmark program that generates prime numbers. It's a small program which resides in RAM and tests a processor's ability to do math functions. The comparative results are listed below.

At 5MHz, the screen seems to fill instantaneously.

Kaypro 2 (2.5MHZ) - 262 seconds
Kaypro 2 (5MHZ) - 146 seconds
Apple II - 224 seconds
IBM PC - 190 seconds

(Note: The Kaypro timings are mine and the other timings are from the *Byte* May, 1984 article, "Trump Card part 1: Hardware.")

Other programs will also be able to take advantage of these higher processing speeds; scrolling through BASIC listings is almost twice as fast—something to consider if you do much programming.

The above timings show how much faster the Turboboard at 5MHz can process data residing in RAM. Yet these timings are only for comparisons. What's important is what to expect in day-to-day computing. *(continued)*

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Balance Sheet	Enter Transactions
Income Statement	Account Status
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Comparative Income Statement	End-of-Period Processing
Transaction Listings	General Utility Functions
Master File Listings	
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REPORTS	PROGRAMS
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Aging Report	Customer File Maintenance
Transactions Report	Query Customer Activity
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G/L Transactions Register	Invoice Generation
Invoices	End-of-Period Processing
Statements	

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Open Vouchers	Enter Vouchers
Accounts Payable Aging	Enter Credits
Cash Requirements	Report Generation
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Checks	Query Vendor Account Status
G/L Transaction Register	End-of-Period Processing
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REPORTS	PROGRAMS
Employee File List	New Period Initialization
Payroll Register	Calculate Payroll
Payroll Worksheet	Print Payroll Register
Paychecks	Print Checks
Monthly Summary	End-of-Month Processing
G/L Transactions Register	End-of-Quarter Processing
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Schedule 941-A	Employee File Maintenance
Form W-2	General Utility Functions

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Benchmark Program Listing

```
1000 DEFINT A-Z
1010 SIZE = 8190
1020 DIM FLAGS(8191)
1030 PRINT "ONLY 1 ITERATION"
1040 COUNT = 0
1050 FOR I = 0 TO SIZE
1060     FLAGS(I) = 1
1070 NEXT I
1080 FOR I = 0 TO SIZE
1090     IF FLAGS(I) = 0 THEN 1170
1100     PRIME = I+I+3
1110     K = I + PRIME
1120     IF K> SIZE THEN 1160
1130     FLAGS(K) = 0
1140     K = K + PRIME
1150     GOTO 1120
1160     COUNT = COUNT + 1
1170 NEXT I
1180 PRINT COUNT,"PRIMES"
1190 END
```

Word processing

Since the word processing program I prefer (WordStar) spends a lot of its time going to the disk for overlays and text, it was very difficult to devise a benchmark that tested the faster abilities of the Turboboard on text.

One obvious visible difference is the screen's ability to up-date and scroll—now done at almost twice the speed. Paragraph reformation is faster, but when cursor movements by single words or characters are asked to repeat, the cursor moves around only slightly faster. I think this might be a hang-up with the keyboard buffer.

I was able to do a timing test from the CP/M prompt A> to WordStar's NAME OF FILE TO EDIT? prompt. With the clock at 2.5MHz it took 13.9 seconds to get to NAME OF FILE TO EDIT?; at 5MHz, it took 8.9 seconds. It may seem picky to quibble over a few seconds, but I like having the WordStar sign-on message go by so fast that I couldn't read it if I wanted to.

More important is the speed of calling up the next page of text. WordStar usually goes to the disk for the next page and more time is taken while the screen fills with text. At 5HMz, the screen seems to fill almost instantaneously.

(Continued)

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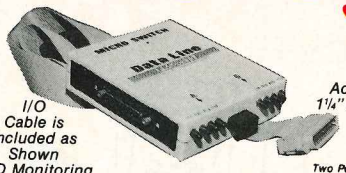

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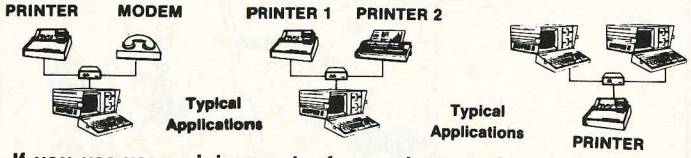

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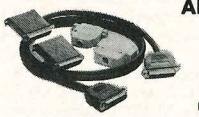

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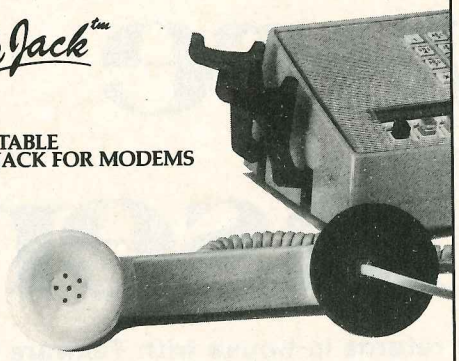

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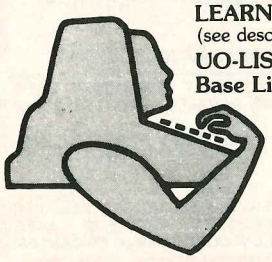

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Spreadsheets

Perfect Calc also spends a lot of time going to the drives for data. The best solution to slow recalculation on large spreadsheets is to recalculate only the region that needs it. If you can't do that, then you'll have to grin and bear it.

When recalculating a large spreadsheet (a lot of disk accessing) it took 59.7 seconds at 2.5MHz and 52 seconds at 5MHz. On a small spreadsheet (the same as regional recalculation) it took 12.6 seconds at 2.5MHz and 7.1 seconds at 5MHz.

Once again you see that as long as the processor deals with RAM-based data it can be much faster. The more disk access, the fewer the advantages.

Overall

Overall, I feel that the Turboboard is a worthwhile modification for an '83 series Kaypro. It seems to be well-made and ran flawlessly during my tests. The installation is fairly easy if you have the correct tools and know what to expect.

If you had this processor running with an electronic or hard disk, things would really fly.

David Schaal is owner/founder of Ergo Systems and Malibu Marine. He recently sailed singlehandedly from San Francisco to Kauai, Hawaii.

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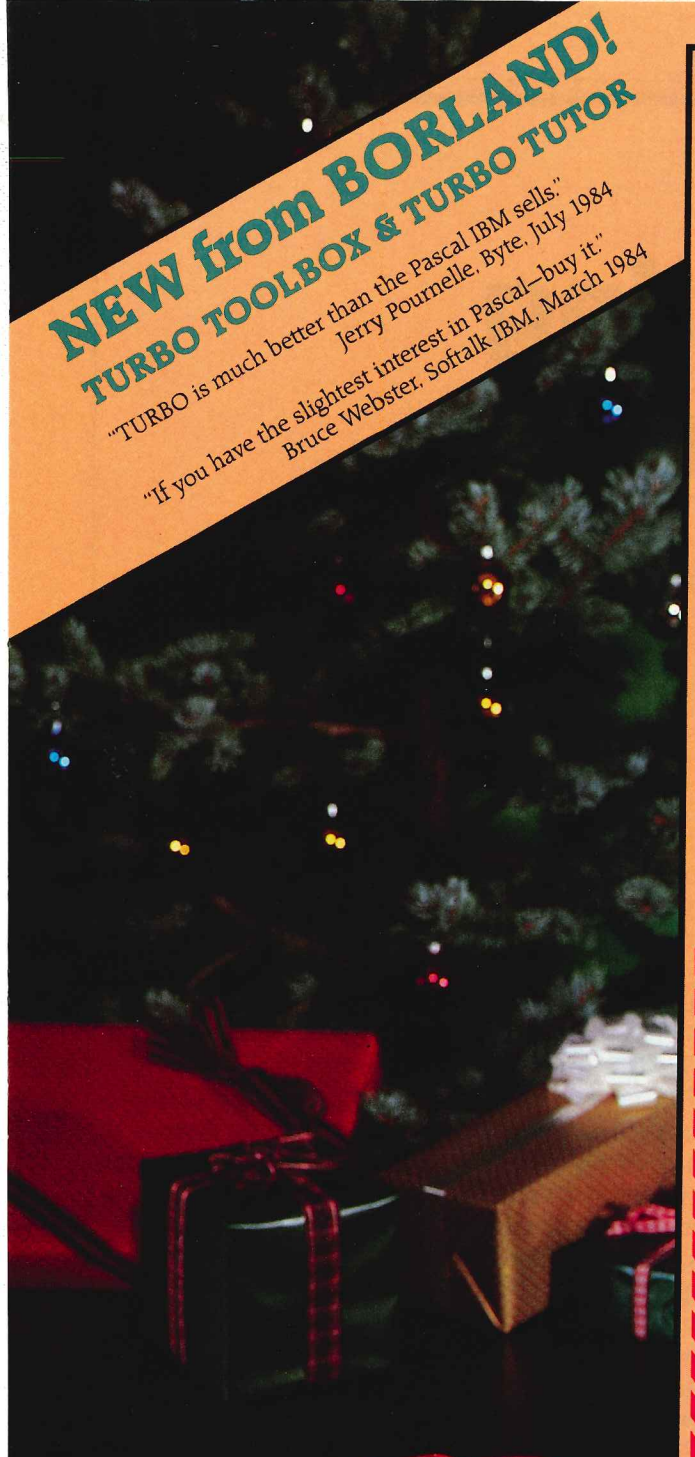

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Academic Writing with WordStar

With a little help from Footnote, Bibliography and Notebook.

by Jim Spickard

I originally bought my Kaypro to write my dissertation, and have since used it to ensure that I publish rather than perish.

But software has been a problem. Academic writing calls for footnotes, endnotes, and bibliographies that are complex— and beyond the capabilities of many word processors.

Since WordStar was bundled with many Kaypros, and since it is so user friendly, many of us would like to be able to use it for our academic writing. WordStar's screen-oriented features—like the page display, which is crucial for academic work—are very nice. But factory-fresh WordStar can't give academic writers the footnote and reference formatting features they need.

Since I bought my Kaypro to avoid drudgery, I began to look for software which would make my work easier. I soon found that most computer dealers and most magazines were useless. They didn't know beans about academic work. They're oriented toward business, where the big money is. So no company has developed the ideal product for our purposes. That's the bad news.

The good news is that after much work—and luck—I came up with a package of programs that do most of what an academic writer needs.

The best news is that it's possible to do it all on the Kaypro with WordStar. Pro/Tem Software's Footnote, Bibliography and Notebook comprise this do-it-yourself academic writing package.

Pro/Tem's Footnote

Footnoting is the sine qua non of academic writing. **Footnote**, by Pro/Tem Software, numbers and formats footnotes in WordStar text files. It also allows you to pull them out of the file or put them back in at will.

Footnote lets you enter a note by placing a "note-call" symbol @ in the text, and then typing in the note anywhere thereafter (though placing them at the end of the paragraph works best for me). You separate the footnote from the text by placing a **^PR** <RETURN> at the note's beginning and a **.pa** <RETURN> (page break) at its end.

As Footnote runs, it replaces the @s with sequential numbers, superscripting them if you desire. It then moves the notes to the bottom of the proper page. The ^PR at the beginning of the note causes the conventional ruler line to be inserted, separating the footnote from the text.

Long notes overflow to the footnote area at the bottom of the next page. Even if you write in the German style of extended footnotes, Footnote will format them so that they continue for pages. Text will appear at the top of the next page the notes haven't filled. On the other hand, you can direct that footnotes not be split between pages. In this mode, notes which are too long to fit on a given page will be bumped to the next page in their entirety.

Footnote can also remove the notes and place them in a separate file. This is useful when your publisher requires notes at the end of the text rather than at the foot of the page. It also greatly aids checking the consistency of your footnotes because it lets you see them all at a glance.

If you change your mind about the format you want, or you're done with your consistency check, Footnote will reinsert the notes at all the right places in your text file. This ability to switch between endnotes and footnotes is an academic writer's dream.

Of course more notes can be added at any time.

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You just have to make sure that they appear in the proper order relative to the notecalls. Footnote will renumber the notes sequentially, and let you know when calls don't match notes or when other problems exist.

Footnote will also allow you to set new default options, so that the @ can be replaced by any other character you don't otherwise use. The command ^PR can also be changed, if you're currently using it for something else. (I use ^PR to change the character pitch on my Okidata printer, for example.) You can even choose different numbering styles for text and notes.

There are, however, some things to watch out for. If you have illustrations or headings in your text, you will want to use WordStar's conditional page breaks (**.cp**) to avoid splitting the illustrations in half, or putting the heading on the last line of a page. However, when using Footnote, you must change the **.cp** to **..cp** and **.pa** to **..pa**, to distinguish them from WordStar's commands. If you are careful at this, the page breaks will occur where you want them.

There are several minor problems with using Footnote. First, when working on a double spaced text, Footnote leaves an extra space where the note was removed to the footnote field. It's easy to delete it, but I'm not clear why it happens. I simply review and correct the text before printing. Also troubling, is how careful you must be in following all Footnote's formatting conventions. As with any new software that is doing lots for you, you will, with practice, be able to surmount this.

Footnote comes with PAIR, a handy utility that checks to see that WordStar's underlining, boldface, and doublestrike commands end as well as begin. This helps you avoid the shock of returning to your printer only to see that it has spent the last forty minutes underlining your entire manuscript. PAIR will also check for paired parentheses, quotation marks, and any other character you specify.

Overall, Footnote provides the flexibility academic writers need, at a very reasonable price.

Bibliography

After footnoting, making reference lists is the next major hurdle for academic writers.

Every journal has its own preferred style for citations. These range from the short form common in the sciences (e.g., Rabbitt 1984) to the complete style prevalent in the humanities (e.g., Rabbitt, Brer. "How to Eat a Carrot". *Journal of Gustatory Investigations* XVIII: 734-795, 1984.) Not only is typing them a pain and a constant source of typos, but shifting from one format to another for resubmission can require lots of busy-work.

Fortunately Pro/Tem offers help here too. **Bibliography** maintains a disk library of references that frees you from typing and retyping the same information.

In the text you type only a keyword. Bibliography keeps track of the works you cite, constructs your reference list, and prints the citations in your text in whatever form you specify.

In my case, Bibliography keeps references for over 700 works on file, with author, title, publisher, date, annotations and so on. When I write an article, I place my keywords in the text surrounded by %-signs (%Rabbitt 1984%). Bibliography compiles a list of these keywords, and then pulls the full references—alphabetized—into a separate file. This becomes my bibliography. If I'm writing for a scientific journal, I stop there (after removing the %-signs with WordStar's Find & Replace feature. For publications which require a different format, I have Bibliography replace each keyword with its full citation. I then remove the %s as I reformat. (Since the full citation takes up more space than the keyword, you can't avoid reformatting.)

Before doing the above, it is best to save a copy of the text with the original %'s and keywords in place. Since Bibliography can only work in one direction—from keyword to full citation—you would need this copy to produce a version with the shorter citations.

If one is writing a book, the process is a little different. Most authors write by chapters, as handling more than 20-30 pages in one text file is cumbersome. This usually means there is a separate bibliography for each chapter. MERGEBIB, a utility included with Bibliography, will merge and alphabetize up to three bibliographies. Bibliographies of individual chapters thus can be merged into one complete bibliography for the book. And Bibliography can run with word processors other than WordStar. Indeed, it should work just fine with Perfect Writer.

With a little ingenuity, Bibliography can be even more useful. The key is manipulating its disk library whose standard format is:

```
%Key:
%Author:
%Title:
%Publisher:
%Date:
%Annot:
```

You may use as many fields as you want, and

name them however you like. The only stipulation is the keyword must come first and the annotation last.

When you print the full citation, you may exclude the keyword, the annotation and one other field of your choice. The headings do not appear, and each field is followed by a period, as academic usage requires.

Bibliography will print a list of your keywords, so you can keep track of them. With a little effort you can print out keyword, author and title so you distinguish the works of more prolific writers, e.g., %Rabbitt 1984%, %Rabbitt 1984a% and %Rabbitt 1984b%. (From a name like Rabbitt, what did you expect?)

Unfortunately, all those headings must be entered each time a record is added. This gets tedious, though Pro/Tem suggests ways to make it easier (such as putting the headings in a separate file to read in using WordStar's ^KR.)

And the bibliographic fields may only be printed in one order—a hassle when some journals require the date second. Most require it be last, and switching between the two means a lot of retyping.

Also, you must print *all* your fields (other than %Key, %Annot and one other of your choosing). But I like to include in the file, where I found a book (e.g., the Santa Cruz, Stanford or even a friend's library) without having to print it out. Indeed, most publishers would just as soon such information not end up in my citations.

These are problems a good text-oriented database manager called Notebook can solve.

Notebook

Notebook is a database management system especially designed for storing and retrieving text. It can be used for everything from personnel files and mailing lists to medical records and research notes. But unlike many database systems, it is easy to use. It can be used to store the library needed by Bibliography. Even better, its flexibility corrects the latter's faults.

Each book or article has its own record. Each record holds up to twenty fields (author, title, etc.) and new fields can be added at any time without losing current data.

Unlike Perfect Filer, Bibliography does not make you specify the number of characters you expect in each field. The field lengths expand as you use them, and can vary across records. Your only constraints in the CP/M-80 version, are that each record can't exceed 4000 characters, and each field must contain no more than 500 characters (about 9 lines of text).

Field headings are easy to enter. Data prepared for Bibliography may be read into Notebook files, as can dBASE II files in "delimited" format. It is wonderful not to have to retype records when switching to Notebook.

Best of all, since Notebook's commands are similar to WordStar's, there's less to learn.

Notebook's reports are its most valuable feature. The program has an on-screen report editor that makes new report formats child's play. Since they take only minutes to produce, I can afford to tailor my printing to specific jobs.

When I'm finished with a manuscript, I choose the reference fields I want, then write them to disk in the form Bibliography reads. You can place the date second or last, depending on the desired reference format.

After running Bibliography, you can reformat the resulting file with WordStar. (Here I sometimes use Perfect Writer, because its reverse indentation looks so good in reference lists.)

Notebook is a good addition to the academic writing package. But it has one problem: it's *s-l-o-w*. Notebook works by reading a record from disk, processing it, writing it back out and moving to the next record. This means a lot of disk activity, and too much time spent staring at the screen (or taking walks or tea-breaks).

Writing my entire library in Bibliography's format takes at least ten minutes. A search or sort seems to take forever.

This is fine if you aren't in a hurry. But Notebook is not where you want to put anything you need to retrieve quickly.

Packages and possibilities

Until recently, Digital Marketing sold Footnote, Bibliography and Notebook as a package called "The Research Assistant." Now they combine Footnote and Bibliography with a program called Index (that makes indexes and tables of contents for WordStar documents), Grammatik (a style checker) and a spelling checker. They call it "Writer's Pack" and sell it for $295.

If you want Grammatik anyway— and are willing to edit its phrase dictionaries to improve its vocabulary—this is probably a good deal.

Notebook is available separately and makes a nice addition to the others.

How WordStar alone can help

I write with WordStar now because Footnote is made to modify WordStar files. Admittedly, WordStar is

not perfect. It's not nearly as flexible as word processors such as Perfect Writer, Mince and The Final Word. It won't yank back erasures, for example. It won't do windows. And WordStar can make reformatting from, say, a 65 to a 60 column line, extremely time-consuming.

Fortunately there are ways to make WordStar even nicer than it was when it came packed with your Kaypro.

First you have to really get to know the program. You'll discover, for example, ^QQ ^B will rapidly reformat your text, but only if the hyphen-help toggle is turned *off*—something the manual doesn't tell you. You'll also find that ^OT gets rid of the ruler line, so that you can display a full 22 lines of text; or that ^QP zips you back to where you were before you did a ^KS save.

These things are in the manual, but they are easy to miss. Julie Anne Arca's *Practical WordStar Uses* is a good guide on such matters (and there are others).

You can also customize your WordStar so that it comes up every time with margins, toggles, and other goodies set just the way you like them. For example, many complain that it takes too long to adjust the WordStar toggles when starting to edit. Margins and tabs have to be adjusted, the insert and justification toggles turned on or off, the help level changed, etc. Your favorites for these options and others can be permanently embedded in your version of WS.COM by changing the default settings with either of WordStar's installation programs—WINSTALL.COM for WordStar Version 3.3, and INSTALL.COM for Version 3.0—or with DDT, CP/M's Dynamic Debugging Tool. INSTALL.COM requires that you know either WordStar's label for each desired patch point (e.g., ITHELP for the initial help level), or the hexidecimal value for its location (e.g., 0360). With DDT, you're forced to use the hex values only.

Since the INSTALL and DDT approaches are complicated enough to be the subject of a second entire article, I will focus here on the much more user-friendly procedures for using WINSTALL. First, before typing any changes on WS.COM, be certain to have a backup copy of it on a disk that's not in your machine.

To enter the installation program, start at the A> prompt and type in **WINSTALL** <CR>. When you reach the screen which asks "Name of file to install or <RETURN> for A:WSU.COM," you should enter **WS.COM** as the name of file. (Kaypro does not distribute WSU.COM with its WordStar as a part of their contract with MicroPro.) From the main installation

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menu of WINSTALL, select the Menu of WordStar Features. Selecting **A** at the features menu allows you to set the default help level to **2**, and have a full screen to work with while editing. **F** turns justification *off*, while **K** and **L** reset the left and right margins.

I and **J** control the top and bottom margins, so you can correct your printer's paper-feeding idiosyncrasies without having to put dot commands in your text. If you have two printers as I do, this will save rewriting as you switch from one to the other.

Unfortunately WINSTALL can't get rid of the 20-second MicroPro commercial you have to look at every time you load the program. Using DDT at the location of WordStar's aptly named "long delay," however, will do the trick (for version 3.0, change location 2D2 to **01**; for version 3.3 do the same to location 2B2).

Keypad reconfiguration

Reconfiguring your Kaypro's keypad means assigning those finger-cramping command or text sequences to the keys of your Kaypro's numeric keypad (which you probably aren't using anyway). In effect, you can customize and simplify the commands needed to run your academic writing package (or any other software). You can even set up a system for each different type of writing you do.

I have one of the cheapies—a public domain program I got through my users' group. Several commercial programs are also available. You can even use the CONFIG program to do limited reconfiguration. (See Susan Hyman's article in March/April '84 *PROFILES* for an overview of commercial keypad reconfiguration programs; see Ezra Shapiro's article in the January/February '84 *PROFILES* on using CONFIG.)

I have set up my keypad so that hitting the ENTER key resets my left and right margins and tab markers. Other keys call a command sequence which makes WordStar move whole sentences and paragraphs. Those who underline a lot may want to reset the keypad's hyphen key to ^PS, so that the underlining command becomes a single stroke. The hyphen key is a good choice because it resembles the underline character. The 1 and 2 numeric keys can become ^OS1 and ^OS2, enabling you to switch from single to double spacing in a flash.

My numeric 7 key now means ^OS1 ^OG ^M, allowing me to indent blocks automatically. And the numeric 8 key reformats them with ^OS1 ^OG ^B.

You can even assign a key to insert words or phrases you use frequently, saving yourself many keystrokes.

You get the idea. Given these hints, WordStar should be much less cumbersome.

Looking back

Overall, the WordStar + Footnote + Bibliography + Notebook package is the best I've found for academic work. There are other footnoting programs. And there are some fancier—and more expensive— word processors running on the IBM and compatibles.

But none of them beat the Kaypro's simplicity (and price!). As long as WordStar comes in Kaypro's software bundle, the combination I've described here will be hard to top. □

Product Summary:

Footnote: $99
Numbers and formats footnotes and endnotes in WordStar files. Extremely flexible for academics.

Bibliography: $99
Constructs reference lists from citations in texts. Also places full or truncated citations in text.

Notebook: $150
Text-oriented database manager. Extremely useful for adding flexibility to Bibliography. Easy to use.

These are designed to run on CP/M, CP/M-86 and MS-DOS computers, and all are products of:

Pro/Tem Software
2363 Boulevard Circle, Suite 6
Walnut Creek, CA 94595
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Jim Spickard is a writer and teacher with a PhD in the Sociology of Religion. He is also research director of the Cultural Development Institute, Aromas, California.

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This free offer applies to any 2 or more separate items. For example, a Kaypro Quality Cover and one template equals 2 items; 2 templates equal 2 items, but a single box of diskettes is one item. We must reserve the right to end this offer. Don't be disappointed, order today. 12 foot cords sold separately at $12.95 per cord.

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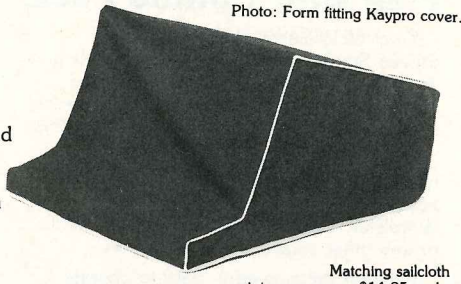

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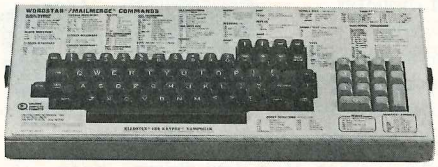

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"Spikes and surges can be the greatest threat to your computer outside a 4 year old child with a jelly sandwich aimed for the disk drive slot."

Enemies of Kaypro®... Spikes, Surges, and Noise

The Kaypro has enemies. But now you can protect it from the mish mash of electrical currents that race through your home or business. Powerful up-surges of current can actually blow out your machine. Less powerful, barely noticeable spikes, surges, and noise can silently degrade your system in time, ruining chips, destroying data, and causing expensive service calls.

Photo: Panamax 6 outlets LC S RB NF.

The Kaypro manual states, 'Line filtering will protect your Kaypro...from power surges or other undesirable occurrences from the power source." Surge protection will help your Kaypro provide years of trouble-free service. Also, if you plan to use your Kaypro to access information by modem, you must have a reliable high frequency noise (EMI/RFI) suppressor to insure against data loss and scrambling.

There are many "toy" surge suppressors on the market. They are smartly colored, but beware. The performance difference is amazing. The best surge and noise suppressors on the market are made by Panamax. Our "Panamax Challenge Certificate" tells all. It is a startling comparison of Panamax quality with 11 other well-known brands. One aspect of this revealing report tells how Panamax responds to and cuts surges in 5 or less pico seconds, while most other suppressors respond at a comparatively slow 5 to 50 nanoseconds!

Check our regular low prices. Try the Panamax of your choice for 15 days. Receive the "Panamax Challenge Certificate" with your purchase. If not completely satisfied with your purchase, return for immediate full refund. Your Kaypro deserves Panamax protection, the best there is. Order today.

PANAMAX SURGE SUPPRESSORS

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2 outlets, D NF	$ 79.00	$ 59.00
4 outlets, LC S RB NF	$109.00	$ 89.00
6 outlets, LC S RB NF	$119.00	$ 99.00
UltraMax, LC S UA NF	$159.00	$129.00
TeleMax, D 1OL 2PJ NF	$ 89.00	$ 72.00

D: Connects direct to grounded wall jack.
LC: Includes 6 foot long heavy duty line cord.
S: Includes illuminated on/off switch.
NF: Includes EMI/RFI noise filter.
RB: Includes reset button.
OL: Includes outlet.
PJ: Includes 2 phone jack receptacles.
UA: Includes under voltage alarm/brown out protection.
All units include the added security of a 4 amp fuse.
Unique Panamax EMI/RFI noise filters provide protection in common and transverse mode. Essential for modem communications, multi-user stations, etc.
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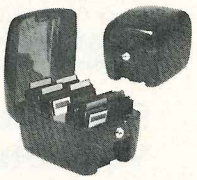
"Overvoltage can be fatal to both data and hardware alike."
P.C. Magazine, March 1983

Lockable Diskette Defender



Handsome, sturdy, smoke-tinted acrylic tray holds 70 Kaypro-size diskettes. Flip-up lid keeps out dust, debris, and moisture, and locks securely to guard your important work. Comes with 7 dividers that make for easy filing and keep floppies upright to prevent bending, warping, and scratching. Tough metal lock never comes in contact with diskettes because it is enclosed in a plastic housing. Super value at $23 for one, or $21 each if you buy 2 or more. Keep prying eyes and sticky fingers away from your important data. Order today.

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Top quality, individually tested 36 pin Centronics-type standard parallel cables for all model Kaypros. These are made to work hard and long. Guaranteed.
5 ft cables ... $19.95 each
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Top quality, individually tested ribbon modem RS 232C cables designed with reinforced clamps for a sure continuous connection and made especially for your Kaypro. These work every time.
2 ft cables ... $14.95 each
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Free with Combo Pack

Peter McWilliams, William Buckley, Steven Frankel, and a cast of thousands rave about how **SmartKey II** speeds up and improves accuracy in computing by reducing often used multiple keystrokes to single keys.

Smartkey II lets you easily reprogram as many upper and lower case keys on your keyboard as you want, even while WordStar, CalcStar, dBase II, Perfect Writer, or any other software is in operation.

Uses for this powerful, easy-to-operate program are endless. With SmartKey II you can assign thousands of characters to a single key. Once you have redefined keys, you can put them to work or change them at will. You can also store your "smart key" definitions in a special file and use them later, or make numerous definition files to use with a variety of your favorite programs or projects. Imagine saving complex command codes, boilerplate paragraphs, sentences, names, inventory numbers, or whatever, and then injecting any of them into your work with the stroke of a single key. This is a must-have, time saving computer program for all busy Kaypro users.

SmartKey II has a little known super companion program called SmartPrint II. SmartPrint II retails at $49.95. SmartPrint lets you give single-stroke commands to your dot matrix printer to make it produce italics, graphic symbols, boldface, underlining, extended typefaces, accent marks, and much more. SmartKey II retails at $89.95. Now, for a limited time only, Central's *SmartKey II Plus* and *SmartPrint II Plus* **combo pack** is only **$79.** In addition, as a bonus, with your purchase you will get a **free** copy of Paul Golding's book, *Screen Smarts, The Computer Tamer's Guide*. This book is a $15.95 value. It tells how Mr. Golding, a professional writer, uses SmartKey II to turn his humble computer into a supercharged dedicated word processor. Please don't delay, this offer may not be repeated. Order today to get SmartKey II Plus, SmartPrint II Plus, and a free copy of the newly revised edition of *Screen Smarts, The Computer Tamer's Guide*, lightning fast.

Warning: SmartKey II makes lesser programs look dumb, dumb, dumb. Comes with step-by-step manual.

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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.

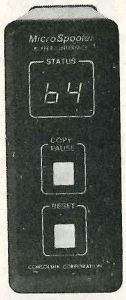

Photo:
MicroSpooler
64 K P-P

CONSOLINK MICROSPOOLERS

Description	List	Price
64 K P-P	$315.00	$279.95
64 K P-S	$343.00	$299.95
64 K S-S	$349.00	$299.95
64 K S-P	$339.00	$294.95
Two Cables	$ 56.00	$ 29.00

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:

- Status digital readout
- Multiple copy function
- Temporary pause function
- Sleek internal power supply
- Comprehensive self test routine
- Slimline attractive casing
- 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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Wordstar	$ 75.00	$ 59.00
BORLAND INTERNATIONAL		
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Turbo Toolbox	$ 49.95	$ 45.00
CDE SOFTWARE		
Checks & Balances now with check printing	$ 74.95	$ 69.95
CHUCK ATKINSON PROGRAMS		
Quick Check + AR	$195.00	$155.00
Retail Inventory + Q Register	$395.00	$299.00
COMPUTER EDITYPE SYSTEMS		
Magic Print ★	$195.00	$155.00
Magic Bind ★	$250.00	$199.00
Magic Index — includes ★ All superior Wordstar enhancers	$295.00	$245.00
COMPUTRONICS		
VersaBusiness Series		
VersaLedger II	$149.95	$115.00
Any other modules	$ 99.95	$ 79.50
CONSULTANT SYSTEMS		
The Creative Loan Consultant	$129.00	$105.00
The Real Estate Consultant	$275.00	$225.00
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Home Accountant Plus	$ 99.95	$ 79.95
DATA DECISIONS, INC.		
KBAR One pass Kaypro 10 backup utility	$ 89.98	$ 79.00
DG/SYSTEMS		
Rembrandt Graphics Pak	$ 79.95	$ 66.00
DIGITAL MARKETING		
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Grammatik ★	$ 75.00	$ 69.00
Hyper Typer	$ 29.95	$ 26.00
Index ★	$ 99.00	$ 89.00
Milestone	$250.00	$199.00
Notebook	$150.00	$109.00
The Specialist, Medical Billing	$995.00	$750.00
Writer's Pak — includes all ★ products	$295.00	$250.00
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Plu Perfect Writer CP/M 2.2E	$ 39.95	$ 36.00
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CP/M 2.2E only	$ 32.00	$ 29.00
Date Stamper	$ 39.00	$ 35.00
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Q-Pro-4 with multikey file indexing	$595.00	$395.00
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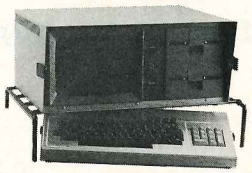

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CP/M vs. MS-DOS

Despite the hype, CP/M compares well.

by Richard L. Alexander

Just before I bought my Kaypro last year, a friend took me aside to give me a warning. "Be sure you buy an MS-DOS machine," he said. "Everyone knows that CP/M is dead!"

A year later, it's clear that CP/M (the Control Program for Microcomputers) is *not* dead; there are still thousands of powerful programs available for machines which run under the control of this operating system. It is also clear, however, that MS-DOS (the operating system developed for IBM's Personal Computer) is already the dominant entry in the race to become the "industry standard." Those of us who have already chosen CP/M systems even have the option to switch to MS-DOS by installing a "co-processor board" (actually another computer) in the cabinet along with the Z-80 microprocessor. But what do these programs actually *do* for microcomputer users, and what difference does it make to you which operating system is in charge of your system?

Operating systems: overview

An operating system is a specialized program or package of programs which provides several important services to computer users. On large computer systems, the operating system is an enormously complex bundle of programs which allocate such resources as disk space and processing time among many terminal users; it also controls all of the peripheral devices attached to the computer and handles such other functions as security and accounting for the use of machine time.

For small computers like the Kaypro, the control program need not be as complicated, since only one person works on only one task at a time. Still, the operating system on a microcomputer *is* responsible for managing the mechanics of input and output for the machine, for keeping track of all files stored on diskettes, and for providing several "utility" functions that make it easy for the user to *manage* the information stored in the system.

For example, you might use CP/M's STAT command to get information about the amount of unused space on a diskette or to redirect printer output to some other device. When a BASIC program executes an instruction calling for a piece of data to be displayed on the screen, the control program takes over long enough to manage the actual output process. If a program needs to read data from a file stored on diskette, the operating system must find the physical beginning of the file and then control the transfer of data from the diskette into the computer's main memory, where it may be manipulated by the user's program.

Operating systems provide another crucial service for microcomputer owners: they make it possible for software developers to *standardize* their products. A developer can write an accounting program, for example, without being required to write machine-specific instructions for reading in or printing out data. Then the accounting program can be sold to anyone owning a computer that runs a major operating system like CP/M or MS-DOS. When the instructions in the program are executed, the operating system responds to all requests for input or output and issues the actual commands that cause data to be transferred back and forth between the computer and its peripheral devices.

CP/M described

CP/M (a product of Digital Research) was the first major operating system to provide this kind of standardization for a variety of computers from different

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manufacturers. Designed to run on any machine based on the 8080 and Z-80 families of microprocessor chips, CP/M consists of three major subsystems—the BDOS, the BIOS, and the CCP.

BDOS manages at logical level

The heart of the control program is the Basic Disk Operating System, or BDOS. This program, which remains in main memory even while other programs are running, is responsible for intercepting and handling all input and output instructions. It's also the control center for keeping track of data files stored on diskette. BDOS works at the *logical* level—that is, it makes programmed decisions about *how* an input/output request should be handled, but does not control the *physical* process of moving data into or out of the computer.

BIOS controls physical process

CP/M's second major part, the Basic Input/Output System (BIOS), controls the physical movement of data into and out of the computer. The BIOS is customized to generate the specific instructions required to transfer data given the particular arrangement of hardware within your computer. The BIOS is also stored in main memory while other programs are running, and is invoked by BDOS whenever a user's program has executed an instruction calling for an input or output operation.

This deliberate division of responsibilities may seem confusing at first, but it's the key to the versatility of operating systems like CP/M and MS-DOS. The BDOS part of the package is the same no matter what computer it's used on; only BIOS programs are modified to fit specific machines. This means that, if software developers are careful to write programs which invoke *only* the standardized BDOS, they can be sure their programs will run on any CP/M computer. The BDOS will decipher the *logical* structure of the programs' input and output instructions before passing control over to the BIOS which carries out the specific *physical* operations.

It's clear that CP/M is not dead. . .

CCP responds to keyboard commands

The final major subsystem in the CP/M package is the Console Command Processor, or CCP. This is the program that reads in, interprets, and executes the commands you enter from your computer's keyboard. Some of these commands (like ERA for deleting disk files and DIR for listing disk directories) are built into the Console Command Processor and are in memory whenever the CCP is. The programs for other commands, including PIP and STAT, are stored on diskette and loaded into memory whenever the user asks they be executed.

All three of these subsystems are loaded into memory from a set of files stored on diskette; this is the activity that goes on whenever you first turn on your Kaypro and insert a "systems" diskette. The BIOS and BDOS remain in memory until you turn off the machine or hit the reset switch, but the Console Command Processor may give up its area of memory after it has initiated the execution of a program like PIP. When a command has completed its execution, the CCP must be re-loaded into memory; this is part of the process that goes on when you see the "Warm Boot" message after completion of a command.

The differences between CP/M and MS-DOS are largely matters of style and "user friendliness."

Other systems: why?

Why have other operating systems for microcomputers been developed? A major reason is the internal architectures of the CPU chips now on the market. The Z-80 and 8080 used in CP/M micros only access 8 bits of information at a time, while the 8088 chip used in IBM Personal Computers use 16 bits. While building its new operating system around the 16 bit architecture, IBM was able to make improvements over CP/M. Yet the overriding motivation behind developing a new "standard" related more to marketing strategy than to revolutionizing design. To encourage users to buy only IBM equipment, and to make it harder to switch brands later, IBM wanted a proprietary operating system for its PCs.

Birth of MS-DOS

IBM asked Microsoft to develop the new control program, and MS-DOS was born. The rest is history. MS-DOS now comes on IBM-compatibles—including the 8088 co-processors available for the Kaypro. For its own machines, IBM has renamed the package

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PC-DOS and (in recent releases) added a number of "extended" commands and disk-management features.

MS-DOS and CP/M compared

In its internal architecture, MS-DOS is remarkably similar to CP/M. It includes a package of standardized routines for handling input and output and managing disk space. This package (stored in a file named MSDOS.SYS) is like CP/M's BDOS in that it may not be altered by the computer user and is responsible for interpreting the *logical* structure of requests generated by user programs. Another file, IO.SYS, corresponds to CP/M's BIOS package and handles the physical details of writing and retrieving data; it may also be modified by users to fit the specific configuration of a particular computer. Finally, MS-DOS comes with COMMAND.COM which behaves like CP/M's CCP to interpret and execute commands from the keyboard.

Most of the obvious differences between CP/M and MS-DOS are largely matters of style and "user friendliness"—and MS-DOS is a clear winner in those areas. CP/M's commands are derived from terminology that might be perfectly clear to programmers who've been in the business for fifteen years, but not to anyone else. Do you want to direct output to the RS-232 port on the back of your Kaypro? You'll have to call it the "TTY," a reference to the teletype terminals used to communicate with mainframe computers in the 1960s. If you scan through Digital Research's reference manuals, you'll also find formal abbreviations for such archaic devices as "paper tape readers" and "card punches"—a sign that CP/M's command structure is carried over from an earlier generation of computers.

More seriously for the new computer user, CP/M command names often bear little relation to the operation the user has in mind. For example, you might enter the following line to copy the contents of the disk in drive A onto the disk in drive B:

```
PIP B:=A:*.*
```

To accomplish the same operation on an MS-DOS computer, you would need only to remember this more obvious command:

```
DISKCOPY A: B:
```

In fact, CP/M is so inscrutable to many first-time computer users that a market has developed for programs which allow users to enter simpler com-

mands which are then translated into standard CP / M functions.

CP/M suffers by comparison to MS-DOS in at least one other area: the amount of memory it occupies. When all three components of the operating system

You are likely to find a wider variety of tried and proven CP/M programs for specialized applications.

are loaded into your Kaypro, they occupy more than 8,000 of the 65,535 memory locations available; your 64K machine really only has about 55K of memory for user programs. MS-DOS, on the other hand, occupies only about 1,500 locations in memory (and that's in a computer which may have 128K, 256K, or 512K of main storage). In both systems, the area used by the Console Command Processor may be taken over temporarily while a program is running. CP/M systems regain about 2,000 memory locations when the CCP is displaced. The command processor must then be reloaded when the user's program has finished.

On the other hand, both operating systems offer the same basic set of functions for manipulating files stored on diskettes. Both packages come with an editor program; MS-DOS's EDLIN is considerably more sophisticated than CP/M's ED, which also suffers from a set of commands that are difficult to comprehend and remember. Both operating systems allow the user to delete files, to display file contents on the screen or printer, and to get information about the amount of space being occupied by the files. If MS-DOS has any advantage in these areas, it must be that its commands are more English-like and straightforward than CP/M's.

Still, the key difference between CP/M and MS-DOS may lie in their respective public images. Clearly MS-DOS has passed CP/M in the race to become "the industry standard." But why is MS-DOS so popular? Does it represent a revolutionary functional improvement over CP/M or is it (like the IBM computers it was designed for) successful largely because of Big Blue's reputation and market-

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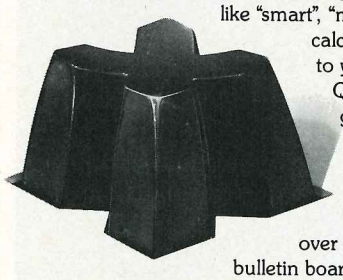

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ing strength? The latter is probably closer to the truth.

Which one among the many?

Which operating system is best for you? Unfortunately, this question has no pat answer. And it is further complicated these days as other operating systems vie for the "industry standard" title. Bell Laboratories has a major contender for the title in its UNIX system. Digital Research has tried to head off the competition from MS-DOS by making a version of CP/M (called CP/M-86) which can run on IBM's family of personal computers (an effort which has been frustrated by the relatively low number of programs available for CP/M-86 systems).

The bottom line for you

Doubtless the bottom-line question for the Kaypro user is how much are you missing if you don't have MS-DOS?

Both MS-DOS and CP/M exist to provide a "friendly" environment for microcomputer users, and both go about the job in similar ways. Both systems make it possible to write programs which will run on any similar system, and both allow you to manage the hardware resources that make up your computer.

If you must have a high-powered database program like KnowledgeManager or an "integrated" software package like Lotus or Symphony, you should consider MS-DOS. On the other hand, if you need to do word processing, spreadsheet work, accounting, or other common business processing, you're likely to find the CP/M route to be more than adequate. *(A number of CP/M programs actually run faster on standard Kaypros than do their MS-DOS counterparts on standard IBMs; e.g., WordStar—Ed.)* And, you are likely to find a wider variety of tried and proven CP/M programs for your highly specialized applications.

MS-DOS may be ascending to the top of the industry heap, but CP/M is alive and well and will remain so for a long time. The sheer numbers of CP/M computers and programs sold guarantee that. □

Richard L. Alexander is chairman of the Computer Science Department at Oklahoma Baptist University.

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Birth of an Index

Using Perfect Writer to pull an index from a WordStar file.

by Frances Robbins

Do you love WordStar but hate when it won't create an index? If so, then we have something in common. I didn't stay mad, however, I did something about it.

It isn't that I forced WordStar to generate indexes all by itself, I tricked Perfect Writer into doing it for me. I got it to generate an index from a WordStar file—with WordStar resisting all the way. If you are one of the many people who have both programs, you can have the best of Perfect Writer without giving up WordStar's conveniences.

This is the way it happened: I had typed a 200-page manuscript—part of a version of the Bible—for a customer, Clifton Wilburn, on my Kaypro 4. Of course, I used WordStar.

A few days after he received the finished manuscript, Mr. Wilburn realized he would need an index and he began to compile one on cards. I could type it, he said, after he was finished.

Finished! That would be the day. You can imagine what a job it is to compile an index by hand and eye! I couldn't let him go to all that trouble when I had a computer with his book on diskette. So I quoted him a tentative price for the job and started to work.

It turned out to be easier than I imagined. And it will be even easier for you, because I'm going to tell you how to do it.

If you have a hard copy of the manuscript handy, it'll make your task easier. Keep it ready to refer to in case you alter the indexing copy of your manuscript by mistake. You can do the index without a printout, but it will be more difficult to ensure that the original page breaks are intact. And, believe me, WordStar will do its best to mess them up. (But who's smarter? You are.)

Starting

First, gather together your CP/M, WordStar and Perfect Writer working diskettes, along with two formatted blank diskettes and the diskette with the manuscript you wish to index.

Put the CP/M diskette in drive A and the new manuscript diskette in drive B. Using CP/M's copy utility, make a copy of the manuscript diskette, and set the original aside. (You want to be sure to run the indexing process on a *copy* of the manuscript, because strange things will happen to the indexed copy.) Next, check the size of the file or files on the new diskette by typing in **STAT B:*.***. Count up the storage used by the manuscript files to see how much extra space there is on the diskette.

You want to leave room for the index that will be generated, so that you will not get a "Disk Full" message during the last step of the indexing process. (If that happens, you will have to repeat some of the indexing steps—an inconvenience, not a disaster, since you are working with a *copy* of the manuscript.)

There are 191K on a single-sided diskette, and 390K on a double-sided diskette. A page of single-spaced typed text takes up about 2K, so a double-sided diskette will hold roughly 200 pages of text. Each word or phrase to be indexed will probably take up about one line, so the number of items used will determine the length of the index. If you can prepare the list of words to be indexed now, figuring out the index's length will be fairly easy. If, however, you prefer to go through the text later, marking words to be indexed, you will not be able to plan as exactly. In most cases, having at least 10k (or 5 pages) free on the diskette should be adequate leeway for indexing.

If you have too much material, divide it among two or more diskettes. You can do the index in sections by adding one extra step later.

Now put your WordStar dis-

kette in drive A, leaving the manuscript copy in drive B. If you're going to work with a lengthy manuscript spread out over several diskettes, start with the one that begins from the first page. Call this file ALLFILES, since it will eventually contain all the files you'll work with on this diskette.

Dealing with page breaks

The first step in the indexing process is to mark the page breaks as they occur in the original manuscript. Go through your file (or files, if the text is broken up into chapters) marking the first line of each new page with an asterisk (*) followed by a blank space. Put the asterisk on the first line of *text*, not on a line with a dot command. Do not put asterisks on a line by themselves because Word-

```
                    Section Including Page Two After Preparation With Asterisks And
                                  Removal of WordStar Format Codes

                 *    "How shall I know this?"  asked Zacharias.  "For I am an old
[start           man and my wife is well along in years."  The angel answered, "I
of page          am Gabriel, who stands in the presence of God and am sent to give
two]             you the glad tidings.  But because you do not believe me, you
                 shall not be able to speak until the day that these things shall
                 be performed."
                      The people waited for Zacharias and marveled that he tarried
                 so long in the temple.  When he came out, he could not speak.  He
                 made signs and remained speechless and they perceived that he had
                 seen a vision in the temple.  As soon as the days of his duty were
                 accomplished, he departed to his own house.
                      Thereafter Elisabeth conceived and hid herself five months,
                 saying, "Thus has the Lord acted to take away my reproach among
                 men."
                                  Annunciation to Mary
                      And the angel, Gabriel, was sent from God to Nazareth, in
                 Galilee, to a virgin espoused to a man whose name was Joseph of
                 the house of David.  And the virgin's name was Mary.  The angel
                 said, "Hail, you are highly favored, the Lord is with you; blessed
                 are you among women."  She was troubled and wondered as to the
                 meaning of the greeting.
                      But the angel said, "Fear not, Mary, for you have found favor
                 with God.  Behold, you shall conceive and bring forth a son and
                 shall call his name Jesus.  He shall be great and shall be
                 * called the Son of the Highest, and Lord God shall give to him...
[text of
page 3
continues]
```

Figure 1

HOW A $19.95 INVESTMENT CAN SAVE YOU $2156.25!

DateMate allows you to print at home, for FREE, a 27-page monthly reminder/calendar that could cost up to $18.75* in an office supplies store - this year, next year, ***every year*** - from 1901 through 2099 (bequeath ***DateMate*** to your children!). 2099 — 1984 × $18.75 = **$2156.25!** Enter birthdays, appointments, expenditures, comments, and all is stored *permanently* on diskette in ASCII files. Printouts show each day's information in its proper "date cell," exactly as you entered it. Compare these features with programs costing four and five times as much .....

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3. Menu driven with screen prompts every step of the way.
4. Full editing capability.
5. Always your choice of screen or hardcopy.
6. Enter birthdays only once — *DateMate* "remembers" designated information from year to year.
7. Major 1985 holidays already entered for you.
8. Keeps track of important names, addresses, and phone numbers. Alphabetical sort if desired.
9. Hospitable User's Guide with helpful hints.

YES, I want to streamline my life with *DateMate*. Enclosed is my check or money order for $19.95.
(Tenn. residents please include 7¾% sales tax.)
Kaypro model: ☐ 2 ☐ 4 ☐ 10 ☐ Robie
Computer Serial No.: _____
Do you have graphics? ☐ Yes ☐ No
Word processing software package that came with your Kaypro: ☐ Perfect Writer ☐ Wordstar
Name _____
Address _____
City,State,Zip _____
Mail to: FRESHWARE
522 Glenpark Dr., DEPT. PF
Nashville, Tennessee 37217
Thank You Very Much

DateMate T.M.

*Hazel Monthly Planner (R501/71) by Hazel, Inc.

Trademarks: Kaypro, Kaypro Corp.; Wordstar, Micropro, Int'l.; Perfect Writer, Perfect Software Corp.; DateMate, Freshware.

Star will then adjust the page breaks for you. On your way through the file, delete any asterisks that were in the text, so that every asterisk left in the file represents the top of a new page. (See the example in Figure 1.)

When you get to the last page of the first file, add an extra line with an asterisk on it. If there is a following file on the diskette, give the command **ΛKR** to insert it into the file you are working on and mark the page breaks in that file also.

Now type **ΛQA** to Search and Replace all asterisks with @NEWPAGE, entering **NG** when asked for options. @NEWPAGE will let Perfect Writer know where new pages begin and generate the correct page numbers in your index. As soon as you have @NEWPAGE at the beginning of each page, you can quit worrying about the page breaks. Just ignore them. WordStar will continue to do its own thing, but you don't care. Hit **ΛKS** now, to save these changes.

Stay in the file and go back through the file to delete any dot commands you may have missed. Also, put each @NEWPAGE on a line of its own now. You can delete the remainder of that line if it does not contain a word to be marked for the index, or you can use **ΛN** to lower it. See Figure 2. (If you are a really organized sort of person, you can do this task as you mark the words to be indexed. As for me, I did things one at a time.)

Marking words

You are now ready to mark words to be indexed with the Perfect Writer indexing flag, @INDEX. Either write the words on a list or simply go through the file looking for words you think should be indexed. When you come across the first one, use the **ΛQA** (Search

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printed this ad on an Epson FX printer

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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.

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small large Bold *Italic*

Sans Serif *Script* Old English

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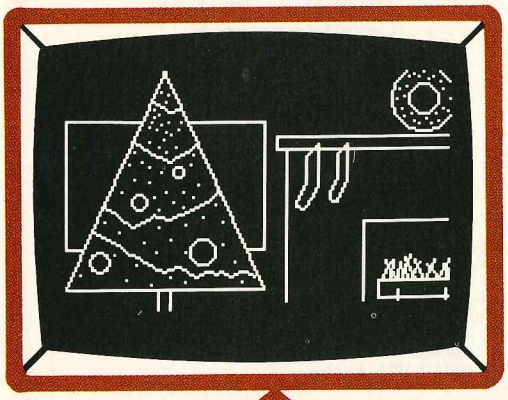
SoftCraft, Inc., 222 State St. #400, Madison, WI 53703 orders: (800) 351–0500
(We've moved from California) from Wisc: (608) 257–3300
Fancy Font System $180
Fancy Font Demo Disk $10
Calif. and Wisc. residents add sales tax 6.5% or 5%
Outside US add $10 postage (only $2 for demo) $10 or $2
Diskette Format: (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.

```
                Section Including Page Two After Search for "*" and Replace
                @NEWPAGE                with "@NEWPAGE"
                     "How shall I know this?"  asked Zacharias.  "For I am an old
[start          man and my wife is well along in years."  The angel answered, "I
of page         am Gabriel, who stands in the presence of God and am sent to give
two]            you the glad tidings.  But because you do not believe me, you
                shall not be able to speak until the day that these things shall
                be performed."
                     The people waited for Zacharias and marveled that he tarried
                so long in the temple.  When he came out, he could not speak.  He
                made signs and remained speechless and they perceived that he had
                seen a vision in the temple.  As soon as the days of his duty were
                accomplished, he departed to his own house.
                     Thereafter Elisabeth conceived and hid herself five months,
                saying, "Thus has the Lord acted to take away my reproach among
                men."
                                    Annunciation to Mary
                     And the angel, Gabriel, was sent from God to Nazareth, in
                Galilee, to a virgin espoused to a man whose name was Joseph of
                the house of David.  And the virgin's name was Mary.  The angel
                said, "Hail, you are highly favored, the Lord is with you; blessed
                are you among women."  She was troubled and wondered as to the
                meaning of the greeting.
                     But the angel said, "Fear not, Mary, for you have found favor
                with God.  Behold, you shall conceive and bring forth a son and
                shall call his name Jesus.  He shall be great and shall be
                @NEWPAGE
                called the Son of the Highest, and Lord God shall give to him...
[text of
page 3
continues]
```

Figure 2

and Replace) to add the @INDEX marker. (It won't work to mark them with an asterisk and then replace it with @INDEX.) Each indexed word must be enclosed in parentheses.

I marked each word as I came to it by typing ^QA, typed in the word in answer to FIND, then in answer to REPLACE I typed **@INDEX**(*word*). To mark that word throughout the file use the Find/Replace options W,U, N, and G (enter as **WUNG**) when you are starting at the beginning of the file. To search backward (if you suddenly realize you should have indexed a certain word, for example), use options **BWUNG**. Capitalize the words if you want them capitalized in the index. Also, at this time you must be sure each indexed word is on a single line (no hyphens at the end of a line)



don't write a program...

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Until now, you had to be a programmer to use the Kaypro's graphics capabilities. With KAYDRAW you don't need to write a single line of code. You can create your own graphics designs right on your Kaypro screen.

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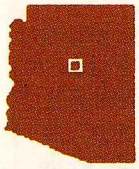

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TRADEMARKS: Kaypro, Kaypro Corp; CP/M, Digital Research Inc.; Okidata, Okidata Corp.; Epson, Epson America, Inc.; M-Basic, Microsoft, Inc.

```
        Section Including Page Two After Marking Words to be Indexed

        @NEWPAGE
             "How shall I know this?"  asked @INDEX(Zacharias).  "For I am an old
[start  man and my wife is well along in years."  The @INDEX(Angel) answered, "I
of page am @INDEX(Gabriel), who stands in the presence of God and am sent to give
two]    you the glad tidings.  But because you do not believe me, you
        shall not be able to speak until the day that these things shall
        be performed."
             The people waited for @INDEX(Zacharias) and marveled that he tarried
        so long in the temple.  When he came out, he could not speak.  He
        made signs and remained speechless and they perceived that he had
        seen a vision in the temple.  As soon as the days of his duty were
        accomplished, he departed to his own house.
             Thereafter @INDEX(Elisabeth) conceived and hid herself five months,
        saying, "Thus has the Lord acted to take away my reproach among
        men."
                             @INDEX(Anunciation) to @INDEX(Mary)
             And the @INDEX(Angel), @INDEX(Gabriel), was sent from God to @INDEX(Nazareth), in
        @INDEX(Galilee), to a virgin espoused to a man whose name was @INDEX(Joseph) of
        the house of @INDEX(David).  And the virgin's name was @INDEX(Mary).  The @INDEX(Angel)
        said, "Hail, you are highly favored, the Lord is with you; blessed
        are you among women."  She was troubled and wondered as to the
        meaning of the greeting.
             But the @INDEX(Angel) said, "Fear not, @INDEX(Mary), for you have found favor
        with God.  Behold, you shall conceive and bring forth a son and
        shall call his name Jesus.  He shall be great and shall be
        @NEWPAGE
        called the Son of the Highest, and Lord God shall give to him...
[text of
page 3
continues]
```

Figure 3

and it must not contain any soft hyphens. Delete hyphens as you go, bringing up the tail end of a word or phrase if necessary, so it's all together. See how it looks in Figure 3.

Phrases can also be marked using Search and Replace as above. If, however, there are several individual index entries using the same words, use Find and Replace options **WUG** only. The cursor will seek out each incidence of the phrase, asking whether or not to mark it for indexing. (If you don't do this, you can end up with an @INDEX mark within another @INDEX mark, and who knows how that would turn out?)

Once you have marked all the words to be indexed, save the file. Now you're really on your way. You will need your CP/M diskette

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and the blank formatted diskette again here. Before using Perfect Writer, you need to filter out the WordStar clutter. Put your CP/M diskette in drive A again and type **PIP**. When the asterisk prompt appears, take the CP/M diskette out, place the blank diskette in drive A, and enter the following command line:

A:NEWFILE.MSS=
B:ALLFILES[Z]

The extent .MSS is needed for Perfect Writer's benefit and the [Z] in the PIP command removes the "foreign" WordStar characters from the file. (If you're working with a file which takes up less than half of a diskette's storage, you can do the PIP process without the extra blank diskette. In this case, keep the CP/M diskette in drive A and use the command line:

B:NEWFILE.MSS=
B:ALLFILES[Z].)

Ready to roll

Now your new copy is ready for indexing by Perfect Writer. Put the Perfect Writer program diskette in drive A and put the diskette with NEWFILES.MSS on it in drive B. Call up Perfect Writer by typing in **Menu** and go into the NEWFILES.MSS file to check that all is well. If you have forgotten anything or if you see anything you missed, correct it now. (If you are doing the index in sections, for the second or any subsequent section, now is the time to adjust the page numbers by inserting the command **@SET(Page=[number of last page in previous file]** on the first line of the Perfect Writer file.) Close the file with the command **^C^X**.

At the opening menu, press **F** to get the Format Menu, and press **G** to start the formatting. As you probably know, Perfect Writer won't let you open a formatted file to look at or edit. As the formatter works through the document, it will display the page numbers on the screen. The only thing you are interested in is the page number of the index. You could probably guess it correctly since you know how many pages are in your manuscript; any pages after those should be the index.

When the formatting is finished, you're ready for the grand finale. If you're used to "what you see is what you get" with WordStar, as I am, you will approach this next procedure with bated breath. Choose **P** from the Menu to print, and type in the file name **NEWFILES.FIN**. (Remember to use the .FIN extension, so that you will get the formatted file.) Type **N** to Begin at a page other than 1, and enter the number you estimate to be the first page of the index. Next, choose **P** (to Pause for Manual Insertion of Paper), unless you are using tractor-fed paper. Then start the printing with **G**.

Voila: your index! It came out of nowhere. You can't see the file on your screen, but it was in there. Now it's on paper. You've generated a Perfect Writer index from a WordStar file. Congratulations. You deserve it.

And so do I. My customer was astounded at the speed at which I produced the index. He was still writing words on cards. □

Frances Robbins runs a word processing business out of her home, and is a freelance writer specializing in fiction for children and adults.

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March/April '84

{Keypad reconfiguration packages
{Accounting software
{Comparing dBASE II and Friday!

May/June '84

{Science fiction writers
{Perfect Writer book reviews
{S-BASIC series, Part II

July/August '84

{Turbo Pascal review
{Printing with Perfect Writer
{CP/M game reviews

September '84

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

October '84

{The making of *2010*
{World of online databases
{Shopper's guide to modems

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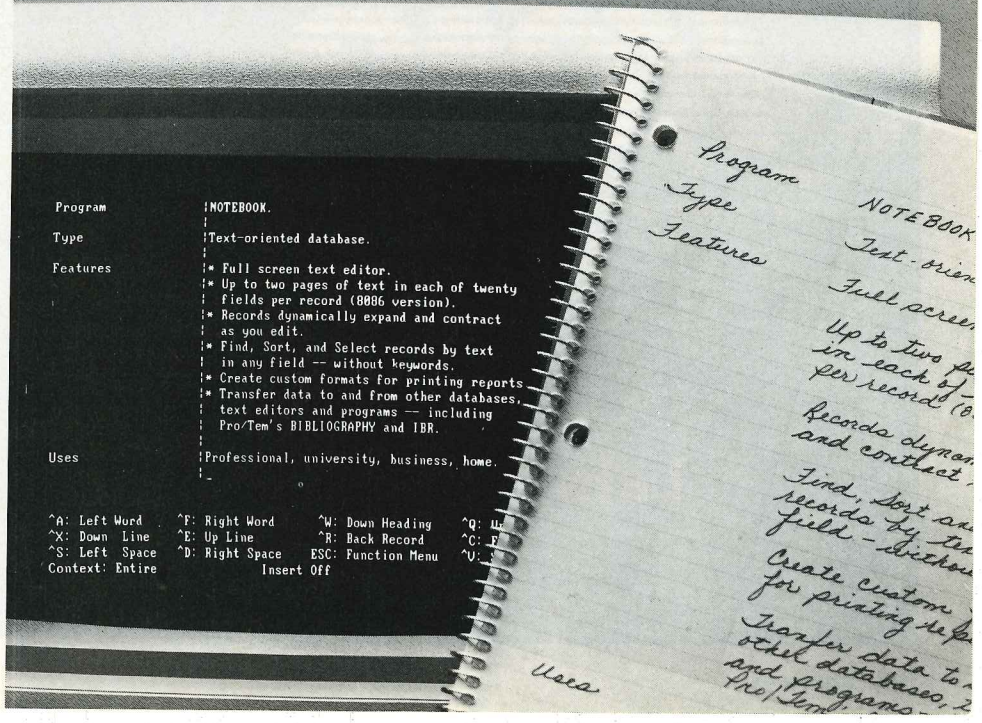

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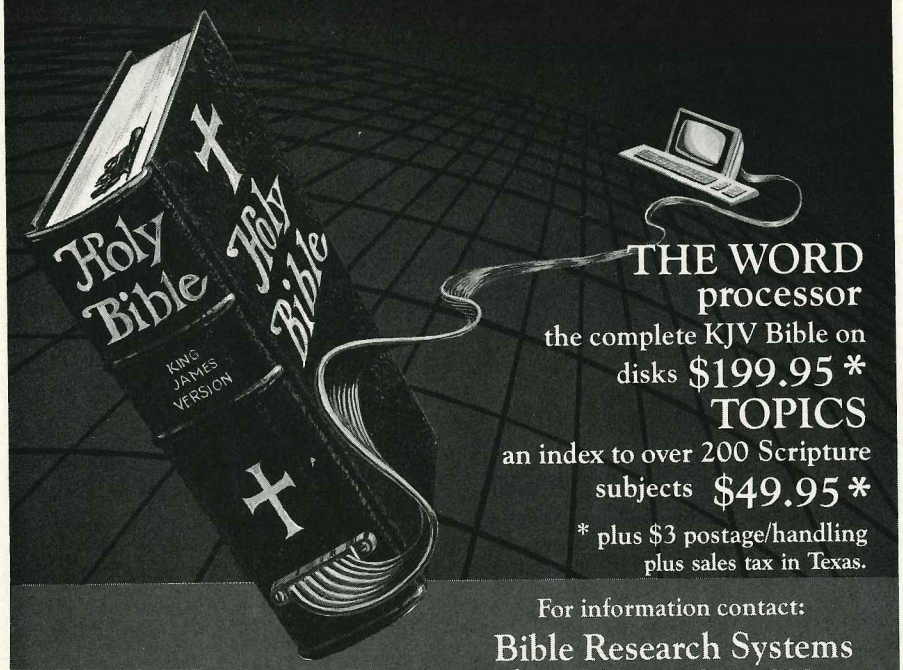

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FOREWORD
(continued from page 17)

front, which immediately engages us in test-driving the product (thus adhering to the ancient Chinese proverb: "I hear and I forget. I do, and I understand.")—with clear examples of what you do and what you get; examples which cover the heart of the product's usefulness; 3) logically organized, accurately titled, clearly written chapters covering *bottom-line principles of operation*, and only that detail which is essential (Go Leonardo!); 4) a comprehensive index which has been thoroughly beta tested to include entries for every topic that users might seek; and finally, 5) a quick reference command summary on a tear out card. This would list, in alphabetical order, descriptions of each operation and the corresponding computer commands. (It's also valuable to have these logically grouped by function—I have both alphabetical and functional lists for WordStar and it's wonderful!)

Further be it resolved, that software designers struggle a bit harder to mold their products around the user's intuition. An incredible example of the problem: The other day, an enthusiastic vendor tried to sell me on a product which, among many other things, converted two keyboard keys to arrow functions. Great, but the key on the left performed the right arrow function, and vice versa for the key on the right. Anything more counter-intuitive I have yet to see.

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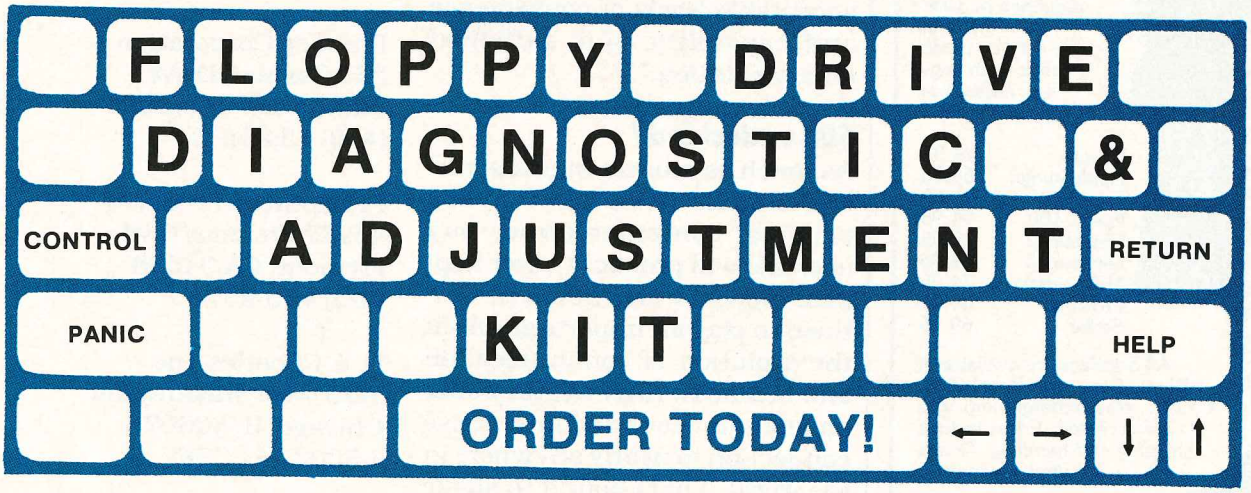

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MODEM

(continued from page 45)

other makes and models not included in the table. If your dealer doesn't have any of those listed, he may carry one or more other models that are nearly equal in features and performance.

Communications software

Once you get your modem hooked up, you need software to run it. If you're into programming, you can prepare the software yourself. However, for most users, buying commercial software, or using the fine public domain programs from users' groups, is abundantly easier. Kaypro owners have several quality modem programs available at low or no cost. The TERM program that comes with your Kaypro is quite limited in capability. SUPRTERM is better, if you can figure out how to use it. Mite is better yet and is currently offered at a great price ($20 for owners of SUPRTERM). However, you can probably obtain the public domain programs MODEM 7 or KAYM (for "KAYpro Modem") through your users' group for next to nothing. Both have acceptable levels of convenience and capability, plus sufficient documentation.

Still undecided?

As much as modem manufacturers would wish that every personal computer owner buy one, this will probably never happen. Modems are, however, destined to play an important role in the evolution of communication and business. After all, they offer an instantaneous and interactive connection to nearly anywhere in the world. That's bound to shake things up. Take a long look at your own situation—maybe you *are* ready for telecomputing. □

Jack Streater is Manager of Engineering at Mentor Radio Company. He is the author of How to Use Integrated Circuit Logic Elements *and co-author of the* CMOS Handbook.

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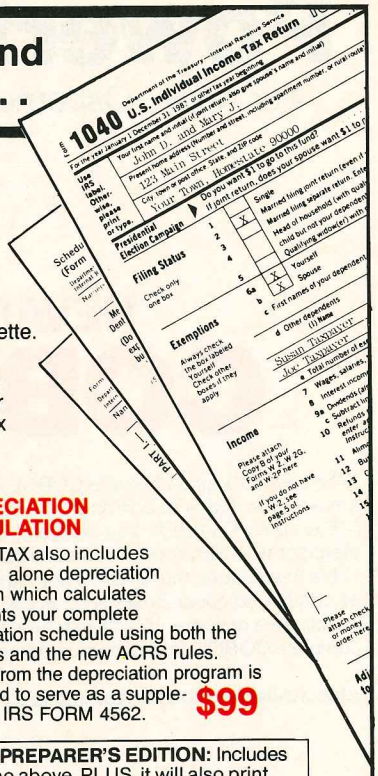

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Technical Forum

Colored diskette mystery solved.

by Tom Enright

In past *PROFILES'* the subject of colored diskettes has received a workout. Using green diskettes for accounting data, blue ones for word processing, and yellow ones for programs seems like a good idea. The disadvantage is that you have to keep three different colors of diskette on hand, which gets expensive.

David Gerrold gave a blow-by-blow account of his experiences, mostly frustrating, with colored diskettes from both Centech and Allenbach. He believes the disk jackets pass too much light, causing the disk-detection sensor in Toshiba drives to think that no diskette is there. And Tyler Sperry reported his theory of an *infrared* sensor passing too much light through the disk jackets. Since those reports, both Allenbach and Centech have been attacking the problem actively. After all, those reports don't do their sales any good.

Recently a representative from Allenbach called us to learn exactly what we knew of the problem. During the conversation he offered to let us run our own tests on Allenbach's product. Our only condition was that we would publish the results. Allenbach agreed.

The test

Allenbach provided four each of red, orange, yellow, green, light blue, dark blue, grey, maroon, brown, and black diskettes. We were free to concoct whatever tests we felt were pertinent. Since Toshiba drives show the problem while other drives don't, all tests were run on a Kaypro 10 with a Toshiba drive. (I used my standard Kaypro 10 since its Toshiba drive has never given me problems.) Each of the diskettes was run through the following test:

- Format the diskette.
- PIP a 16K text file onto the diskette.
- Read the file for verification.
- Run one repetition of the FINDBAD program on each diskette.

My problems occurred only with green diskettes in a Toshiba drive.

Only the green diskettes caused any problems. The Kaypro 10 wouldn't format them. Indeed, it refused to even recognize their presence—as did half of the other Toshiba-drive computers we tested. But Kaypros with non-Toshiba drives read all the diskettes just fine.

David Gerrold had problems with almost all the colored diskettes he tried. Tyler didn't say which brands he ran tests on. My problems occurred *only* with green diskettes in a Toshiba drive.

Of all the drive brands that Kaypro uses, only Toshiba dedicates an LED circuit for detecting the diskette. This LED is located so that it detects the lower-rear edge of the diskette on a 10, and the left-rear edge on 4s and 2s. Gerrold reported that when he placed a write-protect tab over this part of the diskette, they worked just fine. My tests found that some Toshiba drives liked the green diskettes and others didn't. And those that didn't, changed their minds when I put a write- protect tab in the same place that Gerrold did.

LEDs

The LED circuit which Toshiba uses requires two components, an emitter and a collector. The emitter is the light source seen by the collector. In this case, the output voltage from the collector is proportional to the amount of light seen by the collector.

In any manufacturing process, no two components will have exactly the same sensitivity or strength. With LED circuits, there will be some variations in the strength of emitters and the sensitivity of collectors. Since the components aren't matched sets, it's possible to get a weak emitter

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paired with an insensitive collector. These variations are kept under close control by the manufacturer, but they do exist.

It's possible to get a weak emitter paired with an insensitive collector.

Disk jackets

Up until recently, all floppy diskettes had black jackets; these black jackets do not pass any light, period. The concept of colored diskette jackets is new. Any new idea will have some teething problems when first translated into a manufactured product.

Pigments used in colored diskette jackets will pass varying amounts of light depending on the color of the light and the material/color of the jacket. When we view an object with the naked eye, we see the full visible-light band—all colors of the spectrum. Most disk drive LEDs use red light, a primary color with no other colors of the spectrum. When you hold a yellow diskette up to the light, you can see a lot of light passing through the jacket. If you do the same with a green diskette, you can see almost no light. The only problem is that the naked eye sees the result of the full spectrum. Since the LED uses only red light, and humans are not particularly sensitive to red, our eyes are not a valid test. We have to physically measure the collector voltage to get a valid picture of what the *collector* sees.

Final testing

In our review of LED circuits we mentioned that any manufacturing process results in components with a range of sensitivities. In Toshiba's disk-detection circuit, a diskette is considered to be present if the voltage from the collector is reduced below a certain threshold. It would be prohibitively expensive to make the circuit exclude all light when a diskette is in the drive. Some amount of light passes around the edges of the diskette, and more is reflected from the jacket and other internal parts of the drive. The threshold is set to allow for such leakage.

Bill Macdonald and Del Moreno, from Kaypro's component test facility, had just as much interest in this problem as the rest of us. Any time the Kaypro Corporation considers using a different component in its computers, part of their job is to test the components for suitability. Obviously, they were interested in learning why only *some* of the Toshiba drives exhibited a problem with the colored diskettes.

We therefore set up a test to measure collector voltage on several Toshiba drives. With no diskette in the drive, maximum voltage (+5v) is present at the collector. When a black jacket diskette is inserted, voltage is reduced to near zero. Remember, some light passes around the jacket and is reflected from other drive components. When collector voltage is below the threshold

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in Toshiba drives, the disk motor comes on. By slowly inserting a diskette while monitoring both collector voltage and the drive motor, we could establish the threshold voltage. Our tests found this threshold to be +2.2 volts. Anything less than that means a diskette is present; anything above that means no diskette.

Green jacket diskettes pass more red light than they should.

When inserting any colored diskette, except green, the collector voltage was always below the threshold. Collector voltage varied according to jacket color, but was still less than the threshold value. With some colors voltage was just barely below threshold. When the green diskettes were inserted, collector voltage was +2.5v, i.e., 0.3v too high, on half the drives tested. This is close to the threshold, but not close enough. Although our sample of four Toshiba drives was not large enough to make a definitive statement, it did agree with the cruder go/no-go tests made earlier.

Reflected light from jacket material was eliminated from suspicion by further tests. That is, write-protect tabs were placed in the light path of the LED. One half of the tabs were shiny foil and one half were plain white (a less reflective surface). Of the diskettes subjected to this test— all green—half had the write-protect tab on the surface next to the emitter. The other half had the tab closest to the collector. In all cases, collector voltage was below the threshold. Whether shiny or not, or on the collector or emitter side, the tabs blocked the light and the diskette worked fine.

Conclusions

Based on these tests, we conclude that the green jacket diskettes from Allenbach pass more red light than they should to indicate their presence in Toshiba drives. In short, the combination of Toshiba drives and green jacketed diskettes is not reliable.

This is, by no means, a condemnation of Toshiba drives. Other brands of drives used in Kaypros don't have the disk-detection LED circuit. They rely on other signals. Toshiba's technique is newer and closer to leading edge technology. Indeed, around the Kaypro plant, Toshiba drives are the drive-of-choice for both hardware and software engineers because of performance, reliability, and quiet operation.

The test batch of Allenbach diskettes gave better results than prior batches. And the Allenbach rep was quite serious about wanting to solve the problem. They're just not quite finished yet.

If you don't have Toshiba drives in your Kaypro, colored diskettes should work just fine. However if you do have Toshiba drives, you face a 50% chance that green diskettes won't work. □

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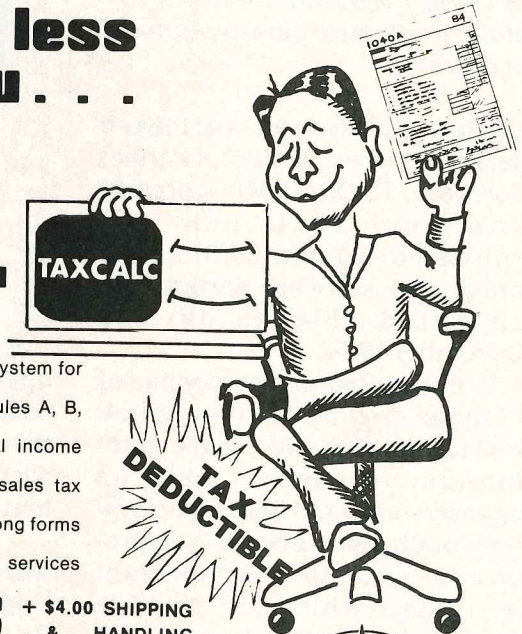

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SOUTHWEST COMPUTING

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 new products, please send press releases and product information to: New Products Editor, PROFILES Magazine, Kaypro Corporation, P.O. Box N, Del Mar, CA 92014. Send 8 X 10" black and white glossy photos if available.

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A partial list of improvements include: pop-up menus which replace control and escape commands, in-context help as opposed to the old help menu system, main menu access to all programs, and file management operations which are possible from within the programs. Also, Filer data can be moved into a Calc spreadsheet, up to seven spreadsheets can be resident in memory simultaneously and can be linked together so updating one will update them all, and all documentation has been rewritten by professional technical writers.

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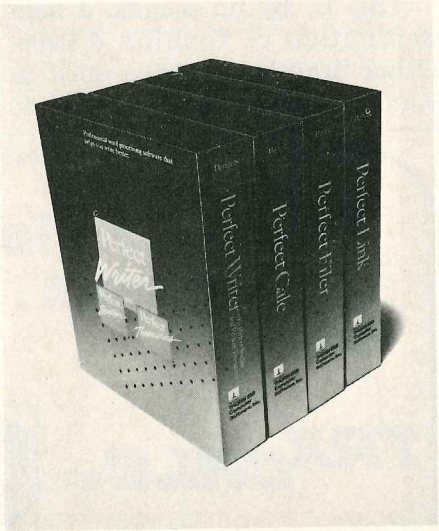

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executes it. MTBASIC also supports multitasking programs; up to 10 BASIC programs can run concurrently.

MTBASIC is fully recursive, permitting development of sophisticated algorithms previously only coded in Pascal.

$39.95. Softaid Inc., Box 2412, Columbia, MD 21045 (301) 792-8096.

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Business Computer Network Inc., 1000 College View Drive, Riverton, WY 82501 (800) 446-6255.

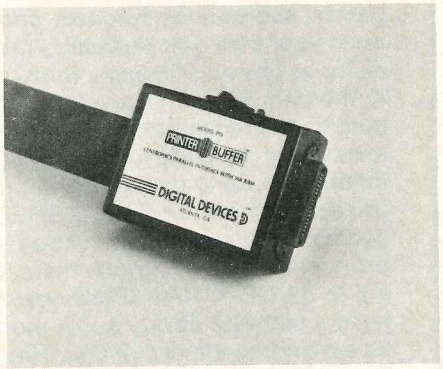
Stock trend analyzer. Compu/CHART is a market level stock charting program that depends on regular user input, instead of online databases.

The user enters price data for each of the stocks and other investments he wishes to track, and determines how often to update. From that information, the software generates a chart that plots three moving averages for a 73-day trading period. The chart shows actual price values. Users can create as many stock files as desired and can compare up to four stocks at a time.

Designed with the new computerist and chartist in mind, Compu/CHART prompts the user for all data needed and uses two menus to access all functions. The manual included summarizes major principles of technical analysis. Compu/CHART also comes with two sample files.

$99.95. NewTEK Industries, P.O. Box 46116, Hollywood, CA 90046 (213) 874-6669.

Printer buffer/parallel connector. This device offers 16K of buffer memory combined with a



Centronics parallel printer connector. This feature makes it convenient to install and takes up no extra room at your workstation. The Printer Buffer stores data from the computer quickly, then releases it to a printer at a slower speed. This action then frees up the computer for other tasks.

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$24.95. Atmospheres, 1207 Eighth Avenue, Brooklyn, NY 11215 (718) 788-6799.

Software for chocoholics. Hungry for a scrumptious chocolate recipe? Don't look it up in a cookbook, use the software program Chocolate Bytes.

This chocolate cookbook boasts more that 100 chocolate recipes taken from the chocolate newsletter "Chocolate News." It can store thousands of recipes and suggest dishes based on ingredient lists, keywords or names. This cookbook can also automatically scale recipes according to the number of servings needed. The program can also print copies of recipes.

Some the program's delicious dishes include Chocolate Zucchini Bread and Grasshopper Cheese Cake. Chocolate Bytes is the fourth computer cookbook in the Computer Chef Series.

$29.95. The Software Toolworks, 15233 Ventura Boulevard, Suite 1118, Sherman Oaks, CA 91403 (818) 986-4885.

Telecommunications utility. MASTERCOM is a full-feature, easy-to-use smart terminal and file transfer program. It can make your computer a terminal to a host time sharing system, plus send and receive data. The pro-

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$49.00. The Software Store, 706 Chippewa Square, Marquette, MI 49855 (906) 228-7622.

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$1499.00. HyperTek, Salem Industrial Park, P.O. Box 137, Route 22 East, Whitehouse, NJ 08888 (201) 534-9700.

Multi-user BASIC. BASIC/Z is a native code compiler offering operating system and hardware independence. It supports cursor positioning, screen attributes, input masking and screen-oriented editing of console input at run time.

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$345.00. System/z Inc., P.O. Box 11, Richton Park, IL 60471 (312) 481-8085.

Multilingual arithmetic. This program provides the foreign language student with the tools to learn how to count in his studied language. The student enters a number, numerical sequence or equation, and the computer translates and displays it in Spanish, French, German or English.

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

Electronic mail. XMAIL provides a direct connection between its own system and the telex and telegram network. It

links users to the 200,000 public telex terminals in the U.S. and more than 1.8 million worldwide. Message can also be sent to other ITT Dialcom electronic mailboxes.

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ITT Dialcom Inc., 1109 Spring Street, Silver Spring, MD 20910 (301) 588-1572.

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security features. The Cermetek Security Modem guards a computer against unauthorized remote access. It does so by requiring the caller to have a valid password and a specified telephone number to call back. The caller must know a password and be at a specified location in order to access the computer with this modem.

When a user calls the system, this modem asks for a password. If it is correct, the modem tells the caller to hang up and wait for the return call. The modem then dials the phone number associated with the password stored in the modem's memory, which can handle up to 25 users.

The Cermetek Security Modem also keeps track of valid and invalid attempts at access, prevents unauthorized outgoing calls by using a dial-out password, requires use of a physical key to change security levels, passwords, and call-back numbers stored in memory and has a seal over the internal circuitry. Fully compatible with Bell 212A and 103 standards, the modem has auto-answer, auto-dial capabilities and a built-in speaker.

$695.00. Cermetek Microelectronics Inc., 1308 Borregas Avenue, Sunnyvale, CA 94088-3565 (408) 752-5055.

Word processor comparison chart. Word Processor Comparison Tables is a comparison of 139 selected features of over 35 word processors. Included with the tables are guides to selecting and implementing word processing software and training personnel, check lists to complete before you purchase each component of your word processing system, plus tips on increasing productivity.

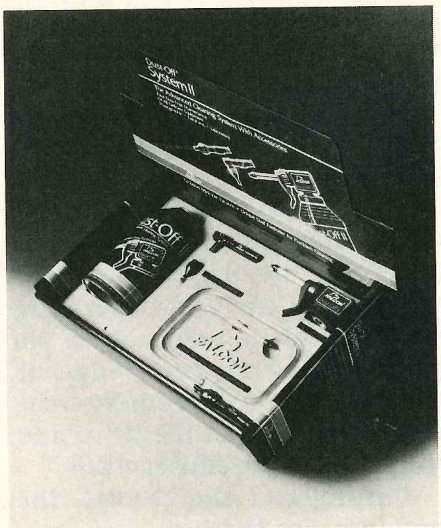
$39.95. Information Research, 10367 Paw Paw Lake Drive, Mattawan, MI 49071 (616) 668-2049.

Data saver. RESCUE & REPAIR™ saves text, program or data entries which have been left in memory when the intention to write to disk was prevented. The program reconstructs files which were lost because of "disk full," "bad sector," and similar errors, or because of accidental failure to write to disk.

All the user memory is saved to disk, and then it is quickly edited into usable form. Manual is included.

$45.00. 21st Century Data Inc., P.O. Box 1139, Solana Beach, CA 92075 (619) 755-6218.

Computer maintenance kit. The Dust-Off System II is a computer cleaning and maintenance kit containing Dust-Off Mini-Vac and Dual Extender accessories, as well as the unique Dust-Off II canister/valve combination.



These products work together to blow away dust particles, remove dirt, eliminate static charge and clean hard-to-reach places, which improves the computer's performance and prevents component failure. The product can be used on CRTs, printers, keyboards, floppy disks and more.

Dust-Off II, the central part of the system, blows air continuously or in modulated blasts through three filters. The Dust-Off II Mini-Vac fits over the nozzle of the Dust-Off II and converts it into a miniature vacuum, which traps debris in a removable dust trap.

$42.50. Falcon Safety Products Inc., Department V, 1065 Bristol Road, Mountainside, NJ 07092 (201) 233-5000.

Power protectors brochure. A new full-color brochure provides an explanation of power problems confronting computers and descriptions of Line Tamer™ power conditioners. Included in their product descriptions are complete specifications.

No charge. Shape Magnetronics Inc., 901 DuPage Avenue, Lombard, IL 60148 (312) 620-8394.

Electronic Circuit Analysis Program. ACNAP is a general purpose program that analyzes passive and active circuits consisting of resistors, capacitors, inductors, controlled current sources, transistors and more. The program will analyze the response of any linear network consisting of up to 21 nodes and 60 components. Circuit topology data is saved to a named file or retrieved from a previously generated file for further analysis.

ACNAP works with component tolerances to provide Worst Case and Monte-Carlo analysis. With a few short commands, the program calculates the minimum, maximum, mean and 3 sigma points of a circuit's gain and phase response to any frequency input. ACNAP also automatically calculates any circuit's Noise Equivalent Bandwidth.

$49.95. BV Engineering Professional Software, P.O. Box 3351, Riverside, CA 92519 (714) 781-0252. □

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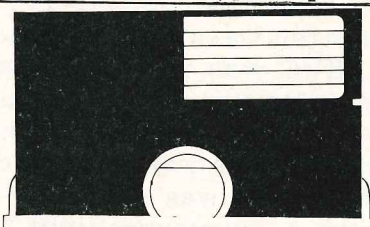

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Users' Groups

Articles by Cynthia Bell and Al Gerson.

edited by Richard Conde

This issue we will focus on two Kaypro Users' Groups which communicate through newsletters only. The KUGIG article, written by Cynthia Bell, was featured in our premiere issue of *ONKUG*, the Newsmagazine to User Group chapters. The piece about National KUG was authored by its founder, Al Gerson.

Computerized family trees

KUGIG, Kaypro Users Genealogy Interest Group, was started one year ago by Alice W. Petersen. Alice bought a Kaypro 2 to organize her family genealogy. She created her databases using the bundled software. Wanting to share her work with others, she published information about her research. Response was "overwhelming," so she published a second offer to start a KUGIG newsletter disk. More than 350 disks later, Petersen continues to send out disks four times a year. With the addition of a new Kaypro 10, she now publishes a printed newsletter three times a year. Initially, contributions from members covered expenses and dues are now $35 a year. There are 139 members and they're still growing.

Interested genealogists should contact: KUGIG, KAYPRO Users' Genealogy Interest Group, 3010 Regency, Apt. 40, Ames, IA 50010.

One of the first

The *Kugram*, without a doubt, is a most informative and respected publication, dedicated to keeping Kaypro owners aware of the latest developments. In the spring of 1982, the Kaycomp II computer was presented to the media and was seen by Al Gerson in New York. Al, a charter member of HUG (Heath User Group), thought it would be a good idea to form a group for Kaypro. He approached VP David Kay with the idea of placing information request cards in each computer carton being shipped. Mr. Kay agreed and so the first national KUG was started.

Since this was a part-time venture, KUG was run from his home, using a post office box in Malverne, New York. The first phone number was his home phone and it was called frequently . . . sometimes until 3 A.M. Now KUG is housed in a ground-level office at 90-8 Jericho Turnpike, Mineola, NY 11501, but still uses the Box 100 mailing address. KUG receives and processes, with the help of Carolyn Murphy, more than 400 pieces of mail per *day*. The office phone number is (516) 746-0056, from 9 to 5.

The first issue of the *Kugram*, their bi-monthly newsletter, was mailed in December of 1982 to 2,000 members. It contained only 8 pages of information. *Kugram* now contains 32 pages and reaches almost 16,000 members in 23 countries.

Gerson's KUG also supports more than 240 local chapters around the world. The "KUG Chapter Booklet," which is sent free, has helped many Kaypro users start their own local group. The newsletter to KUG Chapters, *KUGNEWS*, offers tips on how to run a meeting, develop a newsletter, start a library and reach other groups through telecommunications. One free subscription to the newsletter is offered to each local KUG.

Information about local chapters is available by writing Kitty Loukides, care of KUG, or she can be reached at their headquarters by calling (516) 746-0056, Tuesdays and Wednesdays.

A KUG Bulletin Board was started in March, 1983, and can be reached at (516) 747-8308. This was soon to be the most active CBBS for Kaypro users. Although it is used only as a bulletin board (no downloading), it has over 1,000 accesses per month. KUG received requests that they go on CompuServe so that members would be able to download and upload programs. Request granted. As of April 1984, Kaypro Forum (KUG SIG) is on CompuServe and can be reached by **GO PCS 25** at the ! prompt. Many programs have already been uploaded and it is being accessed more than 1,000 times per *week*.

Other KUG services include printer configurations, hardware and software reviews, beta testing of new products and programs, and Kaypro upgrades.

Yearly membership for Mr. Gerson's KUG costs $15.00 (U.S.) and $20.00 (Canada). □

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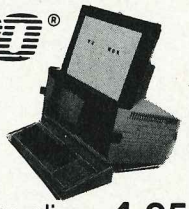

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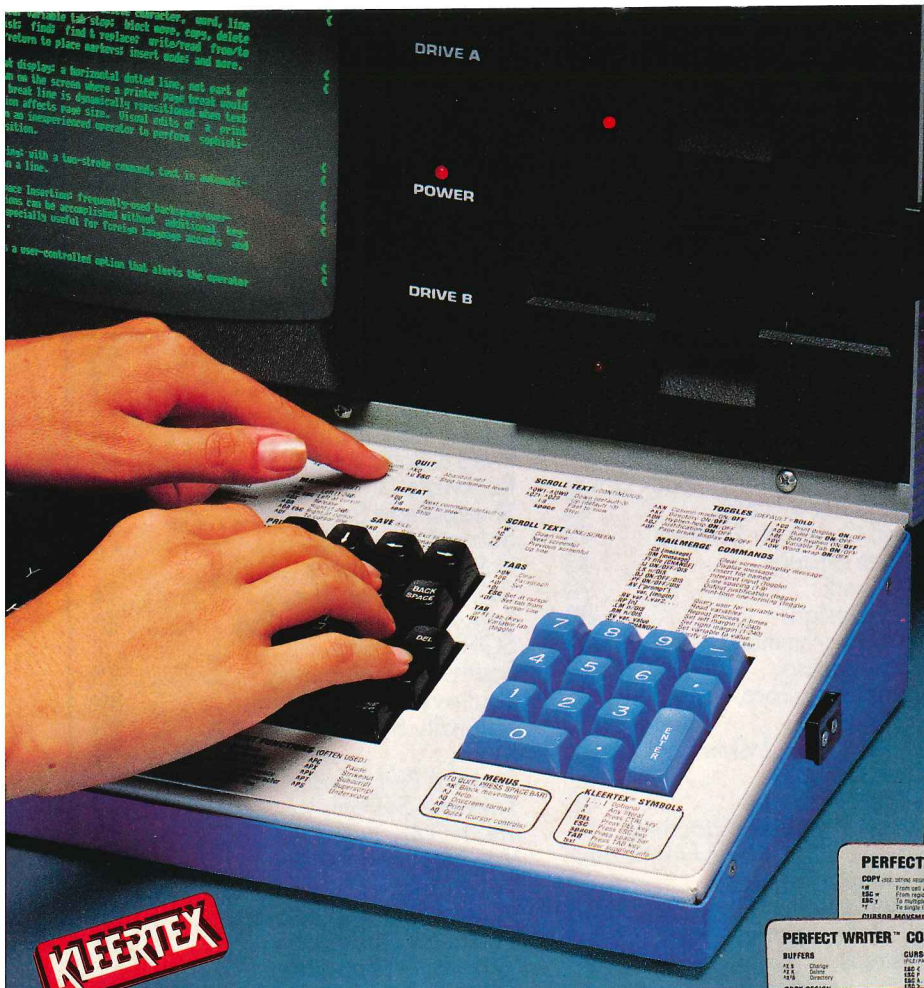

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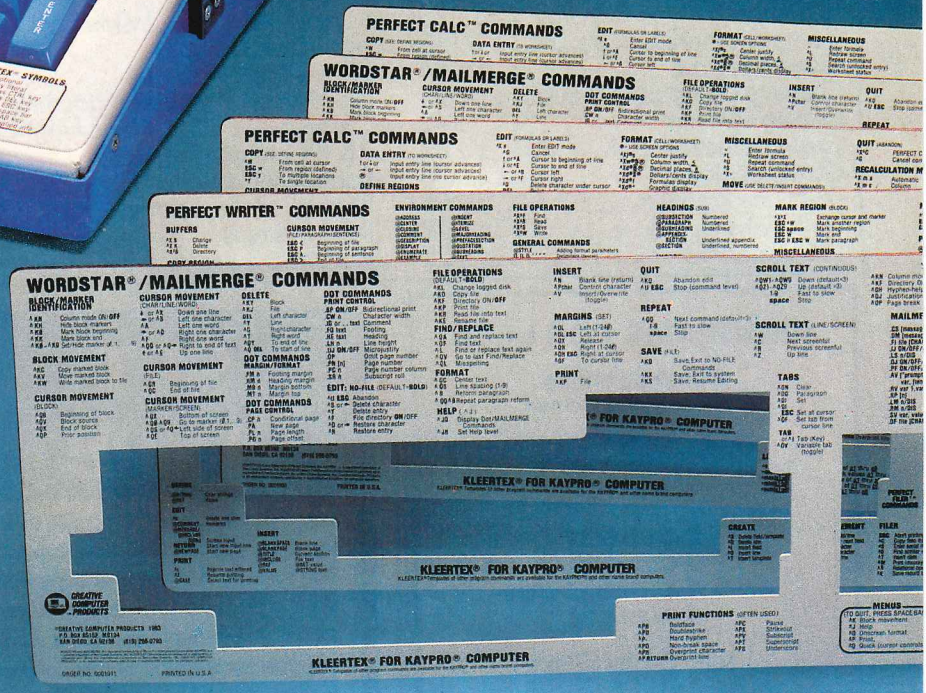

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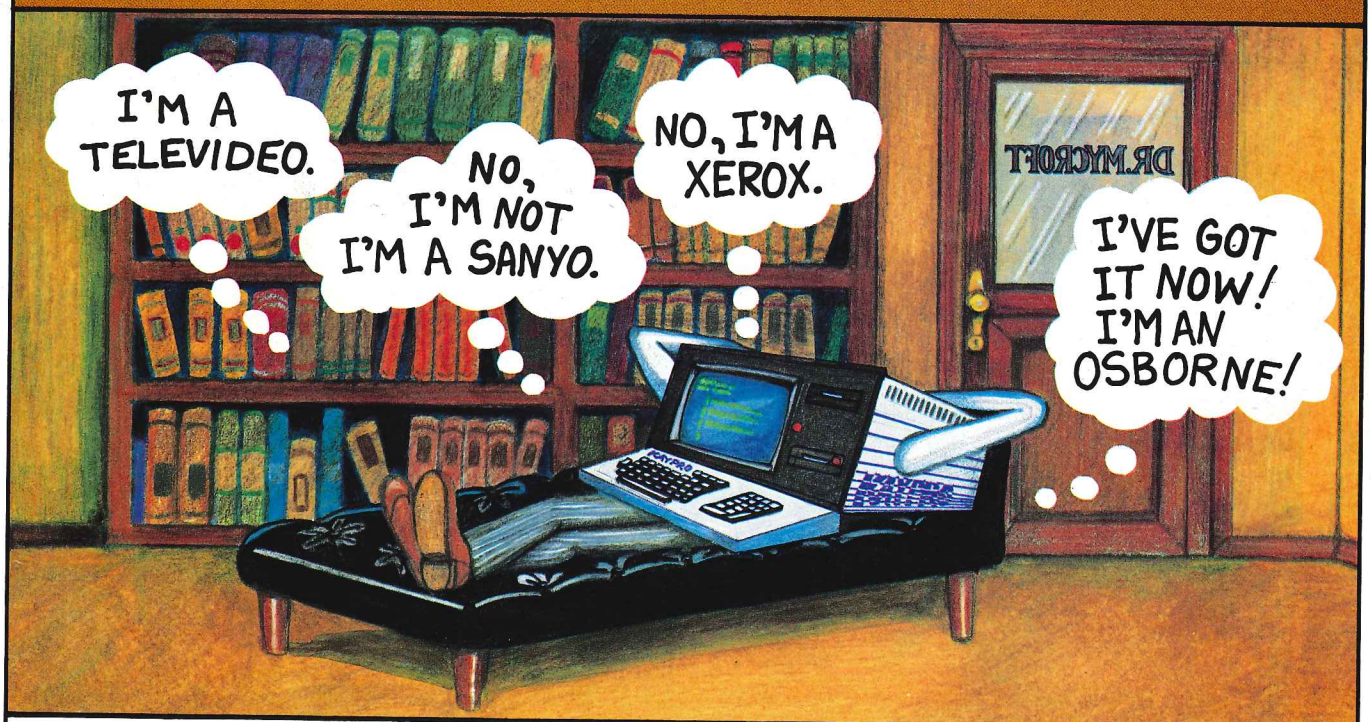

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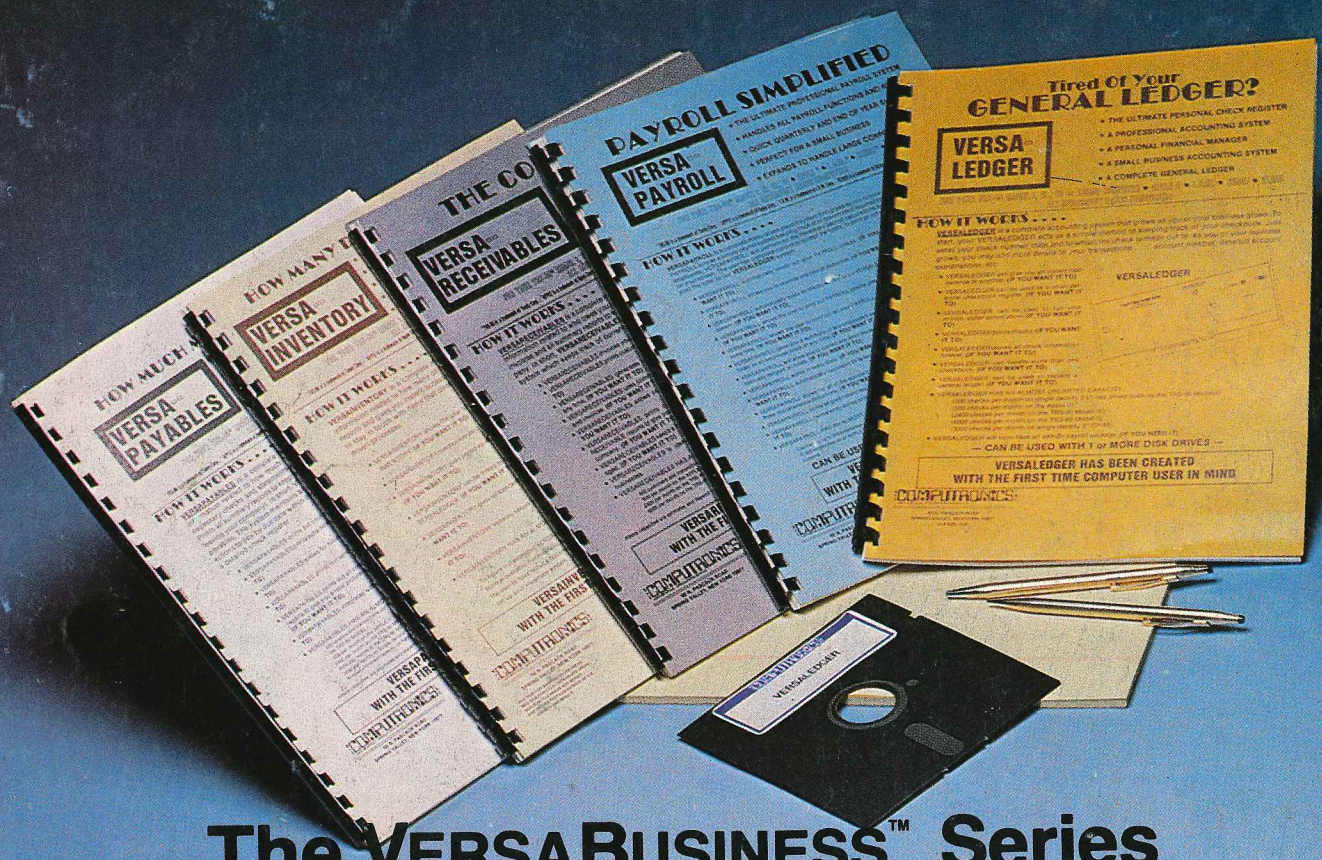

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