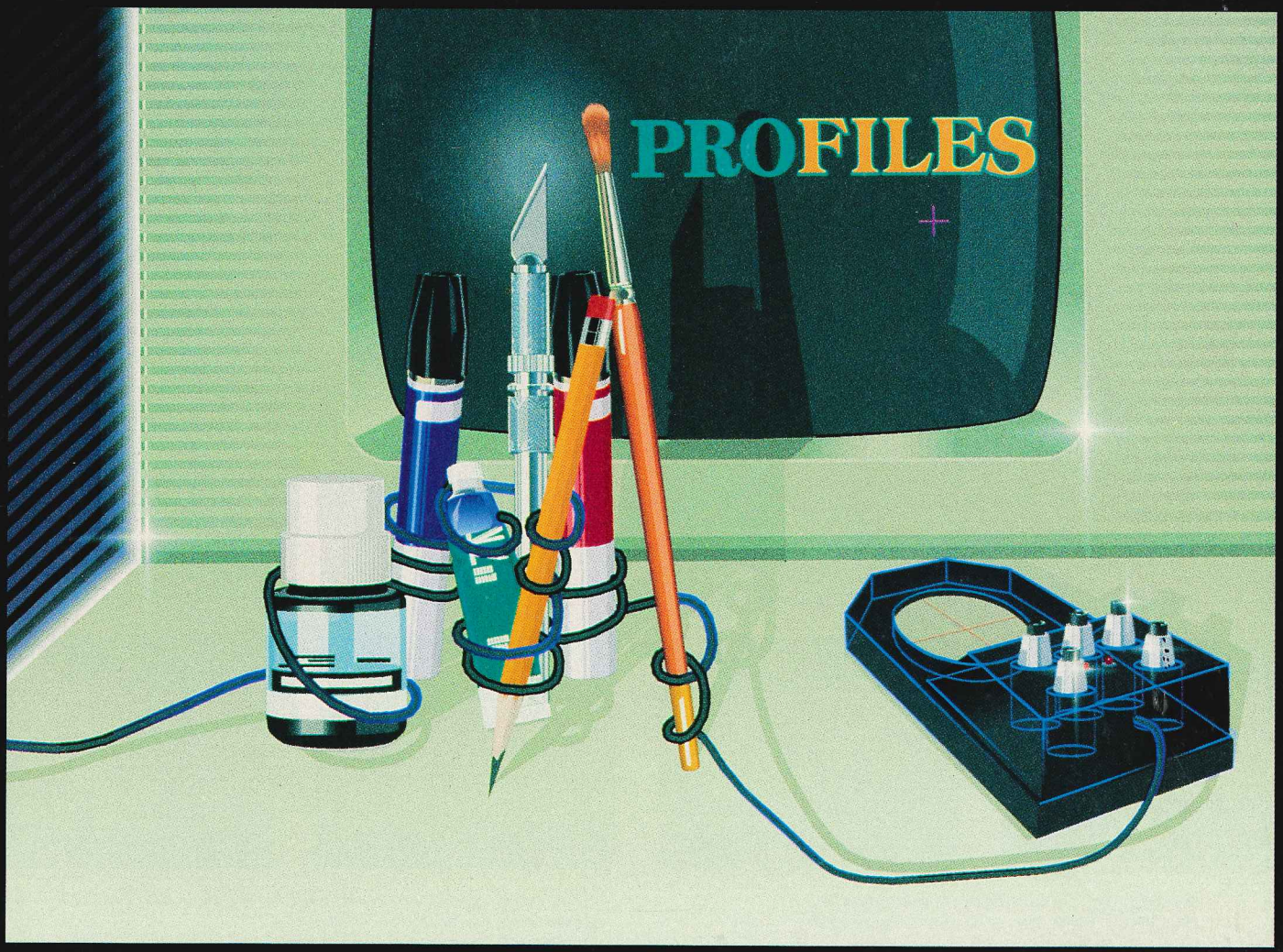
$3.50

PROFILES

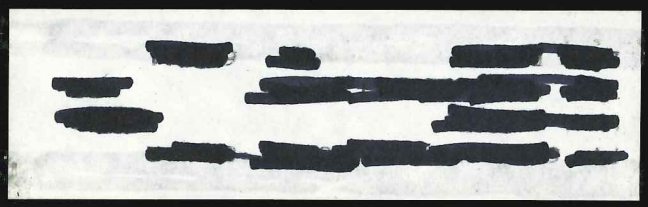
The Magazine for Kaypro Users
April 1986

MS-DOS graphics



Pop-up desktop utilities

Hardware upgrades



HANDYMAN

TURN YOUR KAYPRO ON TO HANDYMAN!!!

AUTO DIALER
- Use your modem to make phone calls automatically without exiting the program you are already working on!!!

NOTEPAD
- Write a note, paragraph, letter, a whole file; anytime, from within any other program!!!
- Edit another file without leaving your current file!!!

APPOINTMENT CALENDAR
- Check your calendar, schedule appointments anytime your Kaypro is on!!!
- Monthly calendars 1752-2099 AD!!

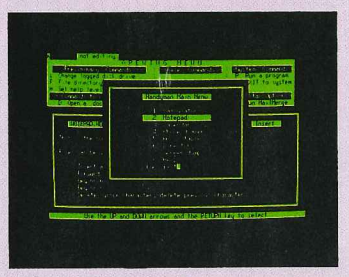
DIRECTORY
- Check the directory of any disk, any user number, from within any program!!!
- Display the contents of another file on your screen at any time!!!

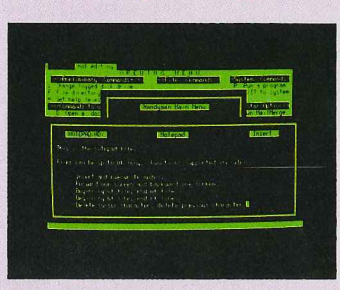
CALCULATOR
- Punch up a four function calculator anytime, whenever your computer is on!!! Works in decimal, binary, hex!!! Works from within a spread sheet, or any other program!!!

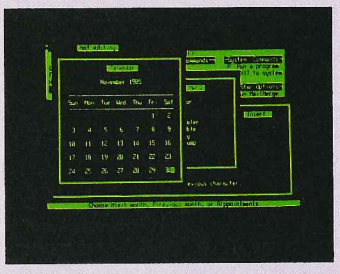
"Disk Full" message?
With **HANDYMAN** you can check the disk directory and erase superfluous files from within any program!!!

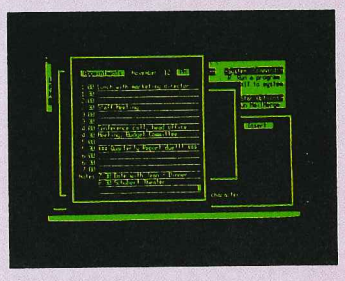
SCREEN DUMP
- Print the screen . . . any screen (minus graphics), at any time!!!
- Dump to your printer, or to a disk file!!!

Turn your Kaypro on!!! HANDYMAN is there!!!









HANDYMAN is a plug-in board for your Kaypro!!!
HANDYMAN Works with all Kaypro CP/M models!!!
HANDYMAN Easy to install!!!!
HANDYMAN We'll talk you through it over the phone!!!

HANDYMAN Includes software in ROM and its own working RAM!!!
HANDYMAN You never have to load it!
HANDYMAN Single stroke commands!!!
HANDYMAN is compatible with all CP/M application programs!!!

HANDYMAN Uses no main memory!!!

CALL 1-800-446-3220

High Tech Research

1135 PINE STREET • REDDING, CALIFORNIA 96001 • 916-243-0842

IN CALIFORNIA 1-800-446-3223

YES! Send me _____ HANDYMAN(s) at $124.95 each.

_____ (quantity) at $124.95 $_____

California residents add 6.5% _____ Sales tax

Shipping and handling 5.00

TOTAL $ _____

My KAYPRO is:

II	☐	☐ 2-84
2X	☐	☐ 4
4-84	☐	☐ 10
Robie	☐	☐ 10-84
4X	☐	☐ 12X

☐ Wordstar ☐ Perfect Writer **NOTEPAD** command set

Charge my ☐ VISA ☐ master charge ☐ AMERICAN EXPRESS

Card # _____ Exp. _____

C.O.D. and checks drawn on US banks also accepted.

Trademarks Kaypro (Kaypro Corporation) Wordstar (MicroPro International Corporation) Perfect Writer (Perfect Software, Inc.)

Idea Processing— Pure and Simple.

Announcing the all NEW

OUT-THINK™

outline processor.

See your ideas like you've never seen them before!

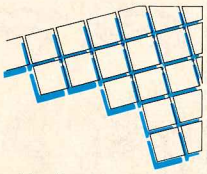
Capture your fleeting ideas. And keep 'em organized with OUT-THINK, the incredible, new outline processor from KAMASOFT. OUT-THINK unleashes the power in your workhorse CP/M computer and turns it into an Idea Processor.

Get extraordinary:

+ ease of use
  Most functions are less than 3 keystrokes away!
+ ease of learning
  Completely interactive; no programming!
+ performance
  Write more and faster than you ever dreamed possible!
+ idea leverage
  OUT-THINK your competition!

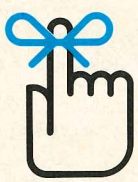
OUT-THINK supports your thinking process and keeps you in touch with your ideas. That's because OUT-THINK works the way your mind works—naturally.

Begin by brainstorming. OUT-THINK lets you jot down ideas quickly, as you think of them. If you want to elaborate, you can add text with full screen editing.



Then develop your ideas using a familiar outline format. Change the structure as easily as you change your mind. Move an idea and all attached text moves with it.

You can keep track of your main line of thought by collapsing the details from view. Then, expand portions of the outline to develop the specifics when you need to. By collapsing and expanding, you can maintain an overview and literally see how your ideas fit together.



And OUT-THINK is fast. Your ideas remain at your fingertips. OUT-THINK can locate and retrieve by keyword—even a misspelled one—in less than a second per outline file.

Once you've entered your ideas, you can get them out with a full complement of formatting, printing and file conversion options (including Wordstar compatibility). From a two-page report to the Great American Novel, OUT-THINK will rotate your headers and footers with page numbers and give you a Table of Contents to boot.

OUT-THINK is brought to you by KAMASOFT. We pioneered outline processing and brought this amazing new technology to CP/M computers. For over 2 years, our KAMAS programmable outline processor has been widely acclaimed:

"Outline processing might be the next wave in software, and KAMAS is a good place to start."
- Ezra Shapiro, BYTE

"The outline processor is simple, easy to use, and will appeal to all users."
- Mark Renne, INFOWORLD

"If you're a writer using a CP/M based system, get KAMAS. You'll love it. It's that simple."
- Marybeth Highton, FOGHORN

"Considering the quality of the program itself, the documentation, and newsletter, it has to be rated an outstanding value."
- Thomas Tucker, PROFILES
November, 1984

Our new OUT-THINK is simpler and easier to use than KAMAS. Yet, it offers more printing and formatting options, better handling and control, and faster operations. And at $49.95 your ideas have never had it so good. OUT-THINK is simply spectacular. Try it for 60 days. If you're not completely satisfied, return it for a full refund.

If you create and organize text in the course of your work, you owe it to yourself to get OUT-THINK.*

*But for some people, enough is never enough. Some like the challenge; others need the power. For you, we have the KAMAS Combo Pack. You get OUT-THINK's ease of use coupled with the extra horsepower of the KAMAS programming environment. And both use the same outline files.

Rush me my choices now:

		special introductory
OUT-THINK	the simple and easy to use outline processor:	$49.95*
KAMAS	the programmable powerhouse:	$99.95*
KAMAS COMBO PACK	the power and the glory:	$129.95*

*Includes S/H U.S. & Canada. Overseas add: $10 for OUT-THINK; $30 for KAMAS or COMBO PACK.

KAMAS owners: Send us your master disk and $25 for OUT-THINK.

☐ VISA ☐ MasterCard ☐ Payment Enclosed

Card No. _____ Exp. Date _____

Signature _____

Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____

Our software is available for most CP/M computers. Tell us about yours:

Computer Make/Model _____

Disk Size: ☐ 5¼" SSDD ☐ 5¼" DSDD ☐ 8" SSSD

Requirements: CP/M 2.2 or above (48K TPA). Minimum 200K of disk storage. 80 column x 24 line screen. (Note: KAMAS requires 56K TPA and Z80 processor.)

Terms: All orders prepaid. PO's accepted when accompanied by payment. Foreign checks must be drawn on US banks in US funds.

MAIL ORDERS TO:

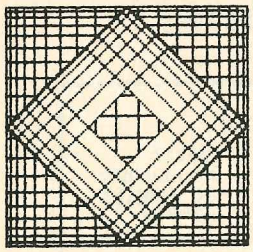
KAMASOFT™
2525 SW 224th Ave., Dept. 301
P.O. Box 5549
Aloha, OR 97007

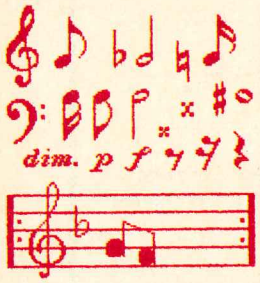
CALL IN YOUR ORDER:
503-649-3765

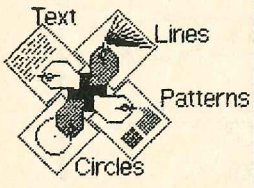
Wordstar is a registered trademark of MicroPro, Inc. Z80 is a registered trademark of Zilog, Inc. CP/M is a registered trademark of Digital Research, Inc. KAMAS, KAMASOFT, and OUT-THINK are trademarks of KAMASOFT, Inc.
© 1985 KAMASOFT, Inc.

"Kaypro makes a nice computer—too bad it doesn't do graphics"

Graphic Designer





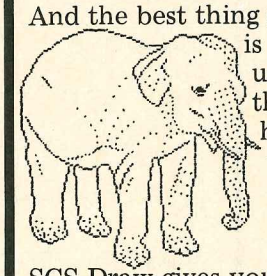


Make that *didn't* do graphics. SCS-Draw is here, bringing Macintosh-style graphics to the Kaypro computer. With SCS-Draw, you can use your Kaypro to draw a picture. Of anything.

The first true drawing program for the Kaypro, SCS-Draw turns your computer screen into a sketchpad on which you can draw detailed images like those shown here. These images can be saved on disk or printed on your dot-matrix or letter-quality printer.

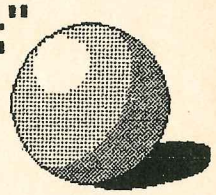
There are many applications of SCS-Draw. For example, you could use SCS-Draw to design and print party invitations, banners, or technical diagrams. You could also use SCS-Draw to promote your business or design your company logo.

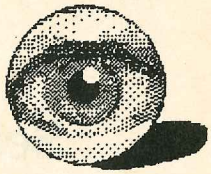
And the best thing about SCS-Draw is that it's fun to use — when was the last time you had some *fun* with your Kaypro?



SCS-Draw gives you a variety of useful drawing tools to choose from. You can draw a detailed image dot-by-dot, or do a rough sketch with straight lines. Need a compass? SCS-Draw can draw circles of any size, wherever you need them. For subtle shading effects, use one of 23 pre-defined patterns, or create your own.

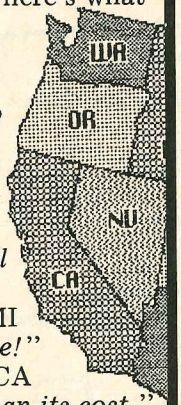
Other features include block moves, four built-in fonts, and powerful print options like enlargement, indentation, mirror image and rotation. And SCS-Draw's windowing capability lets you work on images much larger than your Kaypro's screen.





Simon&Simon Photography

How good *is* SCS-Draw? Every day, we get unsolicited letters and phone calls from SCS-Draw users around the country — here's what *they* have to say:



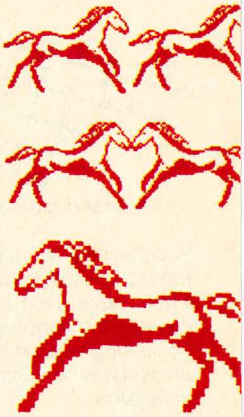
"Very easy to use."
— G.H., WPAFB, Ohio
"Keep it up ... the program is great fun."
— J.S., Roseburg, OR
"A pleasure to use ... user-friendly, fun, well put together."
— D.A., Kalamazoo, MI
"Everything is bug-free!"
— D.C., Los Angeles, CA
"Worth much more than its cost."
— B.H., Birmingham, AL

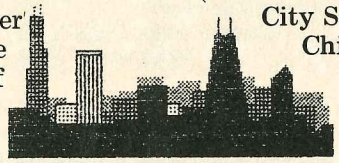
AAAaaa
BBBbbb
CCCccc
DDDddd

Banners

your KAYPRO can *Draw*

... with SCS-Draw! Available now for all '84, '85 and '86 Kaypro CP/M computers. Send $59.95 (check or money order) to **Second City Software, Box 267960, Chicago, Illinois 60626.** Call **312-577-7680** for COD orders or more information.

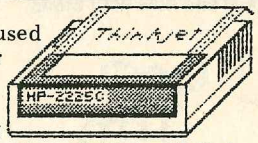


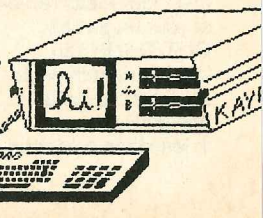


SECOND CITY SOFTWARE

NEW for PrintMaster Owners: *Now you can use your favorite PrintMaster images in your SCS-Draw drawings. The* Image Extractor *converts PrintMaster images to SCS-Draw image libraries. Price:* $24.95 SAVE *when you buy SCS-Draw and the* Image Extractor *together: Only* $79.95

SCS-Draw can be used with most popular dot-matrix and letter-quality printers, including those from Epson, Star, Okidata, C. Itoh, Panasonic, IBM, HP, Diablo and Kaypro.





SCS-Draw, KAYPRO, Macintosh, CP/M and PrintMaster are trademarks of Second City Software, Kaypro Corporation, Apple Computer, Digital Research and Unison World, respectively.

TYPIST

PROFILES

The Magazine for Kaypro Users • Volume 3, Number 9 • April 1986

FEATURES

MS-DOS Graphics: An Overview 26
by Frederick Hannon
Software, hardware, and applications

Pop-Up Desktop Utilities 34
by T.F. Chiang
Handy programs that wait in the wings

Free-Form DBMs 56
by Paul Ofman and Jim Spickard
How to find what you want when you don't know where it is

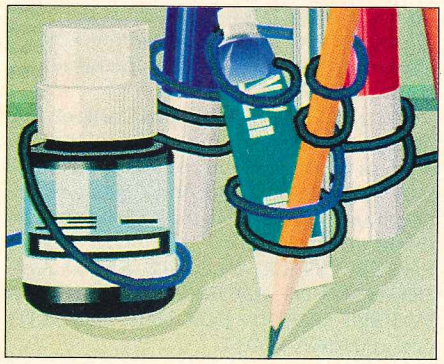
Enhancing Eight-Bit Hardware 62
by Loren Marshall
Part 2: Surveying the field of upgrade possibilities

Is There Life Beyond WordStar? 70
by Robert Lavenda
A look at some alternatives

MS-DOS Graphics 26

Desktop Utilities 34

Enhancing Hardware 62



DEPARTMENTS

About PROFILES 4
Letters 6
Q & A 10
Technical Forum 78
Product Spotlight 80
New Products 81
Advertisers' Index 82

COLUMNS

Life at 300 Baud 12
by Brock Meeks

Flea Market 16
by Ted Silveira

Little Mysteries 68
by David Weinberger

Beginner's Luck 75
by Don and Sharyn Conkey

On the cover:
The cover design was created by computer graphics artist Lisa Estes of Genigraphics® Corporation. It was created on the Genigraphics® artist's console and imaged on the Genigraphics® PS4000 camera.

Keep in Mind

As you read *PROFILES*, there are a few things we recommend you keep in mind.

First, there is unavoidably at least a three-month delay between the time we receive an article and the time it is published. We make every effort to provide current information, but both commercial and public domain software is revised frequently, so the versions discussed in *PROFILES* articles may not be the latest ones.

For this reason, we suggest that before you purchase *any* program you call the manufacturer for details about the latest version, including the version's number, the date of the last revision, and specifics about what makes the latest version different from previous ones.

The same general rules also apply to hardware purchases. The important point here is to be sure about which model *and* series ('83 or '84) it works with.

Second, *PROFILES*' readership includes users with all levels of experience, from beginner to advanced, as well as users of both the CP/M and MS-DOS operating systems. A legend at the beginning of each feature article indicates which operating system and what level of expertise the article addresses.

For example, Beginner/8/16 indicates that the article is for novice users of either the CP/M (8-bit) or MS-DOS (16-bit) machines.

We will strive to provide a full range of material in each issue to meet the needs of all our readers.

About PROFILES

PUBLISHER & EDITOR-IN-CHIEF
Geoffrey W. Soule

CO-EDITORS
Diane Ingalls
Terian Tyre

TECHNICAL EDITOR
Tom Enright

CONTRIBUTING EDITORS
Brock Meeks
Ted Silveira

ART DIRECTOR
Lorraine Leung

ASSISTANT PUBLISHER
Gwyn Price

CIRCULATION
Mary Boggy

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

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

Volume 3, Number 9
PROFILES (ISSN 8755-464X) is published twelve times a year by Kaypro Corporation, 533 Stevens Ave., Solana Beach, California 92075. Registered owners of Kaypro computers, within the United States, are entitled to a six-issue introductory subscription. Subscriptions within the United States are available for $25.00 per year to people who are not registered Kaypro computer owners and for introductory subscription renewals.

Copyright © 1986 by Kaypro Corporation. All rights reserved. Reproduction without express written consent of the publisher is strictly prohibited. Second Class postage pending at Solana Beach, CA, and at additional mailing offices.

POSTMASTER: PLEASE SEND ALL CHANGES OF ADDRESS (FORM 3579) TO PROFILES, P.O. BOX 2889, DEL MAR, CALIFORNIA 92014.

Subscriptions

General subscription information can be found on page 61. If your subscription is due to expire, we'll notify you by mail. No subscription will be cancelled until you are given a chance to renew. Our basic one year rate is $25 for 12 issues.

If your first issue does not arrive within eight weeks *after* you've sent in your warranty card, or you miss an issue, please write to: *PROFILES*, Circulation Dept., P.O. Box 2889, Del Mar, CA 92014. We'll extend your subscription or send the issue.

To direct *PROFILES* to a new address, attach a recent mailing label plus both your old and new addresses. Allow six to eight weeks for processing

If you have any other problem with your subscription or billing, *please* let us know at the above (Circulation) address so we can solve it promptly.

Disclaimer

Reviews, editorial references, and advertisements should not be taken as endorsements of any products not specifically manufactured by Kaypro Corporation. Opinions expressed are those of individuals and do not represent any form of corporate certification. Nor do they reflect intensive technical analysis as would be provided by a professional testing firm.

Responsibility for advertised products lies with the advertisers. Though we will not knowingly publish fraudulent materials, we are not liable for any damages arising from the purchase or use of any products. Should there be any consumer complaints regarding goods or services purchased from our advertisers, we would appreciate written notification to that effect to aid our own screening.

"MAKE YOUR IBM-PC KAYPRO COMPATIBLE"

Intersecting Concepts Announces 3 Solutions To Solve Your Computer Incompatibility!

"But will it work on my computer?"

Yes! Finally, there are three easy ways to exchange information, transfer files, and run CP/M software on MS-DOS machines.

1. MEDIA MASTER™ is our direct disk-to-disk format conversion program. Already an accepted industry standard, this *$39.95** program uses simple screen prompts that lets you read, write and format up to 150 different 5 1/4" diskettes from CP/M, MS-DOS and PC-DOS operating systems. So if you work on a IBM-PC compatible at the office, but use a CP/M computer at home, now you can easily transfer files that would otherwise be "foreign" to your computer's operating system.

2. MEDIA MASTER PLUS™ goes one step further by converting 8-bit CP/M software to run on 16-bit MS-DOS and PC-DOS machines. This newly released *$59.95* product combines our IBM-PC version of *Media Master* with *ZP/EM*, a powerful new emulation program. The results are amazing: CP/M programs using 8080 instructions *and* data can be transferred from popular computers like Osborne, Kaypro and Zenith to run on MS-DOS and PC-DOS machines!

3. ACCELERATE8/16™ is also new and dramatically improves the performance of *Media Master Plus* by tailoring the CP/M emulation around a NEC V20 microchip. This user installable plug-in chip simply replaces the 8088 processor in your MS-DOS computer. Once installed, it'll run your CP/M and MS-DOS software much faster. (Speed improvements are roughly 15% faster in MS-DOS and 350% faster in CP/M!) *Accelerate8/16* includes *Media Master Plus*, V20 CP/M Emulation Software, and the NEC chip for only *$99.95!*

SEE US AT THE WEST COAST COMPUTER FAIRE — BOOTH 1833!

THE CHOICE IS YOURS!

So if you just need to exchange files between different computers using different operating systems, there's *Media Master* at *$39.95.*

If you're upgrading to an MS-DOS or PC-DOS machine or already have one but don't want to spend money buying "new" software programs you already own, there's *Media Master Plus* for *$59.95*

And if the execution speed of your CP/M programs is important, there's *Accelerate8/16* for *$99.95*, which provides a simple hardware *and* software solution to making your MS-DOS computer CP/M compatible.

TO ORDER

To order *Media Master, Media Master Plus,* or *Accelerate8/16,* call **800-628-2828, ext. 629.**

All three solutions save you money by eliminating expensive modems and communications software, and none of our products are copy protected.

For additional product and upgrade information contact:

INTERSECTING CONCEPTS
4573 Heatherglen Ct., Moorpark, CA 93021
or call **805-529-5073.**

Dealer inquiries invited.
** $99.95 for Dec Rainbow*

Letters

Genealogy updates

We were pleasantly surprised to find our program, Family Roots, mentioned in your article "Tracing Your Family Tree" (February) and are receiving many inquiries about it. Please let your readers know that the cost of the program is $185. We do not charge for shipping and handling within the United States. [*The cost of the program was listed as $188.50, plus $3.50 shipping and handling, in the article mentioned.*]

Family Roots is available for all Kaypros, MS-DOS as well as CP/M. Readers who are curious about our program may be interested in our demo disk and demo guide. This limited working version is priced at $9.50 to cover our cost for materials and shipping.

Pat Vorenberg
Vice president, Quinsept, Inc.
Lexington, Massachusetts

Thank you for the favorable review of my genealogy program, My Family Record. In respect to the timeliness of the article, I should like to point out that I shipped the review copy of MFR in May 1985. I was told at the time that the article would appear in the August issue of *PROFILES*. It is my opinion that a nine-month delay in publishing details about a program reflects a degree of irresponsibility, especially since no effort was made to contact me for up-to-date details on cost, etc.

Last summer, because of numerous requests, a significant number of enhancements were made to MFR. This, together with the fact that I could barely break even at the $35 price, forced a price increase. Since October 1985, the price of MFR has been $60, with an additional $2 charge for postage and handling in the continental United States (the price is $65 plus a $5 postage and handling charge outside the continental U.S.).

A new version of MFR (version 2) will become available in May 1986 with the following features: compiled executable program; source language is the C Language Compiler; runs faster than version 1; uses less memory than version 1; enhanced capabilities and user friendliness; one master disk instead of three; supports GEDCOM genealogy file format; conversion utility to convert version 1 files; fully supported for all Kaypro computers. The price remains the same as above.

I am now swamped with orders and checks for $35, which I have to send back in every case. Not only the expense but the time wasted is exasperating.

Ronald P. Duncan
Salt Lake City, Utah

Because of our production schedule, we work three to four months in advance of the cover date on each issue, and review copies of software are requested even earlier so writers can meet their deadlines. For this reason, we sometimes print a disclaimer at the beginning of articles (as we did in the genealogy article) stating that the versions of software reviewed might not be the latest versions available at the time of publication.

However, we realize this does not solve your problem, and we do regret any inconvenience we may have caused you or our readers. We will continue to do as much as we can to ensure that information in review articles is as current as possible.

We would like to take this opportunity to remind readers again that the computer industry—hardware and software—is exceptionally volatile and fast-changing. Before you mail a check for any product, call first to make sure the product is still available and to find out about any revisions in its price and features.

More on packet radio

As a Kaypro user and amateur radio operator ("ham") I would like to clarify several points made in "Life at 300 Baud" in the March 1986 issue.

First, amateur radio is just that—amateur. The radio bands allocated to amateur use may not be used for any commercial purpose. The amateur radio service is authorized by law to provide emergency communications, promote technical development, and provide a pool of trained radio operators to meet national needs. Any use of these bands for personal gain is prohibited, and this includes becoming a "ham" just to beat the phone company.

Second, the use of codes or encrypted material of any sort on amateur bands is prohibited.

Third, there are currently five classes of amateur licenses with different privileges in terms of frequencies and modes of operation. I have never heard of a "Class One" amateur radio operator's license. I hold a General class license (the others are Novice, Technician, Advanced and Extra). The point is that different bands have different abilities to transmit short, medium, or long distances. A license that is easier to obtain may not give the user the permission to use bands that would allow him or her to contact specific locations.

I'm not trying to degrade packet radio; it's a wonderful mode of operation. However, anyone interested in packet on the amateur bands should know the ground rules before they start.

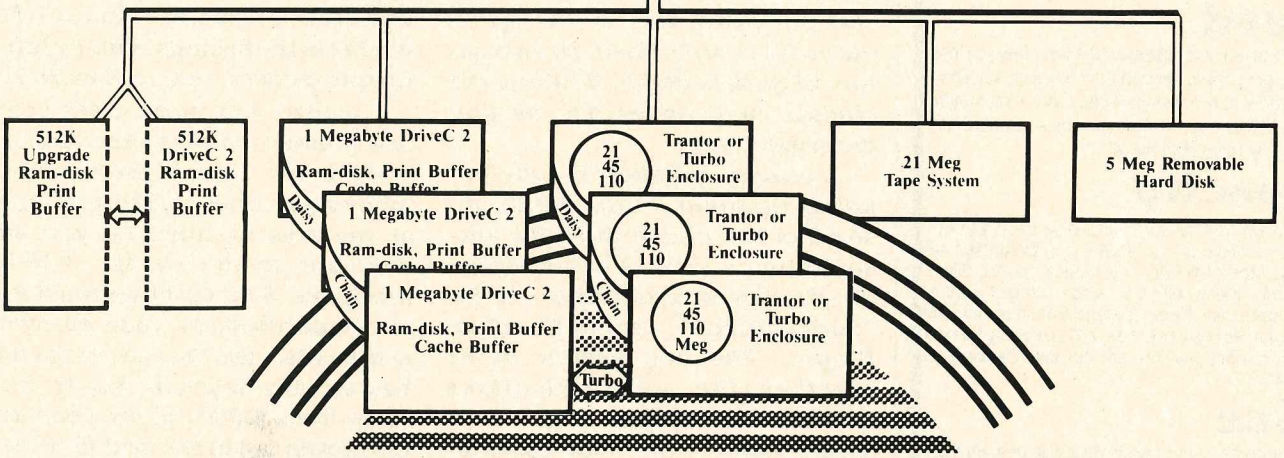
Stephen R. Klipfel
Springfield, Ohio

FCC engineer Jerome Man corroborates most of your points. Amateur radio bands are strictly for non-commercial, not-for-profit use. The FCC monitors their use and issues sanctions against

CP/M® LIVES!
One of a Series

The $100 WW Interface

WestWind
The NEXT GENERATION



CP/M® LIVES!

THE WestWind INTERFACE

If you're a CP/M user who's grappling with whether to keep your computer, invest in upgrades, or switch to MS-DOS, the WestWind Interface frees you to do what YOU want—*right now!*

The WW Interface for CP/M includes everything you need for attaching WestWind's Next Generation products to a CP/M computer, so it's easy to use our Hard Disks with your Osborne, or your KayPro, or your Morrow . . . or just about any Z80 system, by adding a WW Interface to your computer.

Best of all, our Dual Operating System feature lets you share our Trantor and Turbo (DriveC 2 Cache Buffered) Hard Disks between CP/M *AND* MS-DOS computers. Get a WW Interface for CP/M and a WW Interface for MS-DOS to connect our Hard Disk to either kind of computer and automatically access the right files.

And, when you're ready, use our Hard Disks completely for MS-DOS operation.

You see, we want you to get the utmost performance from your CP/M computer, to have the resources you need to make the transition to MS-DOS, and to know that an investment in a powerful enhancement for your CP/M computer *NOW* . . . will be just as valuable an investment for an MS-DOS computer *LATER!*

The WW Interface for CP/M includes—SuperSize SuperCalc2 (huge spreadsheet capacity when a DriveC 2 is added); SuperFile, the easy-to-use free-form text filing and retrieval system; our *NEW* Universal software that manages up to 3 Megabytes of DriveC 2, 3 Hard Disk subsystems, and Removable Hard Disk; MenuPac, Arkive, DiskMgr and Daisy-chaining capability to let your system grow with your needs; all necessary hardware and cables, and complete, illustrated documentation.

The WW Interface for MS-DOS inludes 16-bit SuperFile, Arkive, WW Loader software, Interface Card for any IBM-like card slot, cabling and documentation.

WestWind COMPUTER
1690 65th Street, Emeryville, CA 94608, (415) 652-3222
Telex: 756329 (DRIVE C UD), WU EASYLINK 62533500

WW Interface	
WW Interface for CP/M	$ 100
WW Interface for MS-DOS	100
DriveC 2	
Ram-disk(s), Multiple-copy Print Buffer (requires WW Interface)	
512K DriveC	349
1 MEG DriveC 2	499
1 MEG Expansion Unit (to 3 MEG)	499
Upgrade 512K to 1 MEG	150
BackPac for Osborne	149
Trantor and Turbo Hard Disks	
(requires WW Interface)	
21 MEG Trantor Hard Disk	995
45 MEG Trantor Hard Disk	1895
110 MEG Trantor Hard Disk	2895
Add 2nd 21 MEG Hard Disk	695
Turbo with Cache Buffer	
Add 1 MEG DriveC 2 to Hard Disk	499
Add 2 MEG DriveC 2 to Hard Disk	998
Add 3 MEG DriveC 2 to Hard Disk	1497
Removable Disks	
(requires WW Interface)	
Add 5 MEG Removable to Hard Disk	1295
5 MEG Standalone Removable system	1595
5 MEG Cartridge	125
Tape	
Add 21 MEG Tape to Hard Disk	995
21 MEG Standalone Tape	1095
21 MEG Tape Cassette	35
Tape Cassette 3-pack	99
Web Network	
(requires WW Interface for each computer)	
Web Network	1295
10′ Web cable	49
25′ Web cable	59
50′ Web cable	79

Send for our *FREE* Catalog and get your own **CP/M LIVES!** T-Shirt, just $9.95 (*FREE* with any $100 purchase!)

For Information or To Order:
CALL TOLL-FREE
US 800-526-6500, CA 800-831-3144

WestWind IBM-compatible Systems	
Complete, Hercules-compatible, Monitor, DOS 3.1, NewWord 2, SuperCalc2, SuperFile	
WW XT/640K/2 Floppies/Hi-Res Mono	$1395
WW XT/640K/1 Floppy/ 21 MEG/Mono	2095
WW XT/640K/1 Floppy/ 45 MEG/Mono	2895
WW XT/640K/1 Floppy/110 MEG/Mono	3895
WW AT/512K/1 Floppy/ 21 MEG/Mono	3895
WW AT/512K/1 Floppy/ 45 MEG/Mono	4495
WW AT/512K/1 Floppy/110 MEG/Mono	5495
Color/RGB system (replaces Mono)	400
16-bit Enhancements	
Acceler-8/16 (with WW XT)	75
Acceler-8/16 CP/M Emulator (V20)	99
XPlus 5151 Keyboard (with WW XT)	59
XPlus 5151 Keyboard	169
8087 for WW XT	149
80287 for WW AT	199
WW 300/1200 Internal Modem	299
Multi-X I/O-2 Multifunction (XT)	199
Multi-A I/O-2 Multifunction (AT)	199
WW HI-Res Mono Card/Parallel	199
WW Monochrome Monitor	199
WW Color Card/Parallel	169
WW Color RGB Monitor	429
Software	
Teach Yourself PC-DOS	39
SuperFile	145
UniForm and UniForm-PC	69
Media Master	39

Yes! ☐ Send me the new, *FREE* WestWind Catalog.
My computer is a_____

Yes! ☐ I want my very own **CP/M LIVES! T-Shirt!**
Size S M L XL (Circle one)

Name _____

Address _____

City _____ State____ Zip _____

Enclose $9.95 plus $2.00 Shipping and Handling for each T-shirt. CA residents add 6.5% Sales Tax.

Payment: ☐ Check ☐ Visa ☐ MasterCard

Card No. _____ Exp. Date____/____

WestWind Computer
1690 65th St., Emeryville, CA 94608

what about hard disks?

Other than being neat, and increasing the resale value of your computer, what does a hard disk buy you?

speed

Never wait around for floppies to work while you lose your thoughts. If you never used one before, you don't know what you're missing! If you have, then maybe you should know our system outruns a standard K10 hard disk by more than twice!

capacity

Keep enough files on your hard disk to do EVERYTHING you need to do. That's the advantage of capacity. Store 105 FULL K2 floppies on one 20mb drive. And, take it with you when you go! Keep a gigantic database. Never change disks in the middle of a session. No more catalogs, and searching for one little file in a big pile. You get the idea. Capacity is convenience.

price

Usually more than you have in the bank. Or more than your computer cost in the first place. With recent advances in hard disk technology, there's just no excuse anymore . . . .

The Advanced Concepts Mini-Winnie system features:

- ✓ Easy Non-technical hardware installation. Nothing to modify.
- ✓ Installation software that gets you up and running FAST. Includes diagnostic and formatter, all distributed with SOURCES.
- ✓ Low power, no extra supply or fan needed.
- ✓ Rugged drive designed for portable abuse.
- ✓ Light weight, adds about 2 lbs. total.
- ✓ Does NOT displace a floppy drive.
- ✓ Configurable to meet your requirements. Extensive options during installation.
- ✓ Backed by a full REFUND guarantee of satisfaction.

Internal Subsystems, complete, for the KayPro 1, 2, 4, 10

20 mb internal . . . . . **$ 845.00** (our best)
10 mb internal . . . . . **$ 790.00**
(Other complete systems available from $465. Call for list.)

No other hard disk add-on systems come close to these prices. We invite you to look around and compare. And while you're looking, see how many of our standard features the others are MISSING.

now, the drawbacks . . .

Some hard disk systems remove one of your floppies. We don't. Some require extra power supplies or modifications to work. Ours doesn't. You won't be a better programmer when you're finished installing our system, as it all happens when you run a single autopatching install program. As to drawbacks, we can't seem to think of any just yet!

for the full story,

Call Advanced Concepts for detailed information on the Mini-Winnie series of hard disk systems. Mini-Winnie systems are available for many Z-80 computers, all at unbelieveable prices.

ORDER INFO: Call (305) 482-7302.

Terms: UPS, Cash COD, check or M.O. Please allow 4 weeks for delivery. Fla. residents add 5% tax, shipping extra. Please specify desired floppy format.

Advanced Concepts Engineering & Consulting
8926 S.W. 17 St., Boca Raton, FL 33433

Letters

those who use them for commercial purposes. Use of encrypted material is prohibited, so encryption of data is illegal. Finally, the classes of licenses are as you describe them.

A crucial question is whether using amateur radio bands instead of *the phone lines for telecommunications is permissible, or whether it constitutes use for "personal gain" and is therefore illegal. The key seems to be whether the communications themselves are for profit. Personal, non-commercial communication on amateur bands is permitted, according to Man, and use of packet radio for such purposes appears to be acceptable.*

Flattery will get you everywhere

It appears the format of *PROFILES* is changing—and for the better! Your idea of labeling the articles [for reader level and operating system] is fantastic. So is the "Beginner's Luck" column. How about an article on numeric keypad configuration for the neophyte?

Joseph Liotta
Staten Island, New York

I had decided not to renew, but the past two issues have been such an improvement that I decided to continue for another year.

If you could stick directly to matters concerning Kaypro users who are bound together because they bought a certain brand of computer, you would be doing a better service.

Robert Goodman
(No city given)

The dissenting opinion

It is with a certain amount of hesitation that I renew my subscription to *PROFILES*. I hope you will take this letter to heart, as I am sure that it reflects the feelings of many other Kaypro owners. I own a Kaypro 2X.

I realize you must cover some new products, but as I am sure you know better than I, there are too many magazines covering PC-DOS at the present time. As you add more and more coverage of 16-bit machines, 8-bit coverage must suffer. Regardless of your editorial comments, I feel that the magazine has already taken a steady turn away from CP/M. If my concerns are proven out in the next 12 issues, you can be assured that I will not renew at that time. This should not be taken as a threat, but as a plea. I need you as much as you need me.

There are a couple of changes that I believe would help assuage my fears:

1. Add a regular feature that would teach us programming through simple programs that have some use.

2. Have at least as much text as advertisements. Too often, after flipping through page after page of ads, only to find articles scotched in here and there, I wonder what the real purpose of your magazine is. Sell my address to your advertisers. I will be glad to read the blurbs, but send me a magazine that *says* something.

Sid Helper
Hickory, North Carolina

To respond to your concerns, first we must say once again that since PROFILES *is "the magazine for Kaypro users," it has to be for* all *Kaypro users, and we strive for that balance. Second, there seems to be considerable interest in practical articles on programming, and we will attempt to provide more of them. Last, without the advertisements, there would be no magazine at all—advertising revenues pay the lion's share of almost every magazine's operating expenses.*

TRAVELING SOFTWARE
FOR YOUR Kaypro 2000, 286i or Kaypro 16

FREE SOFTWARE
. . .details below

GET THE MOST OUT OF YOUR MS-DOS KAYPRO

. . . . . .with Traveling Software.

To order, or find the dealer nearest you,

CALL 1-800-343-8080

dealer inquiries invited

FREE APPOINTMENT MANAGER ($100 value!) with any order on or before April 30, 1986

Traveling Appointment Manager ™

"The program and manual were user friendly. . .an excellent value." Mary Jeann Batham, Portable 100/200. May 1984.

Maintain a detailed list of appointments and things-to-do. Consult on-screen or printed records. Automatically reschedule recurring appointments. Provides a multiple keyed "Traveldex" database for keeping names, addresses, and notes. Also provides automatic phone dialing and the generation of mailing labels. **$99.95**

Traveling Project Manager ™

"...very useful in helping me track my projects...simple...provides useful data and printouts." J. Michael Masterson, strategic projects manager.

Tracks expenditures in time, dollars, or other units for several projects at once. Provides reports and graphs, both printed and on-screen, showing status of project budgets and schedules. **$99.95**

Traveling Expense Manager ™

"...the Traveling Expense Manager is well-thought-out and keeps track of exactly the type of information that you need while you are on the road. It's everything you need to keep your boss—and the IRS—happy." Dan Robinson, InfoWorld, July 30, 1984

Define expense categories. Record expenses to any account. Indicate if a business expense is billable. Produce reports by client or project, and the type of expense. View bar graphs of budget and actual expenditures. **$99.95**

Traveling Time Manager ™

"...first class software, a valuable tool for consultants and others billing clients by the hour." John P. Mello, Portable 100/200. April 1984.

Track time spent on projects or for a client. Apply your own billing rate. Identify time expenditures as billable or nonbillable. Clock feature times events as they happen. New version includes a complete billing and receivables option, as well as a client card-file database. Prints many time and billing analysis reports, as well as mailing labels. **$199.95**

TRAVELING SOFTWARE

Traveling Software, Inc.
11050 Fifth Avenue, N.E.
Seattle, WA 98125
(206) 367-8090

All products are available on either 5¼" disk for the Kaypro 286i or Kaypro 16, or 3½" microfloppy for the Kaypro 2000.

Q&A

by Tom Enright

We welcome and read all your letters. Those of general interest are printed in the Letters column; pleas for technical help are dealt with here if they lend themselves to simple, concise answers, or in Technical Forum if the answer is more involved.

Due to the volume, we simply can't respond individually to all requests for assistance. If you have a question requiring an immediate reply, contact your dealer. You can contact Kaypro Technical Support, but be aware that they give dealers' calls priority. Call them at (619) 481-3920, or write to P.O. Box N, Del Mar, CA 92014. Please include a daytime phone number.

CP/M 3.0

I am a member of the Kaypro Club Deutschland (KUG Germany), section Frankfurt. I am interested to hear whether there is a possibility of changing my Kaypro 4'84 from CP/M 2.2 to CP/M 3.0 with more than 64K of on-board memory.

Among the advertisers in *PROFILES*, I couldn't find such an enhancement advertised. The only thing that I could find were advertisements for various hard disks and RAM disks.

In the case that you don't know of anyone offering CP/M 3.0 for the Kaypro, can you offer any alternatives to increase the speed of word processing applications?

Herbert Brichta
Gensingen, West Germany

The only way I know of to get CP/M 3.0 on a Kaypro is to replace the mainboard as part of the process. A replacement mainboard based on the Hitachi HD64B180 chip is available from Southern Pacific Limited of Yokohama, Japan. I have seen their advertisements in both Micro Cornucopia *and* Byte *magazines.*

This replacement mainboard comes with 512K of RAM and can run the Turbo DOS, MPM, or CP/M 3.0 operating systems. I don't think an operating system is included in the $674 purchase price. The distributors should be able to give you more complete information.

Southern Pacific sells its products world-wide through the following distributors:

USA
Southern Pacific Computer Products
P.O. Box 4427
Berkeley, CA 94704
(415) 253-1270

England
Quantila Systems
01-253-8423

Denmark
Danbit
03-662020

Finland
BB Soft
90-692-6297

Please be aware that neither I nor anyone else at PROFILES *has ever seen this product in action, and we have no information on product quality or user support. If you replace your mainboard with one from another source, your computer effectively ceases to be a Kaypro, and I doubt that Kaypro would be able to help with problems that may occur.*

The empty file

I tried to type the CBIOS.PRN file on the CP/M disk that came with my Kaypro 2X. It seems that this should be possible, but TYPE just returns me to the A0> prompt when I try to see what is in the file.

Can I find out the contents of this file any other way?

Michael D. LaMarr
Santa Monica, California

There should not have been a file by that name on any distribution disk that you received from Kaypro. If a file by that name was on a disk delivered by Kaypro, it is an error.

From your description it appears that the file is either empty or does not contain readable text, which is why the TYPE command produces the result you encountered. I suggest simply erasing that file from your disk.

If you want information on the BIOS for your machine, you'll have to purchase a Tinker Kit from your dealer. Tinker Kits have source code for the CBIOS and the ROM.

If you do decide to buy a Tinker Kit, be certain that the dealer sells you one for the ROM that is in your machine. To find out which Tinker Kit to buy, press the reset button with no disk in the drive. The numbers on your screen tell the revision level of your ROM. Write those numbers down and have the dealer order a Tinker Kit for that specific revision level.

Single drive problems

I purchased a Kaypro "New 2" about a year ago and thought it was a great computer. But now I find that buying software for single-drive computers is virtually impossible.

I recently purchased a PrintMaster disk that I thought would be great, but when I received it, I could not copy the disk because it was single-sided. I had to take it to my dealer to get it fixed, which annoyed me greatly. When I got home after having the disk fixed, I found that it kept giving a "BDOS ERROR ON B: SELECT" error. Now I'm going to have to take it to the dealer again.

What I am trying to say is why did Kaypro even bother to make a "New 2" and then not have any software available for it? Right now I am completely frustrated with the Kaypro Corporation and would like to know how to get software for my computer, or I am just going to buy an IBM and be done with it.

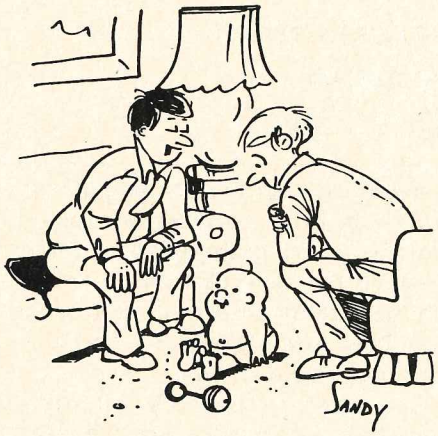
Copyright © 1986 Tom Enright. All rights reserved.

Shaun Lippy
Hanover, Pennsylvania

Your use of the of the word "fixed" in this context is a little puzzling. Unless your dealer has the source code for PrintMaster, which is very unlikely, he is not going to be able to help you. The error message you got indicates that the program requires two drives in order to function. It is the buyer's responsibility to find out the hardware requirements of software before purchasing it.

The best solution to your problem would be to add a second floppy drive to your computer. Any computer with only one disk drive—even the hallowed IBM—will be of limited use. That's why Kaypro no longer sells the "New 2." There just isn't enough useful software that will function with only one disk drive.

If your dealer hasn't mentioned adding a second drive, take your business elsewhere. Kaypro sells a drive upgrade kit for the "New 2." However, any competent technician can add a second drive to your computer; you don't have to use Kaypro's kit. Any half-height, double-sided, 48 tpi drive can be fitted in your Kaypro. If you don't have any experience working on hardware, I'd recommend having a technician do the conversion.



"He speaks a powerful fourth generation procedural language."

MacInker™ Mercury™

Re-Ink Any Fabric Ribbon Automatically for Less Than 5¢

Now one **Universal Cartridge MacInker (UC)** re-inks all fabric cartridges and one **Universal Spool MacInker (US)** re-inks all spools. We support over 1000 printer brands.

Most dedicated **Mac Inker(s)** cost less than $60 and start at $54.95. The **Universal Cartridge MacInker** is $68.50. The **Universal Spool Macinker** is $66.95.

Use your **Mac Inker** to re-ink your dry cartridges (for less than 5 cents in ink) and watch the improvement in print-out quality. Our residueless, lubricated, dot matrix ink yields a darker print than most new ribbons. Or get any of our six basic ink colors: **Brown, Blue, Red, Green, Yellow, Purple** and use *Mac Inker* to *create* or *re-ink your own colored cartridges.* We have uninked or pre-colored cartridges.

Most cartridges can be used almost indefinitely, if ribbon is regularly re-inked, kept moist and lubricated, so that the fabric does not fray. Some customers have reported 80 re-inkings of the same cartridge and still getting excellent print.

As of October '85 we have more than 45,000 *Mac Inker(s)* in the field, in five continents (220V motors available). *Mac Inker* has been reviewed, approved and flattered in most magazines and even in the *New York Times* and the *Chicago Sun Times.*

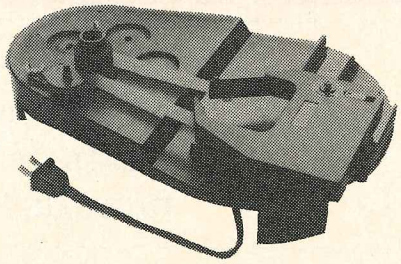
From the God of Communications a *Divine* Modem at a *Miracle* Price.

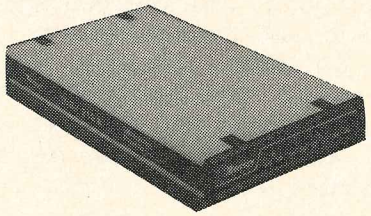
- **100% Hayes Smartmodem* Compatible;** that is, **Mercury** runs with all the popular and just about any private or public domain communications software.
- **300/1200 Baud Speed,** software or hardware (dip switch) selectable. The 1200 Baud features will save you a bundle in long-distance connections.
- **Auto Dial/Auto Answer/Speed Selection**
- **Audio Monitor** via speaker with volume control
- **Front Panel Lights** give you at a glance full information on the status and mode of your communication: modem ready — terminal ready — carrier detect — send data — receive data — high speed — auto answer — off hook.
- **Clear and Easy-to-Read Manual.** If modeming is new for you, the **Mercury** manual will ease your way into the exciting and rewarding world of data transmission.
- **18-Month Warranty**

$205.00

Including power supply, telephone cable and manual. Computer to modem cable ($15) — shipping $4 anywhere in continental U.S.

*Hayes is a Trademark of Hayes Microproducts.





Universal Cartridge Mac Inker

Computer Friends

Order toll free 1-800-547-3303
or ask for free brochure

In Oregon and for 24-hour service
(503) 297-2321.
Computer Friends
6415 SW Canyon Ct., #10
Portland, OR 97221

Dealer Inquiries Welcome

Life at 300 Baud

Desert island book list

by Brock N. Meeks

One evening G. K. Chesterton and several other literary figures were asked what books they would prefer to have with them if stranded on a desert island.

"The complete works of Shakespeare," said one writer without hesitation.

"I'd choose the Bible," interrupted another.

"And how about you?" somebody asked Chesterton. "I would choose," replied the portly author, "*Thomas's Guide to Practical Shipbuilding*."

From time to time such "desert island list" conversations grace general-interest bulletin boards. Anything that can be placed on a list is fair game for discussion.

Suppose you were exiled to a desert island with your Kaypro, a modem, and, through some act of mercy, a toll-free phone line. What books on telecommunications would you take with you? Let me give you my list and see how it compares to yours.

Desert island 1986

The Complete Handbook of Personal Computer Communications, by Alfred Glossbrenner. (St. Martin's Press, 1985.)

This book is to a telecomputer what Thomas's book was to Chesterton. Glossbrenner's 1983 edition became a telecommunications bible for more than 125,000 modem warriors. His revised 1985 edition—almost a complete rewrite of the original—is a definitive work on "the big picture" of telecommunications.

This book cuts through the high-tech jargon we online veterans are inclined to throw around when enthusiastically describing our addiction. This is more than just a basic "how-to" telecommunications handbook; Glossbrenner gives you an understanding of the history of telecommunications, from bulletin boards to the nation's first computer conferencing system (the Electronic Information Exchange System). In addition, he gives the most understandable explanation of the technical aspects of online communications I've ever read.

Glossbrenner seasons his text with irresistible bits of information he calls "Online Tips."

Glossbrenner also seasons his text with irresistible bits of information he calls "Online Tips," which will save you money and hours of frustration. There is something in this book for every level of telecommunicator, from novice to veteran.

Guide to everything

The Computer Data and Database Source Book, by Matthew Lesko. (Avon, 1984.)

This 900-page reference work is overwhelming at first glance. Lesko lists more than 1,000 commercial databases by subject and includes the cost of each, plus names, addresses, and phone numbers. This book also lists hundreds of governmental databases where you can get, often for free, much of the same information contained in commercial databases.

I think of this book as my dictionary of online sources. In the front of the book Lesko gives 47 practical examples that illustrate how to use the information inside. Examples range from an accountant who provides his clients with an online database that determines audit possibilities (from data he gathers annually from an IRS-maintained database) to a doctoral student writing her dissertation on social change using information from a database maintained by the U.S. Bureau of the Census.

For those frustrated by attempts to obtain information from the government, Lesko explains how to use the Freedom of Information Act

Copyright © 1986 Brock N. Meeks. All rights reserved.

and includes a sample FOI request letter.

For all you entrepreneurs, there is a description of how to turn a governmental database into a commercial database for your own profit.

Business online

Databasics: Your Guide to Online Business Information, by Doran Howitt and Marvin Weinberger. (Garland Publishing, Inc., 1985).

Dedicated solely to business, this 614-page book is a valuable reference tool for business people trying to make sense of the information industry. The authors provide profiles of 100 databases that cover such topics as management, new companies, stocks, finance, marketing, and technology.

Most business information seekers will find all they need in the well-written chapters on hardware, software, online searching techniques, costs and communications. A "buyer's guide" details specifications on terminals, software packages and modems.

Databasics has some things you won't find in other online reference books, such as the excellent discussion of how online information can best be used in a business environment. A section on information brokers will let you decide if a pro should do your online research for you. As an added incentive, many online vendors offer free online demonstrations and discount coupons to buyers of the book.

Win or lose

How to Win With Information Or Lose Without It, by Andrew P. Garvin and Hubert Bermont. (The Consultant's Library, 1985.)

(This book is not available in bookstores. It can be ordered from Information Products Group, 800/223-2054, or 212/354-2424 in New York.)

Confused about what all this online information can do for you? Garvin and Bermont have written this book just for you. The authors define the term "information consciousness" in an effort to give the business executive or small business owner a foundation for evaluating various sources of online information.

You won't find detailed accounts of online services or mini-tutorials. Instead the authors provide a basic and intelligible guide to understanding your needs for information before you decide where to look for it.

The book analyzes the process of information-gathering by providing a breakdown of the various types of information sources, including the government; discussing how to determine the reliability of information sources; and also describing, with examples, market research and gathering information on competitors.

Case studies

The Microcomputers User's Guide to Information Online, by Carol Hansen. (Hayden Book Co., 1984.)

A comparison of the titles of Hansen's and Glossbrenner's books might lead you to believe they are in direct competition. *Guide*, however, is more of a navigational chart, whereas Glossbrenner's book is a complete atlas.

Using a textbook approach,

Complete your MicroPro collection with

SUPERSORT®

- Sort & Merge Up to 32 Files into a single file with amazing speed
- File sizes limited by Operating System
- As many as 32 key fields, all with independent order and attributes, may be specified
- Data may be ASCII numeric or string, Binary, or BCD
- Multiple Select and Exclude options that work with Sort, Sort/Merge, and Merge only options
- Conditional Testing using most Logical Operators is allowed
- Sort/Merge Command File Libraries may be created for repetitive operations
- CP/M® Version can be called as a sub-routine from BASIC, FORTRAN, or COBOL
- MS™-DOS version can be incorporated into BATCH Files for automated Sort or Merge
- Works with WordStar,® DataStar,® MailMerge,® and InfoStar®

Exclusive offer to KAYPRO users

$69.95

To order phone toll free

National:
1-800-826-7595
(Except Alaska)

California:
1-800-325-2085

Please specify: CP/M, MS-DOS or 3½" KAYPRO 2000 Format.

SuperSort, WordStar, DataStar, MailMerge, and InfoStar are registered trademarks of MicroPro. CP/M is a registered trademark of Digital Research. MS is a trademark of Microsoft.

LifeStyle SOFTWARE INC.

LIFESTYLE SOFTWARE, INC. 1299 4th St. #402 San Rafael, CA 94901
Telephone 415/459-0300

ABACUS™
the Accounting Tool

$69.95

Source code licensing available

GENERAL INFORMATION
- Completely menu driven
- Complete file maintenance for all files
- Password protection for each module
- Custom setup routine for your hardware
- Automatically selects condensed or pica print
- Integration options and full data verification
- File sizes limited only by disk capacity
- 300-page professionally written manual

GENERAL LEDGER
- Automatic postings from a/p & a/r (double entry)
- Direct postings (single entry)
- Cash journal (double entry)
- Trial, special, monthly & quarterly report types
- Current, 1st, 2nd, 3rd previous quarter formats
- Full audit trail and departmental reports

ACCOUNTS PAYABLE
- Custom aging analysis
- Check register with g/l breakdown by invoice
- Check printing with multiple invoices
- Supports handwritten checks & partial payments
- Complete ledger reports with sort options
- Job cost posting file for use with spreadsheet, database or other programs
- Open & closed items with full audit trail
- G/l dist. breakdown at end of open item report
- Vendor file with "activity history"

ACCOUNTS RECEIVABLE
- Custom aging analysis, credit & debit memos
- Customer file with "activity history"
- Invoice, progress & partial payments
- Interest calculations, customized statements
- Job cost posting file for use with spreadsheet, database or other programs
- Open & closed items with full audit trail
- Complete ledger reports with sort options

PAYROLL & COST ACCOUNTING
- Hourly, salary, vacation, holiday, overtime-1, overtime-2 & comp. pay types
- Recurring or one-time taxable or non-taxable lump sums
- Union dues & union report
- H & W, vacation, current, monthly, quarterly, yearly totals
- Full history for all employees
- Detailed journal with multiple print options
- W-2's, 941A & ins., employee & absentee reports
- Custom federal & state tax files
- SDI, SDU, FICA rates & cutoffs for employer & employee
- Worker compensation excludable amount
- Supports 12, 24, 26, or 52 pay periods
- Custom check printing with detailed stub
- State tax credits, misc. deductions & additions
- Automatic transfer of "costs" to job files
- Detailed master file for each employee
- Full audit trail & check register
- Can calculate for ranges of employees
- Automatic check postings for handwritten checks
- Costing, employee activity & job reports
- Cost distributions & allocations

Minimum Hardware Requirements:
CP/M, PC-DOS, or MS-DOS, 64K RAM, 2 DSDD disk drives, 132-column printer in compressed mode. Specify machine and disk format.

Send in this coupon with your credit card number, money order or check for $69.95 plus $6.50 postage and handling, or call toll-free **1-800-624-7008.** For more information call 906-226-3370.

☐CHECK ☐MONEY ORDER
☐VISA ☐MASTERCARD Expires _____

Account No. _____

Name _____

Company Name _____

Address _____

City _____ State _____ Zip _____

Phone _____

Signature _____

sun soft™
129 E. Michigan St.
Marquette, Mi. 49855

Hansen's *Guide* teaches general principles for online survival. Her "case studies" cut through the jargon and tell you only what you need to know. (I believe this is the first book on telecommunications that doesn't explain that "modem stands for modulation/demodulation.") Hansen stresses the "how" over the "what" and "where."

Hansen's book is an excellent tool for those of you just starting to venture into the world of online information. There's a lot more to the process than first appears and she brings that out.

The search process, as Hansen points out, is "an art, not a science," and she takes you through a study of online systems from bulletin boards to commercial vendors like Dialog.

This is *not* a "must" book for everyone. If your online sojourns never take you beyond the basement BBS, forget this book and look for something more entertaining. However, if you spend much time using commercial information systems, this book could save you from those end-of-the-month bank account blues.

Online philosophy

The Netweaver's Sourcebook: A Guide to Micro Networking and Communications, by Dean Gengle. (Addison-Wesley, 1984.)

Gengle's book is one to read by the glow of your desert island driftwood fire. *Netweaver* is about the philosophy of telecomputing. With terms like "netweaver" (a somewhat "self-actualized" telecomputer) and "Noöspherics" (the study of global consciousness) this book takes a little getting used to.

Netweaver is divided into four sections. In Netweaving Development Tools, netweavers learn about the languages and general concerns of information and networks. Personal Systems centers on the most basic information system—the self and the brain. In Social Systems you learn the basics of human organization, starting with organizing yourself. In Building and Weaving you are taught the basics of hardware, software, and physical connections and learn how to weave them into a personal information system.

Gengle also discusses the technical side of telecommunications, from local area network protocols to multiplexing. His descriptions pale in comparison to Glossbrenner's and are unnecessary. The real value of this book lies in its description of creating personal information systems.

Gengle describes a strategy for getting together with online colleagues to pool information. Each person in the group accesses a different source of information and then shares it with the others. This increases your information base and can give the effect of being in many places at once. (For example, I have online colleagues who journey to Africa regularly and provide me with interesting on-the-scene updates that regular news services would never offer.)

There is an extensive appendix that provides excellent references and suggestions for additional reading. This is the book for you online veterans bored with the local BBS chit-chat. Spend a few nights with Gengle and going online will take on a completely different meaning.

Carrier detect

I have a problem. You see, I'm a self-confessed electronic pack rat. Because I'm online so many hours of the day, I find myself continually downloading an interesting bit of text here, a review there, or an "inside scoop" from one of my electronic mailboxes. Trouble is, most of this electronic scrap paper just sits around on a few unmarked disks, never to be heard of again. Next month I'll dig out those disks and do some housecleaning. Then I'll share with you some of the more interesting odds and ends I've come across, including an exciting update on the continuing saga of "Moscow Calling: Telecomputing From Inside the U.S.S.R."

CPI BUSINESS SYSTEMS

Our software saves you money before it's installed

Computer Professionals, Inc. has been developing computer applications for business and industry for NINETEEN years, often working behind the scenes for some of the biggest names in the industry. We have learned how to pack a lot of power into each computer program but we know that raw power and ability is worth little unless coupled with ease of use, good documentation and responsive support. CPI's Business Systems are all these things and more. They run faster, support larger capacities and cost less than any similar systems marketed today. They have been installed by thousands of users (since 1978) and are available from us directly or from your KAYPRO dealer. We specialize in KAYPRO systems.

We know that floppy disk users don't appreciate shuffling four or five disks in and out per application. We know that no users like to abort in the middle of an application to change printer pitch. We know that users don't like copy protection and complex licensing agreements. We don't believe that any systems with these 'features' can be considered easy to use so we left them all out of CPI Business Systems.

Fancy packaging and expensive type set manuals add greatly to the cost of most application packages but have little lasting value. Once your system/s are up and running for a week or so their real worth is their day-to-day productivity and responsiveness; the other materials gather dust. CPI Business Systems include **comprehensive manuals, sample data files, tutorial sessions, etc.—everything you need is included.** Our manuals are prepared and printed on computer systems.

No system is perfect; CPI Business Systems are not exceptions. That's why users are entitled to support when they need it and that's why CPI continues to enhance each system regularly based on user's suggestions.

Most users need a little support when getting started so we include 45 days of FREE support with each application. Others charge hundreds of dollars extra. Users of CPI Business Systems can extend support for a full year for less than ten cents per day per application.

CP/M users may become MS-DOS users in the years ahead; CPI has planned ahead for this possibility and we provide data file conversion service to any user. CPI will, however, continue to support and enhance these fine systems for CP/M users for years to come. Your investments today will not be obsoleted by tomorrow's technology.

These powerful systems are described briefly below. If you don't feel confident yet ask for our 30+ page overview or try an application demo system at half price (demo prices apply to future system orders).

There are no extra charges for shipping, COD, etc. American Express, Mastercard, VISA card orders welcome. We ship in 48 hours. Please tell us what format you want (II/2X/4/10/16), etc. Demo systems in KAYPRO formats only.

Personal/Company Checks OK

COMPUTER PROFESSIONALS, INC.
15 REGENCY HILLS DRIVE
GREENVILLE, S.C. 29607
Phone: (803) 268-3911

cpi

$80.00 **GENERAL LEDGER** $100.00
CP/M MS-DOS

Comprehensive system with the most wanted features. Provides accurate and well organized financial information for your business. Check the partial feature list below. Accepts data automatically from all other CPI Business Systems for completely integrated accounting. The entire program library fits on one 191K disk. Menu driven for ease of use but the menus won't get in your way.

PROGRAM FUNCTIONS: Systems Initialization customizes programs for your business and hardware. **Master File Maintenance** to create, modify and report on charts of accounts; auto Make Departments function speeds setup; lists charts in 3 formats, on 8½" wide forms at 10 cpi. **Transaction (Journal Entry) Maintenance** to enter and change and delete and post and list (3 formats); auto increment for reference from numeric pad; auto duplication of any field from prior entry, last 7 entries on display; source/run totals; validation of account numbers at time of entry; true prior period adjustments; repeating entries for depreciation, etc. **Trial Balance** summary reports (2), worksheets and detail general ledgers; **F**ull/**C**onsolidated/**S**elective departmental (**FCS**) processing. **Financial Statements** in 4 formats: current year, current and prior year, current quarterly, cumulative quarterly; FCS selection (see above); run any report for any prior period; indicate # of months for the current period even when re-running prior periods; disclaimers (two 78-char lines) for Accountants. **Budget Reporting** with remaining or variance computations; current, YTD, both; rerun prior periods; FCS processing, variable # months on current period. **Full Year Detail G/L** high speed build up system; over 3,800 records on 191K disk; detail is shown on original input sequence by account; FCS; partial year reports when disk space is limited; auto buildup for hard disk users. **End-Of-Period** creates backup file automatically; updates repeating entry date fields for new month; selects month/year end processing automatically; updates prior year's data. **Accounting Transfer** inputs data from each CPI Business System; posts; prints control reports; multiple transfers from other applications allowed. **Query Account** - high speed displays to CRT or individual or range-of-account displays to printer. See the Hardware Requirements section also. All CPI systems include easy data entry and correction via formatted screens, Back-Up, Void & End keys.

CAPACITIES: CP/M - 600 Accounts; MS-DOS - 2000 Accounts, 3-5 Digits for Account Numbers - Up to 99 departments using 3-digit account number and 2-digit department number. Each K of disk can hold 8 records (i.e. 300+ accounts and 1200+ transactions on a 191K disk.)

$80.00 **ACCOUNTS PAYABLE** $100.00
CP/M MS-DOS

Improve your cash management with this fine system. You'll get the up to date accurate picture of accounts to be paid, cash requirements for the data on file. Payments and notes vouchered automatically insuring timely payments. Complete check writing included. The system reports include Vendor File Lists, Open Vouchers, Ageing By Due Date, Discount Date Ageing, Cash Requirements, Check Registers, G/L Transaction List, Query Vendor Status, Credit Vouchers, Deleted Vouchers.
CAPACITIES of 600 Vendors, (CP/M), 2000 Vendors (MS-DOS) - no limit on transactions.

$80.00 **ACCOUNTS RECEIVABLE** $100.00
CP/M MS-DOS

Super system with Invoices, Service Invoices, Statements, etc. A full range of reporting abilities include Customer Reports, Ageing Reports, Transactions Reports, G/L Transaction List, etc. Auto billing feature eliminates mistakes. Sales can be distributed to 100 accounts. Build up statement option combines the virtues of ledger card history detail and the speeds of today's computers. Use preprinted forms and/or plain paper for invoices and statements.
CAPACITIES of 600 Customers (CP/M) 2000 (MS-DOS) - no limit on transactions, multiple customer disks OK.

$80.00 **PAYROLL** $100.00
CP/M MS-DOS

A complete payroll system supplied with current tax routines for every state. Functions include Employee File Maintenance; Employee Lists in multiple levels of detail; Input Worksheets; Time Card Entry; Regular, Overtime, Other, Commissions, Tips, Misc. Pay, Exceptions Processing so you only enter variable data; Weekly, Bi-Weekly, Semi-Monthly, Monthly pay cycles (run individually/combined); Departmental Payrolls; Checks; Check Registers; Earnings Reports; 941s; W-2s; Unemployment Reports; Multi-State; Manual Checks; G/L Transactions. Federal, FICA, State and Local Taxes, Federal/State Add-Ons, FICA, FUTA, SUI, SDI, EIC, 4 other deductions.
CAPACITIES - 600/2000 emp. (CPM/MS-DOS), 98 Tax File Rcds.

HARDWARE REQUIREMENTS

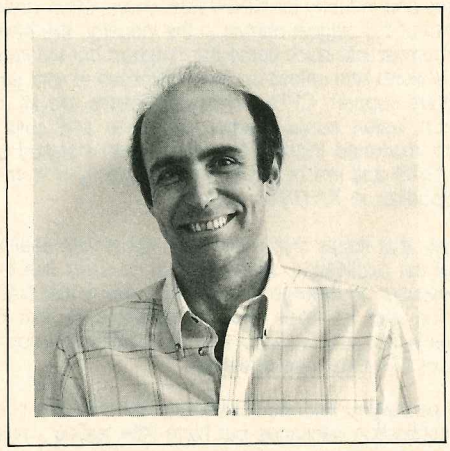
CP/M: 64K (53K TPA) & CP/M 2.0 or higher.
MS-DOS: 128K (or more) & MS-DOS/PC-DOS 2.0 or higher - ANSI.SYS.
Printer: 132 columns (compressed pitch supported), continuous forms.
Disk/s: Dual Floppies/Hard Disk/Both - 191K recommended, less works.
CRT: 80/24 with Clear, Home, Clear to EOL, Up, Down, Left, Right.

CURRENT UPDATE:

THE C.P.I. GENERAL LEDGER SYSTEM WAS REVIEWED IN THE NOVEMBER 1985 ISSUE OF PROFILES (STARTS ON PAGE 49). HERE ARE SOME OF THE BETTER QUOTES FROM PAGE 50, BUT BE SURE TO READ THE WHOLE REVIEW. "THIS TOP LEVEL PACKAGE RATES AS ONE OF THE BEST PROGRAMS WE REVIEWED... COMPARES FAVORABLY TO PACKAGES COSTING HUNDREDS OF DOLLARS MORE... FEATURES OFFERED BY THE C.P.I. SYSTEM MAKE IT EXTREMELY POWERFUL AND FLEXIBLE... THE DOCUMENTATION IS EXCELLENT... USER SUPPORT PROGRAM INDICATES A HIGHER THAN AVERAGE INTEREST IN USER SATISFACTION."

Flea Market

Free tools for dBASE II users



by Ted Silveira

No database program in the CP/M world has quite the combination of power, flexibility, and outside support that dBASE II has. True, it's no speed demon, though it's generally as fast as or faster than other complex database programs. And true, its quirks have created a healthy trade in how-to books, seminars, and add-on programs. But dBASE II lives on and prospers.

One of the keys to dBASE II's success is its structured programming language, which allows you to write programs in the form of CMD files (a text file, with a name like LEDGER.CMD, that contains executable dBASE II commands). The dBASE II language has all the basic features a programmer needs—variables, loops, conditional branching, even a method of incorporating assembly language subroutines.

As you might guess, public domain programmers have taken quite a liking to this language, so you can now find public domain dBASE II programs for everything from mailing lists and household checkbooks to inventory control and general ledger systems for small businesses.

Even better, you'll find some very helpful dBASE II tools in the public domain—both CMD files that you can incorporate into your own dBASE II programs and stand-alone programs (COM files) that help with your housekeeping. These tools can save you hours of work when you start building your own dBASE II CMD files.

MS-DOS Users Note: Because the CP/M and MS-DOS versions of dBASE II are functionally the same, you can use many of the programs I cover here, even though they were written with CP/M computers in mind. You should be able to run almost any CMD file (just change the filetype to PRG) as long as it doesn't use any PEEKS, POKES, or other machine language tricks.

You definitely won't be able to use any of the COM files or assembly language files I cover because they're specific to CP/M. You probably won't be able to use the BASIC programs either—although MBASIC and GW-BASIC are similar, you will undoubtedly find some CP/M-specific stuff when you try to convert the programs.

On with the show . . .

See dBASE II run faster

DB2&3MAX.INF isn't a CMD file or a program. It's an electronic reprint of the article "Maximizing Performance with dBASE II and III," by Alan Simpson, originally published in *Personal Systems*, a newsletter put out by the San Diego Computer Society.

To those interested in maximum performance, Simpson points out that dBASE II usually offers more than one way to perform a particular sort, search, report, edit, or other task. He then compares methods of accomplishing a task to show which is the fastest in a given situation, running his speed tests on a typical mailing list of 1,000 names (MAIL).

Take, for example, the task of copying all entries for "Miller" (10 of them) from MAIL to a new file (TEMP). The command **USE MAIL INDEX NAMES COPY TO TEMP FOR LNAME = "Miller"** took 200.6 seconds.

But the command **USE MAIL INDEX NAMES FIND Miller COPY TO TEMP WHILE LNAME = "Miller"** took only 18.7 seconds, less than one-tenth the time.

That's an edge worth knowing about, and the file is full of similar surprises.

DTUNE31.COM, by James Gronek, is a stand-alone program that processes dBASE II CMD files in several ways. Its main function is to "tune up" your CMD files by removing unneeded spaces, tabs, linefeeds, and comments and by shortening all reserved words and phrases to four characters only (the minimum necessary). The result is a smaller CMD file—4K instead of 14K in the case of one heavily commented file I processed—and this smaller file will run more quickly simply because dBASE II has less to read. (dBASE II reads everything when it executes a command file, even if it doesn't need to.)

At the same time that it's creating a leaner and faster CMD file,

Copyright © 1986 Ted Silveira. All rights reserved.

DTUNE31 can build a special file that cross-references all the variables used in your dBASE II program. And it can also create a structured version of your original source CMD file or even your new "tuned" file. These structured files use indentations to set off loops in the program, making it much easier to read, especially if it has loops inside of loops.

Through all this processing, DTUNE31 leaves your original file untouched. DTUNE31 is quite easy to use and comes with its own installation program.

ENCODE.COM, by Merlin Null, is a dBASE II compiler (or pseudo-compiler, as the author calls it) that claims to make your CMD files run up to 30 percent faster than before. Unlike DTUNE31, which does nothing you couldn't do yourself if you had the time and the patience, ENCODE creates a new "partially tokenized" version of your CMD file that has key reserved words encoded as single bytes (instead of four or more characters).

As a result of this reduction, the new file runs faster and, as a bonus for the security conscious, is harder for others to read or edit. In addition, ENCODE claims to support the use of dBASE II macros, which DBCODE, Ashton-Tate's own product, does not.

Customizing with assembly language

Unlike many database programs, dBASE II can be modified and enhanced through assembly language. Using the LOAD and SET CALL commands, it's even possible to include fast, efficient assembly language subroutines in your dBASE II programs.

DBASM.ASM is a collection of assembly language routines, including ones to right- or left-justify a string, to check for a valid zip code entry, and to add an "inkey" input function like that in BASIC. Most interesting of all, it contains a routine that lets you selectively clear three predefined areas on the screen (windows, in other words), either one, two, or three at a time. You could put together a slick-looking application with that trick.

Checks & Balances will unscramble your checkbook by:

- Keeping a full year at a time
- Reconciling your bank statement
- Flagging missing or duplicated checks
- Writing checks with your computer
- Allowing for automatic teller machine transactions
- Single entry format—fast, easy use for home or small business
- Easy-to-remember *English* commands and full-screen editing

Get organized for Uncle Sam

- Enter check or CASH transactions
- Transactions may be divided to multiple accounts
- Track travel and mileage for your deductions
- Reports combining multiple checkbooks
- Net worth, profit/loss, income/expense reports
- Keeps a full year—calendar or fiscal—with no closing at the end of a month. You can enter that shoebox of receipts for the year on April 14 to beat the deadline!
- Generate reports for all or part of the year anytime

Plus it contains a rolodex for names and addresses so you may use window envelopes with checks or print mailing labels, rolodex cards or envelopes.

ONLY $74.95 • 30-day money back guarantee
Not copy protected!

BOWLING LEAGUE SECRETARY

Written by Patrick Lajko of CDE—a bowler with a high of 287, he knows what a league secretary needs. The Secretary computes averages, handicaps (5 different ways) and maintains high, scratch and HDCP games, team standings, and it even tells you what lane to bowl on! Complete printed reports. Enter the scores, it does the rest. Free updates for one year. Not copy protected. For CP/M-80 or MS-DOS and PC-DOS. **Price $89.95**

UNBELIEVABLE PRICES ON IBM-XT COMPATIBLE COMPUTERS WITH SOFTWARE

256K, 2 half-height floppies, keyboard, color graphics card with monochrome monitor, serial, parallel, game ports. **$898.00**

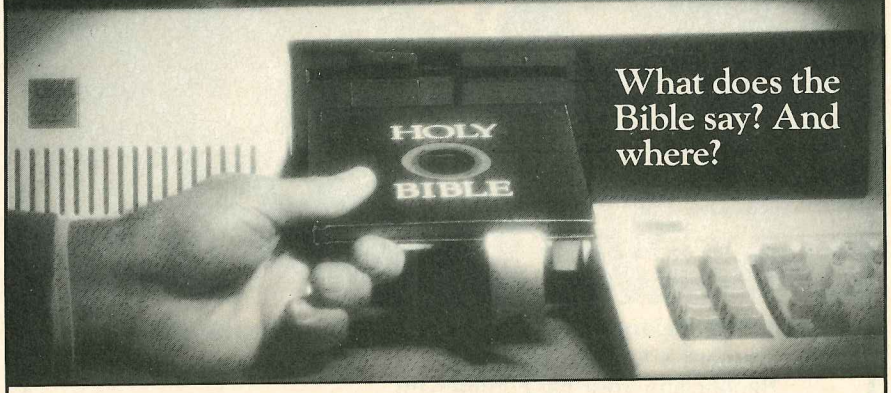
640K, 20 meg hard disk, 2 floppies, keyboard, RGB color monitor, serial, parallel, game ports, 5151 keyboard. **$1995.00**

Ordering Information

Checks & Balances and Bowling Secretary system requirements—CP/M: 60K RAM MS-DOS/PC-DOS: 192K RAM. All require 2 floppies or hard disk, or one floppy with over 500K.
Check, Visa, MC accepted. $3 P&H per order. COD $4 extra. Outside USA $10 per order, no COD. Computers shipped UPS surface rate.

CDE SOFTWARE • 948 Tularosa Drive
Los Angeles, CA 90026 • (213) 661-2031

Still Searching?



What does the Bible say? And where?

We offer an integrated family of software products that allow you to search the Bible as never before.

With "THE WORD Processor" software (which includes the complete text of the KJV or NIV Bible) you can create indexes on key words, phrases, even concepts, as well as search, display or print, for just $199.95. Greek and Hebrew Transliterator products which include Strong's Concordance are also available. Or choose from a host of other exciting Biblical software products available in varying price ranges.

So if you're still searching, give us a call. We're anxious to show you how your PC can help you access your Bible as never before.

Include $3.00 for postage and handling. For Apple, IBM PC, Commodore 64, TRS80, Kaypro, CPM 2.2, MS-DOS.

BIBLE RESEARCH SYSTEMS

2013 Wells Branch Parkway, Suite 304
Austin, Texas 78728 **(512) 251-7541**

"If tax preparation is not your business, then our advice is to keep it simple and cheap. TAXCALC is a good option at $59...especially when it prints your forms for you."

PROFILES Magazine April 1985

TAXBREAK*

- 15 most frequently used federal income tax forms and schedules
- Prints on IRS approved forms
- Automatic calculations and transfers among forms
- On-line help
- Free telephone support
- Automatically computes federal income tax using schedules or tables
- Computes state sales tax and income averaging
- Runs on most CPM and MSDOS computers

ONLY $59.95 +$4.00 Shipping & handling

TO ORDER CALL: **1-800-SWC-INFO** INFO

IN SOUTHERN VA CALL: **804-355-8705**

MasterCard VISA

For information write:
Southwest Computing P.O. Box 706, Santa Teresa, NM 88008
*Formerly TAXCALC84

Like all dBASE II assembly language subroutines, DBASM gets loaded at an unused address above 41984 (A400h), which is the highest address used by dBASE II in normal operation. If you run a sort, however, this area will be wiped out, and you'll have to reload DBASM (or whatever you're using).

VDBTYPE.ASM, by Norman Strassner, adds a neat file-viewing function to dBASE II. It allows you to view any text file onscreen—a normal text file, a squeezed text file, even a squeezed text file inside a library (LBR) file—all without ever leaving dBASE II.

It's nice to be able to scan a DOC file, for example, without having to exit dBASE II, but VDBTYPE has even greater possibilities. If you're writing a complicated dBASE II application, you can create help files (a dozen or more, if you want) to go along with it. If you include VDBTYPE in your application, you can squeeze all the help files and store them in a single library file (saving considerable disk and directory space), yet still give users quick access when they need it.

NEWBAS11.ASM, by Gene Head, is an assembly language patch file that adds features to dBASE II versions 2.3B, 2.4, 2.41, 2.41Z, and the current 2.43*. (Note the asterisk in 2.43*—versions 2.43 and 2.43Z have been dropped. If you have either of these versions, you should upgrade right away.)

The first two patches let you skip the opening date request and the sign-on message, except for the copyright notice. (But if you have a clock in your Kaypro, you should read Bill Kennedy's "dBASE II and the Real-time Clock" in *PROFILES*, April 1985.)

A third patch adds a KEYIN function so that you can tell if a keyboard key has been pressed just by PEEKing at a particular memory location.

Three other patches will help if you're creating dBASE II applications and are concerned about security. The FORCE patch forces a warm boot if a valid command file

PROPORTIONAL SPACING
for WordStar 3.3 or 3.31

only $22.95

A program that automatically installs your WordStar to print in proportional spacing and right justified margin. This means such letters as "i" and "l" will occupy much less space than letters like "m" and "w," and the space between words will be evenly spread out. As a result, every document you print, every letter you send out from your office will be dramatically improved in printout appearance and look almost typeset! Moreover, you can continue to print in right justification, **boldface**, **shadow print**, underscore, superscript, subscript and a combination of these features while in proportional spacing mode. Best results are achieved when you use a PS printwheel, but fine even if you use the ordinary non-PS 10, 12, or 15-pitch printwheels. No crowded characters even on one-word short lines. Comes with a disk and a manual plus a variety of printing tricks. Requires Kaypro, Juki, Brother, Star Power Type or any other letter-quality printers. Simply the best of its kind on the market at any price!

Extra Bonus for Juki 6100 Printer: Our proportional spacing program will also automatically install your Juki 6100 to print French cedilla (ç) and German umlaut (ü), two foreign characters not on your keyboard. Now your Juki 6100 can print all the diacritical marks needed for French and German. Detailed instructions on how to print the other four special characters (© § ¬ £) on Juki printwheels are included in our manual.

Now, with more features added:

1. Allows you to install up to four different kinds of printwheels, including the new Juki Standard PS and the 15-pitch Mini Majestic (sold below).
2. Can print your NEW WORD files in proportional spacing and right justified margin.
3. Detailed instructions on how to customize our program, if necessary, to produce a printout that suits your own personal taste.
4. More printing tricks explained in plain English (not computerese) by our in-house printer specialist for you to take full advantage of your letter-quality printers.

Note: The Kaypro Letter Quality Printer is the same as the Juki 6100 in every aspect except color.

For all Kaypro models and IBM compatibles.

MAILING LIST only $ 19.95

Just load it and start data entry! Extremely easy to use. Then print 1,2,3 or 4-across standard Avery labels. Specially set up for your DataStar and Mail-Merge so you will get all the sophisticated features of DataStar and MailMerge. Add, delete, sort and update your list anytime. Can sort *any* field. Number of records limited only by your disk capacity. Many tricks and tips included in our clearly written manual. Originally developed for a magazine subscription agency to keep track of more than 100,000 subscribers. Why waste time creating your own when you can use our fully tested and debugged program? *Requires at least DataStar and MailMerge to run.*

For all Kaypro models and IBM compatibles.

BIBLIOGRAPHY only $ 19.95

An electronic marvel for modern scholars and writers! Just call it up and start building your own electronic bibliography database. Then print in MLA, Chicago, Trabian or any other styles. Specially set up for your DataStar and MailMerge so you can add, delete, sort and update your bibliographic items anytime. Can sort *any* field. Number of records limited only by your disk capacity. Many tricks and tips discussed in our manual. Used by the author in his Ph.D. dissertation on medieval Chinese military institutions. Saves you hours of frustration in creating your own. *Requires at least DataStar and MailMerge to run.*

For all Kaypro models and IBM compatibles.

GENUINE JUKI 6100 PRINTWHEELS (100 characters) only $22.95 each (Types shown in actual size)

Roman PS	The Quick Brown Fox Jumps Right Over The Lazy Dog. [\]^`{|}~
Standard PS	The Quick Brown Fox Jumps Right Over The Lazy Dog. [Ω]Δ°½¶¼²
Courier 10	The Quick Brown Fox Jumps Right Over The Lazy Dog.
Prestige Elite 12	The Quick Brown Fox Jumps Right Over The Lazy Dog. [\]^`{|}~
Mini Majestic 12/15	The Quick Brown Fox Jumps Right Over The Lazy Dog. [Ω]Δ°½¶¼²
Letter Gothic 10/12	The Quick Brown Fox Jumps Right Over The Lazy Dog. [Ω]Δ°½¶¼²

Note: Only Courier 10, Prestige Elite 12 and Roman PS are in the Juki sequence and only these three can produce diacritical marks for French and German. The rest are in the Special Sequence and are capable of printing other substitute characters as shown above. We now carry a full line of 18 genuine Juki-brand printwheels. You can order any Juki printwheel not listed here. Printwheel catalogue will be sent free with any order.

PUBLIC DOMAIN DISK only $11.95

Our software engineer has fully tested and assembled a disk full of the finest CP/M programs now in the public domain. Saves you time and money to collect these on your own. Includes WSINDEX (creates index from WordStar files), QUICKEY (redefines keyboard while you write), ENVELOPE (prints envelopes more easily) , NEW SWEEP, UNERASE, FINDBD54, TYPER, SQ, UNSQ, SCROLL, LIST, MAGE, DU and DISPLAY. With documentation. Absolutely a must.

For Kaypro CP/M models only. Coming soon: MS-DOS version. Write for details.

GENUINE JUKI 6100 TRACTOR

only $139.00

Can't keep your continuous form paper properly alinged on your Juki 6100 or Kaypro Letter Quality Printer? No matter. All you need is this tractor unit made by Juki in Japan. Installed in minutes. Easily removed when not needed. Works like a charm in printing mailing lists and long manuscripts. Comes with detailed installation instructions. FREE UPS shipping. New Jersey residetns only: add 6% sales tax.

Genuine Juki brand, not cheap imitation!

30-Day Money Back Guarantee:

Actually run our programs for 30 days: if unsatisfied, let us know why and we will give you full refund.

TYPING TUTOR only $9.95

Another CP/M public domain program; teaches you touch-typing and keeps your score.

SOFTWARE CHAUCER

CHAUCER SOFTWARE
1004 Quail Ridge Drive
P.O. Box 732
Plainsboro, NJ
08536
Telephone:
(609) 275-0789

CHAUCER SOFTWARE P.O. Box 732, Plainsboro, NJ 08536

Dear Chaucer: Please *RUSH* me the following in 24 hours:

DESCRIPTION	PRICE
☐ Proportional Spacing	
☐ Mailing List	
☐ Bibiliography	
☐ Printwheel _____	
☐ Public Domain Disk	
☐ Typing Tutor	
☐ Juki 6100 Tractor	
Subtotal	
NJ residents only, add 6% sales tax	
First Class Postage	$2.00
Foreign Orders add $10 for Air Mail	
TOTAL	

MONEY BACK GUARANTEE

☐ Check Enclosed ☐ VISA ☐ MasterCard
Card# _____
Expiration Date _____
Signature _____
Name _____
Address _____
City _____ State ____ Zip _____
Kaypro Model _____ Printer _____

ORDER WITH CONFIDENCE

From CDE Software...
CHECKS & BALANCES SALE $64.95
BOWLING LEAGUE SECRETARY SALE $74.95
(Both Programs 30 Day Money Back Guarantee)

PRO-Mail **$39.95 ★**

PRO-Mail is the Best-Bar none • Check these **Features** • Lists • Labels up to 4 Across • Unlimited Sorts • Change Sorts After Input • Duplicate Removal • Change Disks inside Program • Built in Backup • Up to 2 Comment Fields • Search any Field • Mailmerge Compatable.

Home Inventory (+) **$39.95**
Home Inventory (+) is a complete personal inventory storage & retrieval system. All math is done within the program. Printouts are clear & complete & give you designated sub-totals & totals. Allows for unlimited data files. Change data disks while the program is running. Multiple searches. Perfect for insurance needs, home or office.

Trivia Supreme **24.95**
A computer trivia game with 2200 questions, and four catagories: Sports, Comics & Cartoons, T.V. & Screen and Pot Luck. Keeps score, fun for all.

ALSO

- Recipe Index **$29.95**
- Super "C" **$19.95**
- Checks Index **$29.95**

• **Order line open 7 days a week** •

Buy any two programs and get a Program of equal or lesser value "FREE"

CP/M **SPECIFY COMPUTER MODEL** **MS-DOS**

Add $3.00 S & H, $7.00 UPS 2nd Day Air, outside Continental U.S. $7.00

VISA

★ **HURD COMPUTER SYSTEMS** ★
6330 Lincoln Avenue • Cypress, CA 90630 • (714) 220-2729

SPECIAL!

WRITE $99.95

Send $99.95 and this ad—Save $139! WRITE features include:

- Easy to use and learn
- Trial print to screen: saves paper
- Fast single-letter edit commands
- Recover files even after a system crash
- Fast scrolling

WRITE does underlining, boldface, proportional print. On-screen trial print lets you experiment without paper. All edit commands are single-letter and changeable. Normally $239, only $99.95 with this ad. Save $139 for a limited time!

WORKMAN & ASSOCIATES
USER-FRIENDLY SOFTWARE

FTL Modula-II

FTL Modula-II is a full Z80 CP/M compiler (MSDOS version soon)! It's **fast** -- 18K source compiles in 7 seconds! The built-in split screen editor is worth $60 alone. Some standard features: full recursion, 15 digit reals, CP/M calls, coprocesses, assembler and linker. The one-pass compiler makes true Z80.COM, ROM-able code, too. Get the language you've waited for now. Only $49.95!

Software Anthology Series

7 CP/M disks, 1 MS-DOS disk. The tested best public & private utility programs. $32.50/disk.

Workman & Associates
112 Marion Avenue
Pasadena, CA 91106
(818) 796-4401

Ask for our free catalog. More product information rushed on request. Please specify model of computer when ordering. Add $2.50 for shipping. CODs cheerfully accepted!

isn't specified at startup. The PREDEFINED patch forces the execution of a predefined command file on startup. And the ESCAPE patch stops anyone from aborting to the dot prompt by hitting the ESCAPE key.

Together these patches will help prevent an untrained (or hostile) user from breaking out of your program and wreaking havoc at the dot prompt. They don't, of course, keep him or her from wreaking equal havoc at the CP/M prompt.

Finally, if you use ZCPR or a similar CP/M modification, another patch lets you leave DBASE.COM and DBASEOVR.COM on drive A and change your default drive to B (or C or D), where your command and data files are. With this patch, dBASE II will still be able to locate DBASEOVR.COM on A when it needs to.

Calling Dr. dBASE

There are also several programs available to help you out when things go wrong with dBASE II.

DBCLINIC.BAS, written by Dick Bollinger, is an MBASIC program to be used when you're working with unknown or possibly damaged database files. With it, you can do five things. First, you can display the record length of any dBASE II DBF or TXT file. Second, you can display the structure header information of any DBF file. Third, you can get an exact count of the number of records in a DBF or TXT file. Fourth, you can display and change the record count in the structure header of a DBF file. And fifth, you can display and change the date of the last update.

RECOVER.COM, by Brett Bonner, is another program that can help with file problems. RECOVER tries to bring back a trashed database file by removing all end-of-file markers and resetting the record count to 65,532.

DBUNIQ22.CMD is a dBASE II program (a command file) itself, written by James Gronek and Stephen Aidikonis. It helps you clean up your database by purging any

duplicate records from your files.

DB2BAKUP.CMD, by Ralph Smotherman, is also a dBASE II program. Its purpose is to help you head off disaster by backing up your files. DB2BAKUP is actually two simple routines meant to be inserted in any dBASE II application program, one at the beginning and one at the end. Together, they automate the file backup process, making it part of the application.

SUPERBAK.CMD is another file backup program written in dBASE II. Unlike the previous program, SUPERBAK is specifically written for backing up database files from a hard disk to floppies and then later restoring them.

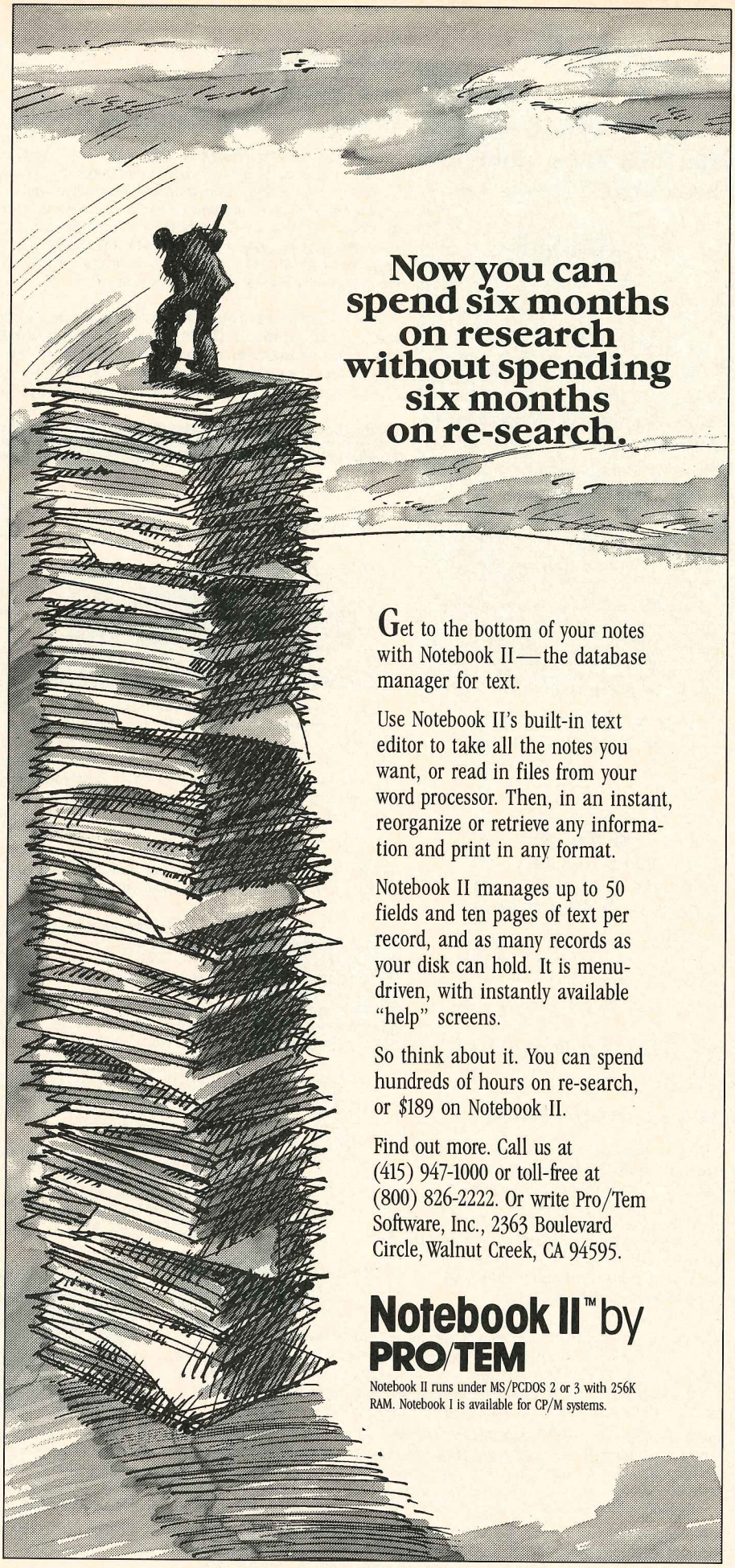
And still more programs

There are many more dBASE tools available in the public domain, but I've only got space to mention a few of the interesting ones. The following are all dBASE II CMD files that can be called as subroutines by any dBASE II program:

- WRITENUM.CMD takes a number input (such as 584.70) and converts it into words (five hundred eighty-four and 70/100) for a check-writing program or similar use.
- TALLY.CMD, by Rich Malm, makes an occurrence count on any field in your database file and can also deliver some simple statistics on the count.
- MATHLIB.CMD, by Keith Plossi and Steven Burns, provides extra math functions for dBASE II—absolute value; random numbers; square root; sine, cosine, and similar functions; exponentiation; degrees to radians and radians to degrees; and others.
- UGRAPH.CMD, by John Hathaway, can display bar or scatter charts on the screen.

Where to get it

The best source for all these files would be a local dBASE II users' group. Failing that, you can find them on most large bulletin board systems. Try Wayne Masters' Potpourri (408/378-7474), if you don't know a big system near you.



FREE

With Your Order For Any 2 Or More Items On These next 3 Pages Get a

Giant 12 Foot Coiled Extension Cord for Your Kaypro keyboard

Send for your free cord today.
Enjoy that detachable keyboard.
One Free Cord Per Customer

Regarding this coiled retractible cord: Don't be fooled by cheap imitations. This cord has been specially manufactured to match the unique electrical requirements of the Kaypro computer and meets demanding Kaypro-like specs. It is guaranteed to work with every model Kaypro II, IV, and 10. Don't settle for less from copycat advertisers. Other cords will fail and may hurt your system. Order your free cord today.

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.

Introducing A Classic Form Fitting Kaypro Cover

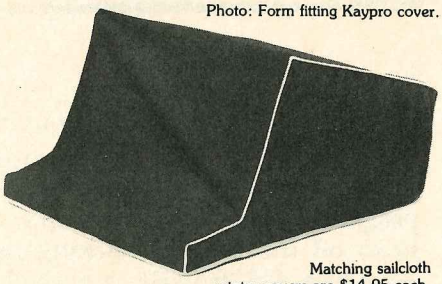


Photo: Form fitting Kaypro cover.

At last, the classic Kaypro dust cover you'll be proud to own and use. This first rate computer cover is made from a premium, lint free, static free, washable, free breathing, and fade resistant sailcloth. It comes in a rich looking Navy blue or Royal blue, and has a smart contrasting silver gray piping and trim that adds a superior finished look. Made to form fit and protect a Kaypro that is set up and ready to use.

Matching sailcloth printer covers are $14.95 each. Complete list sent with order.
New. Special two-piece Kaypro sailcloth cover. Set covers CPU and keyboard. $19.95 per set.

For a limited time only, your price for this factory direct, custom made, sailcloth Quality Cover is $16.95. When ordering, remember to indicate color preference. This special low price is subject to change. You must be completely satisfied with this cover or we'll refund your money immediately. Order today.

- Quality tailoring
- Easy care fabrics
- Attractive colors
- Professional appeal

Richly tailored inside and out. Look inside any of our Quality Covers; see the ultimate finishing; we use machines that sew with 3 needles so that no edge will ever unravel or shed lint. We stress perfection because you deserve the best. Compare for long-lasting satisfaction.

FACTORY DIRECT

Kleertex®

- $17.95 for one
- $34 for two
- $49 for three
- $62 for four

Learn Software Commands Super, Super Fast

Now Available:
Wordstar/MailMerge
dBase II, CalcStar

Time-saving Kleertex templates are made from a durable, non-glare plastic, and can be put on and lifted off the keyboard instantly. The software commands on Kleertex templates are easy to read and are conveniently arranged in alphabetical order. With a Kleertex template on your keyboard, software commands are only a glance away, at your fingertips. This makes it easy to learn programs that come with your Kaypro. Stop going back to the book to get a software command. Now you can learn software commands super fast, so you can make better use of your powerful programs. The expertly organized Wordstar/Mailmerge template, for example, gets you into word processing in half the time. A special dBase II template cuts through the learning curve like a knife and gets you programming sooner. Kleertex templates for CalcStar, Perfect Writer/Filer and Perfect Calc get you moving fast on these programs too. Once you try Kleertex templates, you'll wonder how you ever got along without these useful tools. Central's special price for one template is $17.95. Choose any two templates for $34 and save. If you like, you may combine purchase of any of these four templates for super savings. Complete satisfaction is guaranteed or money-back. Makes learning software a breeze. Great value. Order today.

MORE ON NEXT PAGE

Toll Free
Order Desk Only
800-533-8049 USA
800-624-5628 CA
Information Calls
(805) 524-4189

CENTRAL COMPUTER PRODUCTS
330 Central Avenue • Fillmore, CA 93015

© 1985 Central Computer Products

Kaypro is a trademark of the Kaypro Corporation

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

"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."

Photo:
Panamax
6 outlets LC S RB NF.

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.

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.

PANAMAX SURGE SUPPRESSORS

Description	List	Price
2 outlets, D NF	$ 79.00	$ 59.00
4 outlets, LC S RB NF	$ 89.00	$ 69.00
6 outlets, LC S RB NF	$ 99.00	$ 79.00
UltraMax, LC S UA NF	$149.00	$ 99.00
TeleMax, D 1OL 2PJ NF	$ 89.00	$ 69.00

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.
All Panamax units are factory guaranteed for 60 months.

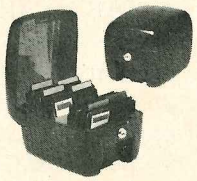
"Power line-associated problems are estimated to cause nearly 70 to 90 percent of the malfunctions in the IBM PC."

"Overvoltage can be fatal to both data and hardware alike."
P.C. Magazine, March 1983

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.

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.

Cables

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
10 ft cables ... $25.95 each

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
5 ft cables ... $16.95 each

Important Facts About Radiation And Your Computer

Order Toll Free
800-533-8049 USA
800-624-5628 CA

The controversy rages. It's true. Your computer screen does shoot out dangerous ionizing x-ray radiation. Some people say, the emissions are harmless. Others say there is no such thing as harmless ionizing radiation.

So what's the problem? Simple. People are different. Some care about being safe, some don't. Here's the whole truth. You decide how you want to handle it.

The Apparent Danger

Most Video display terminals (VDTs) are cathode ray tube terminals. In this type of terminal, ionizing radiation is produced by a cathode ray tube. The cathode ray shoots electrons towards a phosphor-coated screen. The phosphors energized by the electron beam emit light that creates the display image.

This activity produces many types of radiation. One of the most dangerous is ionizing x-radiation.

Hospitals use x-radiation to take pictures of the inside of your body. Dentists use it to look through your face at your teeth. The important thing is, when these professionals work, they stand behind lead impregnated shields.

Doctors know that the effects of exposure to the high photon energy of ionizing x-radiation are cummulative. They don't wear off. Bit by bit, they keep piling on. Too much exposure can lead to radical molecular changes. The kind of changes in the body that express themselves in cancer.

Shocking Statistics

If you're a computer user, the question is, "Do I have to protect myself from the x-radiation that shoots at me from my video display terminal?"

Good question. At this time, the government says, "No." However, remember that things change. The government said yes to smoking for years. Now they say, "No." The truth is, as far as video display terminals are concerned studies aren't conclusive.

Some groups such as the National Association of Working Women, believe much more study is necessary. They point to shocking statistics like those uncovered by the National Institute for Occupational Safety and Health, in which they found that half of the 48 pregnancies among VDT operators at the United Airlines reservations office in San Francisco between 1979 and 1984 ended in miscarriages, birth defects, or other abnormal outcomes including two premature births, one stillbirth, and one neonatal death. Some say it's coincidence, others say it's scary.

Low Cost Solution

Look at this. You can't protect yourself from all ionizing radiation. It's impossible. In fact, depending on where you live and even what kind of structure you live in, you're being exposed everyday to a natural level of background radiation.

However, the experts agree. You must do everything you can to limit your exposure to ionizing x-radiation.

If you're a computer user, the solution isn't to throw your computer out the window. Cars make smog, but you're not going to toss out your car because it smokes a little. Your car has a smog filter, so why not put a radiation "filter" on your computer?

It's easy to protect yourself against the ionizing x-radiation that shoots out at you from your video display terminal. A company called ACCO International makes an excellent combination lead impregnated radiation shield and anti-glare screen that easily attaches to your terminal. It works.

Acco Lead Shield

This lead impregnated, impact-resistant acrylic shield is like the ones used in hospitals, military installations, and nuclear power plants. It is 30% lead. But you can see through it. It also has a mesh-type anti-glare screen that actually improves the screen image while getting rid of glare. It costs more than a regular anti-glare screen, that's because it protects you from the x-rays that shoot out at you from your computer screen. Helps get rid of burning, watery eyes, and other symptoms of VDT associated eye-fatigue too. Find out why in a special report you'll receive free with your radiation screen.

Revealing Independent Study

In April 1984, ACCO International commissioned a hands-off independent study on their shield. At this time, few people know about this study. It was performed by Health Physics Associates, LTD., consultants in radiation safety. They're located in Northbrook, Illinois.

Health Physics Associates were asked to do an extensive test of the radiation screen. ACCO said, "Put it through the wringer."

The results of the tests are interesting. Foremost, because they prove the ACCO shield works. But, also, they prove that when you buy an ACCO radiation shield, you don't have to worry about getting a bad one. In fact, all three batches of ACCO Radiation Shields that were tested gave the same results. They were found to possess similar transmission or attenuation characteristics and similar lead contents. That means, when you buy an ACCO Radiation Shield, it protects you. Period.

Health Physics Associates reported that, "The ACCO Radiation Shield provided attenuation in excess of 8000 for x-rays incidents upon it at 10, 20, and 30 KVP." This means that for every 1,000,000 x-rays that your VDT shoots at you, only 125 will pass through the ACCO Shield.

Unfortunately, tests were not conducted on the anti-glare characteristics of this unusual screen. However, the fact is, the ACCO Radiation shield is both a very effective radiation shield and anti-glare screen. You don't sacrifice one for the other here. You'll find that as an anti-glare screen, it's as good or better than any other on the market. In fact, it appears to actually enhance and make the image on the screen clearer.

Sample of Corresponding Sizes

A. Portables: Kaypro II, IV, 10, 2X, 1.

B. Compaq Deskpro. DEC PC. HP 100PC, HP 200PC, HP 80, 75. Honeywell 7200, 7300, 7801, Infowriter. IBM PC mono, Datamaster, Displaywriter, 3101, 8775. Lanier Easy. NBI 4000. NRC 7900. Wang PC-PM004. Zenith Z100, Z19, Z29, Z89, Z90.

C. AT&T 6300 PC, Burroughs TD8000. DEC VT100. Epson QX-10. Hastech Edit3. Hazeltine Esprit.

D. AT&T 5420. Altos 186, 486. Data General 6255. Digital VT240. Four Phase 5115. IBM PC 5154 Color. Kaypro Desktop PC. NCR Unix. Radio Shack TRS-80 I, II, III. Zenith ZT-1.

E. ADDS Regent 20, 25, 30, 40, 60, Viewpoint 3A, 60, 90. Apple II, III. Burroughs B20. Hastech Edit 8, Magician. HP 264x, HP 86. IBM 3279 Color, 5151, 5153, 5291. NEC Color. TI OPTI 900. Wangwriter. Wang Ergo II, III, Wang 5200, 5300, 5700, 5800, 5900, TC-5900, 6300, 6340, Wang 2336 DW, 2885 DE, 2886 DW. Xerox 860, 820. Zenith ZVM 134.

F. CPT 8100, 8500. Hastech Edit 8, PTL Graphic, 4/Sight. HP 262x, HP 9836 desktop. IBM 3278. Phillips MICOM 3000.

** If your computer is not listed or you need further information, please call (805) 524-4189 for assistance. We have sizes to fit more than 500 computer VDTs. **

Easy Installation

If you spend long hours at a terminal day after day, you deserve not to worry about the possible health hazards of over exposure to the x-radiation that comes from your video display. But, before making a decision for or against this radiation screen, think about how long it took for government studies to find that smoking was a health hazard, and to press the tobacco industry to warn about the danger. By then, millions had developed cancers and other equally vicious diseases related to smoking.

As one investigator on the hazards of VDT radiation put it, "To take the industry position that we should not provide precautionary measures until further research is complete is irresponsible." Sometimes, it's better to be safe than sorry.

Depending on the size of your terminal, your ACCO Radiation Shield will weigh one or more pounds. This solid weight proves the quality and insures good attenuation. The shield attaches to the outside of your computer's screen with a couple of strips of velcro tape. There's nothing to screw in, so you don't need any tools to put it on. It's easy to remove too. Just pull it off. Simple. By the way, although this transparent acrylic screen contains 30% lead by weight, it's easy to see through.

Attenuation

As applied to x-rays, attenuation refers to the loss of photons in the passage of radiation through a material like a lead impregnated transparent shield as a result of absorption and scattering by the Compton, photoelectric, and pair production effect. The pair production effect, for example, is the process whereby an x-ray photon in passing through the nucleus of an atom is converted into a positive electron and a negative electron. As a result, the dangerous quantum or high energy x-ray photon ceases to exist.

Money Back Guarantee

Ok. Those are the facts. Now, it's up to you. You can choose to start protecting yourself now, or think about it some more. In either case, you don't risk a thing by trying out this screen. It does everything claimed here. That's why Central Computer offers a 30 day money back guarantee on this tested product. You must be completely satisfied, or simply return it for a full refund. By the way, with your order you'll also receive a free copy of the complete report submitted to ACCO by Health Physics Associates. It's a little technical, but it proves the ACCO Radiation Shield is the best there is. Guaranteed. Order today.

Attention: There is nothing in this ad that has been over or understated. These are the facts. The question of possible health injury is so severe that major universities and health services are in the midst of extended studies. Unfortunately, these studies are just beginning and will last four or more years. Meanwhile, consider that working at a VDT is like holding your face about 18 inches from a television screen many hours a day, five days a week. Protection makes sense. Order today.

ACCO RADIATION SCREEN GUIDE

Screen Size (Inches)	List Price	Central
A. ☐ Kaypro Portables	$139 each	$ 99
B. ☐ 7 7/8 x 10 15/16	$149 each	$ 99
C. ☐ 8 1/8 x 10 11/16	$149 each	$ 99
D. ☐ 8 3/8 x 11 5/16	$169 each	$ 99
E. ☐ 8 7/8 x 12 1/16	$169 each	$119
F. ☐ 9 1/4 x 12 11/16	$169 each	$119

To order by mail use coupon on facing page. Specify computer model and or name of VDT.

Order Toll Free

© 1986 Central Computer Products

The All New SmartKey

— now comes with **Windows** and much more!

Get ready for real computing power! *SmartKey* Version 4.2 now comes with windows. Lets you redefine every key on your keyboard from inside any program. Just push a key, a window opens up on your screen, redefine the key. Move the cursor anywhere in the window. Make corrections in the window. Simple. Redefining keys is easier than ever. Lots of new features. Will save you thousands of keystrokes. Really fun. Touch a key and spell out your entire name and address. Or anything else you want. Unlike similar programs, *SmartKey* does not interfere with the regular function of your keyboard. Once you've tried it, computing will never be the same. Lets you save numerous complex command codes, boilerplate paragraphs, inventory numbers, or whatever, and inject any of them into your work with a single key.

Central's super priced SmartKey combo pak includes a free copy of of Paul Golding's $15.95 book, *Screen Smarts, The Computer Tamer's Guide*. This book tells how you can use *SmartKey* to turn your computer into a supercharged mean machine. Saves money. Look at these prices. Order today.

Description ‡	List	Central
SmartKey 4.2 CP/M	$49.95	$45.00
SmartKey 5 MSDOS	$59.95	$54.00
SmartKey & SmartPrint	$69.00	$57.00

‡ Includes $15.95 *Screen Smarts* book free

Attention: When comparing SmartKey 4.2 to similar programs, please ask if they have a real delete key, windows, and other features that make SmartKey clearly superior.

Text Filing Machine

Turn your Kaypro in to a powerful text filing machine. **SuperFile** is a textual matter database manager unlike any other. It puts you in control of your information. It allows you to easily store and retrieve notes, letters, random thoughts, contracts, depositions, invoices, new product information, sales reports, reference articles, scripts, abstracts, bibliographies, customer profiles, and much more. *SuperFile* accepts as many as 65,000 entries per database; allows 512,000 keystrokes per record, each of which can have up to 250 keywords; and indexes information you've stored on as many as 255 diskettes per database. Powerful.

Input for a *SuperFile* database comes from your word processor, so you can easily include information you already have into a database without having to re-key it. No fancy fields to define. This is a completely free-form database system. No programming language to learn. There's nothing difficult here. You can be up and running within minutes. *SuperFile* uses logical searching procedures to find your information fast. *SuperFile* searches from 60 to 400 entries per second. Save yourself the time and effort of filing and cross-filing information by hand or in overly structured data fields. *SuperFile* lists at $195. Central's price is $145. Order today to get *SuperFile* fast.

Print Bright Pages

Wow! You'll be amazed at the compliments you'll get from using this program. No wonder. **FontStar** makes you look good. All you do is put a few *FontStar* commands in your letter, bulletin, invitation, or manuscript, and print. It's easy.

Don't let FontStar's low price fool you. It's a powerful program. Although it's not as versatile as *Fancy Font*, it really brightens up plain jane dot matrix printing and for much less too. Works with Epson FX, RX, MX, and LQ1500 printers. Also works with Epson compatibles like Gemini printers too. Gives same results. Impressive. Good looking reports, letters, invitations, announcements, etc.

NEW!

Bodoni
Bodoni Italic
Micrograma Extended
Flash Bold
Broadway
Sans Serif Shaded
OCR B-Font
Commercial Script
Old English

Sample of some of FontStar's 16 Fonts.
Make Up Your Own Alphabet or Characters too.

FontStar comes with 16 preprogrammed fonts, but it also lets you design your own fonts or character sets. *FontStar* doesn't require complex commands, or any tricks to operate. It makes typeset quality justification a snap, so everything you print looks super professional. Use as many fonts as you like in your documents. By the way, each font also comes with a complete set of foreign language characters, so printing in Spanish, French, or other European languages is a snap. Make your own Greek or Hebrew font sets too. Design special characters too. No matter what you print out, *FontStar* will make it look better. *FontStar* is only $49. Order *FontStar* today. Get more from your dot matrix Epson or compatible than you every thought possible. Order today.

Attention: Imagine dot matrix printing with a flair. That's what *FontStar* does. Makes a page look bright. *FontStar* works with any word processor that produces plain ASCII files including WordStar and NewWord. Order today to get FontStar-type printing fast.

Central Computer Products

330 Central Avenue
Fillmore, California 93015
(805) 524-4189

Mail Order service you can depend on.

NEW!

- Personal Service
- Low Prices
- Fast deliveries
- Tele-Support

Price Protection Policy

Central Computer will meet or beat any price listed in this magazine on products also advertised in our ads. If you see a lower price, please tell us. We'll beat that price and pay shipping too. Try our lightning fast service today. Thank you.

Full Power Computing

T/Maker Integrated is a highly acclaimed powerhouse program that can turn your CP/M Kaypro into a computing workhorse. At last, you can enjoy productive computing like never before. Imagine doing full-featured word processing, relational database management, spreadsheet analysis, horizontal bar chart graphics, and checking your spelling all within the same program. No more switching back and forth between barely compatible programs to accomplish these simple tasks. *T/Maker Integrated* is universally acknowledged as a unique integrated software system that is just plain easy to learn. There is an alternative to doing things the hard way. *T/Maker* can put the hidden and largely untapped power of your Kaypro at your command. *T/Maker Integrated* is regularly $450. Central is proud to offer this outstanding multi-function package for the low, low introductory price of **$179.** Yes, this includes the entire feature-packed T/Maker package, so please treat yourself to this excellent super productive software today. Experience the power of true software integration on your Kaypro. Order T/Maker today. Get it fast.

Toll Free Order Desk

800-533-8049 USA
800-624-5628 CA

Kaypro CP/M and MSDOS Software

Product Description		List	Central
ATI TRAINING SOFTWARE			
CP/M	**Training software.**	$ 39.95	$ 33.00
MBasic	**Speeds learning.**	$ 39.95	$ 33.00
Multiplan	**Gives fast results.**	$ 75.00	$ 57.00
Wordstar		$ 75.00	$ 57.00
BORLAND INTERNATIONAL			
Turbo Pascal 3.0		$ 69.95	$ 58.00
Turbo Datebase Toolbox		$ 49.95	$ 44.00
Turbo Tutor, Step by Step		$ 34.00	$ 29.00
Turbo Holiday Pak		$125.00	$99.00
— Pak includes all the above. Call for MSDOS prices.			
CDE SOFTWARE			
Checks & Balances		$ 74.95	$ 64.00
CHUCK ATKINSON PROGRAMS			
Quick Check + AR		$195.00	$149.00
Quick Check Money Manager		$ 95.00	$ 69.00
— Recommended for comprehensive ease of use			
COMPUTER EDITYPE SYSTEMS			
Magic Print ★		$195.00	$155.00
Magic Bind ★		$250.00	$199.00
Magic Index — includes ★		$295.00	$245.00
— All superior WordStar enhancers			
COMPUTRONICS			
VersaBusiness Series			
VersaLedger II		$149.95	$115.00
Any other modules		$ 99.95	$ 79.50
CONSULTANT SYSTEMS			
The Real Estate Consultant		$399.00	$349.00
with The Creative Loan Consultant			
— Don't buy or sell property without this software			
CUSTOM PROGRAM HOUSE			
Banner Plus		$ 37.95	$ 18.95
— Print you own huge banners & messages			NEW
EXECUTIVE SOFTWARE			
Decision Analyst		$139.00	$124.00
— Use logic process for decision making			NEW
E-SOFT			
Fastback, K-10 Backup Utility		$ 99.00	$ 74.00
DIGITAL MARKETING/PRO TEM			
Bibliography		$ 99.00	$ 79.00
Footnote and Pair ★		$ 99.00	$ 79.00
Grammatik ★		$ 75.00	$ 69.00
Hyper Typer, Typing Tutor		$ 39.95	$ 32.00
Index ★		$ 99.00	$ 79.00
Milestone, Project Planner		$ 99.00	$ 89.00
Bibliography and Footnote		$150.00	$128.00
Notebook		$150.00	$ 99.00
Writer's Pak — includes		$250.00	$189.00
all ★ products and Random House Checker			
— Call for prices on other DM or PT products			
EWDP SOFTWARE			
Filebase with UTL		$150.00	$ 99.00
— Mailmerge enhancer and database manager			
FRESHWARE NEW			
DateMate		$ 29.95	$ 27.00
— Design & print personalized calendars anytime			
FYI, INC.			
FYI 3000		$395.00	$299.00
SuperFile with Sort & Merge		$195.00	$145.00
— Free form textual matter database managers			
— Index material spread over 255 diskettes			
INFOCOM			
Enchanter		$ 39.95	$ 37.00
Deadline		$ 49.95	$ 43.00
SeaStaker		$ 39.95	$ 34.00
Infidel		$ 44.95	$ 39.00
Witness		$ 39.95	$ 37.00
Zork I		$ 39.95	$ 34.00
Zork II & III each		$ 44.95	$ 39.00
— Call for prices on other Infocom products			
MENDOCINO SOFTWARE			
Eureka, Disk Cataloger		$ 50.00	$ 48.00
— Helps you find the right file instantly			
MICROSOFT			
MBasic Compiler		$395.00	$299.00
MultiPlan		$195.00	$149.00
MICROSOLUTIONS			
Uniform Kaypro II/2		$ 69.95	$ 49.95
Reads 32+ machine formats			
Uniform Kaypro 2X/IV or 10		$ 69.95	$ 49.95
Reads 90+ machine formats			
Uniform for all other machines		$ 69.95	$ 49.95

continued on next page —

800-533-8049 USA
800-624-5628 CA

Check Your MailBox — Write for Central's Free 64 Page Catalog

Product Description	List	Central
Kaypro CP/M and MSDOS Software		
NORTHWESTERN ANALYTICAL		
StatPak	$495.00	$399.00
PEARLSOFT		
Personal Pearl	$295.00	$165.00
— Easy to use, top flight database manager		
PLU PERFECT SYSTEMS		
Plu Perfect Writer CP/M 2.2E	$ 39.95	$ 34.00
Backgrounder	$ 45.00	$ 39.00
CP/M 2.2E only	$ 32.00	$ 29.00
Date Stamper	$ 39.00	$ 34.00
Date Stamper, General CP/M	$ 49.00	$ 42.00
— CP/M only. Will not work with CP/M 2.2U		
SAN FRANCISCO COMP		
Power!	$149.00	$ 99.00
DocuPower!	$149.00	$ 99.00
SECOND CITY SOFTWARE		
SCS-Draw	$ 59.95	$ 54.00
— Unique CP/M FREE HAND drawing on screen.		
SOFTAIDS		
MTBasic Compiler	$ 49.95	$ 46.00
— Build windows into your programs		
SOFTCRAFT		
Fancy Font NEW	$180.00	$149.00
SOFTWARE COUNTRY		
Book of Change, I CHING	$ 39.95	$ 36.00
— Consult the Oracle. Self-reflection aid		
SOFTWARE RESEARCH TECH		
dFastest, dBase Fast Sort	$ 89.00	$ 69.00
Touch n'Go, Typing Tutor	$ 29.00	$ 24.00
SmartBrain, Idea Processor	$ 99.00	$ 69.00
SOFTWARE TOOLWORKS		
Eliza	$ 24.94	$ 22.00
MyChess	$ 34.95	$ 29.95
Word Wiggle	$ 29.95	$ 27.00
C/80	$ 49.95	$ 45.00
Reading Professor, Speed Read	$ 59.95	$ 54.00
— Call for prices on other Toolworks products		
SORCIM		
SuperCalc 2	$295.00	$235.00
SPECTRE TECHNOLOGIES		
Rembrandt 3.0	$ 79.95	$ 59.00
Rembrandt II/IV with chip	$ 89.98	$ 69.00
Presto	$ 39.95	$ 37.00
TELION SOFTWARE		
Free Filer	$ 49.95	$47.00
Language Tutor	$ 49.95	$45.00
SUPERSOFT		
Disk Doctor	$100.00	$ 75.00
UNISON WORLD		
PrintMaster Graphics	111 pics	$ 49.95
Art Gallery I Graphics	140 pics	$ 49.95
Creative PrintMaster book	$ 13.95	$ 12.00
— Get Creative book free with purchase of both		
WALONICK ASSOCIATES		
StatPak, Statistical Analysis	$495.00	$389.00
Forecast Plus, Time Series	$595.00	$479.00
Hardware		
CAROLINA ENGINEERING NEW		
Stylewriter	$229.00	$199.00
— Printer buffer and varible printer font styles on line		
— For information on this 128k buffer plus, call today.		
PANAMAX		
PowerMax 250 Watt—	$559.00	$399.95
— Battery Back-up. Blackout/brownout etc. protection.		
SWP MICROCOMPUTER PROD		
256k CoPower-88 Plus	$495.00	$399.00
— Plus boards are expandable up 1 megabyte		
— RAM disk. Add PCDOS = MSDOS computer NEW		
Diskettes		
3M SSDD Kaypro II diskettes	10/box	$ 17.00
3M DSDD for all other Kaypros	10/box	$ 21.00
3M Head Cleaning Kit	$ 32.00	$ 21.95
Bookware		
Compleat Kaypro II, IV & 10	$ 16.95	$ 15.00
CP/M for the Kaypro with an Introduction to dBase II	$ 16.95	$ 15.00
Kaypro WP Plain & Simple	$ 13.95	$ 12.50
Using CP/M on Kaypro 10	$ 19.50	$ 18.00
Screen Smarts, Tamer's Guide	$ 15.95	$ 12.95

Free yellow Hi-Liter pen sent with every book order.
Prices, specifications, and offers subject to change without notice.

Do You Wish Writing Was Easier?

If you need to write, or want to write clearly, your Kaypro and the software program **Punctuation and Style** can help you get there faster. It improves, clarifies, and enriches your writing by identifying sentences with misused, redundant, faulty, cliched, or erroneous phrases, and shows you how to improve them. It helps you rewrite and check your work by quickly marking and annotating your files for easy correction. In addition to computer-fast identification of awkward, muddy, pompous, and wordy sentence structure, it also finds missing or improper punctuation, unbalanced quotes, wrong abbreviations, faulty capitalizations, and much more. *Punctuation and Style* actually improves your writing by mercilessly pointing out grammatical errors. After a few weeks with Oasis System's *Punctuation and Style* your writing is bound to become more dynamic, expressive, and honest. In time, you'll stop worrying about grammar and work on projecting ideas instead. After all, that's what writing is about.

Punctuation and Style makes writing and rewriting much easier. The list price of *Punctuation and Style* is $125. Central's price is $95. Experience the power of this valuable "Punctuation Checking and Writing Improvement Software" yourself. Order today to get this program fast.

Punctuation and Style works on files created with Wordstar or Perfect Writer. It comes with an easy to use, clearly written manual and is packaged in an attractive binder. Join thousands who now write with more confidence, faster, and better.

90,000 Word Thesaurus at Your Fingertips

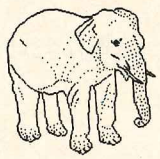
NEW!

Word Finder by Writing Consultants is a 90,000 word thesaurus that is guaranteed to make you and your Wordstar a precise and powerful online writing machine. *Word Finder* is so easy to use that after one or two searches there's no turning back. Your speaking and writing vocabulary will improve dramatically as you use this program to display and study a rich variety of words at the push of a key. Find exciting words instantly.

Word Finder was compiled by a team of lexicographers. It is extremely fast and works within Wordstar, so you never have to leave your file to use it. Just put your cursor on a word in your text, press the escape key twice, and a list of synonyms appears. Then press a key if you want to select and automatically place an alternate word in your onscreen text. *Word Finder* will help you find the exact word you need to properly express your thought. *Word Finder* retails at $124. Central's current low introductory price is **$69.** This offer may not be repeated. Please order today.

Attention: *Word Finder* works with all Kaypros. Gives Wordstar text files new vim, vigor, and punch.

Free Hand Drawing



Amazing. Look at this. Now you can easily free hand draw on your CP/M Kaypro. Really free hand. Just push the cursor around. Draw anything. See it as you draw it. See this elephant? **SCS-Draw** lets you draw this or anything else right on the screen. To draw just move the cursor around. Or use your numeric keypad as super "cursor" keys that let you draw and move around the screen in any direction. Circles, rectangles, and diagonal lines are all a snap. Total control. There's nothing like it for CP/M Kaypros. That's what makes *SCS-Draw* a real drawing program. It's true, you see it on-the-screen as you draw it. Comes with drawing tools, windowing capabilities that let you draw pieces larger than one screen, and much more. Save to disk or print your work at any time. Simple. *SCS-Draw* is a super value at $59.95. Central's price is only $54. Try it for 15 days. If not completely satisfied, send it back for a full refund. There's nothing like it. It turns your Kaypro 1, 2X, New 2, 2'84, 4'84, and 10 into a real Macintosh-like drawing machine. Hours and hours of artistic and creative fun. Only $54. Order today to get *SCS-Draw* fast.

Cordura Travel Case

This full featured, padded carrying case is made from a super-material called "cordura." This material is rip, shred, and water resistant. The Coverman Kaypro case comes fully padded and lined, so your Kaypro is protected from unexpected bumps and jolts. Since your Kaypro is completely enclosed in this case, it keeps rain, sand, and other debris out of your machine. The Coverman case comes with external carrying handles and a detachable strap with a non-slip shoulder pad that comes in handy when you have to carry your Kaypro over a long distance. There is also a large interior pocket perfect for transporting manuals and diskettes. The Coverman Kaypro carrying case is regularly $79.95. Central is proud to offer this expertly constructed case at $59.95. Please indicate your choice of color: silver-gray, dark blue, or brown. All straps and carrying handles are black. You must be completely satisfied with your purchase of this handsome travel case or receive a refund immediately. Order today.

CENTRAL COMPUTER PRODUCTS
330 Central Avenue, Dept R34
Fillmore, California 93015
(805) 524-4189

Dear Central,

Please send me the items listed below. I want fast, friendly service. Remember to include my free 12 foot extension cord. I understand there is no charge for this cord if I purchase 2 or more items from these 3 pages. My check, money order, or card no. is enclosed. Thanks.

Description	Price

Kaypro Model _____ Sub Total _____

CA Resident 6% Tax _____

FIRM MONEY BACK GUARANTEE ORDER WITH CONFIDENCE Postage & Handling $ 3.00

Total $ _____

☐ Navy blue ☐ Royal blue
☐ Send free catalog ☐ Send free 12 foot cord
☐ Check enclosed ☐ Money Order enclosed

☐ Visa/Mastercard # _____

☐ Amer Exp Card # _____

Exp. Date _____ Sig. _____

Name _____

Address _____

City _____ State _____ Zip _____

Credit Card phone orders accepted. **Call toll free.**
To order by mail use coupon, letter, or photo copy. Thank you.

© 1986 Central Computer Products

MS-DOS Graphics: An Overview

The software, the hardware, and the applications

by Frederick Hannon

A quiet but colorful revolution is underway in computer graphics. New software and new expansion boards have turned DOS computers into formidable graphics work stations.

This article is not a review or a technical discussion. It is intended to provide an overview of DOS graphics—both software and hardware. In some ways, this article is like an overview of horseless carriages, written for a turn-of-the-century generation of potential drivers.

Software

The harbinger of this new generation of software was the commercially doomed Lisa computer and Apple's subsequent repackaging of Lisa's mouse-driven drawing program to run on the Macintosh. The immediate popularity of Macintosh's bundled drawing software, MacPaint, soon led to a number of "paint" imitations for IBM-compatibles.

The instant advantage of paint software on DOS machines is color—DOS microcomputers are built to support at least limited color, and their architecture allows the addition of special-purpose graphics cards.

Today there are more than 200 graphics software packages for DOS machines, and none has achieved market domination. Perhaps the best analogy is the American love of variety in ice cream: no single flavor is the universal favorite. The success of so many paint and business graphics software programs is a response to the diversity of needs and personal preferences among computer owners.

Graphics software generally falls into one of five categories: games, low-cost drawing packages, business graphics software, high-performance design and drafting packages, and graphics languages.

Games. Graphics-based games for DOS machines grew naturally out of the quarter-eating monsters at the local arcades. You can get everything from Pac-Man to sophisticated battle simulations marching across your screen at surprisingly affordable prices ($5 to $50). A remarkable number of the newest games are targeted at adults rather than kids. GATO, from Spectrum HoloByte, is an excellent simulation of submarine warfare in the Pacific during World War II.

A subset of the games market is educational games intended for kids from pre-school to high school age. The idea here is to entice them into learning by concealing the lessons in a graphics game format. Math, science, history, and reading are all available.

Low-Cost Drawing Packages. Low-end drawing software includes Draw-It (two colors for $30 from Paperback Software International), PC Paint (four or 16 colors for $99 from Mouse Systems), Drawing Assistant (from two to 64 colors for $169 from IBM), GEM-Draw (up to 16 colors for $249 from Digital Research), Videogram (up to 64 colors for $200 from Softel), and PC-Draw (three colors for $395 from Micrografx), to name but a few.

All these drawing packages feature mouse- or graphics pad-driven drawing capabilities. Although some of them do allow keyboard control, this gets cumbersome, and a mouse should be considered the minimum input device. As a matter of fact, the Microsoft mouse and the Mouse Systems mouse come bundled with some painting packages. Each of these packages uses onscreen icons representing paintbrushes, pencils, spraypaint canisters, and other tools to perform all drawing functions. The number of available colors and the resolution, from 320 x 200 (low resolution) to 720 x 704 (high resolution), vary according to the graphics card installed and user mode selected.

Business Graphics. Business graphics are an offshoot of spreadsheets that offer graphics capability. Business graphics software converts these spreadsheet files, or files from database programs, into pie charts, bar charts, stacked bar charts, and line charts.

COPYRIGHT © 1986 BY FREDERICK HANNON. ALL RIGHTS RESERVED.

These programs allow you to embellish the charts with text fonts and various symbols. The more sophisticated (and expensive) business graphics packages also offer organizational charts, flow charts, PERT charts, and Gantt charts (PERT and Gantt charts are specialized charts designed to aid in planning and managing complex projects).

Typical of the more popular business packages are Boardroom Graphics ($150 from Analytical Software), IMiGIT ($295 from Chorus Data Systems), BPS Business Graphics ($350 from Business and Professional Software, Inc.), The Graphics Gallery ($585 from Hewlett-Packard), GDSS ($795 from Data Business Vision, Inc.), and Autographix 35 ($895 from Autographix, Inc.). Business graphics software is normally used to produce charts, overhead transparencies, or slides for business meetings and sales presentations.

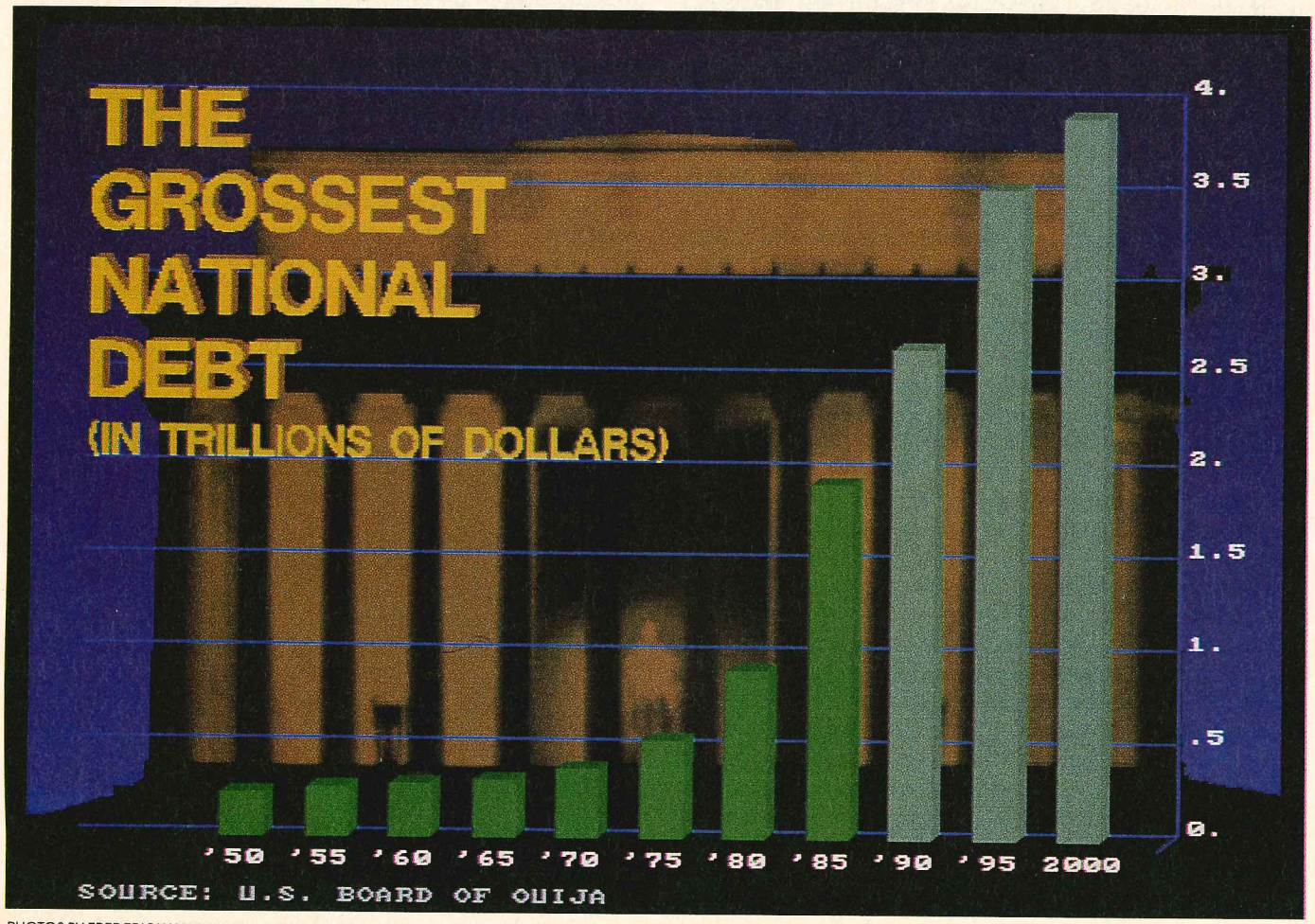
High-End Drawing Packages. Upper-end drawing packages include computer-aided design (CAD) software and also three-dimensional surface modeling software.

CAD software for DOS machines ranges from ProDesign II ($300 from American Small Business Computers) through the industry-standard AutoCAD ($1,000 to $2,500 from Autodesk, Inc.) to the $20,000 and $30,000 systems that use the DOS machine as an intelligent work station for a larger computer. CAD systems are typically dedicated to creating architectural, mechanical, electrical, hydraulic or pneumatic system line drawings that are output on plotters. The more sophisticated CAD packages can also be linked to numeric controlled (NC) manufacturing and are called computer-aided design and computer-aided manufacturing (CAD/CAM) systems.

Three-dimensional surface modeling software ranges from the $29.95 specials advertised in the back of *Byte* and *PC World* on up to a professional-level package for $4,950 from SUPERSET. Some 3D surface modeling programs can take a series of CAD drawings—of a B1 bomber or the Statue of Liberty, for example—and create a realistic three-dimensional rendering. With a flurry of commands, the surface can be changed from one color to another, to chrome or textured, or made ghostly translucent in order to let interior details show through the outer layer.

Graphics Languages. Graphics languages like LOGO began in the world of mainframes two decades ago. Today a number of graphics languages run on PCs, allowing the user to specify shapes with words like LINE, BOX, CIRCLE, and ELLIPSE. Subsequent lines of code establish the dimensions of these forms, their placement on the screen or printed output, and their interaction to form complex images.

These graphics languages range from extensions (sets of subroutines) of existing languages such as Pascal to new languages designed specifically to



PHOTOS BY FREDERICK HANNON

GRAPHICS GENERATED BY LUMENA

GRAPHICS GENERATED BY PC PAINT

manipulate graphics images. Of interest to PC users is the North American Presentation Level System (NAPLS), which is the standard language for videotex services. Using NAPLS, businesses can transmit pixel-level graphics images across telephone lines. To learn more about NAPLS, call (303) 632-4111, the Colorado number of CHARIOT—the only public-access NAPLS bulletin board in America.

Hardware

All computer graphics systems have certain hardware in common: a microcomputer, a keyboard, and a storage device (usually a hard disk). Beyond that, there is a wide variety of input, display, and output devices from which to choose, as well as a myriad of graphics cards.

Input Devices. Input devices are tools for creating and/or capturing data the computer can understand. They include the cursor (arrow) keys on your keyboard, paddles, joysticks, mice, trackballs, light pens, graphics tablets, and video digitizers.

Cursor keys control movement on the X and Y axes (horizontal and vertical movement). They come "free" with your keyboard, but are slow and awkward to use.

Paddles are potentiometers that generate voltage in proportion to how far you turn a large knob. Usually separate paddles are needed for the X and Y axes.

Joysticks allow simultaneous up-and-down and right-and-left control. The two main types of joysticks are switch activated (only slightly better than the cursor keys, but inexpensive) and potentiometer activated (giving greater control for delicate manipulations).

The mouse is a small box-like device with one or more switches on top. The device is called a mouse because of its tail—the electrical cord connecting it to the microprocessor. Mice generally are considered the minimal equipment necessary for efficiently creating images using paint-type graphics software. The two types available are an optical mouse or a mechanical mouse. You also get a choice of whether your mouse plugs into a serial port or interfaces with a separate adapter card.

A mechanical mouse has a hard rubber ball at its core. As the mouse is moved, friction with the tabletop rolls the ball, which in turn rotates two wheels positioned at right angles to each other. As the wheels turn, they generate pulses that the computer interprets as signals governing the X and Y axes. (The ball should be removed and cleaned periodically to maintain proper contact with the tabletop and wheels.)

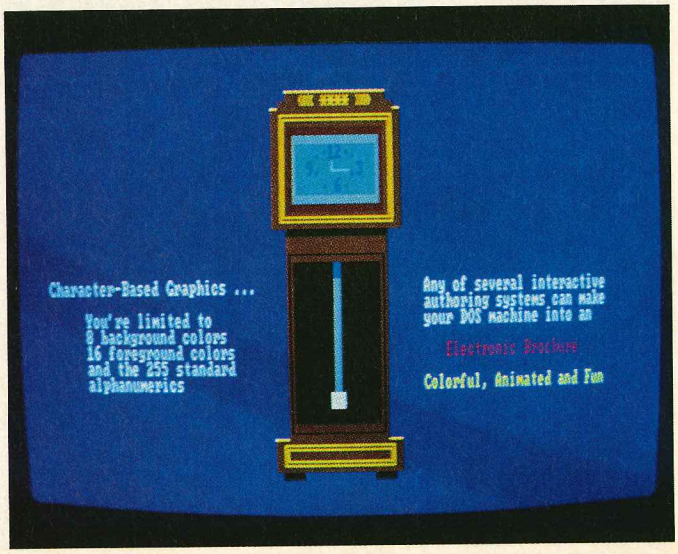
An optical mouse has a small infrared lamp and a receiver on its underside. Optical mice are moved on top of special pads with light and dark grid lines. The different reflective qualities of the light and dark areas are translated by the computer as pulses dictating the input. The quality of optical mice varies greatly with price, but many mouse-users prefer the optical devices with their near-frictionless motion over their mechanical counterparts.

A variation on the mechanical mouse is the trackball—a mechanical mouse turned upside down. Instead of rolling the ball on a tabletop, you rotate the ball in its stationary holder by rubbing it with your palm. Trackballs are best known for their use in video arcade games, but the commercial versions are useful where space is limited.

Light pens are photodetectors that respond to electron beams from the CRT screen. They are useful in CAD drafting, where you place the light pen exactly where you want to add or change a line. The obvious disadvantages are that your arm will tire from holding the pen to the screen and you must sit so close to the monitor that you risk eyestrain.

Graphics tablets are the most popular input device among graphics professionals. The graphics tablet (also called a graphics pad) is similar to the pad used with an optical mouse, but of higher resolution (up to 1,000 lines per inch). Covering the grid is a protective plastic sheet, against which the transmitter is placed. The transmitter is called a stylus (or pen) and can range in appearance from a mouse-like puck to something resembling a ballpoint pen. As the stylus is positioned over a juncture of grid lines, the signals are

(continued on page 32)



GRAPHICS GENERATED BY PICTOGRAM INTERACTIVE AUTHORING SYSTEM

An Invitation To Join The Kaypro Users' Group

The new **KAYPRO** computers have been exciting businessmen, professionals and hobbyists for some time, and the response to **KUG** (Kaypro Users' Group) has been much more than gratifying.

With the help of Kaypro Computers, our technical staff and our membership, we offer you the following:

- HELPFUL HINTS ON USING THE OPERATING SYSTEMS AND THE SOFTWARE PACKAGED WITH THE KAYPRO.
- SOFTWARE AND HARDWARE AVAILABILITY AND REVIEWS
- TECHNICAL INFORMATION
- PROGRAMS DEVELOPED BY MEMBERS
- LOCAL KUG CHAPTER INFORMATION
- INFORMATION ON PERIPHERALS COMPATIBLE WITH THE KAYPRO
- PRINTER CONFIGURATIONS
- UP-DATES REGARDING THE KAYPRO LINE
- SPECIAL 24 HOUR BULLETIN BOARD FOR ALL MEMBERS
- COMPUSERVE ON LINE FOR "DOWNLOADING" PROGRAMS
- SPECIAL DEALER DISCOUNTS TO KUG MEMBERS

The above is represented in our bi-monthly **"Kugram®"** newsletter that is received by all members. Annual membership is $15.00 (U.S.).

Learn more about how you can get additional benefits from the ***portable, powerful*** and ***exciting*** **KAYPRO** computers. **JOIN NOW!!!**

Use the attached card for further information or make checks payable to **KUG** and mail to:

KUG
Kaypro Users' Group
POST OFFICE BOX P100
MALVERNE, N.Y. 11565

An Invitation To Join The W/P Users' Group

Chances are that your KAYPRO is being used for many applications ... and one of them is probably Word/Processing.

If you are using your computer to type reports, write a book, or any other kind of writing, you should think about becoming a member of the W/P Users' Group.

Our bi-monthly newsletter, Scroll, published by the same people who bring you the KUGRAM®, contains information that will help you do more with your computer. Articles such as:

Reviews of the latest word processing software;
Basic tutorials and hints on using W/P software;
Tutorials on using the operating system for W/P;
Special columns devoted to business, professional and educational writing ... for the secretary, too;
Glossary of computer terms mentioned in each issue;
A vendor column of W/P software suppliers;
Box 144, our informal mail information exchange;
Listings of local W/P User Groups.

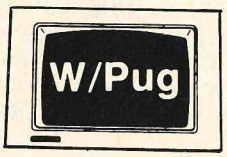
In addition, we operate our own national Bulletin Board system. This information and the best of Scroll-BB is printed in the newsletter.

Annual membership fee of $15.00 (U.S.) must be accompanied by a letter stating your name, address, telephone, computer model, printer model and the word/processing program that you are presently using. KUG members can save 20% by just including their KUG I.D. number along with a check for $12.00.

Become a W/Pug member and learn how many other writers are saving time and effort while producing professional documents on their computers.

JOIN NOW!!!

Use the attached card for further information or make checks payable to W/PUG and mail to:



W/Pug
P.O. Box P144
Malverne, NY 11565

PEOPLETALK

ALL STAR GUIDE

In Peopletalk's learner-friendly style covering:
- WordStar ™ - MailMerge ™ - CalcStar ™
- DataStar ™ - ReportStar - SuperSort

Easy-to-read tutorials on all Star software: starts with basics -- builds to advanced uses; expert tips and advice; fully indexed. **A great gift!** **$21.95**

PEOPLETALK QUARTERLY

60 pages & going strong! Written in plain English.
- Product reviews
- In-depth articles
- Perfect Software
- Public Domain Software
- Telecommunications
- Book section
- MicroPro software
- Printer Tips
- Beginner Helps
- Salvo & dBase

Don't Miss Our Christmas Product and Gift issue!

4 issues MONEY-BACK GUARANTEE **$20.00**
Back issues **$5.00**

WordStar & Friends - Kaypro 2 and 4 **$19.95**
Perfect Manuals for Kaypro 2 or 4 **$17.95**

Perfect Writer On The Kaypro **$17.95**
Easy-to-read tutorial for Perfect Writer users. Unleash the power of Writer with this book.

An In-Depth Look at Perfect Writer **$19.95**
"On the subject of Perfect Writer, without a doubt the best 'under the hood' book is **An In-Depth Look at Perfect Writer**" - Tyler Sperry, Profiles

Plu*Perfect Writer + CP/M Enhancements **$31.95**
"A wonderful program that enhances the features of Perfect Writer." - Peter McWilliams
CP/M Enhancements only **$27.95**

Plu*Perfect's BackGrounder **$37.95**
"The only thing more amazing than the performance is the price!" - Peter McWilliams

Plu*Perfect's DateStamper **From $31.95**
Automatically time and date stamps files. Logs system use. Includes date-oriented sweep utility.

KAYPRO UPGRADES

DOUBLE YOUR SPEED, DOUBLE YOUR FUN! Our 5MHz TurboBoard is about twice as fast as your original processor. Gets jobs done faster.
5MHz TurboBoard (Kaypro II and 4 only) **$74.95**

CAN YOUR COMPUTER TELL TIME? Real-time Clock/Calendar for Plu*Perfect DateStamper. Marks time and date. (All Kaypros except 4/84) **$89.95**

A DISK WITHOUT A DRIVE? A **RAMdisk** gives you another drive (for temporary storage). Programs run lightning FAST! Comes with 256K of RAM, expandable to 1 Mb. With expansion board you get 2 Mb RAMdisk. Easy to install. **$399.95**

DEPOT UPGRADE SERVICE **$99.50**
Afraid to open your Kaypro? Our pros will install your upgrade for $99.50 plus shipping.

TurboROM: Supports up to four double-sided or quad density drives. Speeds disk read/write. Kaypro 10 version increases memory to 63K, adds 1Mb extra storage, makes hard-disk up to 4 times faster. Designed to work with our RAMdisk. 6 built-in disk formats -- automatically recognizes Osborne & other disks. 100% Kaypro compatible.
K83 all '83 Kaypro models **$79.95**
K84 all Graphics Kaypros **$79.95**

STORE WARS

Don't trade your Kaypro because you've outgrown the drives. Add-on drives are the solution!

Kaypro 10 Hard Disk expansion: Increase 10's capacity with second internal hard disk. Includes disk, cables, mounting hardware, TurboRom. If existing drive is full height, use our external kit.
10Mb, 20Mb, 32Mb **From $689.95**

Kaypro 2 & 4 Internal Hard Disk: Includes drive, controller, cables, TurboRom, mounting hardware.
10Mb, 20Mb, 32Mb **From $1075.95**
Kit without drive **$561.95**

External Hard Disk Kits: Holds 2 full-height drives, cables, controller, host adapter, power supply and fan. Gives maximum capacity of 112Mb, plus room for our RAMdisk.
10Mb, 20Mb, 32Mb **From $1436.95**
Kit without drive **$737.95**

Hard Disks Only: Same drives shipped in our kits.
10Mb, 20Mb, 32Mb **From $513.95**

Kaypro 2 & 4 Floppy Upgrades: Get almost 2 megabytes of capacity on Kaypro II or 4 with our kits. Accepts Double-sided (390K) or Quad density (790 K) drives. Includes TurboRom.
2 Double-Sided Drives (KII) **CALL!**
2 Quad and 1 Double (KII,4) **CALL!**

Expansion Module: Used with TurboROM to provide for adding drives C: and D:. Works with Double and Quad drives. **$39.95**

KAYPRO 10 CORNER

FASTBACK - Highly praised backup utility **$74.95**
PASSWORD - The complete security system. Gives you control over who has access to your computer and what areas they may use. **$49.95**

PEOPLETALK

JUST RELEASED!

MS-DOS EDITION

FREE SOFTWARE HANDBOOK $17.95

The CP/M edition is in its third printing; the PC-DOS/MS-DOS volume took a year to research and write, but it's out in time for Christmas gift giving. Separate editions for CP/M & MS-DOS. Features top programs in public domain:

- What they are
- How to get them
- When they're useful
- How they work

(Handbook plus software disks **$62.95.** Disks only **$54.95.** Please specify machine & disk format.)

78 Disks of CP/M and MS-DOS Public Domain Software! See Christmas issue of our Quarterly or call for our P.D. Disk catalogue. Per disk: **$11.95**

SALVO **The Ultimate Database CP/M $99.95**
MONEY-BACK GUARANTEE! MS-DOS $149.95
Fully relational database, uses up to 16 files at one time, natural language interpreter -- talk to Salvo in English, powerful 4th generation language -- write whole programs in 2 or 3 lines.

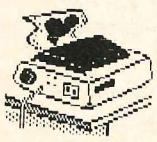
Checks & Balances™ **CP/M or MS-DOS $64.95**
Easy-to-use accounting package for personal and business use. MONEY-BACK GUARANTEE!
"If anyone had told me that I would be balancing my checkbook and enjoying it, I would have suggested he was a candidate for a rubber room!" Dave Gerrold, Profiles Magazine

NEW! SmartKey4™ **for CP/M Kaypros $44.95**
NEW! SmartKey5 for MS-DOS machines $54.95
SmartKey-II for Other CP/M Machines $44.95
Customize your keyboard and turn your most-used commands into one keystroke. **A perfect gift!**

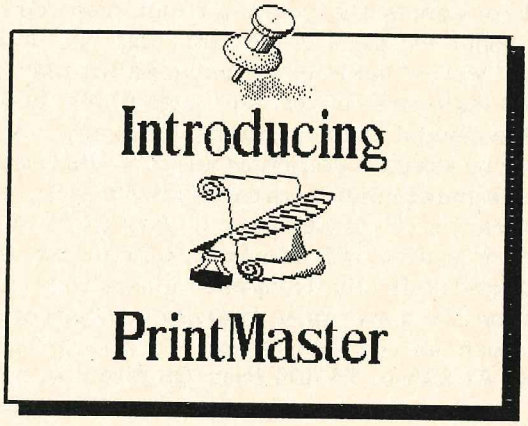
SmartPrint Take control of your printer! **$19.95**

RAMdisk with PC-DOS processing capability. 256K (expandable to 1 Mb) RAMdisk **runs IBM's PCDOS** on CP/M Kaypro Osborne Xerox & Morrow.
Co-Power 88 and 88 Plus From $324.95

Rembrandt™ **- Charts, Graphs & Plots $59.95**
Kaypro & Osborne CP/M Demo disk **$6.00**



TAXAN PRINTER BUFFER $239.00
64K memory, comes pre-cabled for 1 parallel printer. Expandable to 256K & 2 printers. Expansions just plug in, no mechanical skill required.



NEW! PrintMaster Super Graphics - Low Price
The amazing PrintMaster lets you create -

- Pictures
- Stationary
- Signs
- Greeting Cards
- Posters
- Banners

All art in this ad was created by PrintMaster! Runs on **ANY** CP/M Kaypro or Morrow & most MSDOS machines. Uses Epson, Gemini, Okidata, or Toshiba Printers. Includes 111 predefined pictures. Creates millions of unique designs. Very Flexible and Easy To Use. **MONEY-BACK GUARANTEE!**
PrintMaster $49.95
PrintMaster Demo Disk $6.00
You've Never Seen Anything Like PrintMaster!

NEW BOOK! - The Creative PrintMaster $13.95

DISKETTES! SPECIAL 25 DISK PREPACKS

Single-Sided: **$1.20 each $30.00 Box**
Double-Sided: **$1.40 each $35.00 Box**
Includes warranty, envelopes & labels

DISKETTE BREEDING CAGES
Tubs and Library Boxes for Perpetual Disk Growth:
5 Library Boxes (10 disks each) **$10.95**
Disk Tub (holds 25 disks) **$15.95**
Disk Tub (holds 50 disks) **$19.95**
Locking Disk Tub (50 disks) **$22.95**

PHOENIX The Incredible Self Re-Inking ribbon!
Guaranteed to outlast 12 mortal ribbons. Fits Okidata, Gemini & some C.Itohs. Pick one:
Printaholic **$15.95** Heavy Abuser **$15.95**
Daily Habit **$15.95** Occasional User **$15.95**

Write or call for our complete catalogue.
Attention Programmers! We publish software. Contact us for information.

PEOPLETALK ASSOCIATES, INC.
P.O. Box 863652-A
Plano, TX 75086
1-800-PT BOOKS
Inside Texas call: **1-214-423-4634**

Please include product price in U.S. Dollars + $3 shipping & handling, $7 for COD ($12 surface or $25 air mail outside U.S.) Texas residents add tax.

(continued from page 28)

received on the horizontal and vertical wires and converted to signals the computer can read. Graphics tablets offer excellent resolution, long life, and the natural "feel" of holding a pencil or paintbrush.

Video digitizers convert an image ("live" action or two-dimensional fixed pictures) into digital signals that can be stored in computer memory. The low-price/low-performance digitizers can take two or three minutes to capture a single image in gray tones. A black and white camera with interface card can cost as little as $200 and is effective for applications where time and resolution are not critical. Higher-end digitizing systems (such as the Imageware Processing/Database system, $1,895 to $3,385 from Quadram Corp.) can make you look twice to be sure it isn't a television picture.

Graphics tablets offer excellent resolution and the natural "feel" of holding a pencil.

Display Devices. Mass-market economics are the key to the availability and affordability of superior monitors. As graphics software gains recognition as a necessity (rather than a luxury) in the workplace, higher-resolution monitors will become commonplace.

Monitor resolution is defined in terms of the distance (pitch) between the pixels (dots) onscreen—hence the term "dot-pitch" to designate resolution. Dot-pitch increments range from the old standard of 0.43 millimeters (approximately 3,500 pixels per square inch) to "high resolution" (0.31 mm, or about 6,700 pixels per square inch) to "ultra-high resolution" (0.22 mm, or about 13,330 pixels per square inch). To put these numbers into perspective, 0.43 mm roughly corresponds to the resolution of cartoons in the Sunday newspaper while 0.15 mm is close to the print quality of picture postcards.

The price of high-resolution monitors has dropped from more than $1,000 two years ago to about $750 today.

Closely related to the dot-pitch of a monitor are its horizontal and vertical scan frequencies. Higher resolution monitors with more dots have to use higher scan frequencies. A pixel only stays "on" for a short time, so the video card has to constantly "refresh" all the pixels on the screen. If the screen isn't refreshed often enough it will "flicker." Horizontal and vertical scan rates of the monitor and graphics adapter board have to match in order to work together properly.

The only time you have to be careful is when you are purchasing a color/graphics board with a resolution higher than the IBM standard of 640 x 200. Note that most "high resolution" RGB monitors have a horizontal scan rate of 15 MHz, which matches the requirements for 640 x 200 IBM graphics. Once you get above that resolution, you'll have to buy a new monitor to go along with your new graphics board.

PC Graphics Adapters. If you want color and graphics, you need a color/graphics video card in addition to a color monitor. The video card currently included on the Kaypro PC and Kaypro 16 will support both a monochrome monitor and an RGB color monitor. This video card replaces both the monochrome card and the color/graphics card used in IBM PCs. The color/graphics capabilities of this video card are fully compatible with the IBM color/graphics standard. (The video card on the original Kaypro 16 is a color/graphics card and does not support a monochrome monitor.)

The IBM color/graphics standard gives you several video modes: 40- or 80-column by 25-row text in black and white, 40 or 80 x 25 text in 16 colors, 320 x 200 graphics in four colors, and 640 x 200 graphics in two colors. Almost all DOS graphics software is designed to use one of the IBM standard graphics modes. The monochrome mode (or card) is intended for text work only. The main advantage to monochrome mode, used with a monochrome monitor, is that the text is fully formed (you can't see the individual dots the way you can with a color card) and it is far easier on the eyes than text mode on a color/graphics card.

If you want more than the IBM color/graphics standard—more colors or higher resolution—then you're in the market for one of the third-party graphics cards. You can get video cards that will do graphics on a monochrome monitor, give you more colors at the standard resolutions, or give you both more colors and higher resolution than the IBM standard.

The original monochrome graphics card is the Hercules Graphics Card ($499 from Hercules Computer Technology). This card lets you do graphics on a monochrome monitor with a resolution of 720 pixels horizontal and 348 pixels vertical. The only drawback to the

If you want more than the IBM color/graphics standard, then you're in the market for a 3rd party card.

Hercules card (and Hercules-compatible cards) is that a special video driver has to be loaded when you boot your computer. Not all commercial software is compatible with the Hercules video driver, so check before you spend the money on graphics software.

Other monochrome graphics cards can simulate the standard IBM graphics resolution on a monochrome monitor. A video card like the Everex Edge ($399, Everex systems) or the Genoa Spectrum ($429, Genoa Systems) will let you do anything with a monochrome

monitor that can be done with an RGB color monitor. Some of these cards can also hook up to either a color or a monochrome monitor.

If you simply want more colors than the IBM standard allows, but not higher resolution, then you can buy a new video card and keep your standard RGB monitor. A card like the Graphics Solution ($299, Array Technologies) will give you up to 16 colors in 640 x 200 graphics mode, as well as emulate a monochrome card or Hercules card and do standard-resolution graphics on a monochrome monitor. Since the screen resolution is the same as the IBM standard, this card can use a standard RGB monitor.

When you get into color/graphics cards with resolution above 640 x 200, plan on buying a new monitor to go along with the video card. A card such as the Tecmar Graphics Master ($695, Tecmar Inc.) will give you resolution better than the IBM standard. At a resolution higher than the IBM standard, the card has to run at faster sweep frequencies to keep all the extra pixels refreshed. The monitor must be able to accept the higher-frequency signal to work. Be ready to spend from $800 to $1,500 for a new monitor if you want to take full advantage of your new graphics card.

Output Devices. The main choices for graphics output devices are hardcopy printers, plotters, and photographic film recorders.

Hardcopy printer/plotters include dot-matrix printers, ink jet printers, laser printers, and plotters. Dot-matrix printers are becoming more sophisticated, with printheads of up to 24 pins arranged in overlapping configurations to give up to 200 dots per linear inch. Similarly, laser printers offer resolutions of 300 dots per inch, with the promise of doubling the resolution for the mass market in the coming years. The catch is that dot-matrix only offers up to eight colors, and laser printers currently print in only black, gray, or white (reverse video).

The main choices for graphics output devices are printers, plotters, and film recorders.

Ink jet printers support up to 128 colors, but the colors tend to wash out and lack the vividness of the luminescent images onscreen. Multiple-pen plotters can deliver excellent resolution, but lack vivid color. Plotters were originally designed to operate with CAD

(continued on page 74)

ACCOUNTING SOFTWARE

"A Complete Accounting System For Your Specific Industry"

$49.95

- FOR CP/M MS: DOS & PC: DOS MACHINES
- COMPLETE ACCOUNTING VS. JUST SOFTWARE
- OVER 100 PROGRAMS IN EACH PACKAGE
- FREE SUPPORT

TO ORDER CALL:
(IN PA) 1-800-551-ROSE
(OUT OF PA) 1-800-553-ROSE
FOR MORE INFO. 215-443-7028

ROSE ASSOCIATES
2005 FAIR OAKS AVE.
HATBORO, PA 19040

GENERAL SYSTEM — $49.95
INVOICING, ACCTS RECEIVABLE, ACCTS PAYABLE, PAYROLL, INVENTORY, ORDER ENTRY, PURCHASE ORDER, GENERAL LEDGER

CONSTRUCTION — $49.95
JOB COST, ACCTS RECEIVABLE, ACCTS PAYABLE, PAYROLL, INVENTORY, ORDER ENTRY, BID PREPARATION, GENERAL LEDGER

RETAIL SALES — $49.95
DROP SHIP PURCHASES, ACCTS RECEIVABLE, ACCTS PAYABLE, PAYROLL, INVENTORY, ORDER ENTRY, MAIL LIST MGMT, GENERAL LEDGER

EQUIPMENT RENTAL — $49.95
RENTAL BILLING, ACCTS RECEIVABLE, ACCTS PAYABLE, PAYROLL, INVENTORY, 3RD PARTY BILLING, MAIL LIST MGMT, GENERAL LEDGER

PROFESSIONAL — $49.95
TIME BILLING, ACCTS RECEIVABLE, ACCTS PAYABLE, PAYROLL, INVENTORY, ORDER ENTRY, MAIL LIST MGMT, GENERAL LEDGER

MANUFACTURING — $49.95
JOB TRACKING, ACCTS RECEIVABLE, ACCTS PAYABLE, PAYROLL, INVENTORY, ORDER ENTRY, BID PREPARATION, GENERAL LEDGER

WHOLESALE SALES — $49.95
DROP SHIP PURCHASES, ACCTS RECEIVABLE, ACCTS PAYABLE, PAYROLL, ORDER ENTRY, MAIL LIST MGMT, GENERAL LEDGER, INVENTORY

MEDICAL BILLING — $49.95
3RD PARTY BILLING, ACCTS RECEIVABLE, ACCTS PAYABLE, PAYROLL, INVENTORY, MAIL LIST MGMT, PATIENT HISTORY, GENERAL LEDGER

NAME _____
ADDRESS _____
CITY _____ STATE ____ ZIP _____
MONEY ORDER _____
VISA _____ MC _____ EXP. DATE _____
CARD # _____

COMPUTER TYPE _____
DISK TYPE _____
SYSTEM DESIRED _____

INCL. $7.50 FOR POSTAGE & HANDLING. PA RESIDENTS ADD 6% SALES TAX.
FOR MORE INFO. CALL 215-443-7028.

Pop-Up Desktop Utilities

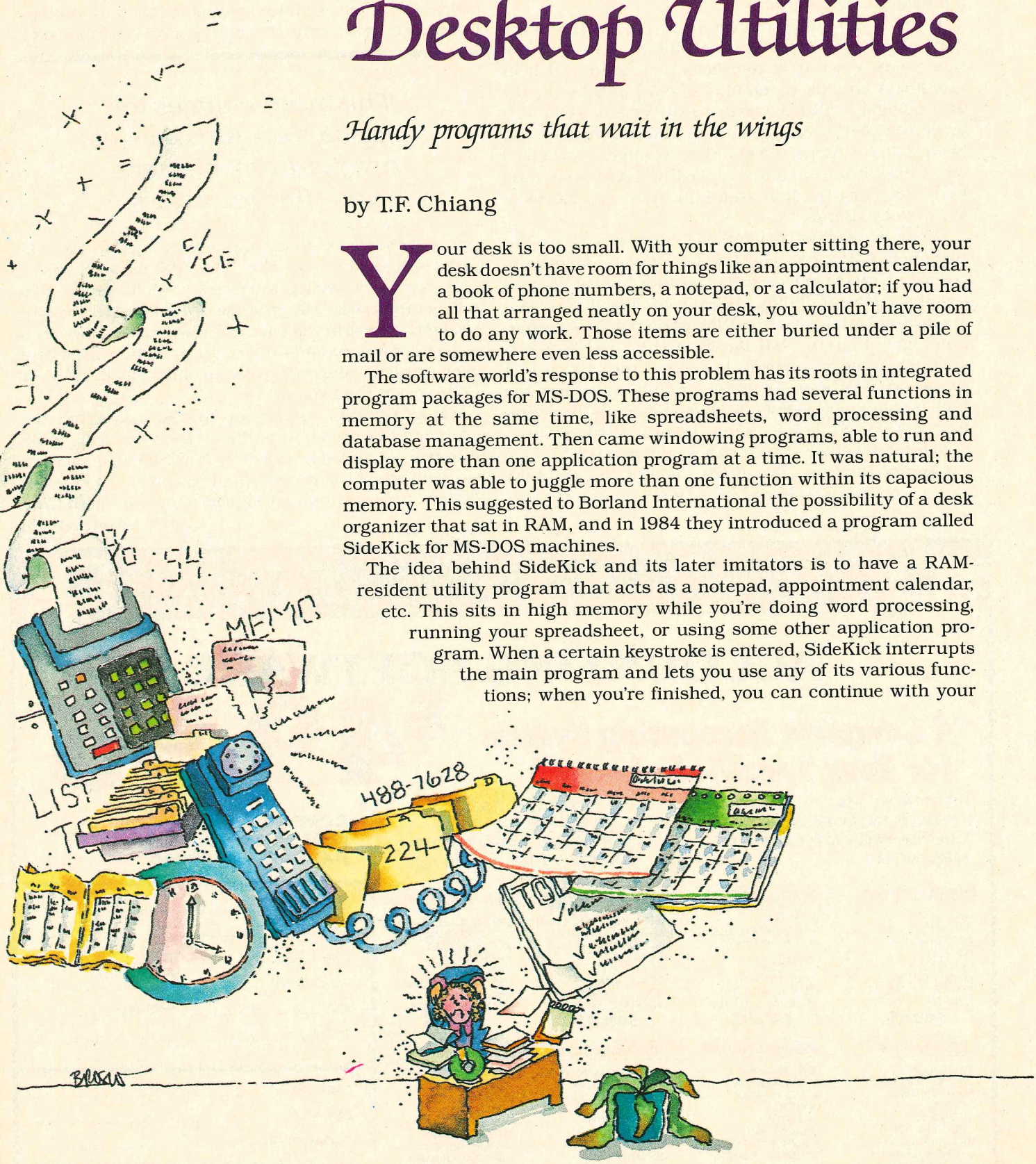
Handy programs that wait in the wings

by T.F. Chiang

Your desk is too small. With your computer sitting there, your desk doesn't have room for things like an appointment calendar, a book of phone numbers, a notepad, or a calculator; if you had all that arranged neatly on your desk, you wouldn't have room to do any work. Those items are either buried under a pile of mail or are somewhere even less accessible.

The software world's response to this problem has its roots in integrated program packages for MS-DOS. These programs had several functions in memory at the same time, like spreadsheets, word processing and database management. Then came windowing programs, able to run and display more than one application program at a time. It was natural; the computer was able to juggle more than one function within its capacious memory. This suggested to Borland International the possibility of a desk organizer that sat in RAM, and in 1984 they introduced a program called SideKick for MS-DOS machines.

The idea behind SideKick and its later imitators is to have a RAM-resident utility program that acts as a notepad, appointment calendar, etc. This sits in high memory while you're doing word processing, running your spreadsheet, or using some other application program. When a certain keystroke is entered, SideKick interrupts the main program and lets you use any of its various functions; when you're finished, you can continue with your



Copyright © 1986 T.F. Chiang. All rights reserved.

previous business, right where you left off. A program like this gives you those desk accessories in software form at the touch of a button whenever you need them—very convenient.

The only problem with such a program is that you must have the memory for it to sit in. With an 8-bit processor like the Z80, the memory that you can directly access is limited to 64K; with an 8088 (16-bit) processor you can easily have ten times that much. This allows 16-bit computers to run huge programs and have plenty of memory to spare for a RAM-resident program, while CP/M machines must hang out the "No Vacancy" sign.

Recently, however, SideKick-type programs have appeared for CP/M machines. How can they do that when your application program and data files are already using up most of the RAM you have? They work by using disk storage: A small master program resides in memory and goes to the disk whenever you call up one of its functions. Obviously such a program can't work as fast as one entirely in RAM, but it can be convenient anyway.

Here we'll take a look at five desk utility programs—two MS-DOS and three CP/M. *(See related article on Handyman on page 47.)*

SideKick (ver. 1.5, for MS-DOS)

Here is the original, and it is still the main contender among the genre of programs that it spawned. The competing products may have more features, but SideKick is what comes to mind when you think of desk accessory programs.

The accompanying documentation is excellent, fully describing each of the program's five functions: notepad, phone directory, calendar, calculator, and an ASCII reference table. The program that goes into memory is SK.COM, almost 37K in size, but there are smaller versions of the program if you only want some of the functions; the smallest is under 17K. The only program file you'll need on disk is the help file, 44K, and you can even get rid of that once you've mastered all the program's commands.

After loading SideKick into memory, you invoke it by pressing the CTRL-ALT keys. This brings up the menu of functions in a window

ILLUSTRATION BY CHRISTINA BROSIO

onscreen, and you can choose the options by any of several keystroke methods. Each function then brings up its own window. You can even call up other functions from within a function and move among several windows. Whenever SideKick is running, there is a command line at the bottom of the screen displaying commands for the function currently active; detailed help is available by pressing F1.

SideKick's most powerful feature is its notepad, a WordStar-compatible editor. It has almost the full set of editing commands, including find-and-replace and block movements. (And if you don't like WordStar, you can redefine all the commands with the installation program.) It can take a block of text off the screen and insert it into your own document, or send a block to the main application you're running.

Other features include a command to sort a block by lines (useful for alphabetizing lists) and the ability to have SideKick time-stamp the file every time you edit it. The file is loaded the first time you use the notepad; it remains in memory the entire time, so you'll have to remember to save it by yourself.

One thing that you can create and alphabetize with the notepad is the phone directory file. It's a list of one-line entries, each entry containing an abbreviated keyword, the phone number, and a comment. You can use different directory files and search a directory by keyword. If you have a Hayes-compatible modem, you can then use the autodialer to dial the number you pick off the list, or even have it dial a phone number that appears on your screen.

The calculator function imitates a simple four-function calculator, with some additional functions for programmers. It can display up to 18 digits, but it is fixed-point, with only four decimal places. You can also work in binary or hexadecimal, or use logical operations such as AND, OR and XOR. It will hold only one number in its memory, but you can assign a number to any key to "paste" into your main application.

The perpetual calendar with datebook initially displays the present month, but you can move to any other month. To make appointments, you can choose the present day or specify one; it then displays the datebook file, and you can create different datebook files for different people's appointments. The schedule allows just a single-line entry for each half hour. Besides direct entry of appointments, you can also print or delete sections of the file.

Finally, there is the ASCII reference table. This table in fact displays all 256 characters for the IBM, not just the ASCII ones. Besides the decimal and hex values, this table displays what the bytes themselves look like (if possible), so you know the values for your foreign and graphics characters, and what they look like on your screen.

PolyWindows Desk Plus (ver. 1.2A, for MS-DOS)

PolyWindows is the function-loaded program that Kaypro added to the software bundle for its MS-DOS machines. (Some models of the 286i do not come with software.) A version customized for Kaypros, called KDESK, has been included with MS-DOS Kaypros since July 1985. It has good documentation, with a helpful section on installation options.

The main program, DESK.EXE, takes about 50K; if all the functions are loaded, more than 120K will be used up. However, you can customize a batch file to load whichever functions you like; all text files (or datebooks, etc.) are loaded in this process as well, so the program won't have to load them later on. When you invoke PolyWindows with CTRL-ESC, a menu line of five general functions appears at the top of the screen, with choices like DOCUMENTS and DESK TOOLS. When you move your cursor to one, a submenu drops down for you to choose from. This pull-down menu format continues throughout the program, and local menus for each function are available with SHIFT-ESC. You can have multiple windows onscreen and move among them.

PolyWindows is the function-loaded program for Kaypro's MS-DOS machines.

From the DOCUMENTS menu, you choose which document you want to edit. The editor is easy to learn, but it's not the most efficient for serious word processing: commands are executed by pulling down a menu and choosing a function. There are menus for search and replace, changing editing modes, and printing (only block functions are keystroke sequences). If you change the window size, the text will automatically be reformatted for the new margins.

The CARD FILES window imitates a Rolodex. You're given a choice of "decks" of cards, which can differ in sizes or number of cards. These cards have index tabs, and by using a keystring you can search for a card by its tab. Included is a deck of help cards, with information on all the PolyWindows functions, that you can access by topic. The file cards are plain text, containing whatever you want. Although you can label each line like a field on a record, there is no way to search by a specific field.

The DESK TOOLS menu leads you to several miscellaneous functions, of which the main one is the clock/calendar. It boldly displays the system time or the

(continued on page 48)

... Especially for you

Just for Kuggers . . .

Coffee Cups

Brighten your mornings with this Kaypro coffee cup, made of English Ironstone. Your morning coffee will taste better in this sturdy cup, displaying an attractively repeated Kaypro logo design. Available in black on white or white on black.

Business Card File

How many times have you lost that important business card? Get organized with the new Kaypro Business Card holder. It features a foil Kaypro logo on outside cover and holds up to 96 business cards in easy view for quick reference. It's an ideal complement to the matching executive meeting folder.

Meeting Folder

Breeze through the workday with Kaypro's "Executor" deluxe meeting folder. Metal corners and turned edge stitched construction. Silver foil Kaypro logo on right front cover and inside. Complete with letter sized writing pad and pen loop.

. . . meetings anyone?

If the Shirt Fits . . .

The Famous Kaypro Baseball Hat

Batter's up! It's always baseball season with Kaypro. This jaunty white baseball hat sports the Kaypro logo in a two color "puff print." Adjustable strap—one size fits all.

Kaypro White T-Shirt

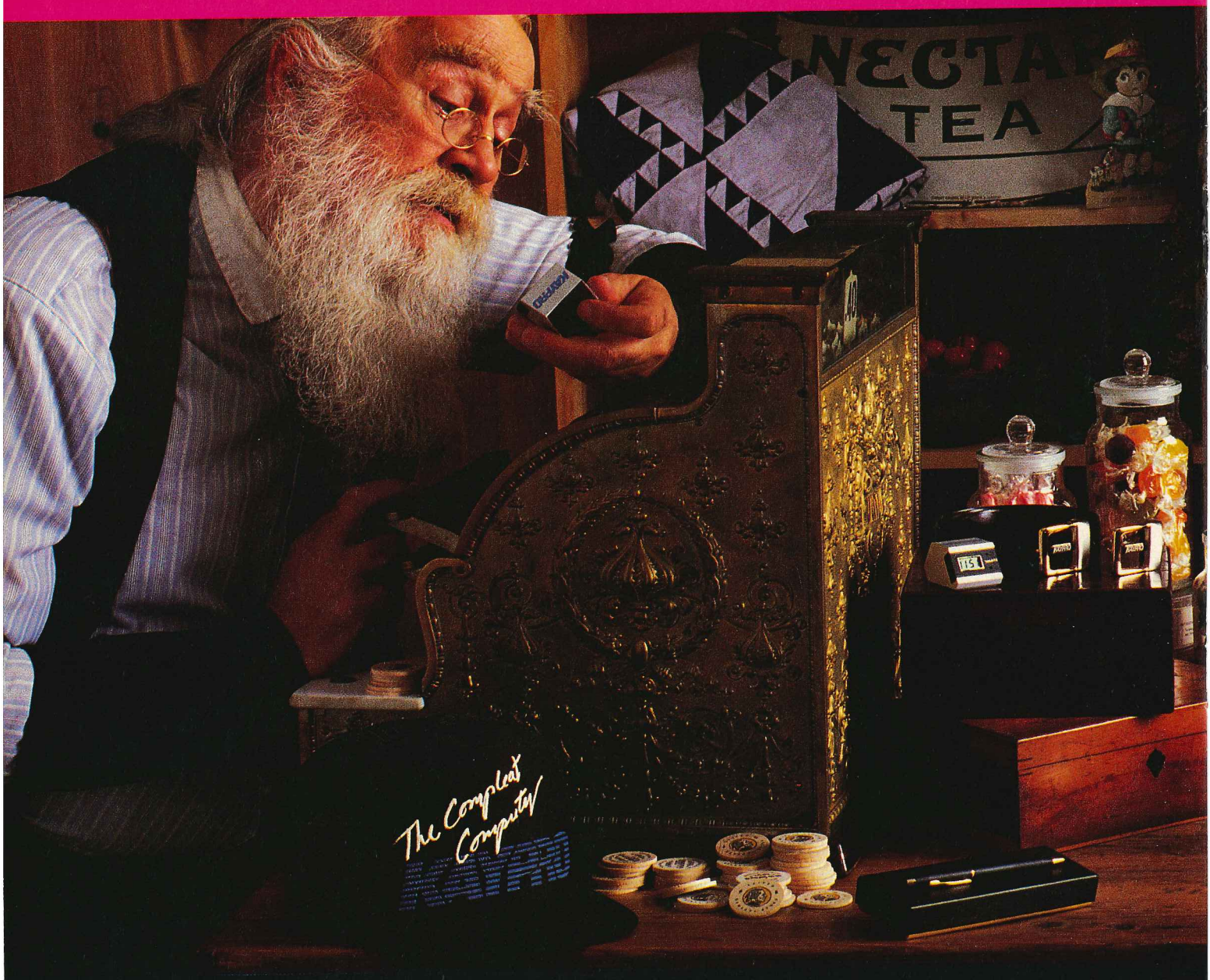
Kaypro's T-Shirt is T-errific! It's Hanes Beefy-T heavy-weight cotton pocketed T-Shirt, white only with a two color design on back, one color front imprint. Available in SM, MED, LG, and EX-LG. Be sure to specify size when ordering.

Golf Shirts

Look your best whether you're shooting 18 or serving 30-Love. A major purchase by Kaypro brings you these high quality Hanes 50-50 cotton/polyester sportshirts with knit collar and hemmed sleeve. Kaypro logo on front in dark blue. Specify yellow or light blue, and size (SM, MED, LG, and EX-LG).

. . . it must be Kaypro!

Fun Goods . . .



The Famous Kaypro Baseball Hat

Batter's up! It's always baseball season with Kaypro. This jaunty black baseball hat sports the Kaypro logo in a two color "puff print." Adjustable strap—one size fits all.

Desk Clock/ Paperweight

Hey, what time is it? Find out in a flash with this silver anodized digital desk clock. Need the date and need it quick? Check the Kaypro clock's alternating day/ date readout. Give it to your mother, your mother-in-law or just keep it yourself.

Executive Kaypro Corporate Belt

Buckle up with the Kaypro executive belt. Featuring a polished custom buckle, die cast with a Kaypro logo center bar, the belt's reversible to complement any outfit. Cut to fit.

. . . for the whole family.

Team/Kaypro Jacket . . .

Crystal Tumblers

Serve drinks in style with these executive crystal tumblers. Each glass holds eleven ounces, and includes a satin etched Kaypro logo. It's a set of four, available in clear only.

A.T. Cross Pen

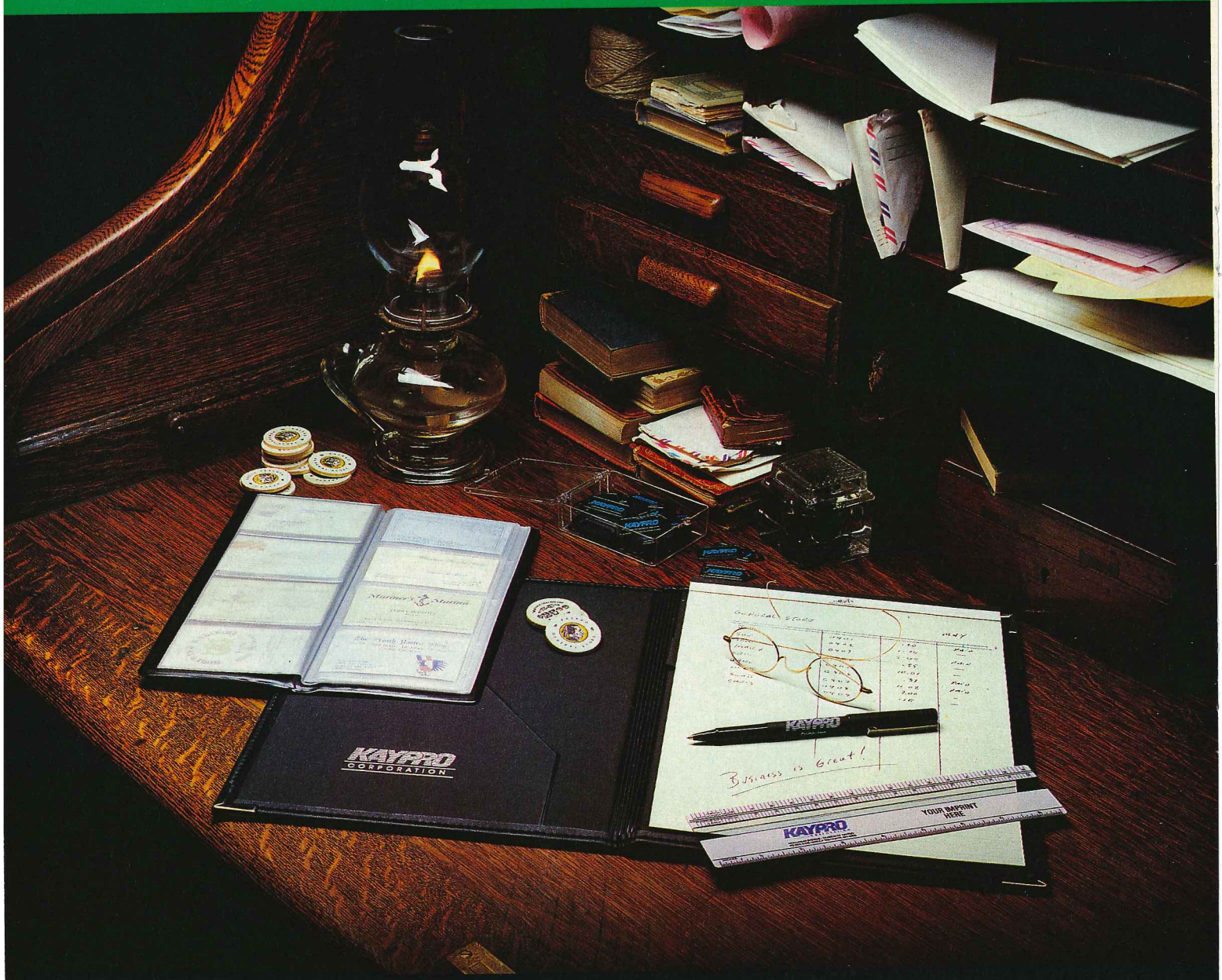
It's a Kaypro classic. The ultimate in quality writing instruments, the famous A.T. Cross pen comes in black or 10k gold-filled, with a discreet Kaypro logo. You'll receive a handsome box and the Cross lifetime guarantee.

Black Satin Jacket

Show your colors! The height of casual chic is Kaypro's popular black satin jacket. Elegantly embroidered with the Kaypro logo on front and back, the jacket has nylon lining and knit cuffs, collar and waist. Front snap. Available in SM, MED, LG and EX-LG.

. . . for that racy look.

For Your Desk . . .



Paper Clips

It's always fun to send a message in a clip and these are perfect! It's a black plastic paper clip imprinted with the Kaypro logo and comes 50 to a box. Available in bulk (3000 @ $45.00) on special order.

The Kaypro Uniball Pen

A real favorite with everyone has been this Uniball Pen. Not too expensive but it sure goes a long way in Kaypro style.

Kaypro Printer Ruler

Calculate your printer spacing for special applications with this nifty little ruler. This popular time saver is available with the Kaypro logo only.

. . . or for the boss.

It's Keys to Kalculation . . .

Custom Key Fobs

Handsome die struck and color filled medallion on a top grain black leather fob. Unbreakable, large capacity split ring—top of the line. Available in the Kaypro 2000 or the Kaypro 286i designs.

Ultra Thin Calculator

Credit card size! This calculator runs on any available light source, and never needs batteries. Imprinted with the Kaypro logo, it includes a vinyl case and programming instructions.

. . . and your car.

The Kaypro Executive . . .

Neckties

A luxurious polysilk blend necktie with a subtle, woven-in silk threaded Kaypro logo design. Current fashion proportions. Wool lined, this tie is available in two classic color combinations, blue and burgundy.

Kaypro Tie Bar

Show 'em who's who. Wear this die struck silverstone highlighted Tie Bar. A great gift for the true blue Kaypro user.

Executive Kaypro Corporate Belt

Buckle up with the Kaypro executive belt. Featuring a polished custom buckle, die cast with a Kaypro logo center bar, the belt's reversible to complement any outfit. Cut to fit.

. . . a step ahead.

Mail with payment in full to:
Kaypro Corporation
533 Stevens Ave., Solana Beach, CA 92075
Attn: Kaypro General Store

General Store Order Form

Ordered by: _____
Address: _____ Phone: _____
City: _____ State: ____ Zip: _____

Date of order
_____

Ship to: _____
Address: _____ Phone: _____
City: _____ State: ____ Zip: _____

Item No.	Item	Size	Unit Price	Quantity	Total Price

Ordering Information

All orders received by the Kaypro General Store will be sent within 48 hours. Please allow one to two weeks for shipping. One day mail service is also available upon request at an extra charge. California residents please add 6% sales tax.

Note: A minimum purchase of $25.00 excluding sales tax is required before Kaypro can process your order.

Sub Total	
Shipping (add 10% of subtotal)	
Calif. Tax	
Total	

General Store Price List

ITEM NO.	ITEM	RETAIL PRICE
GS-1	BLACK BASEBALL HAT	7.95
GS-2	WHITE VISOR	6.50
GS-3	PAINTER'S CAP	2.95
GS-4	JACKET	64.95
GS-5	BLACK T-SHIRT	8.50
GS-6	WHITE COFFEE CUP	5.75
GS-7	BLACK COFFEE CUP	5.75
GS-8	CRYSTAL TUMBLERS	18.95
GS-10	BLACK CROSS PEN	19.95
GS-11	GOLD CROSS PEN	26.95
GS-12	CLOCK	15.95
GS-13	BELT BUCKLE	7.50
GS-14	BELT AND BUCKLE	22.50
GS-15	MEETING FOLDER	12.50
GS-16	BUSINESS CARD HOLDER	6.50
GS-17	KEY FOB	1.25
GS-18	UNIBALL PEN	1.75
GS-19	HIGHLIGHTER	2.50
GS-20	RULER	1.75
GS-21	BOX OF CLIPS	2.95
GS-23	LAPEL PINS	3.50
GS-24	TIE BAR	5.25
GS-25	NAVY TIE	22.50
GS-26	BURGUNDY TIE	22.50
GS-27	YELLOW GOLF SHIRT	24.95
GS-28	BLUE GOLF SHIRT	24.95
GS-29	WHITE T-SHIRT	8.50
GS-30	WHITE BASEBALL HAT	7.95
GS-31	SOLAR CALCULATOR	14.95
GS-32	2000 KEY FOBS	9.50
GS-33	286i KEY FOBS	9.50

Handyman: A Different Approach

by William Hogan

There are three fundamental differences between Handyman and "conventional" desktop utilities: it has its own memory; it's available only for CP/M Kaypros; and you have to take the cover off your machine to install it.

Other desktop manager programs have to be loaded into your computer's memory. They take up workspace—6K to 16K with the CP/M versions. Depending on the size of your computer's RAM, a program can be slowed down to tricycle speed with a desktop manager loaded in memory.

Handyman comes with its own built-in memory on a 3 x 6-inch mini-board that you plug into your Kaypro, and the programs are on a diskette. Handyman works by bank-switching its 16K of RAM into the RAM space normally occupied by part of Kaypro's CBIOS. This allows Handyman to operate without reducing the RAM available for normal programs.

Handyman's installation intructions are generally detailed, clear, and non-technical. I had no experience at all, yet did the installation in just a few minutes. Handyman's support includes a toll-free number, which has a technician who will talk you through the installation process.

From within any program, Handyman gives you quick access to a calculator, a notepad, a calendar, an appointment book, a disk directory, a phone dialer, an ASCII conversion table, and a screen dump.

Features

Handyman, with its limited onboard RAM, must bow before MS-DOS desktop software, but since it's only for CP/M machines, it should only be compared to other CP/M desktop utility programs. It does offer advantages in speed and, to varying degrees, features over these. It does not appear to affect the speed at which application programs run—perhaps its chief claim to fame—and certain details of its features are unique.

- Windows set the Handyman menu and functions clearly apart from your application program and from each other. A prompt line across the bottom of each window gives onscreen reminders of current key commands. Help files are available online from any function if the Handyman .HLP file is on your working disk.
- The notepad is a fairly complete word processor. It comes with word-wrap, insert/overwrite modes, and more than three dozen commands in either Perfect Writer or WordStar format (you have to specify which you want, because the commands are in ROM—you can't switch between the two), and it accommodates files up to 8K long.
- Handyman's calculator turns the comma key on the numeric keypad into a shift/control key, conveniently relocating all the numeric functions onto the keypad itself. Pressing the keypad's comma key followed by 5, for example, enters the multiplication function into the calculator. And for programmers, hackers and DDT patchers, the calculator works in hex and binary modes as well as decimal.
- Handyman can check the disk directory of any drive or user area from any other drive or user area, while you are in any program. Even more interesting, Handyman can erase files from within a file.
- The calendar works both manually and automatically with the Kaypro's internal time clock. You can view any month and year and change or check your appointments for any specific days.
- You can print the contents of any application screen and then, with a keystroke, advance the printer paper to the top of the next form.
- Import and export functions are available in both the notepad and calculator, so you can move spreadsheet numbers into the calculator and move the calculations back again, as well as interchange text file contents.
- The phone dialer works with either the Kaypro's internal modem or a Hayes-compatible external modem. You can call any number from inside any program with a keystroke (you need a phone number file, and the phone dialer file must be on your diskette). The phone dialer does the dialing automatically.

Caveats

Ed. note: PROFILES informally polled some Handyman users, who generally praised the product but mentioned a few things to keep in mind. These are not necessarily faults, but they could cause you problems if you weren't aware of them:

Handyman will not work with Compat, a popular CP/M-to-MS-DOS file conversion program. It *does*, however, work with MFDISK, another such program.

If you use Handyman and XtraKey, you must use XtraKey version 2.4G. If you have an older version, you'll have to upgrade.

If you do "cutting and pasting"—that is, if you import text from another file—the process will be very slow. A good typist could probably type in the material just about as quickly.

If you are using a special ROM from Advent or Micro Cornucopia, you'll need to request a special version of Handyman to get the right replacement ROM. (Handyman's ROM offers an advantage to users of Kaypros with single-sided drives: the Handyman ROM will let you read double-sided disks.)

Finally, there is some uncertainty about whether Handyman will work with other hardware upgrades; to our knowledge, this simply has not been fully investigated, so you'd do well to conduct your own research.

William Hogan, novelist and screenwriter, closely followed the development of Handyman, was a beta-tester, and uses it on his Kaypro 4'84.

Copyright © 1986 William Hogan. All rights reserved.

(continued from page 36)

clock time if you have an internal clock; you can set alarms to interrupt you with a message at a specific time. There is a perpetual calendar that you can move around in, and a small square displaying "Notes for the Day" for whatever day the cursor is on. You can also highlight important days on the calendar. For something more detailed, there are datebooks (in separate files listed in the datebook submenu) that list all the appointments for a particular person.

There is a menu called ADD-ON TOOLS, which allows you to access functions that you can purchase separately from Polytron Corporation; some tools are already included with PolyWindows itself. There is a 14-digit calculator that works with either floating or fixed point. Besides the four basic functions, it's capable of one-number memory, percentages, and exponential notation. You can send a number to your outside application, or even have a tape of your calculations displayed or printed. A separate tool converts numbers among decimal, hexadecimal, octal, and binary.

Here's a quick run-down of PolyWindow's remaining functions: there is a "grabber" to take text from the screen and insert it into an application with various end-of-line delimiters. An autodialer tool will dial a number from the screen or from the keyboard. Another desk tool is Polykey, which is able to keep definitions for up to 60 keys in a macro file and have a macro file active either inside PolyWindows or in other applications alone. Finally, there is a DOS menu allowing you to do various file and directory operations.

Extra Desk (ver. 1.1, for CP/M)

Extra Desk only comes with installation instructions; a note states that the program is meant to be so easy to use as to require no further printed documentation. And it's true: The program uses menus and is largely self-prompting. There are help screens, and a help function is available for all information that isn't immediately obvious.

Extra Desk uses menus and is largely self-prompting.

The program that goes into memory, XDESK.COM, is 16K, with all the files on disk totaling more than 200K (this program is only for '84 series Kaypros); the documentation says that you'll have to switch disks when you use Extra Desk.

When you invoke the program with CTRL-\, it "saves the current context," which means it writes to disk the memory contents that will be displaced when the

BASIC BUSINESS™

$89.95
MS-DOS, PC-DOS or CP/M

"The Best Low Cost Accounting Software"

The trend is established. Quality software must sell for less. Smart buyers are no longer willing to pay hundreds or thousands of dollars for accounting software. We agree! What was previously offered at $3500 has been improved and repackaged, and is yours for the sound investment of $89.95.

Consider the flexibility of Basic Business. You can generate over 300 reports or use the optional dBASE file formats for ultimate information gathering and reporting. Transfer information to a database or spreadsheet program for total custom reporting ability. Source code is also available for those companies that have specialized accounting needs.

Compare the 7 modules feature to feature against all low and high cost packages and we're sure you will agree Basic Business is the accounting system for you.

Minimum Hardware Requirements: 80 X 24 CRT, 2-360K floppies, 132 column printer, 64K CP/M 2.x, 128K MS-DOS or PC-DOS 2.0, PC/XT/AT or compatible.

30 day conditional money back guarantee. MasterCard and VISA welcome. Add $2.50 for shipping. CA residents add 6% sales tax.

Basic Business $89.95
Point-of-Purchase module $99.95
dBASE II/III file formats $29.95

PARTIAL LIST OF FEATURES

General Information
- All modules are menu driven / password protected
- Unlimited data entry in all modules
- Prints hundreds of detailed mgm't reports
- Superior documentation for ease of use
- Easily adapts to virtually any business
- Stock or preprinted forms available
- Supports user defined notes / comments on all forms
- All modules completely integrated

General Ledger
- Unlimmited user defined Chart of Accounts
- Prints all standard financial reports
- Up to 99 user defined departments

Accounts Receivable & Billing
- Open item or balance forward
- Verifies customer credit limit at invoice entry
- Supports service or inventory billing
- Prepares customer statements with dunning notes
- Maintains full cash flow analysis
- Prepares mailing labels and customer lists

Accounts Payable
- Cash disbursement management for all vendors
- Supports hand written checks
- Automatically posts recurring invoices monthly
- User defined aging periods
- Prints vendor mailing labels and lists

Payroll & Job Costing
- Supports labor related job costing
- Maintains federal, state and local tax tables
- Handles vacation and sick leave time
- Prints W-2 forms and 941 information

Inventory
- Up to 12 digit alphanumeric part numbering
- Supports standard / average / suggested resale costing methods
- Intergated with Sales and Purchase Order systems

Purchase Order
- Maintains PO and Inventory files
- Prints confirming POs
- Prints price variance report by part number
- Maintains vendor purchase history

Order Entry & Sales Analysis
- Supports ordering and shipment of stock and non-stock items
- Handles partial shipments / cancellations / changes of any SO
- Automatic credit checking during SO entry / invoicing / billing
- Provides extensive sales analysis reporting
- Maintains MTD billing and booking totals
- Line item/total invoice discounts during SO entry and / or invoicing

Point of Purchase (optional)
- Entry of invoices posts to all pertinent modules
- Invoices stock / non-stock items
- Line item discount and tax application
- Verfies customer credit limits
- Supports cash / check/credit card / payment on account and returns
- Controls electronic cash drawer

Trademarks: CP/M - DRI; dBASE - Ashton-Tate; MS-DOS - Microsoft; PC-DOS - IBM

CALL TODAY National **(800) 821-8778**
California **(800) 521-7182**
Hours: Mon - Fri 8 am - 5 pm PDT
DEALER INQUIRIES WELCOME.

advent products inc.
3154-F E. La Palma Ave.
Anaheim, CA 92806
(714) 630-0446

program is executed. Extra Desk then presents a menu of eight functions: calculator, calendar, clipboard, disk commands, notepad, phone directory, help, and a reference file.

There is a bug worth noting: Extra Desk accesses the disk all the time—constantly, in fact. No matter which function you call, the disk drives will keep turning even after the overlay has been loaded. After you return to the main menu, the drives still won't stop turning. I found this perpetual running distracting, but more importantly, prolonged usage will result in excess wear and tear on your disk drives.

The clipboard and the notepad are both text editing functions, and both have basically the same editing commands. It is a simple editor, with cursor movement and delete functions, but little more. The clipboard is a single screen (a "page") for brief notes. It has the ability to "grab" the actual screen you were working on as text, allowing a practical screen dump. For more substantial word processing, the notepad allows up to nine pages of text to be entered, going to disk when you move to each page. It can take the clipboard as a page, or put a page onto the clipboard. Both the clipboard and the notepad contents can be printed and are written to disk every time you leave.

The clipboard also has one additional option—the ability to create key macros. You can create up to ten macros (invoked by CTRL-] and a digit) that remain in effect for any of Extra Desk's functions and can be saved to disk. They have a useful, undocumented side effect: if you enter the CTRL-] and wait before you enter the number, the disk drives stop turning. This was handy for saving my drives.

The calculator handles 14 digits with floating point. It has the basic four functions and number memory, though once you recall a number from memory, it's gone. Calculations and notes can be put on a tape display for printing.

The calendar function simply displays a perpetual calendar, which you move around in and can send to the clipboard.

The phone directory is an alphabetical list of names and numbers, accepting up to 100 entries. You can edit an entry, search by name, or have it dial for you if your Kaypro has a built-in modem.

The reference file is a text file several screens long; you can edit it and enter whatever information you think you'll be referring to a lot.

Finally, CP/M commands are available: DIR, REN, TYPE, and USER.

Sidearm (ver. 1.2, for CP/M)

Sidearm has a nice installation program to let you customize it for either a graphics Kaypro ('84 series) or

SPECIAL OF THE MONTH

It's hard to tell the differences between programs from an advertisement; that's why we have a 30 day return policy. We don't use it much though, and nearly 50% of our customers buy another. We think it's because we care about our work, listen to our customers, and try our best to give you more than you paid for; and all help us add the little details that make a great program. If you bought a computer to save time, you'll appreciate the details. We can't tell you everything about all our programs in this ad—that's why we have a free catalog. So here is this month's special.

PROMAIL III $79.95

PROMAIL III is a unique mailing system, filled with great features to save you time and money, and designed to be easy to use with very little training. Perfect for home, office and business use. Naturally it prints 1, 2, and 3 across labels, lists, and envelopes in order by zipcode, name, address, city/state; it also has a flexible form printing function that gives you complete control—print any size label or envelope as well as letter headings, form letters, pre-printed forms. Even includes math functions for invoices & receipts. An easy to use search program provides virtually unlimited sorting choices with no set up required. A built in typewriter program will automatically print a letter heading with your name and address, the current date, and the addressee with the push of a key, leaving you ready to start typing the letter itself, and with enough time free for a coffee break. A great program you'll enjoy for many years, and at a ten dollar savings over regular price. *(Prices Good thru April 31, 1986.)*

OTHER GREAT PROGRAMS

THE MAGIC KEYBOARD $44.50 Prints letters from standard height to 100 feet, even sideways banners. Type one line at a time or print from a text file. 8 fonts including Correspondence, Gothic, Roman, Script, Old English; automatic centering, underlining, proportional text, adjustable margins, many other features. Great for posters, store signs, file labels, product labels, large mailing labels, warehouse labels, newspaper headlines, overheads, banners and anywhere that small print just isn't enough.*

FINANCIAL FILER CHECK/LEDGER $59.95 Track expenses for budgets and taxes and balance your checkbooks. Menu driven, fast, powerful, and a pleasure to use. 99 expense categories, 99 bank accounts, a unique search program sorts and totals nearly anything. Built in tape printing calculator. Prints any size check. Set up so that not just your accountant, but *you* can understand it.

TYPE-WRITE $34.50 & **TYPE II** $49.95 The solution for the typing jobs 'word processors' can't handle and with a built in tape printing calculator. Works like a one line editing typewriter, making labels, envelopes, forms and letters fast and easy. **TYPE II** includes a form printing function that prints letterheads, labels, preprinted forms, anything you want with a touch of a key.

PROMAILER $59.95 A mailing system powerful enough for a small business but easy to use. Just call it up and it's ready to go. Virtually unlimited sorting choices with no set up required. Prints one and three across labels, lists, envelopes in order by zipcode, name, address, city/state.

CUSTOM CHARACTER SET $34.50 Ten new print styles for your dot matrix printer, with a menu of printer control features like pitch, linespacing, form length and more. Very easy to use. Russian, Greek, Hebrew and Scientific available ($20.00 each).*

CHARACTER DESIGN KIT $44.50 Design your own printer characters right on your screen. Includes fonts, and graphics sets.*

**Okidata 92, 93, 192, 193, Star Micronics SD, SG, SR, Gemini 10X, 15X, Epson FX Series (R).*

Add $2.00 shipping
Indiana orders add 5% tax.

WOODSMITH SOFTWARE
Rt. 3, Box 550A — Nashville, IN 47448—(812) 988-2137

MC/VISA
Kaypro (R) / PC compatibles

Call or write for more information (no collect calls).

an older machine ('83 series). You can also install it to have the files on one disk or two. The documentation is good, with clear descriptions of which files are needed after installation is done.

The program SIDEARM.COM will need only 8K of your RAM; disk files will take up an additional 62K. When you invoke it with a CTRL-\, you'll find yourself waiting through almost 20 seconds of disk accessing (saving the context) before the main menu appears. The functions available are a calculator, an ASCII table, a notepad, a phone book, a file editor, and a reference chart. It accesses the disk to load a function, but not when exiting from a function.

The calculator displays seven digits plus two decimal places. It will, however, accept as many digits as you like (the excess just disappears off to the left). I also found it to be inconsistent in clearing a number from the display. It has the four basic arithmetic functions and the logical functions, and will operate in hexadecimal mode as well.

The ASCII table gives the standard 128-character set, without the Greek or graphics characters, and it gives the value of each in decimal, hex, and octal.

Sidearm could be said to just have three functions: the two above, and an editor. The same basic routine is used for the notepad, phone book, reference chart, and file editor. The first three functions are different from each other in that they operate on different, specific disk files; the last function will prompt you for a filename. Thus, you can have any format for your reference or phone files, but you don't need to specify their names to access them.

You can make your file up to 50 lines long; the general file editor will only load in the first 50 lines. The editor's commands are basically the same as WordStar's cursor movement and deletion commands. You can also print the text being edited, or import the screen data (allowing a practical screen dump). You also have the option of exiting without saving your text, but the text is not retained in memory if you do.

Presto! (ver. 1.03, for CP/M)

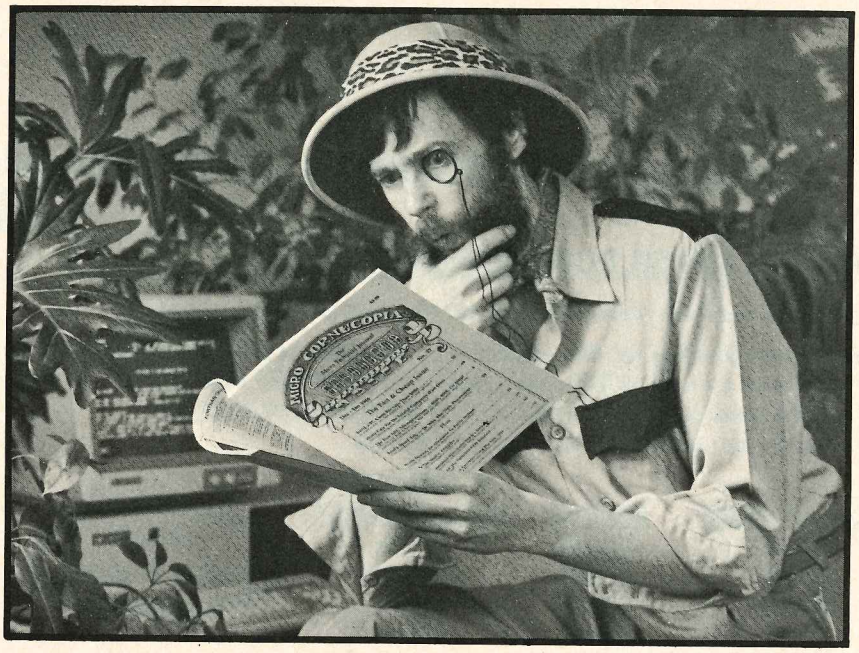
Here is a program that is actually RAM-resident within 64K. Presto! only accesses the disk for text files, not overlays; the entire program sits in memory. There are also different versions, depending on which model Kaypro you have and which brand internal clock is installed. Documentation is attractive and complete, mentioning possible incompatibility problems.

Presto! comes in four sizes. The full version has a notepad, clock/calendar, calculator, and screen dump and requires 18K of your memory. The version without the clock is 16K, just enough to let WordStar load and edit under four pages in memory. The smallest version,

(continued on page 54)

Take it with you

Micro Cornucopia, The Go-anywhere magazine for the adventurer in you.



Whether you're searching for Dr. Livingston or just a quiet spot to explore a new language, you deserve the investigative reporting and the candid opinions that have made Micro Cornucopia a solid favorite among computer adventurers.

You earned the adventurer's hat with your late-night stints at the keyboard, and for the many times you've seen dawn from the backside.

That's why we publish Micro C. It's for individuals like yourself who want to share the exploration, who want a map of the places already trod, and who want to know where man's boundaries are today.

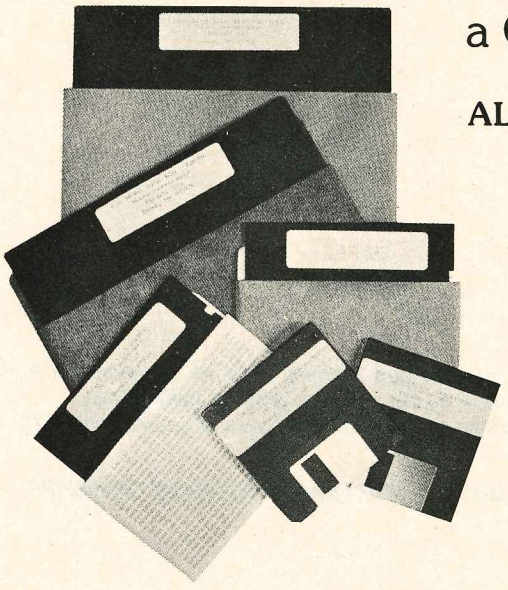
Micro Cornucopia, because it's a jungle out there.

Order Micro Cornucopia's
One year explorer pack
6 issues $16 (US.)

Subscription Rates

U.S. (1 yr.)	$16.00
Canada (1 yr.)	$22.00
Other Foreign (1 yr.)	$30.00 airmail

ANNOUNCING...



a **GREAT** reason to remember April 15th

ALL MICRO C USERS DISKS WILL BE $8.00 EACH PPD.

NEW LOW PRICE!

ALL USERS DISKS

$8.00 each ppd.
(effective April 15, 1986)

We have users disks for:
CP/M Kaypros
MS-DOS Kaypros
Kaypro 2000s

Ask for FREE catalog of Micro C products for the Kaypro

Technical Calls:
(503) 382-8048 • 9 a.m.-Noon (PST), M-F

MasterCard VISA

Micro Cornucopia
P.O. BOX 223 • Bend, OR 97709
Order # (503) 382-5060, M-F, 9-5

Xpert Software COUPON

$ $

SPECIAL OFFER FOR KAYPRO OWNERS!

SPECIAL - Order before April 30, 1986 and save on all Xpert Software programs.

SUPER SPECIAL - Order XtraKey for the unbelievably low price of $24.95 and get any of our other programs for only $10.00 each. See what *PROFILES* columnist Ted Silveira and others have been talking about. Find out **now** what keyboard redefinition with XtraKey can do to supercharge your Kaypro.

ITEM	REGULAR PRICE	SPECIAL	IF ORDERED WITH XTRAKEY
XtraKey	$39.95	$24.95	n/a
Side2	$24.95	$19.95	$10.00
XtraTech	$19.95	$14.95	$10.00
XScreen	$19.95	$14.95	$10.00

OFFER ENDS 4/30/86

Payment (by check, VISA or MasterCard) must accompany order. Sorry, no C.O.D.'s. All orders must include $3.00 shipping. Orders within California add 6% sales tax. See ordering instructions in ad at right.

$ $

The above offer is for a limited time only and absolutely will not be repeated. Orders must be received on or before 4/30/86 to take advantage of these prices. After that, it's back to our regular (already low) prices. NOTE—This is NOT a "close out" offer. These are the latest versions of all Xpert Software products including XtraKey 2.5 with true screen restore.

P.S. Preserve your *PROFILES.* If you don't want to cut out the coupon . . . simply write the words *"PROFILES COUPON"* on your order instead.

XtraKey out "keys" the competition. Here's why!

"XtraKey is the best single purchase I have made for my computer." E.M.S., Mt. Rainier, MD

There's no doubt about it. The things that XtraKey can do through key redefinition make your computer a whole lot easier and faster to use.

Things like reducing long and complicated command sequences or repetitive typing to one or two keystrokes. Boilerplate. Macros. Changing keyboard layouts. SmartKey II Plus can do this too, but that's about it. With XtraKey, you get so much more.

Our comparison chart lists just a few of XtraKey's features. We could have included XtraKey's built-in screen dump to printer ability (Kaypro only), typewriter mode, caps lock function, printer on/off feature, printer output to screen redirection, or built-in menu. But we didn't. After all, things are one-sided enough.

FEATURES	XtraKey	SmartKey II Plus*
Keys may be redefined even while running another program ("on-the-fly").	YES	YES
Mistakes made while entering a definition can be corrected without having to reenter.	YES	NO
All keys, including numeric keypad and cursor keys, can be directly redefined. (Kaypro only)	YES	NO
Number of extra definition sets ("shifted") that can be used at any one time.	7	1
Maximum number of characters per definition or all definitions combined.	NO LIMIT	3,838
Bytes of memory required per 500 bytes of definition data.	500	1,000
Definitions can be sent to printer, CRT, or punch device (in any combination).	YES	NO
Definitions can "chain to" or activate other definitions.	YES	NO
Automatic definition file loading.	YES	NO
Disk space required in minimum configuration to use and save definitions.	7K	24K

SmartKey II Plus is a trademark of Software Research Technologies, Inc.
*Version 1.1b

Comes with manual and quick reference card. **Now only $39.95.** (Available for most CP/M computers.)

XtraTech

The Xperts' new system examination tool does things your mother or DDT never taught you. There's save console output to file; memory search, substitution and type; direct I/O; display parameters; screen restore and more.

What's remarkable is that XtraTech allows your system and other programs to run normally, yet you have access to XT's features at any time. (For example, you could patch WordStar while it's running and see the effects of your patches immediately.) XtraTech is menu-driven and requires no installation! **Only $19.95.** (Available for most CP/M computers.)

ORDERING INFORMATION

Send check or money order for program(s) plus $3.00 shipping in U.S. and Canada. California residents MUST add 6% sales tax. SPECIAL OFFER — Order XtraKey and get XtraTech, XScreen or Side2 for only $10.00 each. Specify computer model and disk format (single or double sided, single or double density). VISA and Master Card accepted (provide card number and expiration date). All orders please include telephone number.

Xpert Software

8865 Polland Avenue
San Diego, CA 92123 (619) 268-0112

XScreen

OR

"It works and it's solid . . . well worth it . . ." Tom Enright, Technical Editor, Profiles Magazine

XScreen is the clever program that makes instant copies of your computer's current screen display on your printer OR saves screen copies to disk in standard word processing text files. Works any time, even while running your favorite programs. Print out menus, addresses, spreadsheet totals, E-mail messages, etc. or save to disk and use your word processor to enter them into a report or a letter. XScreen is easy-to-use and requires no installation. **Now only $19.95.** (Available for Kaypro and Zorba CP/M.)

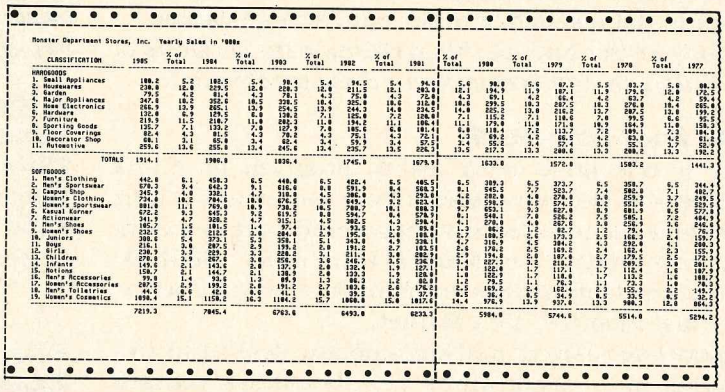
About Xpert Software

Xpert Software is dedicated to providing high quality software products at reasonable prices. Our customers always come first. When we improve a program, our update prices are among the lowest in the industry. If we add a new program, it is usually available to you at a substantial discount. If you need help, we're just a phone call away. Try us, you'll like what you find.

Side2

Until now, CP/M users wanting to print out extra-wide spreadsheets or reports could only twiddle their thumbs and watch while MS-DOS'ers were using a nifty program that turns everything "sideways". Twiddle no longer . . . Side2 is here. No more gluing or taping. Take that 25-year monster financial plan and print it down your paper instead of across. **Only $24.95.** (Available for MS-DOS and most CP/M computers.)

Side2 requires an Epson, Gemini, Prowriter, Okidata or compatible dot-matrix printer (other printers being added, contact Xpert Software for information). Works with any program producing text file output (no width limits) including Perfect Calc, dBase II, CalcStar, WordStar, Lotus, etc.



Monster Department Stores, Inc. Yearly Sales in '000s

CLASSIFICATION	1985	% of Total	1984	% of Total	1983	% of Total	1982	% of Total	1981	% of Total	1980	% of Total	1979	% of Total	1978	% of Total	1977
HARDGOODS																	
1. Small Appliances	108.2	5.2	102.5	5.4	98.4	5.4	94.5	5.4	94.6	5.6	98.8	5.6	92.1	5.5	93.2	5.6	88.2
2. Housewares	238.8	12.8	229.5	12.6	228.3	12.8	231.5	13.1	243.8	12.1	194.9	11.9	187.1	11.2	178.5	10.8	172.5
3. Garden	79.5	4.2	81.4	4.3	79.1	4.3	75.8	4.3	69.1	4.3	69.1	4.2	69.1	4.1	69.1	4.2	69.4
4. Major Appliances	347.8	18.2	352.6	18.5	328.5	18.4	305.9	18.6	315.8	18.6	299.5	18.3	287.5	18.3	276.8	16.7	266.8
5. Home Electronics	266.9	13.9	265.1	13.9	254.5	13.9	244.2	14.8	234.5	14.8	225.2	13.8	216.8	13.7	207.5	13.8	199.2
6. Hardware	132.8	6.9	129.5	6.8	130.2	7.1	125.6	7.2	128.4	7.1	115.2	7.1	118.6	7.8	95.5	12.6	99.2
7. Furniture	219.7	11.5	218.7	11.8	204.5	11.8	194.2	11.8	186.4	11.1	179.8	11.0	171.8	10.9	164.9	9.8	158.5
8. Floor Coverings	135.2	7.1	133.2	7.0	127.3	7.0	125.6	6.8	121.4	6.8	118.4	7.2	113.2	7.2	109.1	7.3	104.8
9. Decorator Shop	85.4	4.3	81.5	4.3	79.0	4.3	75.1	4.3	70.1	4.3	69.2	4.2	68.5	4.3	67.8	4.4	65.8
11. Automotive	259.6	13.6	255.6	13.4	245.6	13.4	239.7	13.5	236.3	13.6	217.3	13.3	208.6	13.2	198.1	12.7	190.3
TOTALS	1914.1		1906.9		1836.4		1745.8		1679.9	1633.8			1570.8		1580.2		1441.3
SOFTGOODS																	
1. Men's Clothing	442.8	6.1	458.3	6.5	448.8	6.5	482.4	6.5	485.5	6.1	385.2	6.5	372.7	6.5	368.7	6.5	344.4
2. Men's Sportswear	678.3	9.4	648.3	9.1	616.8	8.8	591.5	8.4	588.3	8.1	565.5	9.5	553.2	9.4	580.8	7.1	480.7
3. Campus Shop	345.9	4.8	332.1	4.7	318.8	4.5	306.8	4.3	303.4	4.2	296.8	4.8	274.8	4.8	259.9	3.7	249.5
4. Women's Clothing	734.8	10.2	704.6	10.0	676.3	9.6	649.4	9.2	625.4	8.8	596.5	9.7	553.1	9.6	532.8	9.5	509.5
5. Women's Sportswear	801.6	11.1	765.8	10.9	736.8	10.5	708.7	10.1	681.2	9.6	653.1	10.6	607.8	10.5	580.5	10.3	557.8
6. Casual Korner	672.8	9.3	645.3	9.2	619.6	8.8	594.7	8.4	570.9	8.1	548.1	7.8	526.2	9.1	505.1	9.0	485.2
7. Activewear	341.7	4.7	328.2	4.7	315.1	4.5	302.5	4.3	290.4	4.1	278.8	4.0	267.8	4.6	257.3	4.6	247.1
8. Men's Shoes	105.7	1.5	101.5	1.4	97.4	1.4	93.6	1.3	89.8	1.3	86.2	1.2	82.7	1.0	79.4	1.4	246.6
9. Women's Shoes	232.5	3.2	223.3	3.2	214.3	3.0	205.7	2.9	197.4	2.8	189.4	2.6	181.8	3.1	174.5	3.1	167.5
10. Jewelers	388.8	5.4	373.1	5.3	358.1	5.1	343.8	4.9	330.1	4.7	316.9	4.5	304.2	4.3	292.0	4.1	280.3
11. Boys	178.3	2.5	171.2	2.4	164.4	2.3	157.9	2.2	151.7	2.1	145.7	2.1	139.9	2.0	134.3	1.9	128.9
12. Girls	210.3	2.9	202.0	2.9	194.0	2.8	186.3	2.7	178.9	2.5	171.8	2.5	165.0	2.4	158.4	2.3	152.1
13. Children	279.8	3.9	268.8	3.8	258.2	3.7	248.0	3.5	238.1	3.4	228.6	3.3	219.5	3.2	210.7	3.0	202.3
14. Infants	149.0	2.1	143.1	2.0	137.4	2.0	132.0	1.9	126.7	1.8	121.7	1.7	116.8	1.7	112.1	1.6	107.7
15. Notions	158.7	2.2	152.4	2.2	146.3	2.1	140.5	2.0	134.9	1.9	129.5	1.8	124.3	1.8	119.4	1.7	114.6
16. Men's Accessories	179.0	2.5	171.9	2.4	165.1	2.4	158.5	2.3	152.2	2.2	146.1	2.1	140.3	2.0	134.7	1.9	129.4
17. Women's Accessories	207.5	2.9	199.2	2.8	191.2	2.7	183.6	2.6	176.3	2.5	169.2	2.4	162.4	2.3	155.9	2.2	149.7
18. Men's Toiletries	84.9	0.6	82.8	1.2	81.1	1.2	79.5	1.1	78.0	1.1	76.4	1.1	74.9	1.1	73.3	1.0	71.8
19. Women's Cosmetics	1058.4	15.1	1158.2	16.3	1104.2	15.7	1060.8	15.0	1017.2	14.4	976.9	13.9	937.0	13.3	900.3	12.8	864.5
	7219.3		7045.4		6763.6		6493.8		6233.3		5984.8		5744.6		5514.8		5294.2

(continued from page 50)

only a calculator, is 10K. The available functions are displayed on a menu invoked with CTRL-\. I found that accessing these functions was instantaneous on a Kaypro II, but not very fast on a Kaypro 4'84. I also noticed a problem with Presto! loaded; on a Kaypro 4, you can no longer switch between single- and double-sided disks in drive B.

The notepad is very small, only 11 lines long, in a window that takes just the bottom half of your screen. The text remains in memory until you save it, and you can send it to any disk file you like, instead of to a specific notepad file—you can even specify whether to overwrite the file, or append the notepad to the file. Except for an undo command, editing commands are very basic and simple, but there are some other commands that are quite interesting. You can send the notepad contents to the outside application, or import from the outside screen; either of these operations is done one line at a time, letting you choose which specific lines you want to move.

Another powerful capability of the notepad involves reading from the disk: Besides just reading in the first 11 lines of a specified file, you can specify a "key string." This will search the file for the first occurrence of the string and then read in a block of 11 lines from there.

The calculator has several modes: a seven-digit floating-point mode and integer modes for decimal, hex, octal, and binary. Besides the standard four functions, it does logical operations, exponents and percentages. There is six-number memory; you can also send the displayed number to the notepad or to the outside application.

The calendar and clock function displays the time and date from your internal clock (if you have one) and a perpetual calendar. You can change the time or date, though I was unable to change the year. There is no appointment calendar, but there is an alarm clock; you can have the computer beep at a specified time and display a message string onscreen, no matter what application you're running. The date and time, too, can be sent to the notepad or to the outside application.

(Note: At the time of this writing, new versions of both Sidearm and Presto! were close to release.)

Some final comments

There is one other desk utility program for CP/M machines—Write-Hand-Man. I have not included it in this review because Ted Silveira covered it pretty extensively in a recent "Flea Market" (November 1985). He also included information on an updated version at the end of last month's "Flea Market."

Before you rush out and buy a pop-up desk utility (or any other piece of software), you should ask yourself whether or not you will find it useful. Many people's needs are met perfectly well by physical desk tools: a real notepad and real calendar. Moreover, you may not find every single function of a utility to be valuable. If you don't do any programming, you won't need any programmers' utilities; if you need a calculator with scientific functions, you're not going to find one among these programs. For a notepad, will you want a real word processor or just a little text editor? Finally, when you do look at these programs, think of how much RAM and disk space you are willing to spare. CP/M users especially should take into account RAM limitations and disk access time when considering a purchase.

T.F. Chiang is a student at Brown University. He is a member of the International Kaypro Users Group and writes for their newsletter, the KUGRAM.

Quick Reference Summary

Product: SideKick
Manufacturer: Borland International
4585 Scotts Valley Dr.
Scotts Valley, CA 95066
Phone: (408) 438-8400
Price: $49.95 (protected); $84.95 (not protected)

Product: PolyWindows Desk Plus
Manufacturer: Polytron Corporation
P.O. Box 787
Hillsboro, OR 97123
Phone: (800) 547-4000
Price: $49.95 (protected); $89.95 (not protected)

Product: Extra Desk
Manufacturer: Point Data Products
6065 Mission Gorge Rd., Suite 403
San Diego, CA 92120
Phone: (619) 287-2052
Price: $49.95

Product: Sidearm
Manufacturer: Colin D. Borrowman
2178 Grand Blvd.
Schenectady, NY 12309
(order by mail only)
Price: $19.95 (protected); $34.95 (not protected)

Product: Presto!
Manufacturer: Spectre Technologies, Inc.
22458 Ventura Blvd., Suite E
Woodland Hills, CA 91364
Phone: (800) 824-7888
Price: $39.95

Product: Handyman 1.2
Manufacturer: High Tech Research
1135 Pine Street, Suite 107
Redding, CA 96001
Phone: (800) 446-3220; (800) 446-3223 in CA
Price: $124.95, plus $5 shipping and handling

TurboROM: Provides substantial improvements to your CP/M Kaypro computer. Adds many new features including ability to read and write up to 10 other disk formats directly. You can't get more proformance with any other product.

- 2 X to 4X speed on all disk writes (both hard and floppy)
- Faster disk reads (with Advent format)
- Supports 48 and 96 TPI drives
- Up to 4 drives of any mix of SS, DS, 48TPI and 96TPI drives
- 256 directory entries using Advent floppy format
- Up to 10 built in disk formats including K2, K4, Osborne, QX-10, Xerox, Micro C
- Super speed disk copying with Multicopy program
- Allows redefining of logical drive assignments
- Up to 2 Mbytes more storage on K10 hard disks
- Add a second or larger hard disk to K10s
- Up to 3.25K more program area on K10s
- Built-in screen dump
- Programmable cursor -- block, line, flashing, non-flashing
- Video screen blanking after 10 minutes of non-use (optional on '83s)
- Improved video performance on '84 computers
- Time displayed on 25th line of '84 computers (Real Time Clock required)
- Hard disk support built in (up to 112Mb)
- Ram disk support built in (up to 2048K)
- 32 charater type-ahead keyboard buffer
- ZCPR1 included
- Advanced features list includes fine tuning floppy and hard disk performance.
- Full set of utility software provided
- Compatible with all Plu*Perfect CP/M enhancements
- Compatible with Uniform 3.01, Media Master, Fast Back etc.
- Specify Kaypro model when ordering.

TurboROM **$79.95**

RAM Disk: Add an electronic disk drive to your computer. Enables programs to run faster than you ever thought possible. Ideal for applications involving word processing, spread sheets, data base management or any other tasks that require frequent use of the disk drives. Features include:

- 10 to 30 times faster than floppy drives
- More directory entries than floppy drives
- Low power consumption (no fan required)
- Easy expansion up to 2048K
- Software driver loads FAST! (driver not required with TurboROM)
- Software driver may be loaded above the system to conserve memory
- No software driver required if computer is equiped with TurboROM
- Can be assigned to any drive name (A thru P)
- Auto loads the system if assigned as drive A:
- Mounts inside the Kaypro
- Works on all CP/M Kaypro computers
- Expandable to include Real Time Clock
- Expandable to include hard disks
- High reliability - Built to our proven high standards

Speed Comparison at 4 MHz - Times measured in seconds.

Function	Floppy	MicroSphere	SWP	Advent
Load "Ladder.com"	8.89	2.21	1.82	.80
Write 64K file	55.65	3.25	2.93	1.52

256K RAM Disk **$399.95**
512K RAM Disk **$459.95**
768K RAM Disk **$519.95**
1024K RAM Disk **$579.95**

Expansion Board **$332.50**
256K Expansion Kit **$39.95**
Real Time Clock **$30.00**

Clock/Calendar: Real time Clock/Calendar for all Kaypro computers without built-in clocks. Works with Plu*Perfect DateStamper or your own application software. Source code drivers provided for use with MBASIC, SBASIC, dBASE II, Turbo Pascal, C, and assembly languages. The Clock/Calendar also functions as a host adapter to our RAM Disk and hard disk add-on products. Add these other products as needed.
Clock/Calendar Interface **$99.95**

Acceler8/16: Speed up your MS-DOS computer up to 15% plus be able to run CP/M programs directly. Just change the CPU chip with one provided and load software driver to upgrade your IBM or compatible. Media Master is provided to read and write 75 CP/M format. A $140.00 value.
Acceler8/16. ..... **$99.95**

All items are warranteed for 90 days. 30 day money back guarantee if not completely satisfied. Money back guarantee for software applies only if diskette seal is intact. VISA and MasterCard are welcome. Please add $2.00 freight per total order (additional freight and insurance on hard disk products) and $2.00 for COD orders. California residents please add 6% sales tax. Prices, availability and specifications subject to change without notice.

Trademarks: Kaypro - Kaypro Corp., CP/M - DRI, MS-DOS - MicroSoft, dBASE II - Ashton Tate

Hard Disk Systems: Now you can add hard disks to any CP/M Kaypro computer. Yet another reason not to sell your old work horse to get the extra performance you now require. Add an additional 10 or 20Mb drive inside your Kaypro 10, or install a single 32, 40 or 56Mb drive. If complete systems are not what you need, then order just the parts you want. Call for more information. TurboROM included.

- High speed disk read / write -- much faster that K10
- Supports 1 or 2 hard disks up to 56Mb each
- Each hard disk can be divided into 1 to 7 logical drives
- Each logical drive can be any size from 0 to 8 Mb
- User may select number of directory entries for each logical drive
- User selectable block size for each logical drive
- Expandable to include RAM Disk
- Expandable to include Real Time Clock
- Supports all features of our TurboROM
- Includes the Advent hard disk formatter software
- Advanced features include complete user definable disk formatting
- Supports a wide range of hard disk manufacturers and models

Floppy Disk Kaypro Systems (Internal): Add a single 10Mb drive to any Kaypro II, 4, 2X, 1 etc.

System - less drive **$576.38**
10 Mb System **$1090.33**

Kaypro 10 System (Internal): Add a 10 or 20Mb drive to the existing hard disk. The 32, 40 and 56 Mb drives replace the existing 10Mb drive.

System - less drive **$192.98**
10 Mb System **$706.93**
20 Mb System **$812.98**
32 Mb System **$1309.93**
40 Mb System **$1610.93**
56 Mb System **$2638.93**

External Hard Disk System: Add from 10 to 112Mb plus up to 2048K of RAM Disk to all Kaypros except K10s.

System - less drive **$862.34**
10 Mb System **$1376.29**
20 Mb System **$1482.34**
32 Mb System **$1979.29**
40 Mb System **$2280.29**
56 Mb System **$3308.29**

Large Storage systems (up to 112 Mb) ..... **$CALL**
Add a Real Time Clock to most systems above **$30.00**

5 MHz TurboBoard: Our tried and true 5 MHz speed enhancement for the earlier Kaypro models.
5 MHz TurboBoard for Kaypro II & 4 ..... **$74.95**

Software: Advent stocks a large selection of software for Kaypro CP/M and MS-DOS computers. The following is a list of some of our more popular software products.

Utilities

DateStamper **$39.00**
General DateStamper **$49.00**
Media Master **$39.95**
Media Master Plus **$59.95**
MultiCopy **$49.95**
Sidekick **$54.95**
Smartkey II **$49.95**
Smartprint **$29.95**
Uniform **$69.95**

Programming Languages

C/80 Ver 3.1 ..... **$49.95**
C/80 MathPak **$29.95**
Toolworks C **$49.95**
Turbo Pascal **$69.95**
Turbo Toolbox **$54.95**
Turbo Tutor **$34.95**

Accounting

Basic Business **$89.95**
Checks & Balances **$74.95**

Graphics

Rembrandt **$79.95**
Rembrandt '83 ..... **$89.95**

Education

Algebra **$39.95**
Calculus **$39.95**
Geometry **$39.95**
Trigonometry **$39.95**
SAT Score Builder **$39.95**
Reading Professor **$59.95**

Games

Adventure **$19.95**
Airport **$19.95**
Eliza **$24.95**
MyChess **$34.95**
Word Wiggle **$29.95**

Health & Diet

MyDiet **$49.95**
Computer Chef **$29.95**
What's for Dinner **$19.95**
Best of Wok Talk **$29.95**

CALL TODAY **National** **(800) 821-8778**
California **(800) 521-7182**

Hours: Mon - Fri 8 am - 5 pm PDT

DEALER INQUIRIES WELCOME.

advent products inc

3154-F E. La Palma Ave.
Anaheim, CA 92806
(714) 630-0446

Intermediate/8/16

Free-Form DBMs

How to find what you want when you don't know where it is

by Paul Ofman and Jim Spickard

Last month Paul wrote about bibliographic database managers—programs that let you keep track of books and journal articles. Students, professors, and anybody who spends a lot of time in libraries probably got a lot of ideas from the software he reviewed.

This month, we're going to look at a different kind of database program—one designed for a wider audience.

All Kaypro owners write. (Well, maybe not all, but the exceptions wouldn't fill a phone booth.) We've had our Kaypros for a couple of years and have each filled more than 100 disks with miscellaneous scribblings. Even with informative labels and a good sorting system, it's hard to find things when we need them.

You see, you don't just need to find files. Suppose you have to find a particular *passage* in something you wrote months or years ago?

Let's give an example.

The other day Jim was looking for a quote from Michael Polanyi (the famous philosopher of science). He was trying to remember what Polanyi said about scientists being "called . . . to an unthinkable consummation." (That's all he could remember.)

He could have thumbed through the 400-plus pages of Polanyi's magnum opus, but that might have taken days. Or he could have looked through his filing cabinet, where he had once written it down.

But *he had used that quote before*. It was on one of those hundred disks, waiting to be found!

To make a long story short, he called up Free Filer, one of the three programs we're going to review this month, and told it to find the paragraph containing the words "Polanyi," "unthinkable" and "consummation." In the blink of an eye (well, almost that fast), the quote was on his screen.

A beginning writer might not need this help, but those of us who are more experienced can't imagine doing without it.

And these programs have other uses. Do you want an alphabetized list of all your customers in a given zip code who purchased microwave ovens? You can have it, without having to put your data in a complicated form.

We'll outline some of these uses below.

Unstructured databases

Free Filer, SuperFile and FYI 3000 are what the *Whole Earth Software Catalog* calls "garbage bags." You throw your data in, and they give you easy access to it—without having to enter it in the limited "fields" of dBASE II, Perfect Filer or DataStar. Unstructured database managers provide much more flexibility than other programs, and require less typing—especially if your information is already on disk.

The trade-off is that you can't do things that require data to have been stored in highly structured ways. You can't cross-tabulate entries, compute sums, or search for values greater or less than a given value. Nor can you store bibliographic citations and print them in varying styles, as with the programs reviewed last month.

But in a matter of minutes you can have a fully functioning database filled with notes, correspondence, and manuscripts—everything you've written since you bought your Kaypro.

You can't beat that for ease.

Free Filer

The simplest (and cheapest) of the programs we test-drove is Free Filer, $49.95 from Telion Software.

Free Filer treats your disk like a set of index cards. Every paragraph—everything divided by double carriage returns—becomes a record (the parcels of data that database managers work with). You tell the program what character strings you wish to find ("Polanyi," "95004," and the like), and the program produces them, one after another on the screen. You can also search relationally—getting only those records that contain *both* strings you've asked for. In fact, Free Filer lets you specify up to 15 strings at once. Only records that contain them all will be chosen.

You have some options. Instead of dividing records with double carriage returns, you can choose another marker—perhaps "^^", which seldom appears in everyday text. This way, a record can span more than one paragraph. Instead of printing the "hits" one by one to the screen, the program can also write them automatically to disk. By searching *this* file, you can get past the program's 15-keyword limit (though it's hard

Copyright © 1986 Paul Ofman and Jim Spickard. All rights reserved.

to imagine ever needing to). If you're searching several disks, you can append the search results to one another. The program will only search one disk at a time, but this trick lets you collect your hits in one place, then search them further.

You don't have to search the whole disk, though. You can search a single file if you want.

Free Filer is fast. A 36-hit search of 314K of text took just 3 minutes, 50 seconds. A 1-hit search of the same text took 3 minutes, 8 seconds. It's much faster than WordStar's search routine ("^QF")—which won't search on two terms at once, anyway.

Free Filer's code is small enough to run from WordStar's Run option.

Speaking of WordStar, Free Filer and WordStar make a great combination. Free Filer's code is small enough (32K) to run from WordStar's **R**un option. If you've got a file of 100 quotes, for example, you can run Free Filer and read the results of your search into your text with WordStar's ^KR routine. It sure beats searching the quote file with WordStar directly, or exiting WordStar, running another program, and climbing back in.

Free Filer will sort your output for you, either on the first character in the record or on any "delimiter" of your choosing. If you're searching an address list, for example, and have set up the list so the last names are surrounded with "#'s ("# . . . [name] . . . #"), you can have your hits alphabetized. You can change the delimiter—along with the rest of Free Filer's options—on the fly. That's a real boon when you're doing several searches in a row.

Telion Software provides excellent customer support, an added plus. Paul suggested several changes to an earlier version of their program, which they have made.

And Free Filer is the only database program Jim trusts with his recipes. He can look in the icebox and come up with the one recipe that uses olives, eggs and mystery vegetable. *Voila! Haute cuisine!*

At $49.95, this program is a steal.

(*Editor's Note: Free Filer version 4.0 is still available for $49.95, but there is also a newer version for $79.95 that includes additional features, such as the ability to combine logical operators and enhanced sorting capabilities. Those who have version 4.0 can send in their disks and get the newer version for the difference in price—$30—according to Telion president Alan Gomes*).

SuperFile

At $195, Software Marketing's SuperFile is a more complete—and more complex—text manager. SuperFile's database may span up to 255 disks and contain up to 20,000 records. Each record can be up to 512K in size (a ridiculous capacity because you'd have to search *it* to find what you wanted). Searches may use up to 64 keywords, which can be related by the logical criteria AND, OR, and NOT.

For example, let's say you're in the import business. You have a database of your correspondence—perhaps several thousand letters, if you write a lot. You want to find the letter you wrote last September to Smith—you don't remember his first name, but it's not John—about Martian Widgets. Smith is either in Singapore or Madagascar.

You tell SuperFile to find the record containing the keywords "Martian" AND "Smith" AND either "Singapore" OR "Madagascar" but NOT "John." Presto! The program tells you which disk contains the record, you insert that disk, and the record appears on your screen. If you desire, it can also go to a disk file or to your printer.

You can store the search criteria on disk, useful if you make the same search frequently.

SuperFile lets you have as many databases as you want—and you probably will want different ones for correspondence, product descriptions, personnel records, text, and so on. Each time you write something new, you have to update the database, but that's a small price to pay for the ability to find so much so quickly.

There's no reason, of course, that a given record couldn't be indexed in two databases at once. You don't have to enter it twice; just tell both databases what disk it's on.

Unlike Free Filer, however, SuperFile doesn't accept text "as is." SuperFile sorts records based on keywords, which you must append to the records with special symbols. A typical record will look like this:

```
*C
This could be the text of a SuperFile entry.
The entry could have many pages of
text, and can have any format you want.
*K
KEY WORDS / GO / HERE /
*E
```

The ***C** and ***E** signal the beginning and end of the record, while the ***K** signals the start of the keyword section. You can have up to 250 keywords per record. SuperFile maintains a dictionary for each database, which tells that database which records have which keywords. The program just searches its dictionary to find the record you want. You can print the dictionary to ease your data entry—it's nice to be reminded of the keywords you've used.

SuperFile is menu-driven. Once data was in the proper format, we found it extremely easy to create the database, and easy to add data later. Searching was a snap—just a matter of following screen prompts.

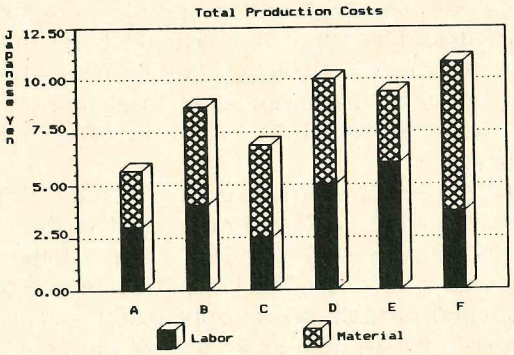
Printing search results was also straightforward: They can go to the screen, to the printer, or to a disk file.

GRAF 3.0

$49.95 CP/M-80 $69.95 MS-DOS / PC-DOS

the complete
BUSINESS and **SCIENTIFIC**
printer graphics program

- display floating point data directly from spreadsheets, data bases, word processors, and programming languages (or the keyboard) in a wide variety of bar, pie, line, and scatter plots
- menu driven operation supports automatic graph scaling, labeling, and legend creation
- plot and group up to 6 different variables on a single graph, distinguished by up to 14 different fill-in patterns and 8 different point-plotting symbols
- add up to 5 different-density grid lines, and choose from a wide variety of numerical labeling options



GRAF 2.0 Update Policy: Returning your original GRAF 2.0 disk to MSC entitles you to $20.00 off the above prices.

TERMS: We ship via first class mail. The above prices include domestic shipping and handling. Orders outside USA require additional $5.00 for postage. N.Y. residents add state sales tax. When ordering you MUST state your computer and printer make and model. We support MS-DOS (PC-DOS) version 2.0 or later on computers with at least 192k RAM, and CP/M-80 version 2.2 or later on Z80 computers (other than modified Apples) supporting a TPA of at least 54k (requires 64k of RAM). Most soft-sector disk formats are available. (If you can read several formats, please send us a list.) GRAF 3.0 works with any printer fully compatible with one of the following: Epson FX, RX, LX, MX (with GRAFTRAX), or LQ-1500; C. Itoh Prowriter; NEC 8023A; Star Micronics Gemini 10X, 15X, SG-10, SG-15; IBM Graphics Printer; Okidata 192, and earlier Okidata models equipped with the "IBM Plug 'n' Play" chips. (If you have an Okidata printer, other than the 192, the Plug 'n' Play chips are *required!*)

MSC Microcomputer Systems Consultants

27 Forest Avenue Port Jefferson Station New York 11776-1820

Write-Hand Man

"Almost a Sidekick for CP/M"
Ted Silveira—Computer Currents, Aug. 27, 1985

"WHM is ingenious and works as intended"
Jerry Pournelle, BYTE Magazine, Sept. 1985 (c) McGraw-Hill

Now available for CP/M 2.2, CP/M 3.0 and ZRDOS!

The convenience of *Sidekick* on your CP/M machine! Trigger **Write-Hand-Man** with a single keystroke and a window pops open to run desk accessories. Exit **Write-Hand-Man** and both the screen and program are restored. Use with any CP/M program and most any CP/M machine. Takes only 5K of memory.

FEATURES
Notepad for quick notes
Appointment calendar
HEX calculator
File and Directory viewer
Quick access phonebook
14 digit decimal calculator

BONUS
Add applications written by you or others! No other *"Sidekick"* lets you add applications. Dump screens, setup printers, communicate with other computers, display the date and time. Let your imagination run wild!

$49.95 (California residents add tax), shipping included. COD add $2. Sorry, no credit cards or purchase orders. 30 day guarantee. Formats: 8 inch IBM, Northstar and most 5 inch (please specify).

Write-Hand-Man only works with CP/M 2.2, ZRDOS and CP/M 3.0 (please specify). Simple terminal configuration required. Not available for TurboDOS. Compatible with keyboard extenders, hard disks, and other accessories.

Poor Person Software
3721 Starr King Circle
Palo Alto, CA 94306
415-493-3735

Trademarks: **Write-Hand-Man — Poor Person Software,** CP/M—Digital Research, *Sidekick*—Borland International

And you can print them with or without the special markers and keywords. If you're creating a customer list or bibliography, for example, you won't want the markers in your file. But if you're creating a new database as a subset of the old, you will want to leave them in.

Unlike Free Filer, SuperFile won't sort your output directly. But a special utility—now included—lets you sort and print labels, a real help for mailing list work.

Our only real complaint about SuperFile was having to add special markers and keywords to our text. It's one thing to add a few markers and keywords when you write a letter (you can put them on non-printing "comment lines" if you use WordStar). It's quite something else to go back over hundreds of pages of text adding asterisks and keywords. SuperFile seems best suited to those who churn out letters and short reports, rather than purveyors of discursive prose.

With that reservation, SuperFile is a fine program that will meet many people's needs.

FYI 3000

If you don't want to mess with markers and keywords, but still need to sift through disks and disks full of text, you ought to look at FYI 3000 ($395 from Software Marketing).

SuperFile sorts records on keywords, which must be appended to a record with special symbols.

FYI 3000 provides two modes. A "keyword mode" is similar to SuperFile—which makes sense, because the same people put both programs together.

In keyword mode, entries are marked by "*C" and "*E," with keywords separated from the text by a "*K." (Look familiar?) The only difference between this mode and SuperFile is capacity: FYI 3000 can handle up to 500 keywords per record, and records can be as long as 2 million characters.

The "full-text" mode is similar to Free Filer: Records are paragraphs, separated by double carriage returns. These may be a maximum of 500 words long, not counting such words as "a," "and," "the" and others on an "omit list" the program maintains.

(A third mode uses markers but not keywords, allowing you to store records containing blank lines, but keeping the 500 word limit.)

FYI 3000 indexes these non-keyworded paragraphs on every word, except those on the "omit list." (That's why the limit of 500 words—that's all the indexer can handle.) It's just as if you'd entered every word as a keyword, but the program does it for you!

A given database can only use one of these modes, so

DON'T COMPROMISE!

Five reasons to buy the Axonix ThinWrite 80 Battery Powered Printer:

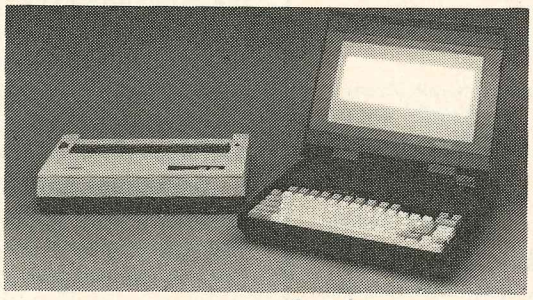
1. **Impact Printing** provides lower media costs, crisper printouts on ANY paper stock, and operation in harsh environments.

2. The **Wider Carriage** accommodates various form types including multicopy and 10 inch fanfold.

3. The ThinWrite Provides **Highest Resolution** for Epson/IBM graphics and **near letter-quality** in a portable printer.

4. You Will Have **World-Wide Service** available from hundreds of CENTRONICS service centers.

5. Both **Serial and Parallel Communications** are provided as a standard feature.



See your display in ANY LIGHT!

We backlight your Kaypro 2000 with an electroluminescent panel. We guarantee a quick turn around. And you'll receive the same high quality you've come to expect from Axonix.

The Thin E/L 2000 is priced at $300 F.O.B. Salt Lake City, Utah. The ThinWrite 80 Battery Powered Printer is priced at $449 F.O.B. Salt Lake City, Utah.

15 day free trial on standard products.

Dealer Inquiries invited.

VISA MasterCard AMERICAN EXPRESS

Axonix
The Portable Peripherals People.
417 Wakara Way
Salt Lake City, Utah 84108

Call (801) 582-9271

you have to choose. The program can manage several databases, however, so you might want to store text one way and correspondence another.

FYI 3000 lets you specify up to 128 search terms, connected with AND, OR, and NOT. Every record that meets the search criteria will be selected. You can ignore upper and lower case, if you want. You can also search "backward"—choosing every keyword *except* those you specify. This is useful for excluding certain zip codes from a mailing list, though otherwise it's a bit arcane. (The program stops searching after 1,500 hits, so you have to plan well.)

As with SuperFile, you can save the search results on disk and send them to the screen or to the printer. You don't have to look at the whole entry, though; you can print just the first sentence or the first line if you want. You can also add a comment line to your output, so you can tell what you did days or weeks later.

One utility program lets you sort your output. Another lets you print labels from it.

The advantage of FYI's indexing technique, of course, is its ability to access materials from many disks in a relatively short time. And in full-text mode, you don't have to worry about entering keywords. The approach has its drawbacks, however. In full-text mode, the ratio of indexed words to text is high, so the index files take up a lot of space.

The program and the index files must be on the same disk. That leaves about 300K on a double-sided floppy for index files, which should index about one megabyte of text (in FYI's estimation). Single-sided drives would be limited to half that. Splitting your text into multiple databases, of course, expands the amount you can store.

The real winners for FYI 3000 are those with hard disks: five megabytes of index will handle 20 mega-

If you need to sift through disks and disks of text, you ought to look at FYI 3000.

bytes of text—perhaps more, since English has a finite number of words. After a while, adding more text doesn't add more words, just more reference points.

In keyword mode, of course, the index takes less space. You just choose the words you want, greatly cutting down the total number. But you have to enter them manually; you might as well save $200 and stay with SuperFile.

A better option is to stay in full-text mode, but

E X P A N D YOUR Productivity

CP/M MS DOS

New: The NEC V-20 improved 8088 Microprocessor — 10-45% increase in speed—just plug it in .. **$30.00**

Increase Memory . . .

1. Kaypro 16 256K-512K Memory Expansion **$69.95**
2. Kaypro PC 256K-640K Memory Expansion **$69.95**

Both are simple plug-in installations; includes public domain RAM Disk software and other utility programs

Increase Visibility . . .

1. **Composite Video Generator** adds standard composite monitor to a Kaypro II or IV..... ~~$49.95~~ **$44.95**
2. **Composite Video Generator** adds an unmodified composite monitor for Kaypro 1, 2-84, 2X, 4-84, 10 ..... ~~$89.95~~ **$84.95**
3. **External Monitor Adapter** adds a TTL monitor to a Kaypro 1, 2-84, 2X, 4-84, 10..... ~~$49.95~~ **$44.95**

Increase Programming Tools . . .

1. **Color Graphics Board** gives 16 colors, 32 sprites w/bit-mapped graphics; requires external monitor or TV; for any CP/M Kaypro ..... ~~$145.00~~ **$130.00**
2. **Deluxe TLC Logo** "turtle" graphics language; for use with color graphics board..... **$129.95**
3. **Color Board and Deluxe Logo package** ... ~~199.95~~ **$179.95**
4. **Instant Grapher 2.1** gives labeled bar and line graphs; prints separate pattern for each color; use with color board only ..... ~~$40.00~~ **$29.95**
5. **Standard TLC Logo** "turtle" graphics language uses internal graphics of Kaypro 1, 2-84, 2X, 4-84, 10..... ~~$99.00~~ **$79.00**

Increase Speed . . .

1. **Electronic RAM Disk** and **Printer Buffer Combination** — the ultimate add-on for Kaypro I, II, IV, 2X, 2-84, 4-84 & 10 computers. No longer will you need to wait for your Kaypro to slowly finish mundane tasks such as running a printer or waiting for floppy drives to turn when you have better things to do.

Tested RAM Disk without RAM chips..... **$295.00**
256K RAM Disk **$345.00**
512K RAM Disk **$395.00**
768K RAM Disk **$445.00**
1MB RAM Disk..... **$495.00**

★ Prices include all installation materials except for P10 Adapter Board required for Kaypro 10 w/out an external modem and optional on 1, 2-84, 2X, and 4-84.

2. **Kaypro II to IV Upgrade** includes 2.5 Mhz to 5 Mhz speed up, two 390K disk drives (DSDD) to replace the single sided drives; price does not include shipping..... **$395.00**

Increase Challenge and Excitement . . .

Infocom's Interactive Adventure Games give hours of fun and education at a variety of skill levels. Old favorites and new releases.

$5.00 Off Suggested Retail

CATALOG and COMPLETE DESCRIPTIONS AVAILABLE
100's OF SOFTWARE LISTINGS FOR CP/M NOW AVAILABLE

MicroSphere, Inc.
P.O. Box 1221
Bend, Oregon 97709
503-388-1194

VISA MasterCard MicroSphere

expand your omit list. More words will be left out of your index, but how often do you search on words like "search," "word" or "expand?" A large omit list will cut the index size drastically.

If you've really got a lot of text and don't want to have to modify what you've already written, we'd recommend FYI 3000. Otherwise, one of the other programs may be better for you.

What should you buy?

While most Kaypro owners will find a free-form database manager useful, not everyone is going to want the same program.

If you don't do much searching, but have outgrown WordStar's search capabilities (and who hasn't?), we recommend Free Filer. It's a good program, extremely easy to use, and requires no set-up. Its only drawback is that searches are limited to a single disk.

Academics and writers will especially like its ability to search long passages without prior modification. If you know which disk has what you're looking for, Free Filer is the program for you.

If you generate a lot of correspondence or short reports and don't mind going back to add markers and keywords, then take a good look at SuperFile. This program is best in a business environment, where long articles and books are not routinely produced.

And for truly massive searching, where you have access to a hard disk or similar storage device, there's no substitute for FYI 3000. Its power and unique strengths leave it without peer.

We reviewed the CP/M version of these programs; however, all are available in MS-DOS format. There may be differences in version numbers between CP/M and MS-DOS formats and the DOS version may have some added features because of the extra RAM available.

Paul Ofman is a freelance writer in New York who writes on microcomputer topics and is also a doctoral candidate in clinical psychology. Jim Spickard teaches sociology and is a frequent contributor to PROFILES.

Quick Reference Summary

Product: Free Filer
Manufacturer: Telion Software
P.O. Box 1464
La Mirada, CA 90637-1464
Phone: (213) 946-1015
Price: $49.95 (version 4.0) or $79.95 for new version

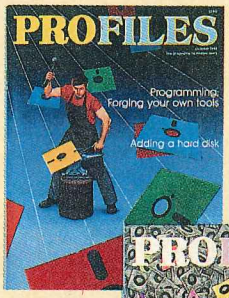
Product: SuperFile and FYI 3000
Manufacturer: Software Marketing Associates
4615 Bee Caves Road Austin, TX 78746
Phone: (512) 327-2882
Price: $195 and $395 respectively

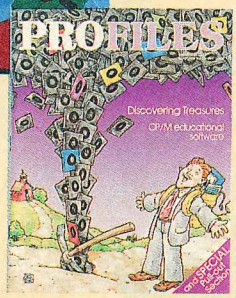
Introducing PROFILES

The Magazine For Kaypro Users

Now 12 issues a year

If you own a Kaypro, six issues of *PROFILES* won't cost you a penny.





If you've purchased a Kaypro computer, the cost of a six-issue *PROFILES* subscription was included in the purchase price. If you sent in your warranty card, you should be on the mailing list. If you haven't received an issue in the mail, please fill out the form below and send it in. We must have accurate serial numbers and zip codes for subscriptions to go through, so be thorough. Please allow 10-12 weeks for delivery. Note: the introductory subscription begins with the first issue you receive in the mail and has no relationship to the complimentary issue packed in your machine.

If you don't have the luck to own a Kaypro, you can still subscribe (use the lower form). Or you can pick up a copy at any authorized Kaypro dealer. Call Toll Free Nationwide 1-800-4KAYPRO, for the dealer nearest you.

Yes, I own a Kaypro.

☐ **Please Begin My Introductory Six-issue Subscription.**
(International subscribers add $10 for postage.)

Name: _____
(LAST) (FIRST) (M.I.)

Address: _____

City: _____

State: _____ **Zip:** _____

Signature: _____

Serial number: _____ **Model: K-** _____
(No introductory subscriptions without serial number)

☐ **International subscription renewals (12 issues) USD $40.00 including postage.**

Send to: *PROFILES* Subscriptions, P.O. Box 2889, Del Mar, CA 92014.
Please allow 10-12 weeks for delivery.

4BBZZ

No, I don't own a Kaypro.

I'd like to receive twelve issues of *PROFILES*, and I've enclosed a $25.00 check or money order made payable to Kaypro Corporation.
(No cash, please)

Name: _____
(LAST) (FIRST) (M.I.)

Address: _____

City: _____

State: _____ Zip: _____

I am interested in the CP/M MS-DOS Operating System (circle one)

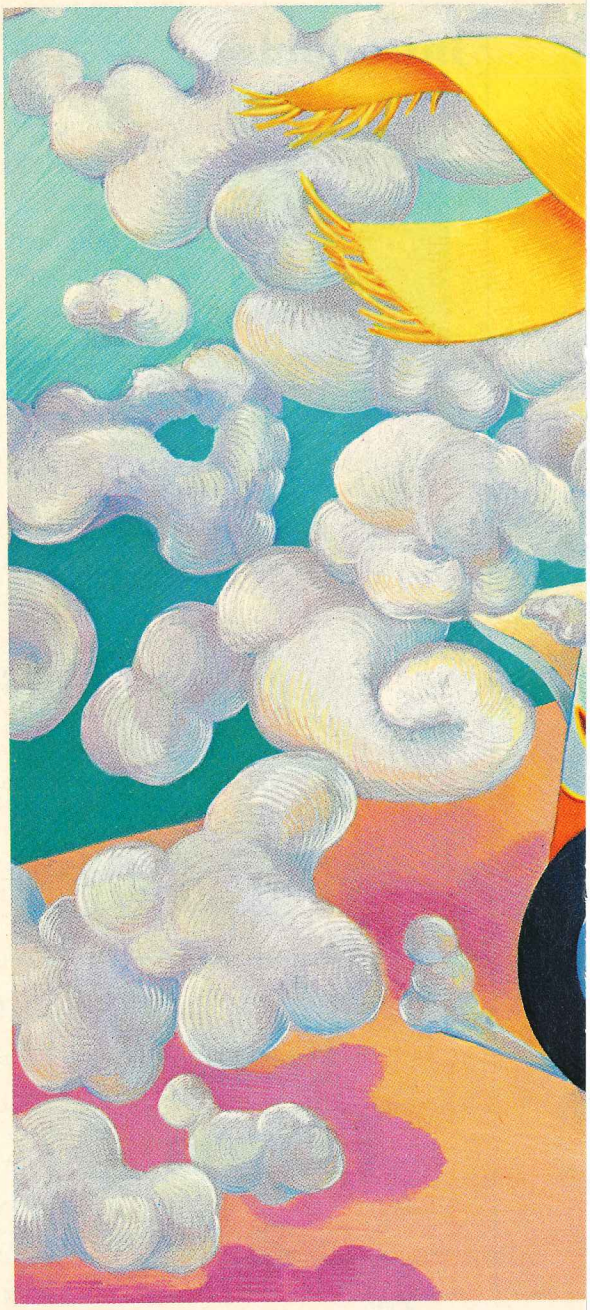
☐ **International subscriptions (12 issues) USD $45.00 includes postage.**

Send to: *PROFILES* Subscriptions, P.O. Box 2889, Del Mar, CA 92014.
Please allow 10-12 weeks for delivery.

4BBZZ

Enhancing Eight-Bit Hardware

Part 2: Surveying the field of upgrade possibilities



by Loren Marshall

Last month I examined the ins and outs of preparing for an upgrade—shopping, general cautions and sources of advice—and offered a simple starter project: moving the reset button to the front of the machine. This time I'll talk about specific upgrades to Kaypro hardware. Naturally, in the discussions below, I'm assuming you've read the previous article.

Independent vendors of hardware upgrades are holding the door open for owners of eight-bit Kaypros to keep pace with later computer generations. Their offerings range from minor conveniences to major transformations. The list below appears in approximate order of cost, from several totaling less than $100 to those that cost more than the computer itself.

These descriptions alone will not get you through an upgrade, and none is intended as an endorsement or testimonial. You'll have to educate yourself further and arrange the technical support you need before undertaking a project. Write to review publishers (see "Contact!") for information on back issues of publications that have carried pertinent articles.

Cooling fan, $5-100

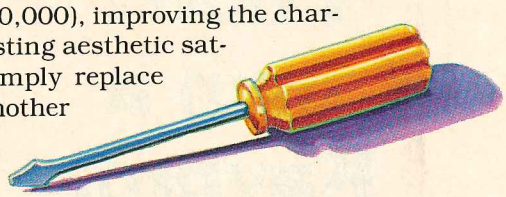
If your Kaypro came without a fan, consider the reasons for adding one. Even after years of trouble-free operation, heat could do in an EPROM (*Erasable* Programmable Read Only Memory) chip and send you running to the shop. Problems that repeatedly materialize late in your work sessions can be assumed to be heat-related until proven otherwise.

Heat also affects speed. Chips slow down as they heat up. If you plan to do the processor speed modification, described below, start with a fan.

Fan prices vary considerably, and dealer installation adds to the possible range. Consider power supply, airflow pattern, filtering and physical mounting before you buy. Instructions with brands designed specifically for the Kaypro should simplify the power supply hook-up. Fans advertised for the Kaypro include the Dragonfly, the Beefan and the Kayfan. The vendors' addresses appear in "Contact!"

New video character set, about $30

For video displays without real descenders on letters such as g, y, j and p (primarily Kaypro IIs with serial numbers under 20,000), improving the character set offers lasting aesthetic satisfactions. You simply replace one chip with another on the motherboard.



Micro Cornucopia sells the only character EPROM advertised at the time of this writing, although Advent Products and

Copyright © 1986 Loren Marshall. All rights reserved.

other companies have offered them in the past. Some other upgrades, such as graphics boards, improve the character set as a bonus.

External monitor adapter, $50-90

An external monitor offers relief for tired eyes and an easy way for several people to watch the action. Be prepared to buy a monitor, as a normal television screen won't display 80 columns.

Advent Products and MicroSphere make adapters in similar price ranges. They can be installed simply—there is a plug-in board and a jack for the back of the computer. Both companies advertise in *PROFILES*.

Jim Nickerson worked out a bit more technical approach to the project. His *PROFILES* article ("Add External Video to Your Kaypro," July/August 1984) details a homemade video adapter for '84 series Kaypros.

ILLUSTRATION BY JENNIFER HEWITSON

Five megahertz processor speed-up, $39-75

There are probably more speed upgrades available than any other type of Kaypro modification—possibly all of them combined. Numerous companies offer them, and review opinions abound.

With this modification, you can decide how much technical work you want to do. Several vendors sell boards that minimize installation pain by plugging into the Z80 microprocessor socket. Make sure you get a toggle switch so you can return to your original speed to run formatting programs, arcade games and anything else that balks at 5 MHz.

More adventurous tinkerers, or those who suspect that they may later want their Z80 socket for another product, can try Micro Cornucopia's do-it-yourself method. This project has the particular advantage of running at the advertised speed. Many daughter board speed kits use "wait states" that reduce their actual

clock speeds to 3.5 - 4.5 MHz. The method's disadvantage: a fraction of Kaypros, perhaps 5 to 15 percent, will not run at 5 MHz at all unless you replace one or more "slow" chips. This is another good reason for the switch; in a pinch, you can toggle back to 2.5 MHz while you identify and solve the problem.

Two articles in *Micro Cornucopia* magazine contain more on this upgrade ("The Kaypro Column," by David Thompson, June 1983, and the same column done by Alan Barlow in December/January 1985).

Amber internal monitors, $90-100

Some contend that amber screens reduce eyestrain during long sessions at the console. Amber monitor vendors offer an affordable upgrade for those who want a change and aren't satisfied with a non-glare screen. Amber monitor kits for Kaypro computers are advertised by Amber Visions and Langley-St. Clair Instrumentation Systems.

Graphics boards, $145-299

The visual allure of screen graphics draws many people into computing. Graphics support in the world of Z80-based Kaypros, though, is limited for those not prepared to program their own.

Graphics require both hardware with display capabilities and software to create the images. Eight-bit Kaypros don't come with extensive screen capabilities, and programmers have focused much of their attention on Apple's Macintosh and the IBM and its clones. CP/M graphics software is in short supply, although it does exist. An investment in graphics can be a disappointment if you don't know what to expect.

An investment in graphics can be disappointing if you don't know what to expect.

Advent Products' ProGraphics system emulates the Televideo 925/950 terminal. Detroit reviewer Barney Nagel had high marks for Advent's installation directions, graphics quality, customer support, and the disk of utilities and demonstration programs ("Gadzooks! Graphics on the Old Kaypro II and IV," *DKUG.DOC*, Spring 1985).

JFN Industries markets one board to upgrade video attributes in the Kaypro's native environment and another that emulates the Zenith Z-19 terminal. The company advertises automatic software and operating system patches for the former, to ensure compatibility with bundled programs.

If you consider MicroSphere's color graphics board, you might also budget for a color monitor, although an inexpensive RF modulator will allow use of a television. David Thompson reports that this board also installs with a simple plug-in, and he praises the quality of color graphics. (Thompson's *Micro Cornucopia* has a close business relationship with MicroSphere, and he candidly admits a bias.) The board comes with 16K of memory and a utilities disk.

Internal 1200-baud modem, $349

An internal 300/1200-baud, Hayes-compatible modem could spice up any Kaypro, and it leaves the system completely portable. An external modem gives you more freedom to trade systems, but the Datasolvers 1200 SMT merits a look if you plan to hang on to your machine. After being used to transferring data at 300 baud, quadrupling the rate certainly streamlines the process.

The Datasolvers modem installs simply with IC plugging and double-sided tape. It won't conflict with Kaypro's built-in modems, but this model does deprive you of the use of your serial data port while it's in place.

RAM disks, $395-995

Time is of the essence. In one way or another, the justification for most computer use boils down to saving time.

Souping the Z80 up to 5 MHz solves only one part of the delay problem. The remaining delay occurs in input-output activity. Drive operation—reading from and writing to disk—poses a problem not addressed by processing speed because much of it is a mechanical rather than electronic function. Head movement accounts for most of the wait time with floppy disks.

Logically, applications that rely heavily on disk function show the greatest speed increase. "Virtual memory" storage on disk, such as Perfect Writer's swap file, and overlays (Wordstar's OVL files) are the sort of program features that a RAM disk will expedite significantly. Most applications mix processing and input-output tasks, so a complete speed overhaul consists of both a processor upgrade and addition of a RAM disk.

Memory in a RAM disk, just as in a computer's RAM, is dynamic memory. Even a brief power loss wipes out everything. Unless you're using an uninterruptable power supply, important projects still must be backed up to real disks frequently.

Most RAM disk vendors sell boards for internal mounting, but MicroSphere tried an unconventional approach: an external box that communicates with the motherboard through the parallel port. This leaves your Z80 socket free for another upgrade.

SWP Industries markets a dual-function board. Its Co-Power products are actually co-processor boards that include the 8088 processor—the heart of the IBM PC and its compatibles—and an expandable 256K of RAM. While there is a consensus among reviewers that graphics and keyboard incompatibilities cripple the Co-Power in the IBM environment, many rate it highly on the basis of its second role: Under CP/M, it addresses

the extra memory as a RAM disk.

Other companies that make RAM disks are Advent Products and Semidisk Systems.

Quad density floppy disk drives, $300 and up

Prices for this modification vary widely, depending particularly on how many drives you add, where you buy them and what upgrade method you choose. The project's allure is pretty obvious: A quadruple density disk will hold nearly 800K of data.

The allure is obvious: A quad-density disk drive will hold nearly 800K of data.

To get some perspective on the project, consider it in two parts. First, the motherboard has to learn to recognize new disk formats and system tracks, and—if you're upgrading from a Kaypro II to double-sided drives—how to select sides. This part of the job entails replacing the monitor EPROM and jumper wiring, if you accept *Micro Cornucopia*'s challenge to make some of the circuit changes yourself. If you also want to increase the *number* of disk drives in the system, you'll need another part called a "decoder" that plugs in between the disk drive data cable and its connector on the motherboard.

The other phase, choosing and installing the drives, is more complex. Use a chart while you shop (see "Methodical Mail Order" in Part 1, *PROFILES* March 1986) and a thorough checklist to track the actual installation. Choose a "kit" supplier (EPROM, decoder and so on) first, and shop for drives after you know what types and brands the kit supports and what its manufacturer recommends.

Drive installation itself takes in several sub-tasks. Regardless of where you buy parts for modifying the motherboard, study the articles recommended below to gain a basic knowledge of the operation. The first job is "jumpering" the drives so that the operating system and processor know one drive from another, and how many there are. The jumpering method depends on drive brand; you may slide fittings off a part on the drive's circuit board, or break wires similar to those in electrical fuses.

Physical mounting consists of redrilling the drive enclosure, inserting the drives and fastening them, and hooking up the data cable and wires for power and ground. An increase in the number of drives means the cable needs a corresponding number of plugs added, a job well left to a technician unless you have a small vise and a fine touch.

Both motherboard "kit" vendors—Advent Products and Micro Cornucopia—claim similar major features. With a decoder, either should recognize up to four double or quad density drives (including single-sided double density, if you should decide to leave one in).

Two other companies, ERAC and the Cybernetic Surgery Clinic, offer flexibility by providing part of the upgrade work and letting the customer do the rest. Some dealers will agree to this arrangement also, or will do a complete installation of equipment you obtain.

Recommended reading for this upgrade includes two central *Micro Cornucopia* articles ("Great Eight Kaypro," by Dana Cotant, December 1983; and "The Kaypro Column," by Dana Barlow, December/January 1985) and three more that offer useful background (David Thompson's Kaypro columns in the August 1983, April 1984 and June/July 1984 issues).

Eight-inch floppy disk drives, $350 and up

Despite the lack of mass market attention, eight-inch drives have both historical and technical advantages operating in their favor. The de facto standard for disk formats in the CP/M world has always been the IBM 3740: eight-inch, single-sided, single density. Almost all CP/M software is available in this format, including the dozens of megabytes of public domain material that SIG/M and other groups distribute.

In the double density format, eight-inch drives transfer data at 500 kilobits per second—twice as fast as their five-inch counterparts. Disk access times approach hard disk performance when working on files up to 15-20K.

The ascendancy of smaller formats has brought the ceiling down on eight-inch drive prices. With careful shopping you can buy two double-sided, double density drives (1.3 megabytes each) and a power supply for under $500. You'll have to use the drives externally, of course, so you also want to price a cabinet.

Micro Cornucopia offers an arrangement similar to, and compatible with, its Pro-8 quad density upgrade. You can get more detailed information in articles by Dana Cotant and David Thompson ("Eight-Inch Drives on the Kaypro," June/July 1985, and "The Kaypro Column," August/September 1985).

Hard disk drives, $1,000 and up

Adding a hard disk, or "Winchester," drive to your system simultaneously improves storage capacity and disk access speed. Even the smallest hard disk commonly sold, five megabytes, stores more than six times what a quad density floppy disk will, and the more common 10-megabyte models replace more than 50 single-sided Kaypro disks. All of that storage is on line and accessible without switching disks. Speed increases are similarly impressive.

There are also trade-offs. Directory size grows parallel to disk size, so operating system changes may prove more drastic than with a quad density upgrade. Data backup takes on new importance with a hard drive.

With all of your data eggs in one basket, malfunctions pose much greater risks than they do with even the most heavyweight floppies. As a rule of thumb, the need for a high-speed "streaming tape" device grows in proportion to the size difference between the hard disk and the floppy drive used for backup.

If you decide on tape backup, shop for a unit that the vendor has already interfaced with your kind of hard disk. This project is a poor bet for matching products from different sources.

David Thompson gave positive mention to a Delphi 15-megabyte hard disk subsystem in *Micro Cornucopia*. WestWind, Systems Peripheral Consultants, Technology Information Systems, and Mega-Byte also advertise hard disks specifically for the Kaypro.

Logic analyzer, above $2,000

Electronics buffs interested in circuit analysis for repair or new design work may be surprised at how well a Kaypro performs with special equipment installed, and how much less it costs than a comparable "dedicated" analyzer. Omnilogic sells a 16-channel analyzer, expandable to 32 channels, which technician Tom Hill of Alaska Micro Systems rated as nearly equivalent to a dedicated model more than twice as expensive. The principle difference: the dedicated analyzer handles "faster" circuits.

This upgrade is more expensive and more technical than most others. Hill's installation took two hours.

The bottom line

Hardware modifications are investments in more than one sense. Many require time and hard work to prepare for, and there are no guarantees against installation problems. But assuming that you do the groundwork and arrange technical support in advance, the payoffs more than outweigh the risks. You don't just get a hotter computer—upgrading builds confidence and enthusiasm in the operator as well.

Loren Marshall works as a paramedic in Anchorage, Alaska. He completed processing speed and quad density disk drive upgrades on his Kaypro II ('83 series) while researching this article.

Contact!

Advent Products
3154-F E. La Palma Ave.
Anaheim, CA 92806
(714) 666-0130

Amber Visions
878 Jackman St., Ste. 192
El Cajon, CA 92020
(619) 579-2435

Beefan Atmospheres
1207 E. Eighth Ave.
Brooklyn, NY 11215
(718) 788-6799

Byte Magazine
70 Main St.
Peterborough, NH 03458
(603) 924-9281

Cybernetic Surgery Clinic
P.O. Box 795
Collegedale, TN 37315

Delphi Development
6273 19th NE
Seattle, WA 93115
(206) 524-5369

Dragonfly Software
729 Westview Ave.
Philadelphia, PA 19119

ERAC
8280 Clairemont Mesa Blvd., Ste. 117
San Diego, CA 92111
(619) 569-1864

JFN Industries
361 North Fuller Ave.
Los Angeles, CA 90036
(213) 939-4105

Kayfan Cables To-Go
P.O. Box 5903
Dayton, OH 45405
(513) 275-0886

Langley-St. Clair Instrumentation Systems, Inc.
132 W. 24th St.
New York, NY 10011
(800) 221-7070

Mega-Byte, Inc.
Rt. 3, Box 35
Tremonton, UT 84337
(801) 257-7033

Micro Cornucopia
P.O. Box 223
Bend, OR 97709
(503) 382-5060

MicroSphere, Inc.
P.O. Box 1221
Bend, OR 97709
(503) 388-1194

Omnilogic, Inc.
350 Sunset Blvd.
Renton, WA 98055
(206) 271-2000

Semidisk Systems
P.O. Box GG
Beaverton, OR 97075
(503) 642-3100

SWP, Inc.
2500 E. Randol Mill Rd., Ste. 125
Arlington, TX 76011
(817) 469-1181

Systems Peripherals Consultants
9747 Business Park Ave.
San Diego, CA 92131
(619) 693-8611

Technology Information Systems, Inc.
3621 N. Central Ave.
Phoenix, AZ 85012
(602) 263-0898

WestWind Computer
1690 65th St.
Emeryville, CA 94608
(415) 652-3222

PUT A CP/M COMPUTER IN YOUR PC!

RUN/CPM™

ONLY $99.95
INCLUDING HARDWARE!
Plus over 20 CP/M80 programs!

And run 1,000's of CP/M programs
up to 30% faster, directly from your CP/M disks!

How does it work?
RUN/CPM virtually transforms your PC into any of the most popular CP/M systems. A simple replacement of your PC's 8088/86 microprocessor with our N.E.C. V-20/30 microprocessor gives your computer the ability to run both 8 bit CP/M and 16 bit MS-DOS programs. RUN/CPM will transform your PC's floppy drives into CP/M drives able to directly read, write, and format over 100 CP/M disks! Terminal emulation supporting dozens of the most popular terminals completes the transformation of your PC into a CP/M system.

Performance?
Depending on the application, many of your CP/M programs will run up to 30% faster on your PC. Other features include; ability to run CP/M programs in color, logical and physical drive assignments, run CP/M or MS-DOS programs from the same prompt. RUN/CPM is the solution to running CP/M software on PC's.

RUN/CPM™ Plus

Turbocharge your CP/M Applications!

For programmers, developers, and advanced enthusiasts.

Features

- Utilization of 1 full mega byte address space!
- Floating point math capability with 8087
- Direct access to DOS functions
- Direct access to PC 1/0 ports
- Direct access to PC BIOS calls

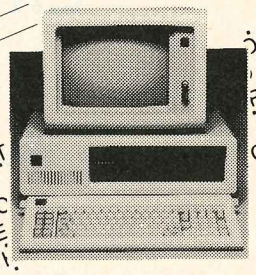
Plus over 20 CP/M80 programs!

ONLY $199.95
INCLUDING HARDWARE!

Plus over 20 CP/M80 programs!

ADD CP/M DISK COMPATIBILITY TO YOUR PC!

READ/CPM™



ONLY $49.95

Now your IBM PC or compatible can directly read, write, and format over 100 of the most popular CP/M disks.

How does it work?
READ/CPM virtually transforms your PC's floppy disk drives into any one of more than 100 CP/M drives. Simply run the READ/CPM program, and choose the CP/M formats you want your PC's floppy disk drives to emulate. Now you can access data from your CP/M disks using standard DOS commands like COPY, DIR, TYPE etc. No need for modems or additional hardware, and READ/CPM supports more formats than any other similar product. READ/CPM is the ideal solution to the incompatibility problem.

RUN INTEL SOFTWARE ON YOUR PC!

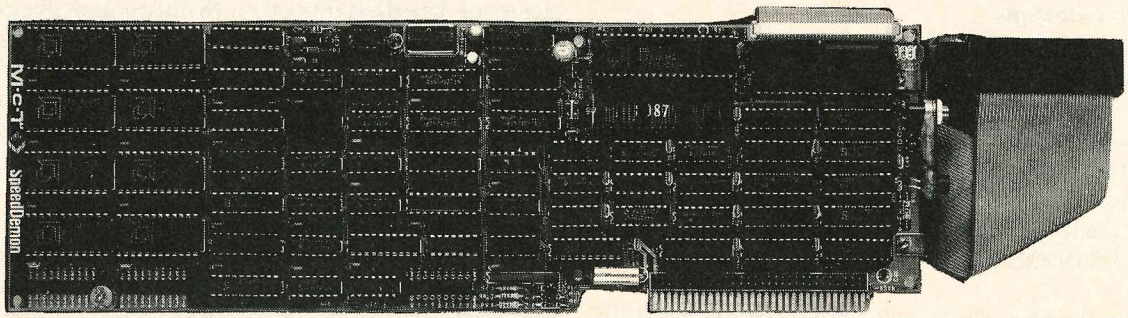
Attention Programmers and Developers!

Our MICRUN 80, and MICRUN 86 Universal Development Interfaces will allow you to run your 8 bit or 16 bit Intel development languages on your IBM PC or MS-DOS compatible! Your PC will become a high performance MDS, and save you time and money. Call for more information.

PC Speed Up 10 MHZ!

Now Your IBM PC, XT, Or Compatible Can Run MS-DOS, And CP/M Programs Virtually As Fast As An AT!

CALL FOR PRICE!



CALL FOR PRICE!

- Compatible with virtually all sofware:
  - — Spread sheets
  - — Word processors
  - — Data base managers
  - — High level languages
  - — Applications programs
  - — CAD/CAM
  - — Engineering
  - — Scientific Applications
- Compatible with virtually all accessory cards:
  - — Extended memory
  - — Printer cards
  - — Serial cards
  - — Hard disk controllers
  - — Floppy disk controllers
- No preboot software, virtually transparent to user.

1486

To order
send check or money
order (U.S. funds)
add $5.00 shipping/handling.

VISA
MasterCard

ORDERS ONLY
1-800-637-7226

Micro Interfaces Corporation
6824 N.W. 169th Street, Miami, Florida 33015
(305) 823-8088
Telex 5106004680 MICRO INTER CO
Ask About Our Intel Operating System Interfaces

OEM, VAR, Dealers, Inquiries Invited

Trademarks: CP/M (Digital Research, Inc.), IBM (IBM Corp.), RUN/CPM (Micro Interfaces Corp.), MS-DOS (Microsoft, Inc.), INTEL (Intel Corp.)

Little Mysteries

How "diskwashers" do their stuff

by David Weinberger

Question: Two questions about "diskwashers"—worthwhile public domain programs like WASH, SWEEP, and DISK, which replace PIP and let you manipulate files with ease:

1. If you have one that lets you tag files for mass copying or deletion, why do the drives spin whenever you tag or untag a file?

2. Given all that these programs do, and given that it is possible to "unerase" files, why don't they include that feature?

Answer: The two questions are related, in a way.

Here's what happens with a typical diskwashing program. It reads the directory from a disk, puts it into memory and shows the filenames one at a time, letting you copy, delete, rename, etc. You would think that all it would have to do to tag a filename would be to go to the spot in memory where the filename is and put an asterisk (or something) next to it. Then, when it wanted to copy all tagged files, it would just browse through the buffer (section of memory) that contains the filenames and look for asterisks.

That, in fact, is pretty much what happens. So why does a diskwasher access the disk whenever you tag or untag a file? Let's use the DISK program as our example. It not only tags files, but it shows you how many kilobytes you have tagged, which helps prevent your trying to copy too much onto a disk. To find out the file size, DISK has to access the disk. To be precise, it uses a built-in CP/M BDOS call.

Huh?

Built into CP/M are about 36 different useful functions, such as deleting files, renaming them, printing characters to the screen, etc. Each function has a code number (listed in your CP/M manual under "Interface Guide").

For example, the CP/M programmer only has to tell the computer to execute function #19 to get the computer to erase a file, although this must be said in assembly language. CP/M knows how to do the nitty-gritty of getting the drive head to the right position on the disk, and so forth.

One of the built-in functions gives the size of a file. The programmer writes the name of the file into memory, tells the computer where in memory the name is, tells it he or she wants function #35, and tells it to jump to spot 5 in memory. From there CP/M takes over, checking out the disk directory. And that is why the disks whir when you tag a file.

There is no BDOS function call for unerasing a file.

Why can't they unerase?

Now for the second question: why don't diskwashers generally include an unerase function? The answer is that they could, but it would require a fundamentally different sort of operation.

When CP/M erases a file, it really just goes to the disk directory and prefaces the filename with the number 229 (which will show up as an E5 if you use DU to examine the disk directly). Nothing else is changed. A program like UNERA, which unerases files, simply changes the 229 back to a zero. DISK and WASH *could* do this if their programmers wanted them to, but the point is that it would have to be done in a way entirely different than the way DISK and WASH delete, rename, copy and get the size of files.

All these operations are accomplished by using simple CP/M BDOS function calls. There is no BDOS function call for unerasing a file. To unerase a file, you have to figure out on your own how to do the very things that CP/M does so easily for you, such as moving the disk drive head to the proper spot on the disk.

It is the difference between driving a car by using the set-up functions available in the driver's seat (accelerate, brake, turn, signal) and driving it by opening up the hood and using a screwdriver to adjust the gas flow in order to control the speed, etc. The latter is harder and more "machine-specific."

But some people enjoy that sort of thing.

Copyright © 1986 David Weinberger. All rights reserved.

TWIST & SHOUT!

Sideways and Banner Printing Utility for Dot-Matrix Printers

Two of the most popular software applications — now available together in one economical package for both CP/M and MS/DOS! Just $34.95!

TWIST: Ever have to print out a spreadsheet too wide for your printer? What happened? You spent the rest of the afternoon with scissors and tape putting all those little pieces into one useable printout. Well, TWIST is the answer for those giant spreadsheets... no more cutting and taping because it just turns your printer's output SIDEWAYS and lets you print spreadsheets (or a text file) of any width on one continuous sheet of paper.

SHOUT!: Get your message across in no uncertain terms (Happy Birthday Mom!) with letters eight inches high in two special font styles. Now create banners, signs, posters or oversize greeting cards with ease. Anything you can type on the keyboard can be SHOUTed by your printer in gigantic letters!

TWIST & SHOUT! supports most dot-matrix printers. Available for PC/DOS, MS/DOS and CP/M computers (Osborne, Kaypro, Morrow, Epson). **Only $34.95!**

PRESTO!

The Multi-Function Software Supercharger

NEW MEMORY EFFICIENT VERSION

Add the power and convenience of four useful desktop functions to just about any software you use. How? Let's say you're using your word processor and need to do a few quick calculations. You don't have to exit the program or reach for your pocket calculator - just press a key and without leaving your word processor... PRESTO! ...a window opens on-screen and a calculator appears! When you're finished crunching numbers, just hit a key and you're back to your word processor. PRESTO! will bring added power and productivity to virtually any software. PRESTO!'s four major functions include: **Notepad**: A screen-oriented text editor that uses Wordstar commands and can be used within most CP/M software. The notepad can read and search disk files and save data to disk. Sample applications include index card (Rolodex™-type) functions, an ASCII chart and an appointment book. **Timepad**: On clock-equipped machines, displays current time and date, and a calendar for any month and year. The stopwatch function allows event timing, and an alarm clock is available to ring the bell at a preassigned time no matter what other computing you're doing. **Calculator**: operates as a standard four function, three memory floating point calculator with a seven digit display, and it's a programmer's calculator featuring a number of special functions like negate, compliment, and logical operations as well as binary, decimal, octal, hexidecimal and character modes. **Screen Dump**: Send anything you see on the screen to your printer or to a disk file. Print screen images of your favorite software packages for later reference or patch software screens directly into Wordstar™ files.

Just $39.95 for all Kaypro and Osborne CP/M computers.

Media Master™

Disk Format Conversion Utility

Now your computer can read, write and format disks from other computers for less than $40

NEW VERSIONS! MORE FORMATS! MORE FEATURES!

With MEDIA MASTER your computer can exchange programs (CP/M-to-CP/M) or data files with most popular computers including the IBM-PC. New versions support hard disks, RAM disks, user areas and more. Now available for Kaypro (all except Robie), Osborne 1 and Executive, Zenith Z100, Sanyo 555, DEC Rainbow and IBM-PC, PC-XT, PC-AT and IBM compatibles (like the Kaypro 16). Single-sided versions support over 40 disk formats and double-sided versions support up to 140 disk formats. All versions of MEDIA MASTER are $39.95 (except DEC at $99.95). BRAND NEW: **MEDIA MASTER *Plus*** - available for IBM-PC's and compatibles. MEDIA MASTER *Plus* has all the great file transfer features of MEDIA MASTER *plus* a CP/M emulator which allows your IBM machine to actually run your CP/M software without modification! MEDIA MASTER *Plus* is just $59.95. Call or write for more information and a full disk compatibility chart for the MEDIA MASTER family of products.

Rembrandt

Complete Business Graphics Toolkit

Our new version 3.00 adds word processor integration; box, line and circle drawing modes and much, much more. And it's still just $79.95

REMBRANDT gives you three powerful and easy-to-use tools which unleash the graphics power built into your computer. BOARD is a full-screen graphics editor which lets you create free-hand drawings on-screen. GRAPH builds bar charts, pie charts and xy plots from hand-entered data or directly from data files generated by MBASIC, dBase II, spreadsheets and most other programs. BRIEF creates slide shows on-screen using "cinematic" special effects with absolutely no programming required. REMBRANDT is complete with printer routines that allow graphics to be printed out on virtually any dot-matrix or daisy-wheel printer. The REMBRANDT Complete Business Graphics Toolkit is available for all Kaypro and Osborne CP/M computers. Current owners - call or write for upgrade information.

BRAND NEW!

REMBRANDT II/IV

...adds graphics to your 'old' Kaypro II or IV for $89.95 complete!

Easy to install and fun to use!

ORDERING INFORMATION:

Include $4 per order for postage/handling. Overseas airmail add $12. US funds only. California residents add 6% sales tax (LA County, add 6.5%). Dealer inquiries invited.

MasterCard VISA

For further information, technical questions or to order, call **818-716-1655**

Orders only (24 hours toll free): 800-824-7888 (Operator 407)
Alaska, Hawaii: 800-824-7919 (Ask for Operator 407)

For more information, a free brochure including sample printouts and review reprints, or to order, contact:

22458 Ventura Blvd., Suite E
Woodland Hills, CA 91364

Intermediate/8/16

Is There Life Beyond WORDSTAR?

A look at some alternatives

by Robert Lavenda

WordStar and Perfect Writer may be the most prominent word processing programs for Kaypro owners, but others offer specialized capabilities that may be better tailored to your needs. I'll look at the CP/M versions of four: VEDIT PLUS, WRITE, Spellbinder and Palantir.

Would one of them be appropriate for you? I've always hated the reviewer's cop-out, "That depends on your needs," but I find it's true. Word processing is used for many wildly different functions, which have different requirements.

If you need fast printing that can access everything your printer can do, including micro-spacing and proportional spacing, Palantir or, especially, Spellbinder might make your life a lot easier.

If editing speed is important to you, you might want to switch to VEDIT PLUS or WRITE. If you need to edit multiple files, or if you do much programming, or need routinely to perform repetitive tasks on several files, consider VEDIT PLUS. If your main use of word processing is writing text and you can do it in chunks smaller than 38K, WRITE may be your best choice.

(You can contact the manufacturers for information on the MS-DOS versions of these programs, which are available for all except WRITE.)

VEDIT PLUS with V-PRINT

VEDIT PLUS is a wholly remarkable program: blindingly fast, extremely powerful, and highly flexible. Some of VEDIT PLUS' power comes from the 37 text registers (or buffers) available for editing as many files or parts of one file. In addition, the command mode instructions, which have developed into a programming language, can be combined into sequences of commands, known as macros, for manipulating text.

VEDIT PLUS' flexibility comes principally from its design: the program's authors think you should have complete control over the way your word processor operates. As a result, VEDIT PLUS is the most flexible editor I have ever seen. You can customize almost everything about the program, including the Control and Escape commands entered from the keyboard. You can even configure your own sign-on message.

Programmers should be aware that VEDIT PLUS was originally designed as a programming editor, and several of its features are derived from that background. For example, VEDIT PLUS can automatically capitalize all characters to the left of a semi-colon (or any other character you choose).

VEDIT PLUS may be invoked with a filename and will load the file specified or will display a "New File" message and go to a blank edit screen. There is a status line at the bottom of the screen that indicates the name of the file, line and column numbers (if you have included them in the configuration), and certain messages and user prompts.

VEDIT PLUS can be configured to read an initialization file when it starts up; if it does, a macro (provided by CompuView, the manufacturer) that serves as a menu is loaded, allowing you access to many of the package's features—including changing such things as the word-wrap (right-hand) column, the handling of long files or search errors, and more.

VEDIT PLUS has several important safety features built in. Files may be saved either from within the editor or from the command mode. Confirmation must be given before quitting edit buffers or the program. Direct deletions of more than one line at a time are impossible. The block copy and move commands require that you designate a text register to send the block to. You can then clear the text register, overwrite it with another block, or add the next block to it.

The VEDIT PLUS editor is easy to learn and extremely fast. VEDIT PLUS uses both Control and Escape keys to enter commands. These are related to each other: CTRL-X moves the cursor down one screen, ESC-X moves it down one paragraph; CTRL-V moves

Copyright © 1986 Robert Lavenda. All rights reserved.

the cursor to the previous word, ESC-V deletes the previous word.

All commands are single sequences; there are no CTRL-KD commands as in WordStar, or CTRL-X CTRL-S commands as in Perfect Writer. If you want to use two-key sequences, or use the same commands you're already familiar with, you can install them during the configuration process.

Pressing the ESC key twice takes you to the command line, which appears at the bottom of the screen. Here you can enter single- or multi-letter commands or sequences of commands, and it is here that the real power (and danger) of VEDIT PLUS becomes visible. Seventy-seven different commands are possible, and these may be written in separate programs, or macros, which may be accessed from within the editor or from the command line.

These are particularly useful in situations that involve repetitive operations on text. A simple macro can sequentially load all your WordStar files, remove the additional characters WordStar inserts, save the modified file, and even prompt you to change disks.

Search-and-replace operations in VEDIT PLUS are extremely fast and powerful.

Search-and-replace operations in VEDIT PLUS are extremely fast (replacing one word with another of the same length 250 times takes 2.1 seconds) and also extremely powerful. There are 17 different kinds of pattern matching symbols available for different kinds of characters, strings of characters, control characters, and the like.

Searching and replacing can be carried out in either Edit or Command mode. In the edit mode, prompts for the search string appear at the bottom of the screen, and you can choose to search only what's in memory or the entire file.

Files that are longer than 36K (the space available in memory after the program is loaded) can be edited. Here again, you are given choices. VEDIT PLUS may be configured to give only the message that the memory is full, allowing you to decide how much of the file to write to disk. It may also be configured to automatically buffer user-determined amounts of text.

You can print exactly what appears on the screen from within the editor, but to get VEDIT PLUS to produce highly formatted output, a separate formatting program must be used. V-PRINT is designed to accompany VEDIT PLUS. You create text and insert various dot commands or embedded printer commands for formatting it. You must then save the text, exit back to the operating system and run V-PRINT. There is no way to run V-PRINT directly from within VEDIT PLUS.

In keeping with CompuView's philosophy, you determine all the characteristics of the formatted output. There are no pre-set format environments as there are in Perfect Writer, although commonly used sets of print commands can be loaded into VEDIT PLUS' buffers and inserted with single keystrokes. V-PRINT uses 46 different commands and can be set to include different files in the output: there is little formatting that cannot be accomplished with V-PRINT.

The VEDIT PLUS manual is exemplary. It is clearly written, nicely laid out, and very thorough. The reference section at the end should be read by all manual authors. Each command has its own section, with examples and descriptions of the command in use, a description of its function, additional notes on its use, and references to other commands that operate similarly. All sections are laid out identically, making it easy to find information quickly.

VEDIT PLUS does require some attention in setting up and some care in use. Because it is so powerful, you can make drastic changes in files quickly. The manual indicates where things are a bit complicated, and when you should be careful to have back-ups before trying something. This is a very fast, elegant, and extremely flexible package. (*Ed. note: The version of VEDIT PLUS reviewed here is 2.31b; the current release is 2.32, but there have not been significant changes.*)

WRITE

Writer's Really Incredible Text Editor was written by Anton Pietsch to meet the needs of science fiction writers Jerry Pournelle and Larry Niven. It is clear that the needs of writers guided the choices made in designing the program. WRITE has two main goals: stay out of the way, and protect text.

When WRITE is invoked without a filename, it takes 14 seconds to load, to test the memory in your computer before it entrusts your text to it, and to take you to a command screen. If you provide a filename, WRITE takes you to the edit screen, which is completely blank: there is no status line, no counters for lines or columns, no dotted lines, or anything else to distract you from writing.

Attempting to exit or to clear the workspace prompts the question, "Has all text been saved?" Even if you make a mistake and exit without saving, or end up at the operating system in some other mysterious way, WRITE has a utility that will recover as much of your text as possible.

Within the edit screen, attempting to delete a block will clear the screen, and the message "Delete block (Y/N)" will appear in the middle. This catches your attention, even at 2:30 in the morning. However, deleted text cannot be recovered.

WRITE uses fewer cursor commands than any of the other packages reviewed. It is easy to get around in your

files without learning several dozen commands. WRITE has cleverly designed scrolling commands that allow you to vary the scrolling speed or to move one line or one screen at a time, all following a CTRL-C or CTRL-R command.

WRITE is so carefully customized for the Kaypro that it uses visual cues rather than words to indicate various operations. When you switch to Insert mode, for example, the cursor changes shape and becomes the > symbol. Switching in Insert mode to the Alternate Character Set changes the cursor to the } symbol. Markers set in the text are also indicated visually by non-keyboard graphics characters or, if you have an '83 series Kaypro, Greek characters.

Pressing the ESCape key when editing will take you to the Disk Block (or command mode). This controls file handling (saving, renaming, and erasing), exiting, clearing the workspace, moving to the print menu, setting tabs, controlling the width of the screen display, and taking you to a print-to-screen macro that will accurately display page breaks and layout.

WRITE was also designed to be fast, and except for searching and replacing, it is one of the fastest editors. You cannot type faster than WRITE; even with a Kaypro running at 2.5 MHz, characters are never lost.

The search-and-replace mode is invoked by CTRL-V. The screen splits in two, and the lower portion displays "Find X, X=". After entering the search string, you press RETURN twice to begin the search. Once the string is found, you must press the ESC key to return to editing. If, instead of pressing RETURN after entering the search string, you press CTRL-V again, the additional message "and replace with Y, Y=" is displayed. After entering the replacement string and pressing RETURN, you can choose to replace the original string once, to replace all occurrences, to replace backward from the cursor, or to replace non-characters (like Carriage Returns).

WRITE keeps your entire text in internal memory (RAM); there is never any swapping to disk. This enables WRITE to achieve its remarkable speed, but there is a trade-off: the maximum file length on a CP/M Kaypro is 38K. WRITE does make it easy to send parts of files to disk to free up workspace, so the 38K limit is not as constricting as it might seem.

WRITE is fast, convenient, and powerful in printing. The Print Block is accessed from the Disk Block—pressing P takes you to a menu that displays various print formatting commands and their present settings, followed by the two-letter commands by which they may be used. These commands may be inserted as dot commands within your text, surrounded by special markers to take effect immediately, or set up as standard formats in separate files. You can also change them from the print menu and configure the default settings as you wish.

Much attention has been paid to customizing the print driver for particular printers. The print drivers are closed—that is, you cannot enter control sequences for your printer. If, however, you happen to have one of the 48 named printers or work-alikes for which a print driver has been written, all its features may be accessed, and can even be used as a typewriter directly from the Kaypro's keyboard.

The WRITE manual does not assume extensive knowledge, but it is not condescending. It's clear, it defines its terms, and it has a solid reference section. Its only fault is a certain degree of disorganization resulting from many recent upgrades. This flaw should be eliminated following a forthcoming revision. (*Ed. note: The current version of WRITE is 1.82C, and the manual has been revised.*) Even now, however, the manual seems ideal for someone who's a little worried about computing and may not have help nearby. Calling the distributor brings thorough, knowledgeable, expert advice and aid, sometimes from the program's author himself.

WRITE does not create pure ASCII files, but it does have a neat Filter utility program that will convert ASCII or WordStar files to WRITE files, or vice-versa. WRITE also keeps track of the number of words you have written, as well as file size in kilobytes.

(*Ed. note: The version of WRITE reviewed here is 1.82; the current version is 1.82C. According to Workman and Associates, changes include bug fixes, the addition of an overstrike feature, and support for the HP LaserJet printer.*)

Spellbinder does one thing better than any other CP/M word processor: printing.

Spellbinder

There is one thing that Spellbinder does better than any other CP/M word processor I know: printing. Spellbinder can access anything a printer can do. It can print fully justified, proportionally spaced text, and the results with a proportional printwheel on a "precision printer" look typeset. Spellbinder can access any printer font, will handle reverse line feeds, and will line feed in increments of 1/48th of an inch. You can adjust the amount of space (in units of 1/120th or 1/160th of an inch) inserted between words, insert hyphens automatically, and view text exactly as it will be printed almost immediately.

Because Spellbinder is an open system, it is possible for you to modify the program's internal tables as you wish to support your printer's features. This also means that it is possible for you to use a printer Spellbinder does not recognize and to configure the print driver for correct spacing with any proportional printwheel or font.

Unfortunately, the rest of Spellbinder is not as easy to use. Like VEDIT PLUS, Spellbinder uses an edit mode and a command mode, but it is necessary to switch between them frequently; there are surprisingly few commands in edit mode besides cursor movement.

Cursor movement and deletions also require frequent mode switching. CTRL-F in Word Mode moves the cursor forward one word, CTRL-B takes it back a word, and CTRL-D deletes the next word. CTRL-O changes the mode, first to Sentence, then to Paragraph, Marker, and Character, and finally back to Word. The same three movement and deletion commands then act according to the mode specified.

There is no real push-ahead insert mode in Spellbinder. When you enter the insert mode, the screen from the cursor to the last line on the screen goes blank, and you can make your insertions. The next character in your text is displayed on the last screen line. I found this inconvenient; even to insert one character, all following text disappears and then reappears. I prefer to be able to choose the mode in which I work. Spellbinder expects you to create text in typeover mode.

A file that is longer than about 30K will be read into memory in sections. Once the first section has been written to disk, if you wish to go back to it you must save the entire file and start again. There is no "reverse buffering," and though you can decide when to move text to disk, there is no automatic buffering.

Like VEDIT PLUS, Spellbinder can run macro programs. Fourteen are supplied, including one that prints several files in order, an impressive one that prints text in two columns on precision letter-quality and dot-matrix printers, one that sorts key words, and one that alphabetizes. There are also mail merging and boilerplate macros, one that allows you to create various forms (billings, invoices, even standard format letters) and fill them in, and macros to print mailing labels, manipulate columns of text, add rows and columns of numbers and insert the results in the text, and insert commonly used phrases with two keystrokes.

There is also a set of macros that allows for footnoting. Footnotes may be of any length, in any format, and may continue onto the next page or be collected at the end of the text. This macro is not particularly fast, but it works well.

Palantir

It is easy to get started with Palantir, and it provides almost continual help and feedback. You always know where you are in Palantir. These features are major advantages if you only occasionally do word processing or are very nervous about it. But there is a price: speed. It is the slowest package reviewed and requires more keystrokes for many operations than the other packages. It also preempts the keypad so it cannot be used for numbers.

Palantir requires many keystrokes because of its structure. To reduce the number of keystrokes, the keypad is configured as a set of function keys. The control key need never be used, and the ESCape key (which is used to get back to the main menu) is replaced by a "set" command. The set command serves to "introduce" several commands that are more elaborate than the single function key commands. For example, pressing the Find key (2 on the keypad or CTRL-G) will find the next character you enter, while pressing Set-Find puts you into the search-and-replace operation.

It's easy to get started with Palantir, and it provides almost continual help and feedback.

There is an arrow showing on the extreme left of the top status line. All cursor movement and search-and-replace commands follow the arrow's direction. Pressing the Direction key (- on the keypad, or CTRL-Q) changes its direction.

It is possible to out-type the Palantir screen, because of the screen's update rate. To prevent you from losing characters, Palantir is designed with an 80-character type-ahead buffer. An additional editing convenience is the "lexicon," which permits two-keystroke insertion of up to 36 words and phrases that can be up to 250 characters long.

Searching and replacing with Palantir is easy but extremely slow. In a 20K file with 250 search-and-replace operations, Palantir is two and a half minutes slower than WRITE, four minutes (five times) slower than Spellbinder, and an astounding 150 times slower than VEDIT PLUS. This is largely because Palantir insists on reformatting each paragraph after each search-and-replace operation within it.

Palantir can handle very long files. The only limit is the capacity of the disk. Palantir establishes a swap file after 16K is reached and will move text to and from that file every screen thereafter. Both forward and reverse buffering are completely automatic.

Palantir's print drivers are closed, like those of WRITE. If your printer is not supported, you can only use it as a teletype. If your printer is supported, Palantir can do almost as much as Spellbinder, including proportional spacing.

Among Palantir's many formatting possibilities are double underlining, right-flush, or decimal tabbed text, and overstriking of the previous character with any character you select. It will hyphenate words that end within a user-definable number of spaces from the right margin. It will control how many lines of a paragraph are printed at the end or beginning of a page, and will enable you to put in as many heading and footing lines as you wish. Palantir does not create pure ASCII files. It works with ASCII files, but files created with

other word processing programs hang it up, and you have to reset the computer.

Conclusions

Some final advice: Switching word processors will not eliminate all the inconveniences and problems in your writing. There may well be things you miss about Perfect Writer or WordStar if you switch, even as you gain other advantages.

However, if you decide to switch, it will probably take you less time than you fear to learn your new package, but it may take you more time than you'd like. Take the time to work through the manual with the package running. These packages do things differently than Perfect Writer or WordStar, and it is very much worth your time to learn what these differences are.

Robert Lavenda is an associate professor at St. Cloud State University, Minnesota, where he teaches cultural anthropology, studies small-town festivals, and is co-authoring a textbook.

Quick Reference Summary

Product: VEDIT PLUS 2.31b, V-PRINT 2.2, V-SPELL 1.06
Manufacturer: CompuView Products, Inc.
1955 Pauline
Ann Arbor, MI 48103
Phone: (313) 996-1299
Price: VEDIT PLUS, $225; V-PRINT, $120; V-SPELL, $125
Package prices: VEDIT PLUS, V-PRINT, V-SPELL, $395; VEDIT PLUS, V-PRINT, $295

Product: Spellbinder 5.31
Manufacturer: Lexisoft
Box 1378
Davis, CA 95617
Phone: (916) 758-3630
Price: $495

Product: WRITE 1.82
Manufacturer: Workman and Associates
112 Marion Avenue
Pasadena, CA 91106
Phone: (818) 796-4401
Price: $239

Product: Palantir Word Processor 1.2 (Kaypro)
Manufacturer: Palantir Software
12777 Jones Road, Suite 100
Houston, TX 77070
Phone: (800) 368-3797 or (713) 955-8880
Price: $250

(continued from page 33)

systems, where there isn't a demand for many colors.

All these printing devices offer affordable hardcopies quickly and are satisfactory in representing business graphics. Low-cost software is available to convert colors into patterned cross-hatching in black and white for business graphics, but much of the zest is lost in translation.

The more you want out of a computer in the way of color and graphics, the more it's going to cost.

For capturing single-color images in single-frame color reproductions, film recorders offer great promise. At the low end are $100-to-$700 hood devices that mount directly over the front of a monitor for recording screen images directly onto 35mm film. The next step up is the Polaroid Palette, a $2,000 device that interfaces to a PC to produce Polaroid instant 35mm slides or prints from computer data. Its images can be double the resolution of the original picture, plus it can make color images from a black and white or monochrome system. Upper-end film recorders start at $6,000 and permit exposure of film negatives ranging from 35mm to 4 x 5-inch negatives to 9 x 10-inch negatives. These top-of-the-line film recorders deliver unsurpassed negatives that can be converted to poster-size film prints.

Conclusion

We are in the middle of a technological explosion in the area of image capturing (videocameras), image manipulating (software and graphics cards), and image delivery systems (printer and recorder devices) that will make computerized graphics an increasing part of life into the next century.

The primary factor the average personal computer owner must keep is mind is cost. The more you want out of a computer in the way of color and graphics, the more it is going to cost. High-resolution graphics boards, and the monitors to go with them, are not inexpensive toys. Businesses that depend on graphics can afford to invest in hyper-resolution boards, monitors, and output devices; the average owner cannot.

As time passes the prices are bound to come down to more affordable levels. Capabilities that were priced completely out of reach only a year ago are now fairly inexpensive. But the industry has a little way to go before all of us can afford to produce graphics that you can't tell from a photograph.

Frederick Hannon is a freelance writer and designer in Encinitas, California.

Beginner's Luck

by Don and Sharyn Conkey

Printers are like cars. They come in all makes and models and vary in price from $200 to tens of thousands of dollars, and for many people they are a matter of pride. For most, they are a necessity. Just as driving is usually the most convenient means of transportation, printing is typically the most efficient way to get your output where it's going. What follows is a guide to printers: what's available, how to choose, and how to keep them running.

Types of printers

There are just two basic types of printers—impact and non-impact. Impact printers strike a ribbon, transferring the character onto paper. Non-impact printers use heat, light, or ink sprays to create an image.

Impact printers. The two types of impact printers—fully formed character and dot-matrix—are differentiated by their printing methods, which determine print quality and speed.

Fully formed character printers impress characters from daisywheels or thimbles onto paper by striking a ribbon. This produces the highest quality print—crisp, seamless, solid text called "letter quality." The output looks like that typed on an IBM Selectric with a carbon ribbon. Printing is slow and noisy; at 30 characters per second, it takes nearly a minute to print a typical letter. Graphics capability is primitive and not supported by full-featured business graphics programs.

In dot-matrix printers, a vertical arrangement of seven or nine pins strikes a ribbon to create characters composed of closely spaced dots. Some models use two or three staggered sets of pins; the advantage of these 18- and 24-pin models is enhanced print quality at higher speeds.

In general, dot-matrix printers are faster, cheaper, and produce output of lesser quality than fully formed character printers. They can be just as noisy. Because of their printing method, they are more versatile and flexible: Many offer more than one printing mode and some can produce detailed graphics.

Non-impact printers. Though not as widely used as impact printers, decreasing prices and increasing performance and reliability are making non-impact printers more visible.

Thermal printers, like dot-matrix, form characters from dots on a printhead. One method of thermal printing "burns" the image onto specially treated paper by heating the dots. In the newer thermal-transfer process, the dots heat a ribbon and melt the image onto plain or specially treated paper. The thermal-transfer process produces the higher quality print of the two, though it has a glossy look. Speeds are relatively slow, but the printers are cheap and quiet.

Ink-jet printers spray dots of ink onto paper through printhead nozzles. There are two varieties: Monochrome prints in one color; color printers produce seven colors (with software support, hundreds of different shades) and are used mainly for graphics. (Color printers can also produce text, but at considerably slower speeds.) Special paper is desirable, because ink absorption affects quality.

Laser, liquid crystal display (LCD), and light-emitting diode (LED) printers are top-of-the-line in nearly every respect. All three types use photocopier technology. The output of these printers rivals that of the fully formed character; however, as with a photocopy, no impression is made in the paper. They are quiet and fast (four to six times quicker than high-speed fully formed character printers). Graphics and multiple character fonts and sizes can be mixed on the same page to produce "typeset" documents. Their limitations are high cost, lack of color, and limited, cumbersome handling of odd-sized paper.

Table 1 summarizes the advantages and disadvantages of each printer type.

Five years ago, there were about 25 printer models available for personal computers. Today there are over 300, offered by more than 40 companies. How do you choose? It's a personal decision, dependent upon your needs and your budget. Here are some guidelines to help pinpoint your requirements.

Check the quality

If it's important that your output make the best impression possible

TABLE 1: Advantages and disadvantages of different types of printers

Printer type	Maximum speed*	Advantages	Disadvantages
Fully formed character	12-80 cps	Highest quality; multiple copies	Speed; noise primitive graphics
Dot-matrix draft mode:	80-400 cps	Speed; price; flexible graphics; print modes & fonts	Quality; noise
Near-letter-quality mode:	20-100 cps	Can trade off quality and speed	
Thermal	40-80 cps	Price; quiet; low power requirements; graphics flexibility	Quality; no carbons; special paper desirable
Ink-jet	40-150 cps	Quiet; graphics; color ranges and quality	Quality; no carbons special paper desirable
Laser/LCD/LED	8-12 pages/minute	Speed; uses plain paper; near-typographical quality; combine multiple fonts and graphics	Price; no carbons; handling of odd-sized paper

*Reflects typical ranges; not all-inclusive.

Copyright © 1986 Don and Sharyn Conkey. All rights reserved.

(pun intended), buy "letter quality." Even the best dot-matrix output is still just dots. The "painted" images produced by laser, LCD, and LED printers, though fully formed, are not impressed into the paper as are those of the impact printers. To evaluate quality, study sample output; have the samples run on your letterhead or forms. Compare them against your standard. Look for crisp, dense, sharp-edged characters that contrast sharply with the paper. Better dot-matrix, thermal, and ink-jet printers will have well-formed descenders (tails of lowercase letters) that extend below the line.

Check the speed

Speed is a major factor in determining price. Except for laser, LCD, and LED printers, which print pages per minute, speed is usually specified in characters per second (cps).

Actual printing speed (called "throughput") is less than the speed quoted by the manufacturer, because the document's contents, software used, print modes, options, and features affect speed. Throughput for fully formed character, laser, LCD, and LED printers is typically 80 percent, plus or minus 10 percent of the speed quoted. For the other printers, actual speed is typically two-thirds of the quoted speed, with a variance of 10 percent.

Check the fit

The electrical connection between your computer and printer can be parallel or serial. Parallel connection allows you to place the printer up to 10 feet away; serial, 50 feet. The interface on your computer must match that on the printer. Be sure to get the right cable to complete the connection.

Ask your dealer or software publisher if your programs are compatible with the printer and its interface. Your software may allow you to have subscripts and superscripts, for example, but your printer may not be capable of printing them. The same is true for graphics and color.

Options and features

What's nice and what's necessary? A wide carriage (15 to 17 inches) is required for serious spreadsheet use, and worth every bit of the $200 it can cost. (Standard carriage widths are 8 1/2 to 10 inches.)

The right choice of paper handling features will save you time and aggravation. You'll need friction feed, which works like a typewriter to feed single and odd-size pieces of paper. If you want the single sheets to feed automatically, you will need a cut-sheet feeder. Prices start at $200.

To print fan-fold paper ("computer" paper with sprocket holes along the sides), you'll need a tractor. A pin-feed tractor, which is built into the printer, is fixed-width and so feeds paper of one size. An adjustable tractor, which snaps onto the printer, takes paper of any size up to the carriage width. Adjustable tractors cost $100 to $400.

Frequently used switches and indicators should be available and easily accessible. Look for the following: online/offline, which indicates whether the printer is ready to print; line feed, which advances the printer one line; and form feed, which moves the paper to the top of the next form.

Your specific needs will determine the importance of other switches, such as one to change pitch (the number of printed characters per inch) or one to change dot-matrix print modes.

Cost

Operating costs can be just as important as purchase price. The cost to print a page can vary from a penny to more than 45 cents—the high-tech equivalent of "Give them the razor, we'll make our money on the blades."

The major consumable cost for impact, thermal, and ink-jet printers is that of the ribbon or cartridge. You'll need to know its cost and its life, which is given in number of impressions. Print elements last for millions of impressions; costs range from seven-hundredths to a half cent for a typical 300-word page. Figure 1 shows the formula to estimate cost per page.

Laser, LCD, and LED printers either use a single cartridge, which contains a photosensitive belt or drum, toner, and developer, or allow for replacement of the individual elements. Price per 300-word page averages three cents plus plain paper cost.

FIGURE 1: Formula to estimate cost to print a page

$$\text{COST/PAGE} = \frac{(\text{number of words per page} \times 5)\,(\text{cost of ribbon or cartridge})}{\text{life of ribbon or cartridge}} + 0.0033 \text{ for print element (estimate)} + \text{cost of paper (plain: one half to two cents; specially treated: one half to ten cents)}$$

Tough talk

One measure of reliability is mean time between failures, MTBF. Theoretically, how long should the printer operate between hardware failures? An average business-quality printer is rated between 2,000 and 4,500 hours with a 25 percent duty cycle. Duty cycle tells you how much you can use the printer without overworking it. A 25 percent duty cycle means that the printer is built to withstand two hours of operation in an eight-hour workday.

You should remove the printer's cover and "look under the hood." Sturdier printers will have fewer moving parts, and they'll be made of metal instead of plastic.

The warranty should cover parts and labor and extend for at least 90

days. If you need a service contract, negotiate it while the printer is still covered to avoid a certification fee (about $40).

Taking care

Like your car, your printer requires preventive maintenance to keep it running smoothly, and you can do it yourself.

Five factors can hamper the health of your printer: vibration; static electricity and power problems; heat; contaminants; and improper operation and care. Here are some tips to combat them:

Install it properly. Put the printer on a sturdy stand to prevent subjecting its parts to unnecessary stresses. Make sure the cables are set free and clear so they won't be chafed, crimped, or smashed. Use a surge suppressor to trap power spikes and surges.

Keep it cool and clean. Never power-up the printer without removing its cover. The heat built up will shorten its life and may burn out components. Dust build-up creates thermal stresses on electrical components and frictional stresses on moving parts. To combat dirt, grease, smoke, and paper particles, wipe and vacuum the printer periodically. Dust with a soft, lint-free cloth. Use a manufacturer-approved cleaning solution on the platen (paper roller) only when necessary; solvents tend to dry out the rubber. Daisywheel and thimble print elements may require periodic cleaning.

Don't print on the platen; this can damage both the platen and the printhead. Do not lubricate any of the printer parts.

Check it out. If your printer stops or just won't work, first check to see that all cables are properly seated, fuses operable, and the switches and levers are properly set. Most printers have sensors to detect the absence of ribbon or paper and will suspend operation until you reload. If your printer prints, stops, and then resumes printing, it's possible there is no problem: When the printhead gets too hot, most printers slow down, then stop until the printhead cools.

Choose your printer wisely, give it attentive care and preventive maintenance, and you'll see that there's one way your printer is not like your car: You'll never want to trade it in.

Don and Sharyn Conkey specialize in writing about computers in business using their Juki 6100 (daisywheel) and Okidata 193 (dot-matrix) printers.

FAST *Performance at a Lower Price! for Pre '84 Kaypros*

SUPER SPEED UP

- Fastest Upgrade Available! Our 4 MHz setting is about as fast as the TurboBoard† "5 MHz"; our 5 MHz is 25% faster!
  Because our Speedup works "Full-time", a few Kaypros need an additional "FAST" IC (Z80 B PIO) is included with the 2X or 2XE Kit, or $5 separately.
- Illustrated, "idiot-proof" instructions
- Simple plug-in installation on fully socketed Kaypros*
- Includes ROADRUNNER EPROM
- Soldering required on non-socketed models; order kit 2EB.

Kit 2 EA or 2EB $59.95

DISK DRIVE UPGRADE (Kaypro II only)

- Changes a **II** board into a **4** board. (Disk Drives are not changed)
- Use with a ROADRUNNER and any SSDD, DSDD, and/or Quad Density Drives.
- Simple plug-in installation on fully socketed Kaypros*.
- Illustrated, easy-to-follow instructions included.

Kit 2X $29.95 **Kit 2XE** (includes ROADRUNNER) **$39.95**

ROADRUNNER Custom Monitor EPROM

- Type Ahead Buffer • Selectable Cursor
- Screen Dump to Printer or Serial Port
- Use SSDD, DSDD, and/or Quad Drives with Kaypro 4 or 2X Kit
- Use 3 or 4 drives with 64K CP/M (Pro-Monitor 8† requires 63K CP/M)
- All features may be used/changed/saved to disk on-the-fly, even in the middle of your program. (Pro-Monitor 8† requires configuration software.)
- Comes with disk formatter and public domain software.

For Kaypro 4 $19.95 **For Kaypro II $24.95**

TOTAL UPGRADE For fully socketed Kaypro II's. *

• The Super Speedup • Disk Drive Upgrade • Roadrunner EPROM

TOTAL UPGRADE $79.00

*If you don't know whether your circuit board is fully socketed, write for information.

† "Turboboard" and "Pro-Monitor 8" are trademarks of Advent Products, Inc., and Micro Cornucopia, Inc., respectively.

Ask about our RAM disk!

Write for COMPLETE INFORMATION !

Our products are easily removed/reinstalled—no irreversible cutting or soldering.

Money-back Guarantee of Satisfaction

HIGHLAND MICROKIT
P.O. Box 21B, Highland, MD 20777

Technical Forum

by Tom Enright

Judging from the mail we've been receiving, Kaypro 1 owners are confused about the features of their computers, and reading the documentation for that machine does reveal some errors of omission. The "missing" sections of the manual concern graphics and the video command protocol. With the exception of not having a real-time clock or internal modem, the Kaypro 1 is exactly the same as other CP/M Kaypros.

Graphics

We discussed Kaypro CP/M graphics in the March 1986 "Technical Forum." However, a short review may be in order. The Kaypro 1, along with the rest of the Kaypro CP/M product line ('84 series), can do both character- and pixel-level graphics.

In character graphics, clusters of pixels are printed on the screen instead of the alphanumeric characters we're used to seeing. Each of these pixel clusters (called character cells) occupies the same space on your screen that a normal character would occupy. The upper half of the ASCII range (from 128 through 255) has been set aside in Kaypro's character ROM to hold these characters.

Since you can't print graphics characters by typing them from the keyboard, you have to control them from a high-level language such as BASIC. By using the CHR$ function in BASIC you can print the full range of ASCII characters, including graphics characters.

Pixel graphics on Kaypros are drawn with a resolution of 160 horizontal by 100 vertical screen positions. Individual pixels or lines may be drawn or erased anywhere on the screen by using escape sequences. These escape sequences are unique to Kaypro's Video Command Protocol and are not part of any graphics standard.

Kaypro's pixel graphics escape sequences are:

ESC * V1 H1 - Draw a pixel
ESC <space> V1 H1 - Erase a pixel
ESC L V1 H1 V2 H2 - Draw a line
ESC D V1 H1 V2 H2 - Erase a line

V1 and H1 are the coordinates of the pixel at the beginning of a line. (Note that an offset of 32 decimal must be added to all vertical and horizontal locations.) V2 and H2 are the coordinates of the ending point of a line.

For a more detailed discussion of Kaypro graphics, please refer to the March 1986 "Technical Forum." In addition, the *Kaypro 10 User's Guide* covers the graphics capabilities of these machines.

Kaypro 1 owners can use any graphics software that runs on other CP/M Kaypros. Rembrandt, SCS-Draw, DDraw, and other graphics programs work just fine on the Kaypro 1.

Video command protocol

The Kaypro 1 manual lists some, but not all, of the video escape sequences that the K1 recognizes.

Kaypro 1 owners can use any graphics software that runs on other CP/M Kaypros.

Escape sequences that were left out of the manual are:

ESC B Ø - Start reverse video
ESC C Ø - Stop reverse video
ESC B 1 - Start half intensity
ESC C 1 - Stop half intensity
ESC B 2 - Start blinking video
ESC C 2 - Stop blinking video
ESC B 3 - Start underline
ESC C 3 - Stop underline
ESC B 4 - Cursor on
ESC C 4 - Cursor off
ESC B 5 - Video mode on (for character graphics)
ESC C 5 - Video mode off
ESC B 6 - Remember current cursor position
ESC C 6 - Return to last remembered cursor position
ESC B 7 - Status line preservation on
ESC C 7 - Status line preservation off

When sending any of these escape sequences, remember that they are all ASCII characters. For example, the Start Reverse Video sequence, ESC B Ø, would be sent in MBASIC as **PRINT CHR$(27) CHR$(66) CHR$(48)**. The important thing to notice here is that CHR$(48) is the code for the ASCII character zero, not the letter "O" or a binary zero. The same rule applies to all Kaypro escape sequences *except* cursor positioning and pixel graphics commands.

In cursor positioning commands, all line and column numbers are given in straight decimal. Each line or column number also has an offset of 32 decimal added to it. Since pixel graphics commands also specify screen positions, they have the same offset added.

There is a good reason for adding offset values to row and column numbers in cursor positioning commands. The first 32 ASCII codes (0 through 31) are primary control codes, such as carriage return, line feed, horizontal tab, and so on. If those codes started showing up in escape sequences, the circuitry could get confused about what you wanted to do. To avoid that problem, most manufacturers define the row and column numbers of screen positioning commands to include an offset to raise the minimum value above this portion of the ASCII range.

The CONFIG utility

The documentation for the CONFIG utility is surprisingly terse. Read-

Copyright © 1986 Tom Enright. All rights reserved.

ers are referred to the online instructions that are available while running the program.

When this manual was being written, the bundled software was being changed frequently, so if any specific instructions had been given in the manual, they might have been be wrong by the time it was printed. The bottom line is that you should read the online instructions *carefully*.

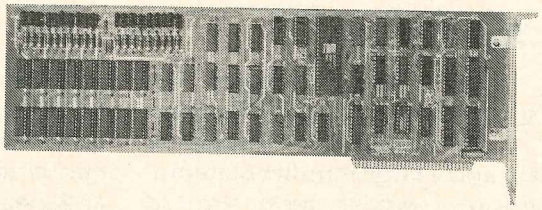
The only place CONFIG is referred to in the *Kaypro 1 User's Guide* is the page on "Reconfiguring the Keypad." The manual seems to imply that this is the only purpose of this utility. That is far from being true. CONFIG can alter the default baud rates for your serial ports and change IOBYTE assignments, as well as alter the assigned character sequences for the arrow keys and keypad.

The newest version of the CONFIG utility, for CP/M 2.2u, is significantly expanded from prior versions. The primary advantage is that you can now assign up to *80* keystrokes to any of the numeric keypad keys. The limit under older versions was four keystrokes. Unfortunately, this version of CONFIG only works with the universal ROM under CP/M 2.2u (the "u" in 2.2u stands for "universal").

The problem of terse documentation isn't limited to the Kaypro 1. It's common to the user's guides for all Kaypro machines (and other manufacturers' computers as well). And don't look for any new CP/M documentation coming from Kaypro. The documentation department is overloaded trying to document changes in the new MS-DOS machines. For additional help in learning CP/M, or software in general, please consult the "Beginner's Luck" columns in our December 1985 and February 1986 issues, and also take a look at the feature article "Learning Computer Languages" in the February 1986 issue of *PROFILES*.

DON'T THROW AWAY YOUR CP/M* SOFTWARE

Emulate your Kaypro CP/M system on a Kaypro PC, IBM-PC, IBM-PC/AT or other IBM-compatible with the amazing ***BLUE LIGHTNIN'*** Z80* co-processor.



Most software which runs on a Kaypro CP/M system will run without modification on your ***Blue Lightnin'*** equipped IBM-compatible. It typically runs the same software 2-7 times faster. The ***Blue Lightnin'*** comes with an incredible 9.25 megahertz clock, compared to 4 mhz on most Kaypros. Combine this increased clock speed with the faster I/O of most IBM-compatibles and you go as much as 7 times faster!

We include communication programs which allow you to exchange software with your Kaypro system. We also include a professional-quality Z80 macro-assembler and linker (SLR Systems).

At your Kaypro dealer or call today for more information.

Distributed by: **TSI,** 1897 Garden Ave. Eugene, OR 97403

1-800-874-2288

Manufactured by: **Decmation,** 2065 Martin Ave., #110, Santa Clara, CA 95050

408-980-1678

*CP/M is a registered trademark of Digital Research, Inc. Z80 is a trademark of Zilog. DEC is a trademark of the Digital Equipment Corporation with whom Decmation is not connected.

PANGLOSS turns **WORDSTAR**™ into a great **BILINGUAL WORD PROCESSOR**

ω ανδρες δικασται ابيﷺ ورﺯ ﺷﺰﺧ ا ﺑﺮ

Пишите по-русски מתקנת מימין לשמאל

PANGLOSS lets you create and edit bilingual text with WordStar. You get 94 foreign letters in addition to all the English letters. All letters are displayed on the screen and printed on dot or daisy printers, including the Juki.™ Naturally, you write Arabic and Hebrew right-to-left. PANGLOSS makes mixing languages a snap!

Order Now! We Accept VISA and MasterCard! Call **(503) 484-0520**. For Kaypros,™ PANGLOSS costs $169.00 (8-bit) and $195.00 (16-bit).

For **MATHEMATICAL** word processing, see the review of CHARTECH in the June **Profiles**. Our products run on most systems that run WordStar.

TECHWARE
P.O. Box 10545, Eugene, OR 97440

Product Spotlight

by Tom Enright

EASY word processor

New computer users frequently criticize WordStar for being too difficult to learn, and a large number of microcomputer owners have limited word processing needs—they're not interested in learning a program as powerful and complex as WordStar. These "casual users" are the intended market for MicroPro's EASY ($150), the company's newest entry in the MS-DOS word processing market.

EASY comes with a spiral-bound manual, four disks, and a stick-on template of commands for the keyboard. The illustrated manual is written for novices and uses color to highlight important facts. Of the four disks, the Installation, Program, and Dictionary disks are needed to install EASY. A Tutorial disk is intended to introduce you to using the program, but it's more of a sales demo than a tutorial of value to new owners.

Installation

The installation process for EASY is fully automated. Even the newest computer owner can do it right the first time. All you have to do is put the EASY Installation disk in drive A, log on to that drive, type **EASY**, and press RETURN.

If you have a hard disk and a color card, the installation program will ask if you have a color or monochrome monitor and whether you want the program set up on the hard disk or on diskette. If the installation program doesn't detect a hard disk or color card, these questions are skipped. From that point on the process is fully automated. You're told when to change disks and what disk to insert in which drive.

Throughout the installation procedure, the upper right corner of the screen contains a reminder that you can get help by pressing F1 or abort the process with ESCape. The help files, like everything else in EASY, are written for novices.

If by some chance you have a non-standard system, EASY has a CUSTOM installation option. The only time you would need this option is if you have high-density (1.2 megabyte) floppy drives, a bubble memory card, or your hard disk isn't assigned as drive C. Otherwise the standard installation takes care of all copying, creation of subdirectories, and changing (or creating) your CONFIG.SYS file with the required entries.

Printer installation is done separately from program set-up. With the Installation disk in drive A, log onto that drive and then type

PRINTERS. EASY supports 126 different printers, including laser printers from Xerox, Corona, and Hewlett-Packard.

Using EASY

EASY is a fully menu-driven word processor. Everything you do is selected from one menu or another. For example, to edit a file you select the "Type / edit" option from the Main Menu. The program then takes you to a second menu to select a file for editing. You select a file by typing in the name of the file or moving a highlighted bar down a list of filenames until you find the file you want.

You can also select a help option from the Main Menu. This selection activates a Help Index to a series of help files. You move a highlighted bar to the topic you want help with and press RETURN. If the topic you want help with isn't on the current page, just press the PgDn key to see the next page of the Help Index.

Once you are editing a file, you have to press F2 to bring up a menu of commands in order to do anything except enter text or move the cursor. Except for cursor positioning, done with arrow keys, there are no directly accessible commands in EASY. All formatting, block marking and moving, or print control commands are selected from the "Editing Menu." Pressing F1 at any time brings up a help screen.

The most striking thing about editing a file with EASY is its "auto re-form" feature. Paragraphs are reformatted while you are typing—no need to reformat with ^B (as in WordStar) when you finish. Having your text bounce around while you are typing may be disconcerting, so "auto re-form" can be turned off.

Files created with EASY are fully compatible with both WordStar and WordStar 2000. With an RGB monitor, EASY uses different colors to indicate boldface and underlined text. On a monochrome system normal text is shown in half intensity, boldface text is at full intensity, and underlined words are shown underlined.

Conclusions

EASY is intended for home or casual office use, not professional text preparation. In writing a program for the casual user, MicroPro opted to use a totally menu-driven approach. That way learning time is reduced significantly. The other side of the coin is that it takes more keystrokes—and time—to work through the menus than to do the same operation in WordStar. Also, since EASY's terminology is totally different from WordStar's, moving up to WordStar from EASY would require complete retraining.

PHOTO BY R.S. POWERS

Copyright © 1986 Tom Enright. All rights reserved.

New Products

Drop back and . . .

Punt operates as a "correspondence manager" for those using WordStar and MailMerge. It is designed to create, format, edit and sort mailing lists without having to recall MailMerge "dot" commands. After creating a mailing list (text only), Punt automatically formats the letter and inserts headings and salutations.

It can address envelopes, make mailing labels, fill out Federal Express forms and index cards, and more. Punt works from within WordStar, which means you can manipulate your mailing list database without ever exiting WordStar.

Punt is available for a $48 tax-deductible donation to The Pacific Foundation, a non-profit organization. All Kaypro CP/M and MS-DOS computers. The Pacific Foundation, 2135 Renrock, Cleveland OH 44118; (216) 932-7733.

Stylish set-up

The Stylist II is a menu-driven printer set-up program for Okidata 92 and 93 dot-matrix printers. The Stylist II's menus replace the procedure of sending complex print control codes to the Okidata. It runs with MBASIC.

The ten different print styles available from the main menu include correspondence quality, condensed (132-column print) and expanded-width print.

$16.95. All Kaypro CP/M computers. Stockmaster Software, 3 Anders Lane, Pomona, NY 10970.

A look at life

The Resource Needs Illustrator Super+ is designed for life insurance and investment agents. The program produces a "needs analysis" chart for the agent's individual clients.

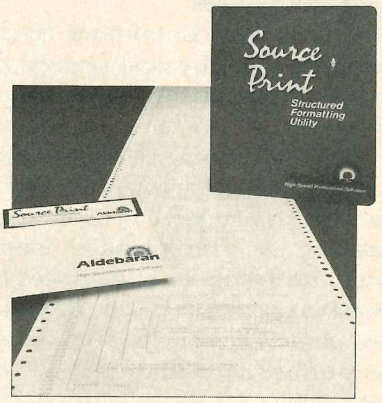
The agent enters data on a client and the program automatically adjusts the needs analysis based on the current combined household income. Inputs include value of home, other real estate, personal property, retirement benefits, securities, life insurance, business interests, other assets, gifts/inheritances, etc.

$229.95. All Kaypro CP/M and MS-DOS computers. >ACS Software Publishing Co., 3255 Wing St., #330, San Diego, CA 92110; (619) 223-5331.

Horse's mouth

Programmers using C, Pascal, BASIC or dBASE can review the complete structure of their code with Source Print. To show the structure, Source Print automatically draws lines on the printout, which is ordinarily done by hand. The nesting of program structures is clearly shown. A "pretty print" feature provides automatic indentation based on block nesting levels. In addition, the user can choose to print reserved words in boldface.

Another feature of Source Print is source library maintenance. Up to 40 selected subtitled functions or procedures—or ranges of these—can be taken from one to 16 files to



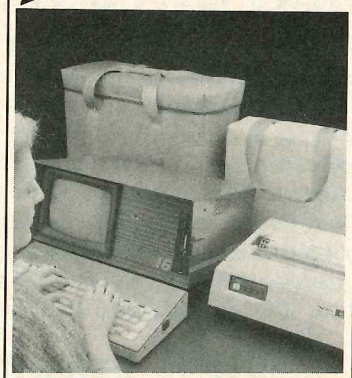
form a new source file.

Titles and subtitles can be arbitrarily specified within the source file. A table of contents lists titles, subtitles, and their locations.

$97; 30-day money-back guar-

NEW 2000 DELUXE

Computer Cases Designed For Maximum Protection



Rain, high humidity, dust, and occasional bumps and scrapes all damage your portable computer and components. We at Michele-Lynn have developed virtually waterproof, lightweight, and highly versatile computer carrying cases. These cases are handmade here in the USA using high quality water-repellent lined and insulated nylon. Designed with zippered inner top and velcro outer top for maximum moisture protection.

Yes, I would like to provide maximum protection and portability for my computer and components. I've indicated my color choice below:

[ ] Black [ ] Royal Blue [ ] Navy Blue [ ] Silver

CODE AND DESCRIPTION	COST	QTY.	TOTAL
cb1-fits Kaypro 1, 2, 4, 10 &16	$ 79.95		
cb1-fits Kaypro 2000 (computer only)	39.95		
cb2-DELUX fits Kaypro 2000 and all Components	69.95		
pb1-fits narrow width printers, i.e. Epson FX80	49.95		
pb2-fits wide width printers, i.e. Epson FX100	69.95		
mc1-universal monitor case	69.95		
combo1 cb1 & pb1 (Save $20.00)	109.90		
combo2 cb2 & pb1 (Save $12.00)	77.40		
Enclosed is my check or money order or charge my Visa or Mastercard Account.	Add 3.00 p/h		$3.00
	TOTAL		

#

Expiration Date:

Signature:

Ship To:

MAIL TO:
Michele-Lynn
1701 Oakbrook Drive
Norcross GA 30093
or call 1-404-441-7256

antee. Kaypro PC. Aldebaran Laboratories, Inc., 3738 Mt. Diablo Blvd., Bldg. 312, Lafayette, CA 94549; (415) 283-7084.

Disk manager

The Datatank Datafinder System consists of a physical storage system and a software disk cataloging program.

Modular boxes that interlock side by side or on top of each other are the main part of Databank's system. A spring-loaded mechanism brings up to 10 diskettes into reach at a single touch. Any number of modules can be combined. A self-adhesive labeling system, using color, letter and number combinations, can accommodate the indexing of over a million diskettes.

The software component ties the system together. In plain English, the Datatank software guides the user to any disk in the system. Primary features include printing, sorting, logging, single-keystroke date notation and security passwords.

$29.95 (3-pak). $79.95 for index software. Datatank, Inc., One Appletree Square, Minneapolis, MN 55420; (207) 967-3544.

Speed zone

A seven-tiered command structure drives the database program Infoscope. Able to read data from Lotus 1-2-3, dBASE, MultiPlan and WordStar, Infoscope stores a user-selected file in memory and eliminates disk access time.

Infoscope displays data in color or monochrome simultaneously in as many as 14 windows or "scopes." Data may be scrolled within each scope; any scope may be expanded to fill the entire screen.

Infoscope's report generator allows you to print data in different formats without having to program each format before printing.

$79. All Kaypro MS-DOS computers. Microstuf, Inc., 1000 Holcomb Woods Parkway, Roswell, GA 30076; (404) 233-0100.

Ad Index

Advertiser	Page No.
Advanced Concepts E&C	8
Advent Products	49,55
Axonix	59
Bible Research Systems	18
CDE Software	17
Central Computer Products	24,25,26,27
Chaucer Software	19
Computer Friends	11
Computer Professionals, Inc.	15
Decmation	79
Financial Track Systems	48
H & E Computronics	Back Cover
High Tech Research	Inside Front Cover
Highland Microkit	77
Hurd Computers	20
Intersecting Concepts	5
James River Group	Inside Back Cover
Kamasoft	1
KUGram	29
Lifestyle Software	13
Michelle-Lynn, Inc.	81
Micro Cornucopia	51
Micro Interfaces, Inc.	67
Microcomputer Systems Consultants	58
MicroSphere	60
PeopleTalk Associates	30,31
Poor Person Software	58
Pro/Tem Software	21
PROFILES Magazine	61
Rocky Mountain Software Systems	82
Rose Associates	33
Second City Software	2
Southwest Computing	18
Spectre Technologies	69
SunSoft Inc.	14
Techware	79
Traveling Software	9
Westwind Computer	7
Woodsmith Software	50
Workman & Associates	20
Xpert Software	52,53

At Last! TIME & BILLING software for your micro that pays for itself!

Save the cost of Desktop Time & Billing™ with the improvements in your first two months' billings--even for a 1 attorney office. Desktop Time & Billing 1) simplifies the billing process, 2) prompts professionals to bill on-time, 3) reduces unbilled work-in-process, 4) measures and analyzes non-chargable time, 5) minimizes unreported time, 6) provides objective criteria to analyze staff performance, and 7) reduces manual and clerical effort for only **$495.00**! Add Desktop Accountant™ (it automatically integrates) and you can have a complete professional accounting system (including G/L, A/P and Payroll) for less than $1,000. Available for IBM PCs, PC compatibles and most CP/M computers. Call Today!

FREE Information Package
1-800-832-2244 ext 4604
In California call 1-800-732-2311 ext 4604

ROCKY MOUNTAIN SOFTWARE SYSTEMS
Specialists in Accounting Software

1280C Newell Ave Suite 1604 • Walnut Creek CA 94596 • (415) 680-8378

ACCOUNTING FOR MICROS

$395 Set of Four
$325 Set of Three
$465 Set of Five

ACCOUNTING FOR MICROS is a set of integrated accounting programs which meet professional standards. They're fast and easy to use, with complete instructions. Our manual (shown above) also includes helpful information on bookkeeping and computers.

GENERAL LEDGER $125
Allows up to 1,000 accounts & 1,000 transactions/month. Retains mo/end balances for Last year, This Year and Forecast. Includes Cash Disbursements, Cash Receipts and General Journals. Reports include Balance Sheet, Income Statement, Annual Summaries and Journal Reports.

ACCOUNTS RECEIVABLE $125
Allows up to 2,500 customers and 1,000 invoices per month. Invoicing can access Inventory Module. Keeps customer names and addresses. Invoice prints on plain paper or any pre-printed form. Statements can be printed at any time.

INVENTORY $125
Allows up to 4,000 parts. Keeps 3 month history of unit sales as well as year to date. With AR, can be used as point of sale system (prints invoices, handles cash). Reports include Inventory Value and Stock Report, Internal and Customer Price List.

ACCOUNTS PAYABLE $125
Allows up to 500 vendors and 600 invoices/mo. Records invoices and handwritten checks. Prints computer checks on any pre-printed form. Keeps vendor names and addresses.

PAYROLL $125
Will handle up to 100 employees with eight deductions per employee. Deductions may be determined as fixed dollar amounts or percentages, or referred to a table for automatic look-up. Tax tables are easily entered, or purchased separately. Prints checks and W2's.

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

RUN ON MOST CPM AND MSDOS

Apple CPM	*IBM PC,XT,PC jr,AT*	*Sanyo (all)*
Columbia	*Kaypro (all)*	*Tandy (all)*
Compaq	*Morrow (all)*	*TeleVideo*
Corona	*Osborne (all)*	*Zenith 100 & 150*
Eagle (all)	*Panasonic*	*8" CPM*
Epson QX-10	*Radio Shack CPM*	*Other compatibles*

DEMO DISK $18.00

Try all 5 programs above (GL, AR, AP, IN, PR). Order our DEMO DISK for $18.00 (includes shipping). Condensed versions of the programs give you the "feel" of data entry and access. Includes sample reports and instructions. Specify machine.

TMAN $125
The "Catch-All" program. Files any type of information for quick access. Name or subject oriented with 15 lines of notes per name. Use TMAN as a mailing list, filing system, notebook, etc. Can be used alone or with data from our other programs.
Try ***TMAN DEMO $16***

HOW TO ORDER: Please specify machine and disk format. You can pay by check, by VISA or MasterCard (we need your expiration date and card number), or by UPS COD (add $2.50 COD charge). Our price includes shipping. Minnesota residents, add 6% sales tax). We ship most orders the same day.
or ***ORDER BY PHONE: 612-339-2521***

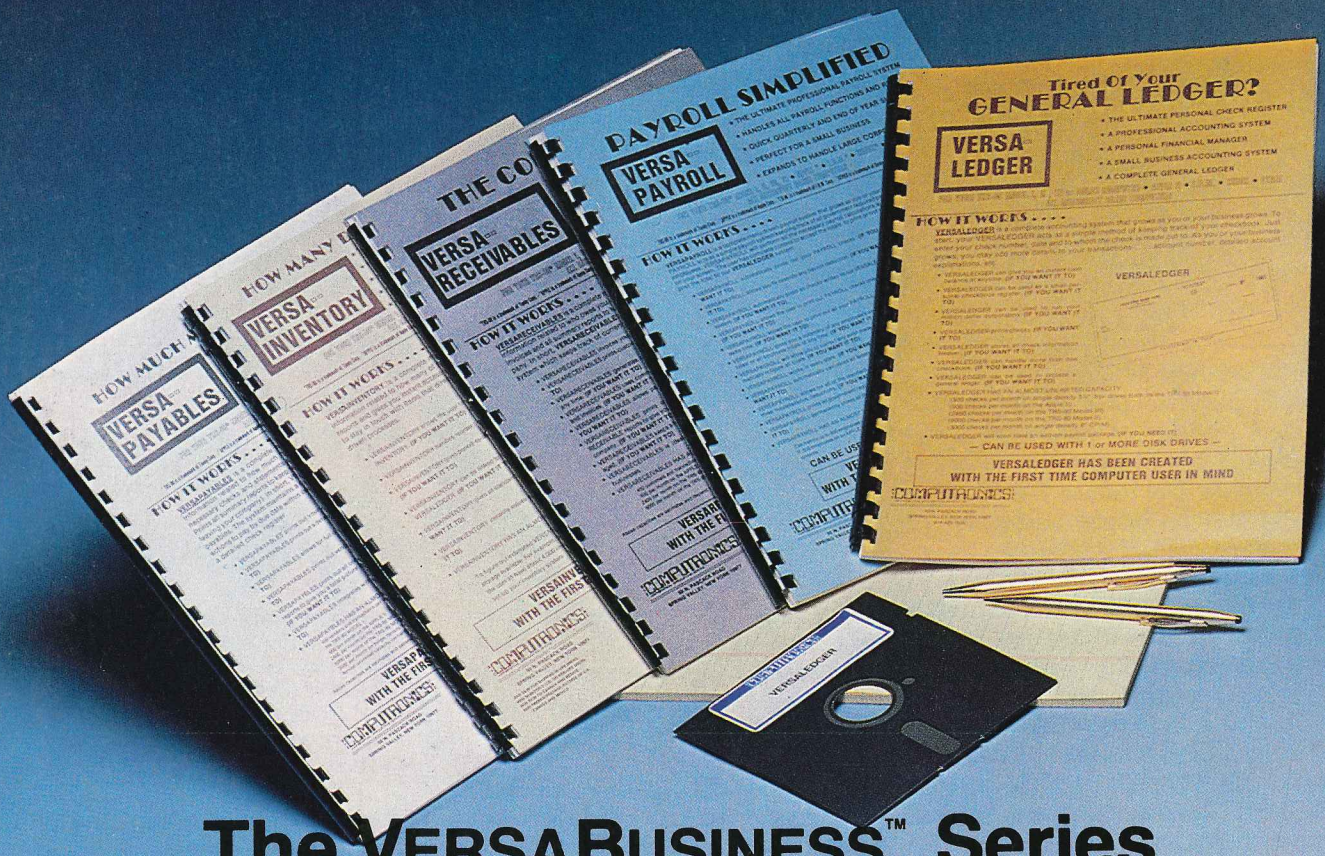
James River Group
INCORPORATED

(612)339-2521

125 North First Street
Minneapolis, MN 55401

Introducing the Most Powerful Business Software Ever!

FOR YOUR TRS-80 • IBM • APPLE • KAYPRO • COMMODORE 64 • MSDOS OR CP/M COMPUTER*



The VERSABUSINESS™ Series

Each **VERSABUSINESS** module can be purchased and used independently, or can be linked in any combination to form a complete, coordinated business system.

VERSARECEIVABLES™ $99.95

VERSARECEIVABLES™ is a complete menu-driven accounts receivable, invoicing, and monthly statement-generating system. It keeps track of all information related to who owes you or your company money, and can provide automatic billing for past due accounts. VERSARECEIVABLES™ prints all necessary statements, invoices, and summary reports and can be linked with VERSALEDGER II™ and VERSAINVENTORY™.

VERSAPAYABLES™ $99.95

VERSAPAYABLES™ is designed to keep track of current and aged payables, keeping you in touch with all information regarding how much money your company owes, and to whom. VERSAPAYABLES™ maintains a complete record on each vendor, prints checks, check registers, vouchers, transaction reports, aged payables reports, vendor reports, and more. With VERSAPAYABLES™, you can even let your computer automatically select which vouchers are to be paid.

VERSAPAYROLL™ $99.95

VERSAPAYROLL™ is a powerful and sophisticated, but easy to use payroll system that keeps track of all government-required payroll information. Complete employee records are maintained, and all necessary payroll calculations are performed automatically, with totals displayed on screen for operator approval. A payroll can be run totally, automatically, or the operator can intervene to prevent a check from being printed, or to alter information on it. If desired, totals may be posted to the VERSALEDGER II™ system.

VERSAINVENTORY™ $99.95

VERSAINVENTORY™ is a complete inventory control system that gives you instant access to data on any item. VERSAINVENTORY™ keeps track of all information related to what items are in stock, out of stock, on backorder, etc., stores sales and pricing data, alerts you when an item falls below a preset reorder point, and allows you to enter and print invoices directly or to link with the VERSARECEIVABLES™ system. VERSAINVENTORY™ prints all needed inventory listings, reports of items below reorder point, inventory value reports, period and year-to-date sales reports, price lists, inventory checklists, etc.

VERSALEDGER II™ $149.95

VERSALEDGER II™ is a complete accounting system that grows as your business grows. VERSALEDGER II™ can be used as a simple personal checkbook register, expanded to a small business bookkeeping system or developed into a large corporate general ledger system **without any additional software.**

- VERSALEDGER II™ gives you almost unlimited storage capacity (300 to 10,000 entries per month, depending on the system),
- stores all check and general ledger information forever,
- prints tractor-feed checks,
- handles multiple checkbooks and general ledgers,
- prints 17 customized accounting reports including check registers, balance sheets, income statements, transaction reports, account listings, etc.

VERSALEDGER II™ comes with a professionally-written 160 page manual designed for first-time users. The VERSALEDGER II™ manual will help you become quickly familiar with VERSALEDGER II™, using complete sample data files supplied on diskette and more than 50 pages of sample printouts.

SATISFACTION GUARANTEED!

Every **VERSABUSINESS™** module is guaranteed to outperform all other competitive systems, and at a fraction of their cost. If you are not satisfied with any **VERSABUSINESS™** module, you may return it within 30 days for a refund. Manuals for any **VERSABUSINESS™** module may be purchased for $25 each, credited toward a later purchase of that module.
All CP/M-based Computers must be equipped with Microsoft BASIC (MBASIC or BASIC-80)

To Order:
Write or call Toll-free (800) 431-2818
(N.Y.S. residents call 914-425-1535)

* add $3 for shipping in UPS areas
* add $4 for C.O.D. or non-UPS areas
* add $5 to CANADA or MEXICO
* add proper postage elsewhere

VISA AMERICAN EXPRESS

DEALER INQUIRIES WELCOME

All prices and specifications subject to change / Delivery subject to availability.

COMPUTRONICS INC

50 N. PASCACK ROAD, SPRING VALLEY, N.Y. 10977