PROFILES

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April 1985
The Magazine for Kaypro Users

Famous users

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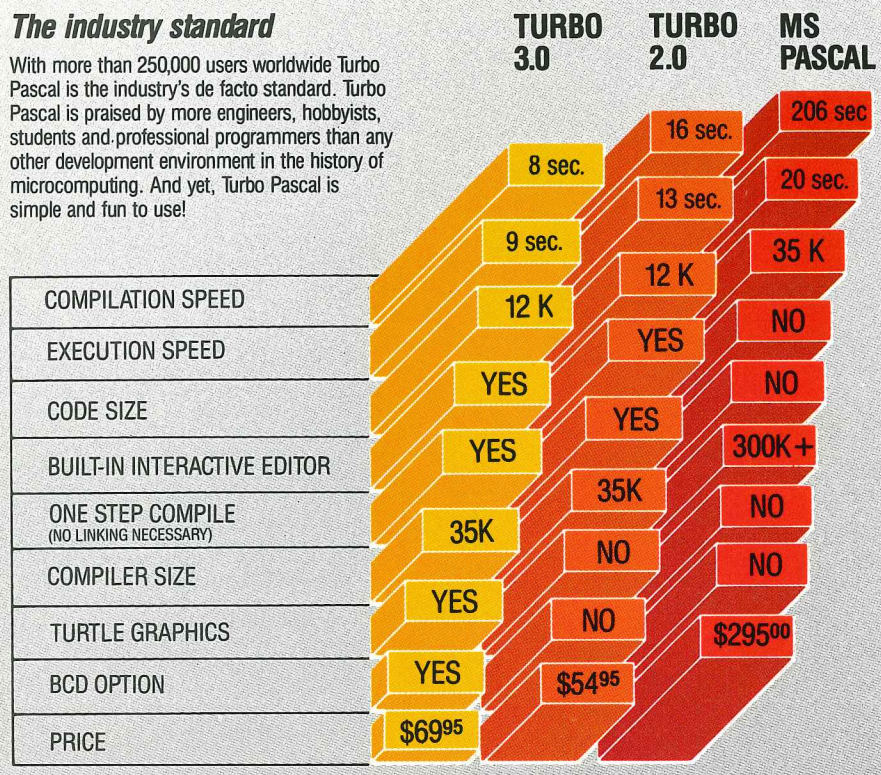
They said it couldn't be done. Borland Did It. Turbo Pascal 3.0

The industry standard

With more than 250,000 users worldwide Turbo Pascal is the industry's de facto standard. Turbo Pascal is praised by more engineers, hobbyists, students and professional programmers than any other development environment in the history of microcomputing. And yet, Turbo Pascal is simple and fun to use!



(*) **Benchmark** run on an IBM PC using MS Pascal version 3.2 and the DOS linker version 2.6. The 179 line program used is the "Gauss-Seidel" program out of Alan R. Miller's book: *Pascal programs for scientists and engineers* (Sybex, page 128) with a 3 dimensional non-singular matrix and a relaxation coefficient of 1.0.

The best just got better: Introducing Turbo Pascal 3.0

We just added a whole range of exciting new features to Turbo Pascal:

- First, the world's fastest Pascal compiler just got faster. Turbo Pascal 3.0 compiles twice as fast as Turbo Pascal 2.0! No kidding.
- Then, we totally rewrote the file I/O system, and we also now support I/O redirection.
- For the IBM PC versions, we've even added "turtle graphics" and full tree directory support.
- For all 16 Bit versions, we now offer two additional options: 8087 math coprocessor support for intensive calculations and Binary Coded Decimals (BCD) for business applications.
- And much much more.

The Critics' Choice.

Jeff Duntemann, PC Magazine: *"Language deal of the century . . . Turbo Pascal: It introduces a new programming environment and runs like magic."*

Dave Garland, Popular Computing: *"Most Pascal compilers barely fit on a disk, but Turbo Pascal packs an editor, compiler, linker, and run-time library into just 29K bytes of random-access memory."*

Jerry Pournelle, BYTE: *"What I think the computer industry is headed for: well documented, standard, plenty of good features, and a reasonable price."*

Portability

Turbo Pascal is available today for most computers running PC DOS, MS DOS, CP/M 80 or CP/M 86. A XENIX version of Turbo Pascal will soon be announced, and before the end of the year, Turbo Pascal will be running on most 68000 based microcomputers.

An Offer You Can't Refuse

Until June 1st, 1985, you can get Turbo Pascal 3.0 for only $69.95. Turbo Pascal 3.0, equipped with either the BCD or 8087 options, is available for an additional $39.95 or Turbo Pascal 3.0 with both options for only $124.95. As a matter of fact, if you own a 16 Bit computer and are serious about programming, you might as well get both options right away and save almost $25.

Update policy

As always, our first commitment is to our customers. You built Borland and we will always honor your support.

So, to make your upgrade to the exciting new version of Turbo Pascal 3.0 easy, we will accept your original Turbo Pascal *disk* (in a bend-proof container) for a trade-in credit of $39.95 and your Turbo87 original *disk* for $59.95. This trade-in credit may only be applied toward the purchase of Turbo Pascal 3.0 and its additional BCD and 8087 options (trade-in offer is only valid directly through Borland and until June 1st, 1985).

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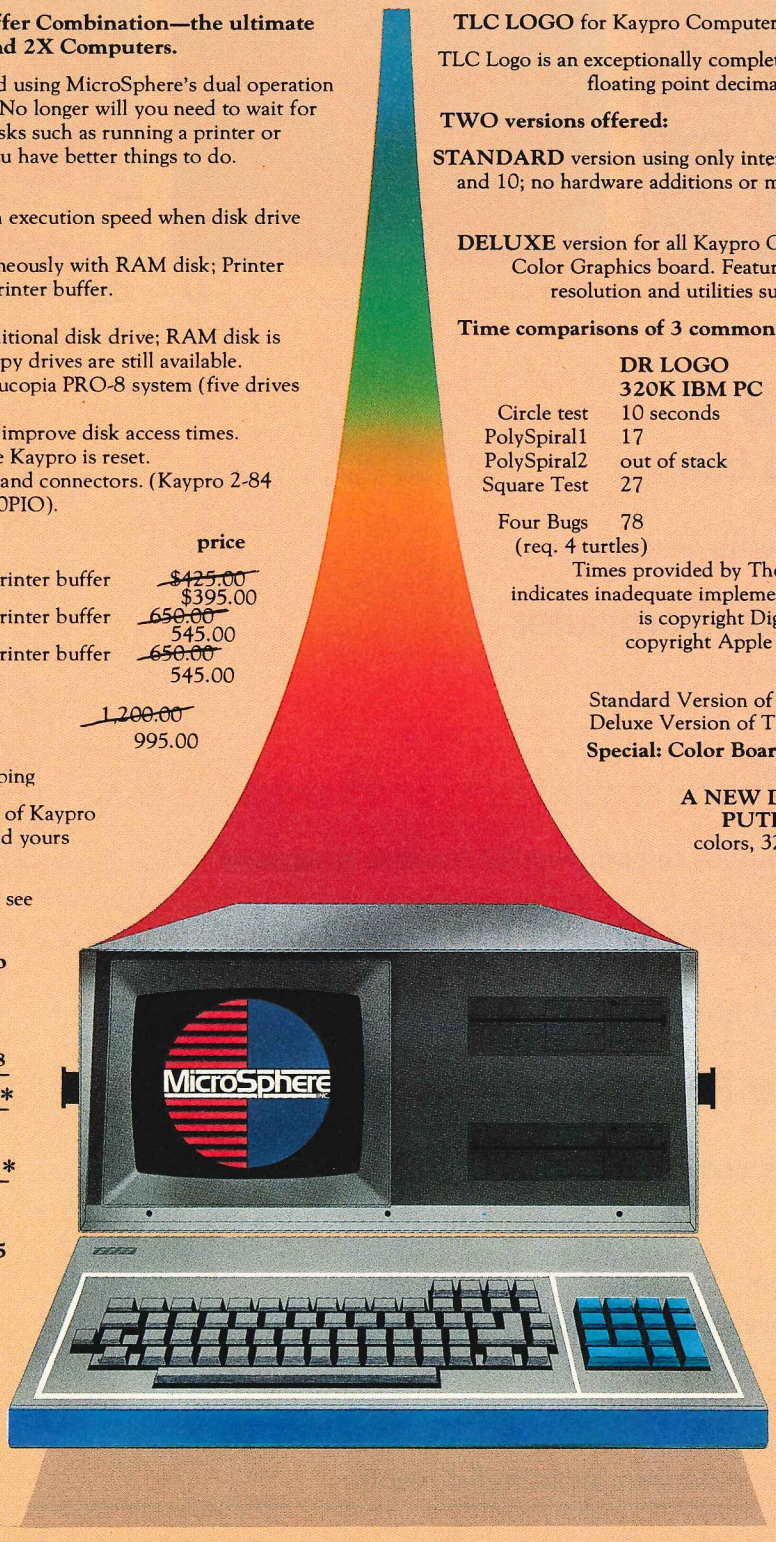

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Circle test	10 seconds	3 seconds	22 seconds
PolySpiral1	17	4	11
PolySpiral2	out of stack	7	out of stack
Square Test	27	10	41
Four Bugs (req. 4 turtles)	78	6	N/A

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

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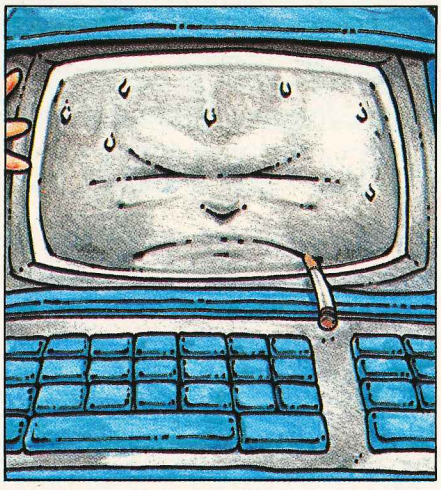

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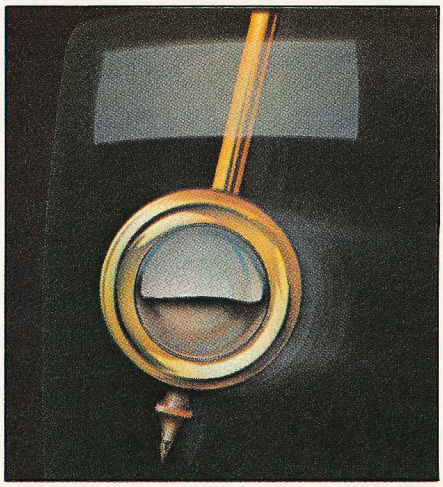

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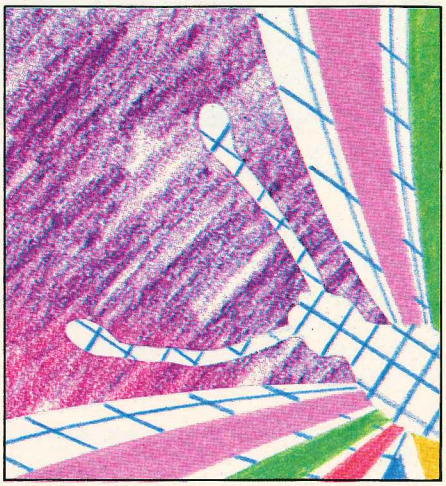

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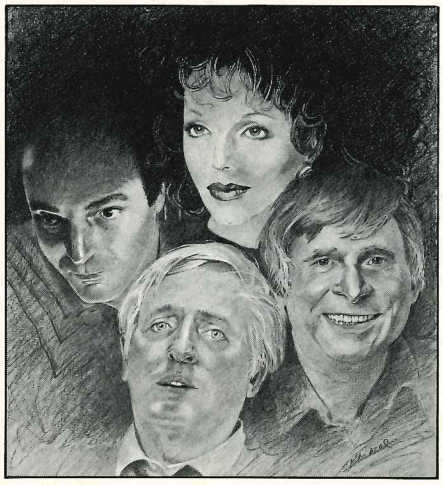

Famous faces, from center clockwise: Joan Collins, Gene Roddenberry, William F. Buckley, Jr., Peter Hyams

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EDITORIAL OFFICES
533 Stevens Avenue
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ADVERTISING
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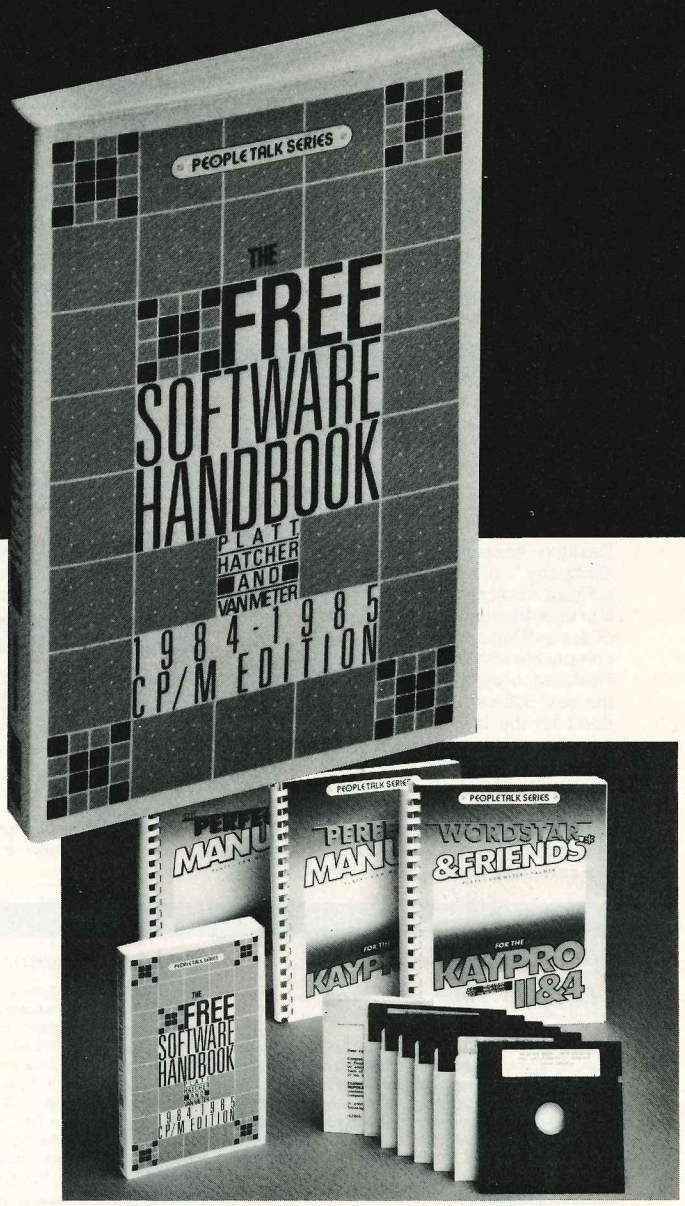

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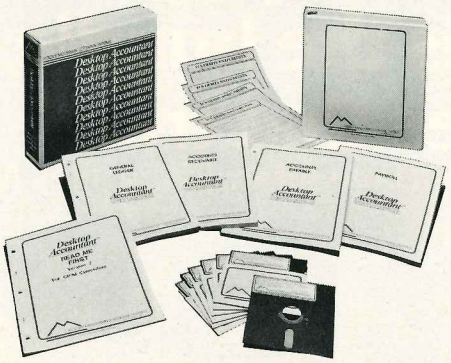

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Please include a brief outline of your article idea, writing samples if available, and a self-addressed, stamped envelope (SASE). Allow at least four weeks for a reply.

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Letters

Many letters to the editor showed interest in Peggy Watt's article, "Use a Modem—Go to Jail?" (February 1985). For Watt's summary of how the case ended happily for Tcimpidis, please see page 68.

Offended by BBS article

We who run responsible, serious electronic bulletin boards are highly offended at Peggy Watt's article ("Use a Modem—Go to Jail?," February 1985) and its reference to "electronic gossip forum," signifying that all bulletin boards fall into this category.

This Tom Tcimpidis item has been going on for some time and is being monitored by every sysop throughout the country, and to capitalize on it in this manner is a form of yellow journalism. It seems to relish with zeal Mr. Tcimpidis's predicament and appears to project a very decisive pro-Pac Bell attitude.

It left me, for one, with a taste in my mouth that every sysop of an electronic bulletin board is a thief and totally scares the pee-jabbers out of anyone using a modem for communication.

The implementation of this article set back electronic bulletin boards into the prehistoric ages.

. . . I haven't seen any articles as strong as Watt's concentrating on the total destruction of communication between private citizens, and believe me this is exactly what this article is doing.

Allen Cobb
Sysop, Easyon BBS for Kaypros
Torrance, California

How others reacted

I don't usually write letters to the editor. I'm always too busy answering them. However, I felt that your latest article, "Use a Modem—Go to Jail?" was an excellent piece of editorial work.

It was refreshing to see a class publication such as *PROFILES* offer its readers a class article. It is a very important issue to every users' group, and we feel as you do that this is a far-reaching decision that will affect the future of telecommunication.

Our members are avid readers of *PROFILES* and I would hope that you will continue to offer them, and me, such soul-searching articles as this one.

Al Gerson
Editor and Publisher, *KUGRAM*
Malverne, New York

My compliments on your fair and balanced coverage of the Tcimpidis case in Los Angeles. With the ever-expanding use of the Kaypro as a communications device, more and more Kuggers are getting online with the rest of the computing world.

Many user groups and individuals are opening up electronic bulletin boards. These individuals should be aware of the current trends, both to protect themselves and to better serve their communities.

Articles like Peggy Watt's remind us that we are not operating in isolation, that there are those who expect of us a higher degree of responsibility than we thought was needed.

A sysop has to devote a great deal of time and money to running a public service board. Before one gets involved in such a project, one should be aware of all the possible pitfalls.

Joseph P. King
New York Kaypro Users' Group
New York, New York

As both a professional writer and an enthusiastic supporter of BBSs, I congratulate Peggy Watt and *PROFILES* for a piece that might well have appeared in one of the slick literary magazines; it reads as interestingly as a Dorothy Sayers or Agatha Christie mystery yarn.

Needless to say, both computer users and others among the general public who are, or should be, vitally interested in the larger implications of the Tcimpidis case will be deeply concerned with its outcome. There are fundamental Constitutional questions that far transcend the mere matter of Pacific Bell's tolls and revenues and the simple pleasures of BBS use.

I urge *PROFILES* to keep its readers abreast of developments until the case is resolved.

David Mann
Kinnelon, New Jersey

I enjoyed reading your article on the Tcimpidis case. Now that computer communication is within easy reach of everyone issues like this are going to arise more frequently. I believe that your continued candid coverage of them will serve the computing public, maintain the integrity of your journal, and, in the long pull, be in the best interests of the manufacturers as well.

Ken Thorp
New York Kaypro Users' Group
New York, New York

I am truly grateful for the Watt article. My husband has become a sysop (on a temporary basis, I hope, after reading about Tom Tcimpidis) for a local board.

He and the usual sysops have instituted some fairly rigorous guidelines and monitor messages on a regular basis, to the ire of a few users who sling around terms like "Nazi" and "snark," or who make unflattering references to Orwell's *1984*.

Maybe those folks don't realize how much time and effort goes into keeping these boards up and functioning properly, or how much diligence goes into keeping the library of software available via modem free of "junk" programs or software that has not yet been released into the public domain.

I'm amazed at the larcenous attitudes of some people, who apparently think nothing of ripping off other people who make their living writing the software that makes our hardware such a joy.

Martha Levine
Galveston, Texas

I have enjoyed reading *PROFILES* for several months, and for a company magazine it is surely one of the best.

I call to your attention the cover of the February 1985 issue and its article, "Use a Modem—Go to Jail?" I am surprised and delighted that you have chosen to address this controversial issue in your magazine. The article is both timely and very well addressed.

I would also like to compliment the artist on the cover illustration. It encompasses the essence of the subject so beautifully.

Again, I say, "Well done!"

Robert George
Del Mar, California

In our compact and interlaced society, individual rights and privileges must carry with them the burden of responsibility, or the sum total of them will lead to anarchy and chaos.

The Tcimpidis case will undoubtedly set a precedent for better or worse. The issue will be individual rights versus the quality and reputation of bulletin boards.

Martin I. Selling
Fair Lawn, New Jersey

Father John's Place

As a sysop I really enjoyed Brock Meeks' article, "Around the World at 300 Baud" (February 1985). I was really pleased with his complimentary mention of my system, but there have been some changes that should be cleared up.

The name of the system is "Father John's Place" (not the Catholic Information Center), and the phone number has been changed. It has been (805) 687-2754 since August 15, 1984. (The poor couple who have the old number are dealing with midnight calls with a telephone answering machine.) Please note the correction for the sake of both

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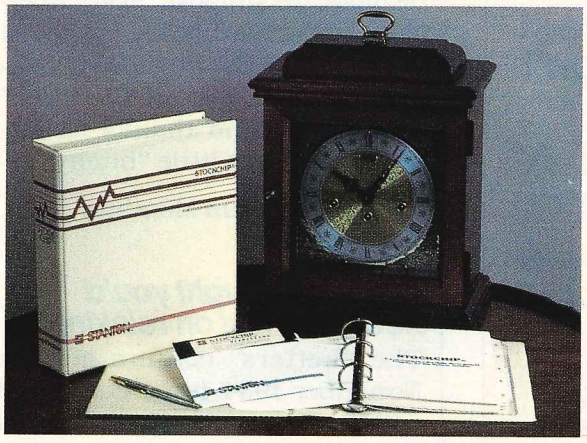

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Letters

the callers and "callees" involved.

Also, the board is now running at both 300 and 1200 baud.

Father John Higgins
Los Angeles, California

More bark than byte

Our comments concerning Tom Enright's article, "Preview: The Kaypro 16" (February 1985), certainly have more bark than byte.

We are enthusiastic Kaypro 4 owners who also happen to breed, train and show Pembroke Welsh Corgi dogs . . . Naturally, you can see our concern when Tom closed his otherwise perfect article with: "Kaypros are working machines, not inbred show animals." We think very, very highly of both and consider them quite inseparable, rather than mutually exclusive.

Oh, and how about the article "Digging Through Dog Biscuits?" If you'll humor us a little more, we suppose "every magazine editor has his day," so you're not really in the doghouse. Continue with a "pick of the litter" publication, and thanks for letting us be just a little "bitchy."

Michael and Pam Morabito
Fairborn, Ohio

And you thought you'd heard the last on reinking?

The "Letters" column of your November 1984 issue concluded with an editorial endorsement of WD-40 as a printer ribbon rejuvenator.

WD-40 is wonderful stuff and may be perfectly fine for daisywheel printers, but there is some evidence that dot matrix printers do not fare very well on a WD-40 diet.

The June 1984 issue of *Foghorn*, the publication of the Osborne (pardon me) Users' Group, contained this:

"WD-40 is not a good way to renew your printer ribbons unless you plan to replace your printer pretty soon. I've used WD-40 for many years, and those of you who've used it much know that when it evaporates it leaves behind a gummy (and, as it turns out, abrasive) material. This abrades the print pins and will cause looseness and eventual sticking of the pins. We used to do this on our UNIX system printer at Berkeley, until they made us pay for a new printhead. The inks used for dot matrix printers contain a special pin lubricant and only such inks should be used. The MacInker and other similar products do an excellent job and are worth the money."—Dr. Craig Feied, Washington, D.C.

Bill Whatley
Spartanburg, South Carolina

Our thanks to Gale Rhoades of Foghorn *and Dr. Feied for allowing us to reprint the above—and to Glenn G. Agnew, technical director of the WD-40 Company, for this reply:*

"WD-40 does not leave a gummy, abrasive residue after application. It does leave a thin, oily film. It is this film that protects metal surfaces and lubricates moving parts. Any oil film can collect dirt and dust, which can, in turn, be abrasive.

Others have written us extolling the virtues of WD-40 for rejuvenating printer ribbons and typewriter ribbons as well. We

have even generated a public relations release on the subject."

Self-inking ribbons

. . . a friend asked me to test a new type of printer ribbon on my Okidata 92 . . . a self-inking design with the ink sealed in the spools . . . after many cartons of printer paper, my "test" ribbon is still printing as well as it did in the beginning.

David Gerrold might be interested in contacting the inventor/manufacturer at:

Walter Ploeger, Jr.
Controlled Printout Devices
P.O. Box 869
Arden, NC 28704

William E. Rudolph, Jr.
Norwalk, Connecticut

Kaypro 2s in Niger

We live overseas and took our first Kaypro 2 back to our home in Niamey, Niger (West Africa), in January 1984. Despite the incredibly hot and dusty climate, we had no problems with it . . . We ran it on a voltage stabilizer/transformer in a sealed, air-conditioned room in Niamey and had no problem with its operation even during power fluctuations. We were the sole Kaypro owners in Niger at that time . . . .

Susan J. Brechin
Dhaka, Bangladesh

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

Letters to the Editor
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Q&A

by Tom Enright

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

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

Kaypro 10/MS-DOS

I want to upgrade my Kaypro 10, purchased in early 1983, and would like to know what to expect if I should upgrade either with 128k or 256k Co-Power-88 MS-DOS. Will it be possible to save MS-DOS to the same internal hard disk? How much compatibility would there be with IBM PC-DOS? I have a lot of files and data in CP/M and do not want to give them up or switch them over to MS-DOS unless the switchover is relatively painless.

G. E. Borst
Warrenton, Virginia

The Co-Power board from SWP Microcomputer Products, the same board that Kaypro distributed for a while, had provisions for partitioning the hard disk on the Kaypro 10 into one section for CP/M and another for MS-DOS. Kaypro no longer distributes or supports these boards, but they are available from SWP or possibly your dealer.

The question of IBM compatibility gets involved. The Co-Power board is best thought of as a generic MS-DOS conversion, not an IBM-compatible upgrade. Any PC-DOS program that tries to do any kind of graphics will not run. Neither will a program that depends on being able to read routines from the IBM ROM. There is one version of LOTUS 1-2-3 that will run on the Co-Power board. SWP has more information on which version that is. The PC-DOS version of WordStar will also run on the Co-power board. Since compatibility is such a relative question, I would want to see the software I needed running on a converted Kaypro before spending my money.

If you already have a considerable investment in CP/M software and data, I would be very careful before making this conversion. Performance gains are small compared to the expense of buying MS-DOS versions of software you already have.

Theory of operation

I purchased a Kaypro 4'84 in the first half of 1984, and while I've had a few minor problems, I'm quite pleased with it. Because I'm a regional technical specialist for my employer, I have an interest in the inner workings, serviceability, and theory of operation of my computer.

I have tried to get this literature from my dealer and from Kaypro. The dealer hasn't followed through on my request and a technician at Kaypro told me the information didn't exist. My priorities are obtaining schematics and a theory of operation for my machine. Can you help?

John I. Roberts
Tustin, California

The Kaypro Technical Manual can meet some of your needs. It has schematics and repair procedures for all Kaypro models. It does not have a satisfactory theory of operation. Any Kaypro dealer can order it from Kaypro Corporation. Many dealers keep several on hand to sell to interested customers.

Another source of information is Micro Cornucopia. (They frequently advertise in *PROFILES*—Ed.) *It's worth more than they charge for both the schematic and theory-of-operation package just to get the theory. It's excellent.*

WINSTALL errors

In your December/January issue, I read the article on WordStar with great enthusiasm ("Academic Writing with WordStar," by Jim Spickard). WordStar, not Perfect Writer, suited my needs from the first day I had my Kaypro. I am a writer, not a programmer, and do not know my way around when trying to alter an intricate program.

I have tried to follow Jim Spickard's instructions on altering WordStar with no success.

(continued on page 88)

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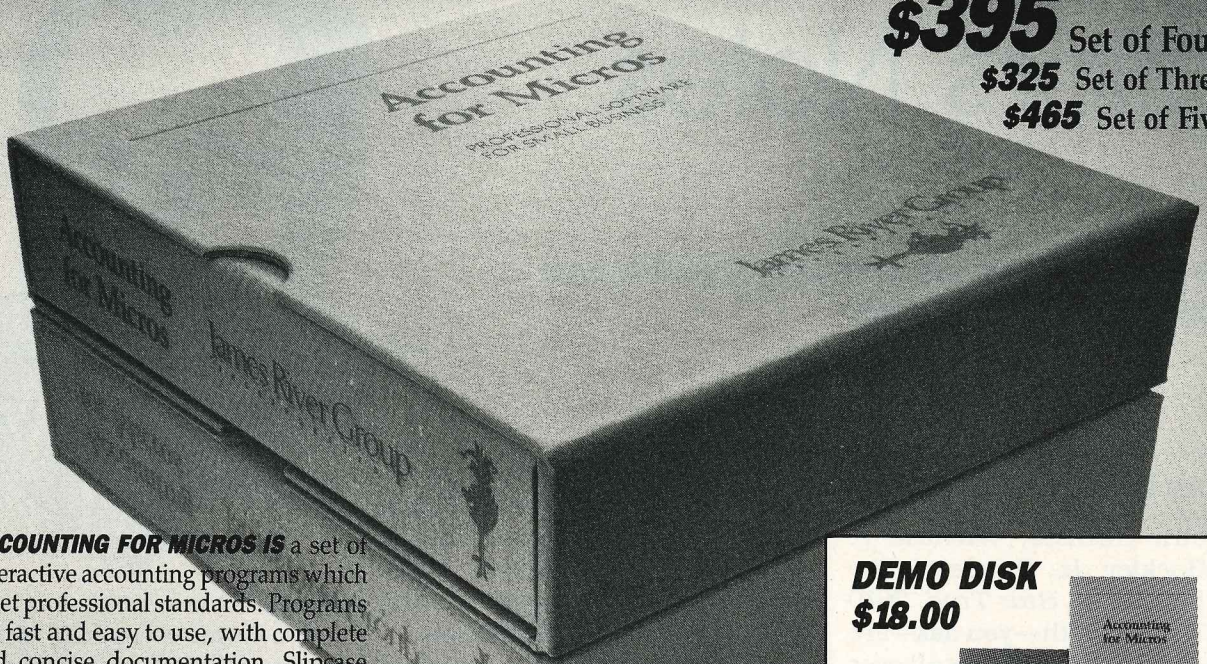

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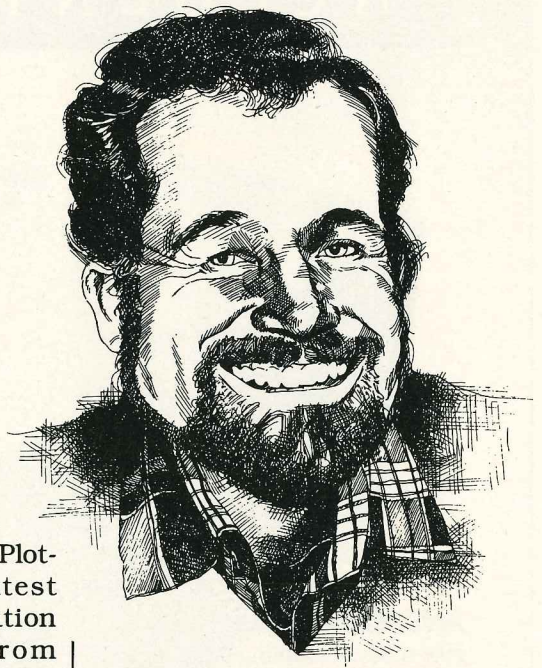

Fame in your magazine, avoiding rejection, and rumblings for a new column

by Tom Foote

Joan Collins, William F. Buckley Jr., *Dynasty, The Love Boat, Star Trek, 2010* . . . What on earth—you ask—are all these big names doing all over the cover and on the insides of *your* microcomputing magazine?

Don't panic. A new *National Enquirer* we are not. No scandalous scoops. Just facts on how celebrities are using their systems much like you do.

Indeed, we at *PROFILES* express our deepest thanks to the many famous Kaypro users—and their agents and assistants—for generously cooperating to make this issue possible.

Yes, we present the renowned at the risk of seeing sharp criticism from hard-core techies—among others. But, as Peggy Watt and William F. Buckley reveal, the prominent use many of the slick tricks you use—and, like you, have their own provocative opinions on microcomputing and the bigger picture of what it's doing to their work and lives.

Moreover, since we're running just two articles on the famous (Watt's interviews, and William F. Buckley's "The Conservative Computer"), this issue is packed with more than the usual number of practical pieces—from assembler and dBASE codes for accessing your real-time clock to reviews of Data Plotter, MathStar, and the latest public domain communication programs—the latter from "Silveira the Scavenger" of "Dog Biscuit" (February 1985) fame.

We also present a belated roundup of tax software for the woefully tardy preparer—like me. And if you think *my* home accounting is messed up (yes, there's reason to), just wait 'til you read what David Gerrold confesses about his.

Growing dilemma

Unlike most newsstand magazines, *PROFILES* prides itself on drawing material from its readers—those most familiar with the subject to which we all are happily dedicated. But what you see in *PROFILES* is the ultimate result of many a rejected query—many that need not have been. (A "query" is journalism jargon for a letter describing, and requesting our reaction to, a proposed article.)

In short, we face a growing dilemma: We receive many more queries than we can promptly handle—and as a result, competition is keen.

We think everybody would be better off if we could make the query flow leaner and meaner; i.e., fewer queries with much more punch. This would surely save our queriers and us much time—and anguish.

I am convinced we can make strides toward such a flow by informing all at the outset that competition to get into the magazine is formidable (I'd place odds for our agreeing to look at proposed article at one in twenty and for accepting the article at one in five). If that doesn't scare you, here are suggestions about how to avoid the fundamental mistakes we see often.

This issue is packed with more than the usual number of practical pieces.

Avoiding rejection

To begin, please don't attempt a query unless you already write well. If you pass that test, you would do well to build on the articles in past issues and take to heart all that we suggest in our "Writer's Guidelines." The arti-

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cles show what we've covered and how, while the guidelines offer detail about us and our audience—and suggestions about subject matter, product reviews, manuscript formats, organization, style, and cleaning tips.

single-sided double density disks work in double-sided drives very nearly as well as the more expensive double-sided diskettes? That issuing the command A0>**WS YOURFILE.TXT**[RETURN] will automatically load WordStar, then bring up your text file, and

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Beyond directness, we most seek these two basics: 1) on-target subjects likely to "hit the spot" of high reader interest; and 2) signs of exceptional writing—writing that is exceptionally well organized, well-linked, enthusiastic, catchy, clear, and succinct. Your clips and resume help us to quickly assess your track record.

One last tip: have your hardest-hitting critic first mercilessly attack all you're about to send us. Then take to heart and incorporate the suggestions.

Up for a new column?

People often write us proudly detailing their truly useful discoveries, and we have thought often about sharing these in a column. Henry Hester, of Kaypro, suggests calling it "Did You Know . . . " and Dick Lutz ("Free Lunch") has expressed interest in managing it. Here are samples of tidbits you might donate.

Did you know that you can move your reset button to the front of your Kaypro to make resetting much more convenient? That most brand-name

that A0>**WS YOURFILE.TXT B:**[RETURN] will do both that, and also alternate subsequent saves between A and B drives? (This is good for handling big files on small capacity drives, and can also be done from WordStar's NO-FILE Menu, as in "NAME OF FILE TO EDIT?" **YOURFILE.TXT B:**[RETURN].)

Did you know that the WordStar "FIND?" (^QF) and "FIND AND REPLACE?" (^QA) permit wild cards, allowing you to do things like having this response to "FIND?":**r^PAb** stop on Robert, rabbit, and R&B in one pass? That they allow you to find or replace important control codes like carriage returns (^N's—good for changing double spacing with hard carriage returns to single spacing), tabs (^I), boldface (^B), etc. That for $2.50 a reader made two "very satisfactory" non-glare screens from acrylic plastic he bought from a local glass store?

Disclaimer: Because *PROFILES assumes no liability for any problems you encounter with the above tips*, we urge you to first experiment *inexpensively* before risking anything serious.

To get this off the ground and sustain it, we await your contributions. □

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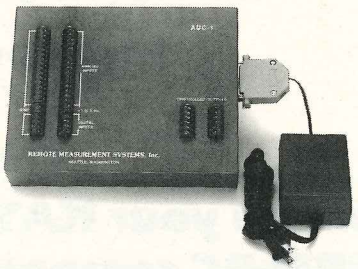

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Up and Running

Another theory bites the dust

by David Gerrold

Here's the dilemma: I want to write about a terrific financial management package called **Checks & Balances**, but the author of the program, Pat Lajko, one of those obsessive-compulsive hacker types, also happens to be a very good friend of mine—so it's clear that this cannot be an unbiased account. Integrity demands that I include an appropriate disclaimer here. Okay, here's the disclaimer: Pat Lajko is my friend . . . but just barely.

Let me start at the beginning.

My checkbook is the only checkbook in the world ever to be declared a disaster area by the Bank of America. (And my account is with First Interstate!) I handle my personal finances the old-fashioned way: I stuff everything into a drawer and forget about it. Come January 1, I empty the drawer into a box. On April 14, promptly—you can set your calendar by me—I deliver the whole mess to my accountant and let him sort it out.

So what if my checkbook hasn't been balanced in 17 years? My life hasn't been any worse off for it. In fact, I can even make a pretty good case for *not* balancing your checkbook each month. Whenever I write a check, I round off the amount to the next highest dollar and subtract that from the balance, thus guaranteeing that I will have a small but continually growing margin for error in my account.

Motivating by insult

But last year, my accountant started talking dirty. He said, "Listen, that computer of yours ought to be good for *something* besides playing 'Adventure.' I've heard there are programs that can keep track of your expenses. Maybe one of those might even help you keep a budget."

I know that there are a lot of good home finance management programs out there.

Dollars and Cents is very highly rated, and so is Home Accountant. And I've also heard good things about Quick Check Plus and Mini-Ledger. But the truth is getting into these was another one of those things that I kept putting off until tomorrow. Like tomorrow, 1997.

My accountant is computer-illiterate. I had to explain it to him gently. "Oh, no, no. You're thinking of a super-cooled mega-mainframe 9000 unit operating at Terminal Velocity. You'd need 60 multi-gigs of non-violent memory and a specially designed software bus allowing linked sequential B-trees. The training alone would cost more than I earn in a year. Just the manuals themselves cost $5,000, and you have to sign a non-user's agreement not to port any of the stoneware into a machine. At least, that's what I'd need for *my* checkbook. I mean, we're talking serious number crunching here."

It almost worked.

"But what about your good friend, Pat Lajko?" he asked. "I thought you said he was working on a personal finance and small business money-management/checkbook program that would run on any CP/M- or MS-DOS-based microcomputer."

"Er, ah—by golly, you're right. I completely forgot about that. I'll have to call him and see if he's got it perfected yet. You know how these things are. I'll get to it right after Michaelmas."

Let me explain something.

I really *hate* the thought of typing all that data into the machine. I mean, I don't see the sense in keeping one record in your checkbook and another in your computer—toward what end? When the bank statement comes at the end of the month, you then have *two* numbers that disagree with the bank's total.

"Listen to me," said my

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accountant. "If you could keep a record of how much money you spend on books and magazines and videotapes and floppy disks and paper clips, I could write some of that off and save you some money on your taxes—"

Michaelmas came awfully early last year.

A fateful meeting

So I went to visit my good friend, Pat Lajko, and he handed me a copy of Checks & Balances, Version 2.something, and said, "Here, beta-test this for me."

"Beta-test . . . ?"

"Treat it roughly, be rude to it, load all your financial files into it and see if it crashes. If it does, let me know where the bug is."

This year, I delivered to my accountant six W-2 forms and a two-page printout.

Right. Well . . . it was free. I'd give it at least a try. "Hey! Where's the manual?"

"Haven't written it yet. Don't worry; the program works exactly like you think it should. Here's a list of commands. Call me if you have any problem."

Checks & Balances goes beyond "intuitive." It works like a checkbook. You make entries in it. Period. It does all the rest of the work—adding, subtracting, sorting, balancing, you name it—and reports back *quickly*: outstanding checks, tax categories, monthly budgets, unpaid bills (ugh), and more.

The program boots up quickly. If it's the first time you've run C&B, it will stop to configure itself. It lists a menu of printers and terminals, you type the appropriate number, and that's it—the program is installed and you're ready to go. (There's also a custom installation routine for nonstandard machines.)

Otherwise, the program asks for the date, asks for the name of the check file and then displays a help screen of commands.

All the commands in C&B are simple one-word mnemonics. If you want to enter a check, you type **ENTER**. If you want to check off the items that have cleared the bank, type **BALANCE**. If you want a list of outstanding checks, type **PRINT OUTSTANDING**. If you want help with the TOTAL command, type **HELP TOTAL**. And so on.

The ENTER screen shows a set of two-line check entries that look exactly like the check register in a checkbook. All you have to do is move the cursor to an entry and type. If you want to correct something, you just type over it. As I said above, the program does all the work—so you don't have to. (And that's the whole point of having a computer, isn't it?) Checks and Balances has a lot of impressive internal smarts. It stashes all the appropriate information exactly where it's supposed to go, even to the point of left-justifying comments and decimal-point justifying dollar values.

A serious test

Somewhere in there I made a decision that I would use this program every day—well, at least

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once a week—to keep the most accurate record I could and see if Pat's claims that this program could actually *balance* a checkbook were true. A fair test ought to take at least three consecutive months, plus one month's grace at the start to give the program a chance to start with the same numbers the bank did. (By the way, the program *sorts* checks too. You don't have to enter them in any particular order.)

The first month, the program and the bank statement not only did not agree, they wouldn't even sit down at the same table with each other. I had to add a fictitious sum of money to the program to create the feeling of agreement and start again.

The second month—or actually, the second first month—Checks & Balances and the bank statement did not agree again. And then I found three checks and a service charge that I had forgotten to enter into the computer. As soon as I did, the program and the bank statement *matched to the penny*.

And the earth stood still . . .

At the exact same instant the sky opened up with a crack of thunder that sounded like the world coming apart.

My checkbook had actually balanced.

Listen. Perhaps you don't think it's momentous for my checkbook to balance. You don't understand. My checkbook has not been balanced in 17 years. I don't even try. Every three years, I start over. I change banks, open a new account, wait for all the checks in the old account to clear and collect what's left. I thought everybody did it that way. I thought death threats from the bank were just another part of life.

Even the people at the bank were quick to recognize that this was a *bona fide* miracle, not only certifiable, but definitely worth a shot at Ripley's and possibly Guinness's. They sent me roses.

And a note asking me to please keep up the good work.

"You mean . . . you want me to do this *every* month?"

Right.

Well . . . what the hey? If Pat's program were really as good as he insisted, its results should be reproducible. We'd try it again next month.

This time, though, I paid extra special attention to what I was doing. It was possible—just possible—that the perfect match had been some kind of practical joke played on me by a willful universe. This time around, I wanted *certainty*.

Repeat performance

Two months in a row. My checkbook *balanced*.

The third month, my checkbook balanced and I was ready for sainthood . . . .

By the fourth month, it was no longer surprising. In fact, I'd almost begun to (dare I say it?) *expect* the numbers to come up correctly. It was almost too simple. You just type **BALANCE** and the program shows you everything you've entered that you haven't checked off. You look on your bank statement. If it's there, you check it off. Then you go to the next item. When you run out of items, you're done.

The whole process takes less than ten minutes, including even the mandatory search for the misplaced entry (an integral part of the whole ritual).

If at any time during the last 17 years, somebody had dared to tell me that one day I would not only be balancing my checkbook regularly every month, but actually *enjoying* the whole process, I would have suggested that he or

she was clearly a candidate for a rubber room.

And yet, this year, I delivered to my accountant six W-2 forms and a two-page printout. *Sorted by category.* On March 1.

Let me tell you the reward.

Because of the accuracy of last year's records, my accountant was able to determine that this year, for the first time in 17 years, my spendable income outweighed my deductions and I would have to pay a sum of taxes equal to the advance on a *Star Trek* novel.

It was shortly thereafter that Pat informed me that he had *improved* Checks & Balances.

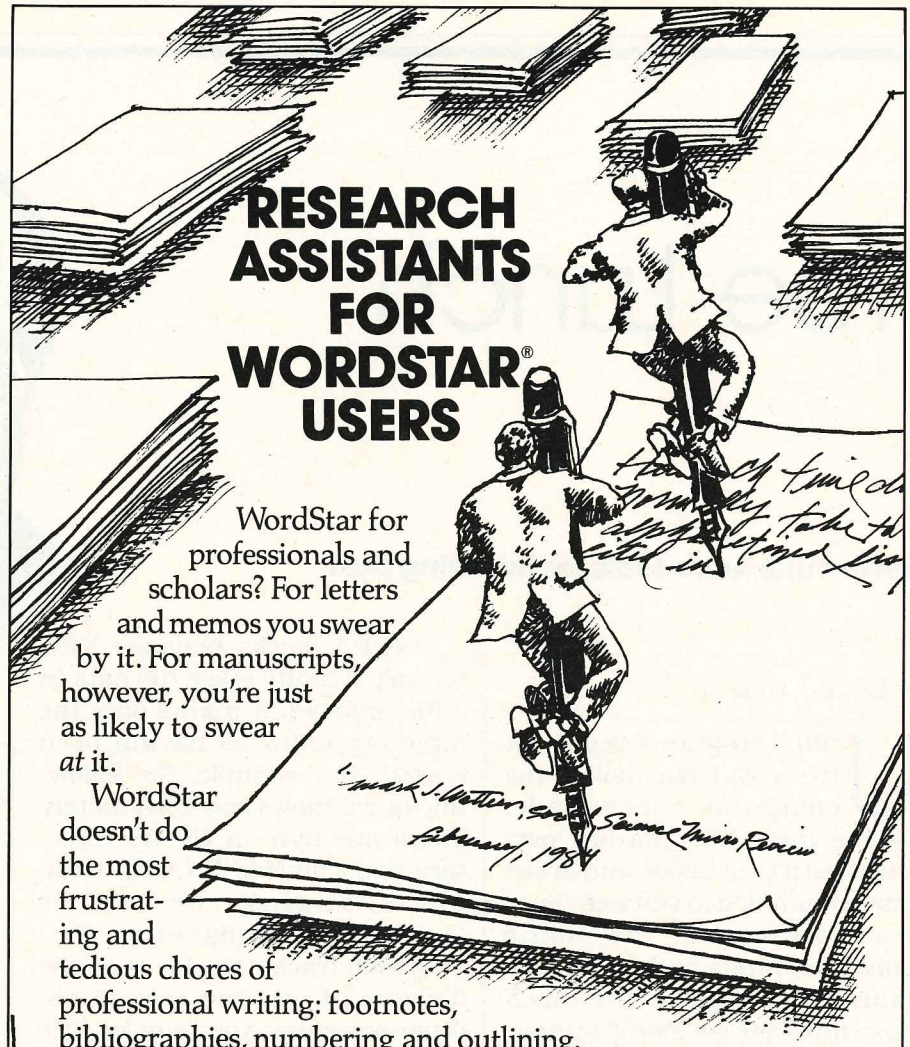
I told him, "Pat, please—I don't think I can afford any more efficiency."

"But this is Version 3.etcetera," he said enticingly, dangling a floppy disk in front of my nose. "It's *faster* . . . . It's *bigger* . . . . It has a built-in Rolodex . . . . It prints out checks . . . ."

Particulars

The latest version of Checks & Balances is available from my ex-good friend, Pat Lajko, at CDE Software, 2463 McReady Ave., Los Angeles, CA 90039, for $54.95 + $2 shipping—a special price for *PROFILES* readers valid through April 30, 1985 (normal price of the package is $74.95).

Editor's Note: PROFILES *has arranged for an article intended to objectively compare the major CP/M home accounting packages including Checks and Balances, Dollars and Cents, Friendly Home Computer, Home Accountant, Mini Ledger, and Quick Check Plus. Stay tuned. Also, if you are particularly fond of any other such packages, please let us know about them.* □



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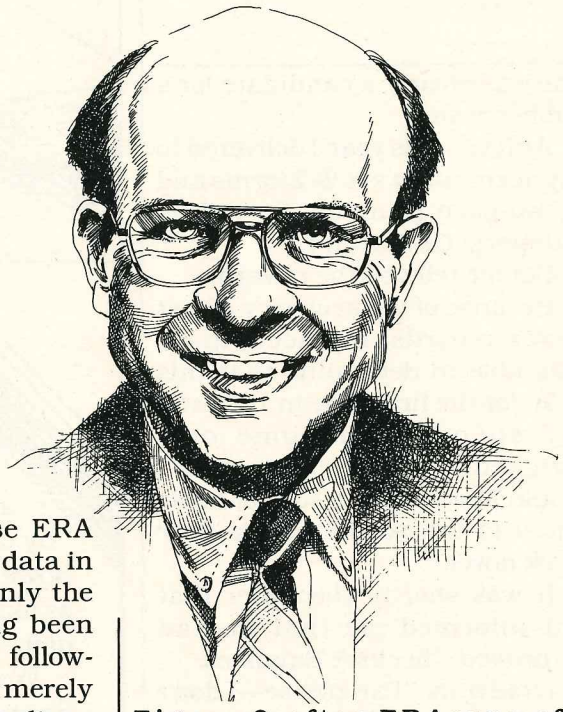

Three must-have tools for handling files

by Dick Lutz

Utility programs represent the most basic tools of the computer user's trade. They're incredibly handy, perform a variety of tasks, and aren't usually included in software bundles. Fortunately, the public domain abounds with such programs. Here I'll cover three such "how did I ever get along without it?" programs—the file handling utilities: UNERA, MOVE, and MAKE.

As with all public domain programs, it's best to test them way in advance of using them in a crunch. Public domain software exists in a kind of twilight zone where it's sometimes hard to tell whether your version is old or new, bug-ridden or bug-free. You need to know enough about CP/M to understand how to recover when a public domain program crosses you.

UNERA

There are two kinds of computer users: those who *have* erased a file by mistake, and those who are *sure* to. Sooner or later, it happens to everybody. When your turn comes, you'll want to have UNERA.COM handy. This unobtrusive 2k program will recover files and assign them to the current user area.

UNERA works because ERA doesn't actually erase the data in a file. Instead, it marks only the directory entry as having been erased. For example, the following figure shows how ERA merely alters one byte in CP/M's directory entry for MAKE.COM—without changing the entry's "pointers" showing where (i.e., on which tracks) the file is on the diskette. If you can restore the directory entry, you may be able to recover the file itself.

Directory entries for MAKE.COM before and after its ERAsure: The top two lines of hexidecimal values show how CP/M encodes the directory entry for MAKE.COM on the diskette. Below each encoding is the corresponding ASCII interpretation with non-printable characters shown as ".".

Hexidecimal coding:

09 4D 41 4B 45 20 20 20 20 C3 4F 4D 00 00 00 11

02 03 00 00 00 00 00 00 00 00 00 00 00 00 00 00

Corresponding ASCII:

. M A K E C O M . . . .

. . . . . .

FIGURE1

Figure 1 before ERAsure of MAKE.COM: The file MAKE.COM is in user area 9 (indicated with the hex value 09 in the file status byte—the boldfaced first byte in upper left hand corner).

Figure 2 after ERAsure of MAKE.COM: After issuing the command **ERA MAKE.COM** CP/M effects the corresponding erasure by changing the above status byte from 09 to E5—while leaving all other directory information (e.g. the pointers) unchanged. Now, if you were to issue the command **UNERA MAKE.COM** from user 5, CP/M would bring MAKE.COM back by changing only the E5 pointer in Figure 2's upper left corner to 05, placing it in user area 5.

Of course, the file can be recovered *only* if nothing has overwritten the directory entry or data in the meantime. One or both can happen if, after the accidental erasure, you run another program that creates a file. The utility's success depends on whether there are other deleted

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ILLUSTRATION BY JOYCE KITCHELL

directory entries ahead of the one you want to unerase, and also whether any newly created files were written over the diskette space of your erased file. *Guaranteed* success with UNERA is possible only when you use it immediately after you've made the mistake.

UNERA should be put in user area 0 so you can recover files from any user area on the diskette. (CP/M always defaults to user 0—meaning it concludes any unsuccessful search by looking in user 0 before telling you it can't find what you asked for.) Floppy disks, just like hard drives, have user areas 0-15 available, although most people do all their work in user 0 on floppies.

Hexidecimal coding:

```
E5 4D 41 4B 45 20 20 20 20 C3 4F 4D 00 00 00 11
02 03 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

Corresponding ASCII:

```
. M A K E           C O M . . . .
. . . . . . . . . . . . . . . . .
```

FIGURE 2

For example, assume that while in user 6, you mistakenly erase EXAMPLE.XYZ by issuing the command **ERA EX*.*** to erase files named EXTRA1.TST and EXTRA2.TST and their *.BAK files. Realizing what you've done, you quickly type **UNERA EXAMPLE.XYZ**, and reclaim EXAMPLE.XYZ to user 6. The procedure is such that when CP/M can't find UNERA in user 6, it automatically looks in user 0. Because user 6 is still the current user area, that is the area to which EXAMPLE.XYZ is restored.

MOVE

In the normal course of things, when you want to use a program or deal with a file under a different user area, you must first copy it to the new user area using PIP with the Get (G) option:

A9>**PIP A:=A:WS*.*[G0V]**

This puts the files into user area 9, but with some disadvantages:

First, it takes a lot of time, particularly if you must move all WordStar files or a large data file.

Second, it doubles the file

(continued on page 86)

Life at 300 Baud

Visiting the 'town hall' of the '80s

by Brock Meeks

Blink and you will miss the online community's rapid progression from infancy to responsibility. A year ago electronic bulletin board systems (BBSs) were seen as quaint extensions of "those computer people." Not anymore.

Public awareness of the potential for microcomputer communications is growing, with the result that bulletin boards have become a kind of electronic "town hall" of the 1980s. Many bulletin boards have gone online to deal with specific social, political or ecological issues. Today, bulletin boards function as everything from test cases for Constitutional law to propaganda platforms for the neo-Nazi "Aryan Nation Liberty Net" (sponsored by the Ku Klux Klan).

However, not all of these electronic "town halls" are being used to challenge the injustices of society or to spout questionable dogmas; many are concerning themselves with the arts. The melding of this new technology with the creative forces of the arts is an exciting process to watch.

Other BBSs are specializing in the sciences, giving "common folks" access to some of the nation's most brilliant minds for the price of a phone call. In future columns we'll look at some of these more specialized boards.

Dialing in

This month's online wandering takes us to three unique boards. One BBS is at the center of the "rights and responsibilities of the sysop" controversy. The second board is dedicated to making you chuckle one second and reflect profoundly the next. The last board, located in Houston, offers a Texas-size challenge.

Good morning, you're busted

HBBS Mog-Ur's
San Fernando Valley, CA
Phone: 818-366-1238
Baud Rates: 300/1200/2400
Operation Hours: 24/day

As detailed in the February 1985 issue of *PROFILES*, this board was part of a test case for electronic freedom of speech. Sysop Tom Tcimpidis' BBS equipment was confiscated and a court summons was issued to him at the request of Pacific Bell Telephone because someone left a message on the board that contained stolen MCI and Sprint codes.

(As we went to press, charges against Tcimpidis had been dropped. Please see Peggy Watt's follow-up report about the reasons the charges were dropped and the reactions of the parties involved.—Ed.)

Because of the problems this board has had you are required to pay a subscriber fee ($5 per year) to gain complete access. As a new user, you are subjected to a lengthy disclaimer at the beginning of the log-on. This disclaimer developed as a direct result of the "responsibility" controversy.

The main menu is extensive. By the sysop's own admission, the board was designed for experienced users. However, a novice can feel right at home by just remembering the following four commands:

R—for retrieving messages.

L—for leaving messages.

A—for switching message bases.

E—for exiting the system.

The board covers a wide variety of subjects, including separate sections for humor, computers, aviation/sailing/recreation, electronic mail, and, of course, the section dealing with the legal battle.

If you're interested in keeping up with current trends in the BBS

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community, this board is a good reference point.

The most recent development is the addition of the board's 2400 baud capability (and I'm still working on 1200 baud!).

A chuckle a day

Humor and Wisdom
Concord, CA
Phone: (415) 674-0660
Baud Rates: 300/1200
Operating Hours: 24/day

Humor and Wisdom is a board dedicated to the mirth and profundity of our lives.

The board operates as an RCP/M, which means there are a large number of files available for downloading. A limited message base carries the day-to-day conversation of the users.

Messages are located in a section called the "RBBS" (a term generic to all RCP/M systems). When I logged on, there were messages dating back to January 1984.

Most of the messages are contributions of humor or philosophy (hence the name Humor and Wisdom). The contrast between humor and wisdom makes for intriguing reading. In a single online session you may be laughing one minute, and an instant later (is there "instant" anything at 300 baud?) a thought-provoking message changes that laughter to reflection.

The database (CP/M) section should not be overlooked. Although most of the "humor and wisdom" resides in the message base, there are some gems hanging out in the CP/M section, too. To get from the message base to the CP/M section, enter a **C** at the command prompt. I would suggest looking at the help files if you are not familiar with RCP/M operations. The help files are dis-

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Printer: (Epson FX, Epson MX, etc.; see box at left)
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played by entering **type help** at any prompt. These help files will give you an overview of how to get the most out of the board.

Section B3 of the CP/M section carries the more interesting text files. Be sure to check out Ken Nordine's "Genesis (word jazz number 14)," and don't overlook the "Fortune Cookies" file. In "Cookies" are hundreds of bumper-sticker sayings and musings. As I read it, it was like having a textbook on graffiti flash before my eyes.

Lone Star BBS

Freelancin'
Houston, TX
Phone: (713) 488-2003
Baud Rates: 300/1200
Operating Hours: 24/day

Freelancin' operates in a free-wheeling environment. User requests generate most of the features you will see here. When I first noticed the board, I thought it was an electronic hangout for freelance writers—I was wrong.

"The board has just sort of developed on its own," says sysop Jim Penny, "and I figured Freelancin' was an appropriate name."

The specially developed software makes the board's many functions easy to manipulate and surprisingly responsive. Most commands require only a single keystroke. Typing an **L** from any prompt inside the system will return you to the main menu. (This is especially welcome for those who get lost dealing with the numerous submenus.)

Inside the board you'll find everything from instructions for do-it-yourself-divorce proceedings to the full text of the King James Bible; the latter program is a work of art.

Penny has developed a section of this BBS to be used as a study

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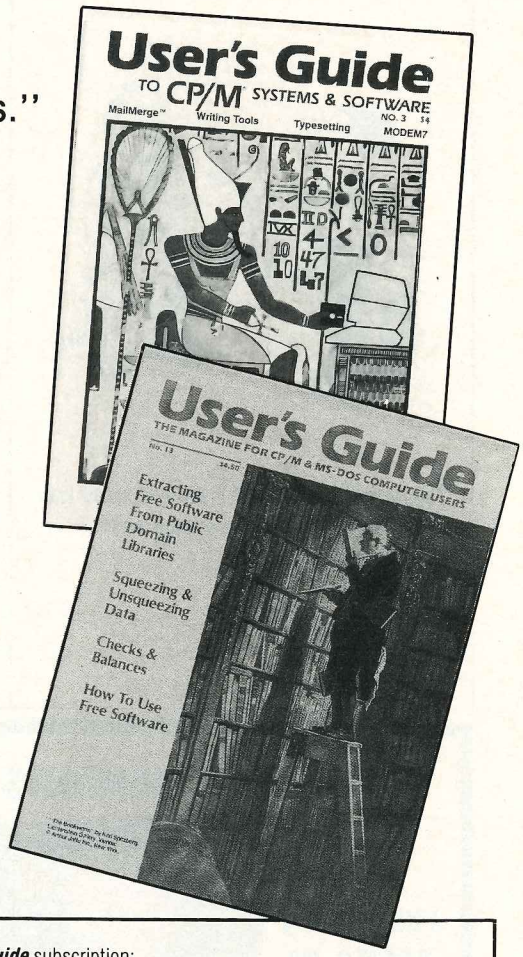

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"I thought you said it would pay my bills! Everyone's sending me final notices!"

guide to the Bible. If any of you are Biblical scholars, this section is worth the phone call. Enter a single word—"man," for example—and the program will list every verse in the Bible that refers to "man." If you don't want an entire Biblical search (which could take up to 45 minutes), you can search individual books, or sections of books.

This board also carries a challenge I have not seen anywhere else in the electronic community: an open invitation to try to crash the board.

"I just put the challenge out to anyone who thinks they can crash me," says Penny. "If they succeed, I'll give them full credit and a write up in my Crasher's Hall of Fame."

Yes, it's true; Penny actively encourages people to try to wreck his system. All he asks is that you leave him an account of what you are doing. This done, you are free to try anything you want, and Penny promises not to interfere with your attempt. Have many people tried?

"Well, I've received calls from just about every state," Jim says, "but only a few have been successful. No one in over a year has crashed the system—except Houston Power and Light, and they never give advance warnings."

If you have always had a secret urge to hack a system but were afraid of the consequences, here's your chance.

Tax time

In celebration of tax time I went looking for a BBS dedicated to taxes and tax questions. No such luck. The closest I could come to taxes were four bulletin boards that handled financial matters. All of these boards are run by commercial brokers.

I did see some references to the tax advantages of certain investments, but nothing specifically relating to the ol' 1040 long form (or short form for that matter). However, if you are interested in investments for tax purposes, I'm sure these boards will be a great help to you.

New York
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Please hang up now . . .

If any of you have a particularly interesting BBS that you log onto, I'd like to hear about it. You can write to me in care of *PROFILES* or reach me on CompuServe at account number 70366,1355. □

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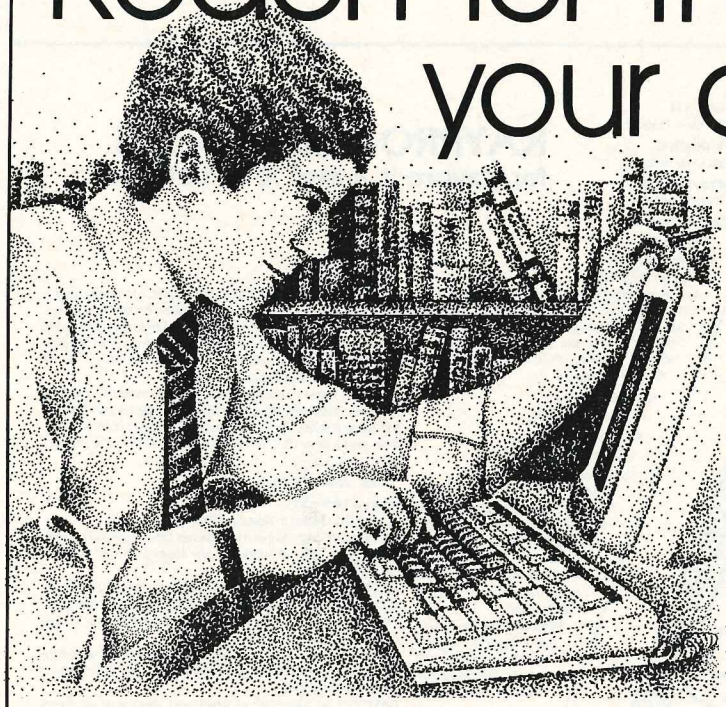

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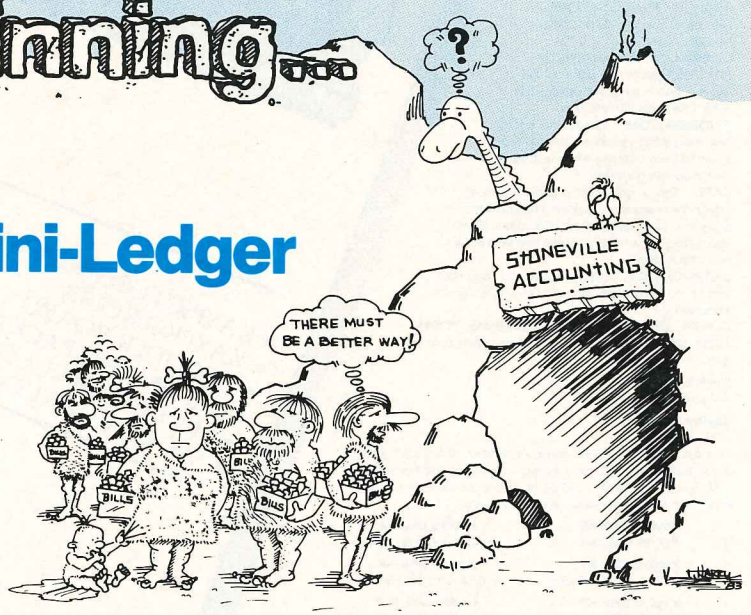

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KayPro Disk K5
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KayPro Disk K7
Small C Version 2 Compiler

KayPro Disk K8
Small C Version 2 Source

KayPro Disk K9
ZCPR

KayPro Disk K10
Assemblers

KayPro Disk K11
Library & Checkbook Programs

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

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

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

KayPro Disk K12
FORTH

KayPro Disk K13
Source of fig-FORTH

KayPro Disk K14
Smartmodem Programs

KayPro Disk K15
Hard Disk Utilities

KayPro Disk K16
Pascal Compiler

KayPro Disk K17
Z80 Tools

KayPro Disk K18
System Diagnostics

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

KayPro Disk K19
Prowriter Graphics

Kaypro Disk K20
Color Graphics Routines

Kaypro Disk K21
SBASIC Routines & Screen Dump

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

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

Kaypro Disk K22
ZCPR (Again)

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

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

Kaypro Disk K23
Fast Terminal Software & New BYE

Kaypro Disk K24
MBASIC Games & Keyboard Translator

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

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

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

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

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

Kaypro Disk K25
Z80 Macro Assembler

Kaypro Disk K26
EPROM Programmer & Character Editor

Kaypro Disk K27
Typing Tutor

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

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

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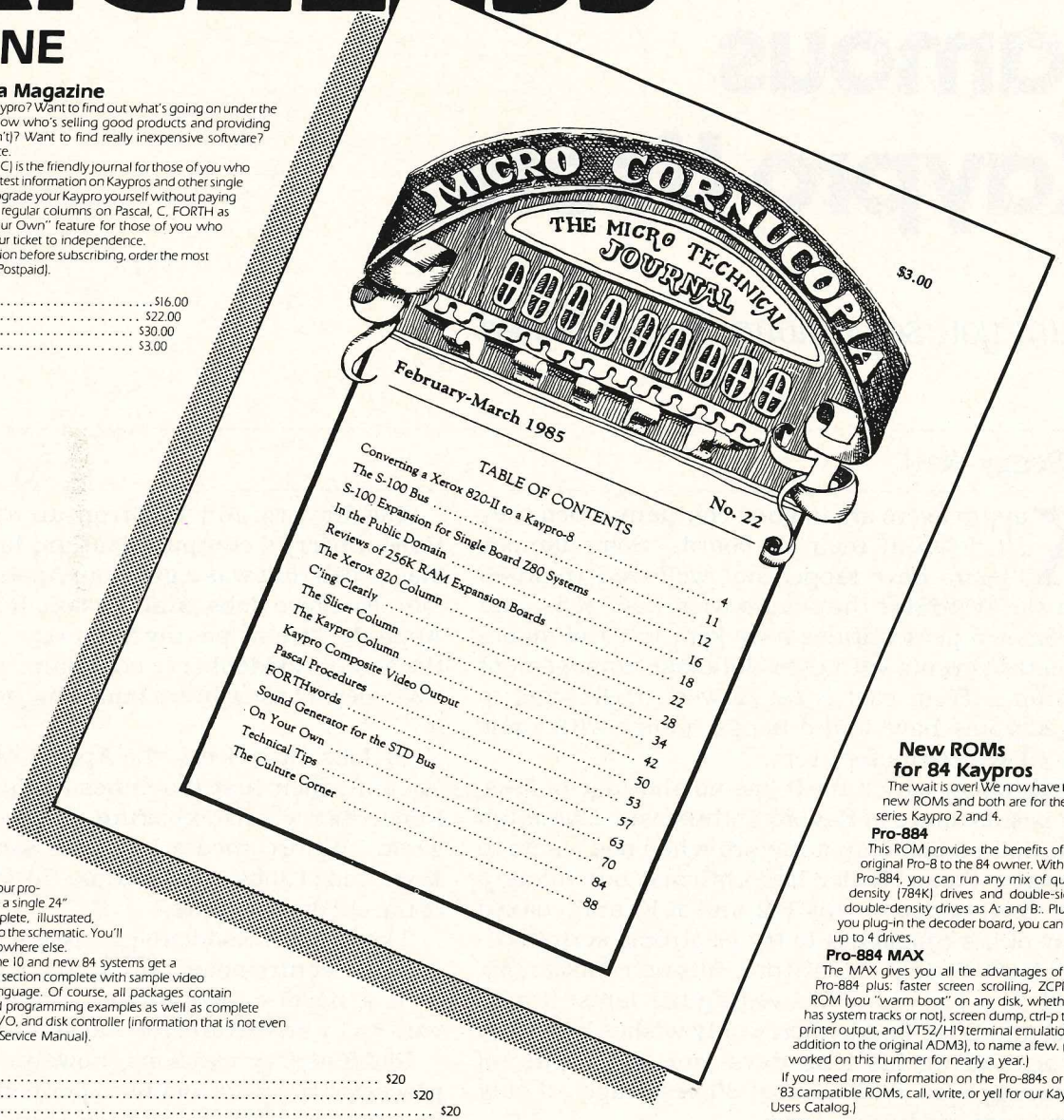

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Famous Kaypro Users

Count yourself among the celebrated

by Peggy Watt

Kaypro users are in good company when they sit down at their keyboards. Some famous fingers have tapped out well-read treatises with the WordStar that came with their K-2s, and well-known personalities have kept track of much-publicized events with their database management programs. From east coast to west, right wing to left, Kaypros have found happy homes with some well-known computer users.

Hollywood, which itself has no shortage of fans, also has its share of Kaypro enthusiasts. *Dynasty*'s Joan Collins boots up a Kaypro when she wants to compute; Casey Keller has churned out many a *Love Boat* script on his K-2 and K-10 and coaxed many of his colleagues to try electronic scriptwriting. Jane Fonda's co-author, Mignon McCarthy, relied on a Kaypro while writing her latest fitness book, and Gene Roddenberry only wishes he'd had a Kaypro during his long days and late nights of producing *Star Trek*, almost 20 years ago—if only for the ease of editing.

"I used to have to have two or three secretaries stay after work to retype as I rewrote the script, making changes with pencil," Roddenberry said. "We stayed until 4 a.m. sometimes. Today I think, what we could've done with a computer back then!"

He does much of his writing on a Kaypro 10 with WordStar, modified slightly with MagicKey. In fact, many well-known WordStar users confess they personalize the program with the help of ProKey, MagicKey, Smart Key, or other keyboard reconfiguration utilities. Even when Roddenberry writes on his five-year-old Raytheon Lexitron, a semi-dedicated word processor, he keeps his Kaypro running within reach in case he needs to consult an electronic thesaurus or dictionary, or go online with The Source for other research. He says he's awaiting the day the *Encyclopedia Brittanica* is accessible online.

The Kaypro and Lexitron aren't the extent of Roddenberry's computerization; he has an Apple Macintosh that was a gift from Apple Computers co-founder Steve Jobs, and his son, Rod, has his own Apple IIe. "He swipes my Mac every chance he gets," the senior Roddenberry complains good-naturedly. "Whenever I show him something, he already knows it."

Of Jobs, he reflects, the Apple Computers founders built their first machines about the same time Roddenberry was exploring new worlds with *Star Trek*. "We dreamed a lot of the same dreams," he says. And of Jobs' gift, he adds, "It's for the memories of the old days, I guess."

These days, Roddenberry refers to disks for his copious lecture notes and drafts of his current project, a novel called *Report From Earth*, observations by an extraterrestrial stationed on Earth.

Roddenberry cautions, however, that the word processor can work against a perfectionist writer. "It becomes so easy to change things (that) once I started rewriting and rewriting, then realized I'd really gilded the lily."

Love Boat story editor Casey Keller, however, insists rewriting is the best reason to convert to a computer. "Writing is constantly rewriting," he says. "Writing jokes is like writing poetry. You depend on the rhythm and meter to work. Those silly little jokes you see on *Love Boat* are really the result of people spending lots of time thinking and writing and rewriting and rewriting until they get to the point that they'll get the biggest laugh." With a word processor, he says, "you put your energy into writing, not retyping."

Keller says he has barely touched a typewriter since he got his first Kaypro, a K-2, in 1982. "A typewriter would feel very clumsy and awkward," he says. He added a K-10 to his collection last year. They

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now contain his scripts, letters, phone numbers, recipes, shopping lists and schedules of his *Love Boat* residuals. "I have no patience for a pen," he says. "I think faster than I can write, and it frustrates me."

The computer has even expanded his career; Keller now offers limited consulting to computer-using writers like himself. He turned the teasing of colleagues into a pitch for the new technology; about half the *Love Boat* writing staff now relies on Kaypro computers, he adds. Keller says he only wishes all microcomputers used the same operating system so he could carry just disks back and forth to work instead of hauling the whole system. But he also foresees computers continually changing for new uses in society as people adapt to them.

"I think it's a myth that computers are dehumanizing," he says. "I was terribly intimidated and apprehensive about them at first. That's why I'm good at teaching people about them. Writing is such a lonely profession that computing has added another dimension of personal contact to my life." Receiving a modem for Christmas has only reinforced that, he adds; Keller delights in exploring online services and local electronic bulletin boards. "It's like the most fun toy in the world," he says.

Casey Keller with "Love Boat" star Gavin MacLeod

Kaypro connects collaborators

Kaypros reached around the world in the process of preparing a famous script recently. Science fiction author Arthur C. Clarke and screenwriter/director Peter Hyams communicated and collaborated with the help of twin Kaypro 2s, Hayes Smartmodems and MITE communications software during the writing and filming of *2010*, based on Clarke's celebrated sequel to *2001: A Space Odyssey*. Hyams was in Culver City, California; Clarke, at his island home in Sri Lanka.

"Computing has added another dimension of personal contact to my life."—Casey Keller

"It's a beautiful machine and I love it very much," Clarke said of the Kaypro 2 that remains in his office after steady service for a year of nearly daily communications with Hyams. The director, for his part, says the online conversations had advantages even ordinary telephone communications lack. The 13 1/2-hour time difference, coupled with the hazards of sometimes poor connections, made telephone calls inconvenient. "Had telephone conferences been feasible, they wouldn't have worked as well," Hyams says. And he suspects he and Clarke communicated both more succinctly and completely because each had to type his comments, with the luxury of some rewriting.

"The kinds of things I asked were not the things you think of off the cuff," Hyams says. Printouts of all conversations provided a convenient permanent record to keep track of discussion and conclusions. Hyams' secretary has claimed his Kaypro now for office work, but the director says he intends to repeat the communications system he used with Clarke the next time he films at a remote location.

Many of the Hyams-Clarke exchanges are transcribed in *The Odyssey File*, a chronicle of the making of *2010* published last year by Ballantine Books. "Do you realize we may have a book here?!" Clarke asked Hyams in an early transmission. "We'd better, to pay the phone bill."

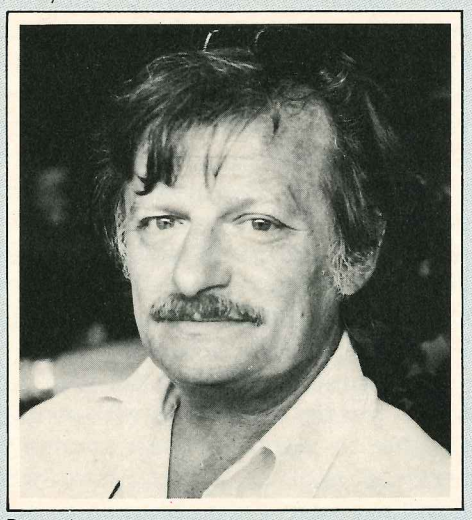
Of course, the phone bill was picked up by UA/MGM; but the experience also strengthened Clarke's resolve to pursue cheap access to other online services, such as CompuServe, which he says are now too costly when obtained by satellite.

Neither is Clarke any stranger to computers, in his fiction or when producing it. He still does most of his writing on an old favorite, an Archives 3 nicknamed "Archie." "I couldn't imagine using a typewriter again," he says. The Kaypro may be put to work again when he travels, though the Hewlett-Packard company recently presented the noted author with its 110 Portable. Clarke says his home office also includes an IBM PC and he uses all members of his microcomputer collection for only word processing— except for his Apple II, which he saves

for video games.

Just as computers have often played a big part in his fiction, so does Clarke's fiction interact with computers. His novel *Rendezvous with Rama*, which won the science fiction genre's prestigious Hugo, Nebula and John W. Campbell Memorial awards, is being adapted to an interactive computer game to be published by Trillium Corporation of Cambridge, Massachusetts (a subsidiary of Spinnaker Software). Clarke is also actively promoting the use of microcomputers to help the developing Third World, through the Arthur Clarke Center in Sri Lanka.

Jerry Pournelle



Dean Ing

Sheila Finch-Rayner

Sci-fi writers welcome the computer age

Clarke is far from the only science fiction writer to welcome a Kaypro into his office. Authors Dean Ing, Norman Spinrad and John Carr are among those pounding out their prose on one or another model of Kaypro computer; computer collector, columnist and author Jerry Pournelle takes some of the credit for converting his colleagues to Kaypro.

"They'd call me and ask what they should get," says Pournelle, whose Southern California "Chaos Manor" contains dozens of makes and models of micros, along with assorted peripheral equipment and stacks of software. He calls the Kaypro "your basic little Chevrolet pickup truck" that's complete enough to meet even the prolific writer's needs and sturdy enough to travel. He suspects his toting a Kaypro to the 1983 World Science Fiction Convention in Chicago introduced many of his fellow sci-fi writers to the computer.

While Pournelle is pretty sure he was "one of the first in this business to write with a computer," he has plenty of company now. The 500-plus-member Science Fiction Writers of America even publishes a separate newsletter, "Space Chips," for a computer users' group.

"It's a good sharing of information, gripes, and screams of pleasure as well as of anguish," says

Sheila Finch-Rayner, "Space Chips" editor. Apples are the most populous of members' computers, followed by IBM and Radio Shack models, according to Finch-Rayner's informal survey. But she thinks Apples are in the majority because they were among the earliest on the market, and suggests science fiction writers were among the first customers for home computers. "It seems logical that science fiction writers would be among the first to embrace a new technology," she says.

Colleague Dean Ing, though an enthusiastic computer user, cautions, "We should not forget the primitive ways of doing things." His short stories, essays and books emphasize "urban survival" messages amid entertainment. He jokes that his first Kaypro has a single-digit serial number, but says he now has "a pair of 2s," partly out of pragmatism, so he can cannibalize one for parts in case of emergency.

"They're hardy, rugged, with a large enough screen, small enough to tote around and not terribly expensive," he says. He shuns a Kaypro 10 and its hard disk, declaring, "I don't ever want to risk losing the equivalent of three books." However, two Ing books released this year were composed on Kaypros without calamity. One is *Wild Country*, a Western of the future; the other, *The Future of Flight*, is nonfiction co-written with Leik Myrabo.

"The Kaypro is your basic little Chevrolet pickup truck."—Jerry Pournelle

"Kaypro allows me to just about double—well, do 1.7 times the normal daily output that I did with the normal IBM Selectric," Ing says. "Sometimes my fingers are a word and a half ahead of that screen." But, he cautions, quantity should not usurp quality: "It begs you to pump out unedited crap." The trick is to rely on electronic editing, as well.

Novels, games wed on disk

But Ing rejects the idea of adapting his work to the new medium of computer games, which Clarke has explored. "The problem with arcade games is that the demand for instant gratification has become so ingrained, especially in kids, that we tend to become a nation of average people," he says. "No one wants to knuckle down to something that takes a long time." He allows no video games in the house. He also has yet to explore online resources, preferring the nearby University of Oregon library.

But he is both optimistic and enthusiastic about the future of computer technology and the companies that manufacture it. "Just like hotels and newspapers and lots of entertainment-tied industries, there will be some shakeouts," he says. "It will be a long time before anybody overwhelms IBM. But I think Kaypro is going to be around for a long time."

Norman Spinrad

Fellow science fiction writer Norman Spinrad shares Ing's assessment of adapting established fiction to video games. "It's cheapening novels," he says. "It reinforces the lowest common denominator concept that a novel is just a matter of multiple choice. Turns it into episodic television." And while he declares micros have provided "a revolution in typing" rather than writing, he is happy to have his "smart typewriter," the Kaypro 10 he bought just about a year ago.

He has yet to write an entire novel on it, but he revised his latest work, *Child of Fortune*, electronically. "This is the fastest any book of mine has ever been published," he says.

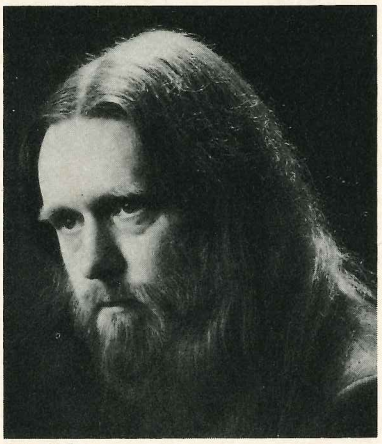
He solved a few pet gripes about WordStar— particularly about menus and commands—with the help of his friend, director Richard Schorr, who reconfigured the keyboard. The repetition of four lines with each new page and the need to run the spelling checker separately for each file—in his case, each chapter— still frustrate Spinrad. "But I wouldn't go back to a typewriter," he adds. He recently bought an Epson Geneva for writing on the road, and expects to someday replace his Nec Spinwriter with a laser printer—but not until he has gotten his money's worth of use from it.

Although Spinrad finds his Kaypro a time-saving tool, he is skeptical about computermania. "There may be a computer in every closet after awhile," he says. "People who don't have a use for a typewriter won't have a use for a computer." He worries, too,

that young, aspiring writers might feel they need computers before they can afford them, especially if publishers regularly request manuscripts on disk. "The most prolific writer of all time was Voltaire, and he did it with a pen," he adds.

"A computer (adaptation) turns a novel into episodic television."
—Norman Spinrad

John F. Carr, who picked out his Kaypro 10 last year after "test driving" his way through Pournelle's computer showcase, recommends the opposite. "There's going to be a new generation of writers who are going to grow up writing on computers," he says. "My advice is, don't even mess with a typewriter. Computers today in real dollars are no more expensive than Selectric typewriters were." He likens the leap to writing on a computer to graduating from the quill pen. "But you still find a few quill pens," he admits. "Writing is a magical process, because everybody approaches it in his own way." His first project on the Kaypro is an anthology, *Warworlds*, written with Rowland Green.



John F. Carr

Latest Buckley book bred of Kaypro

More down-to-earth commentary comes from the Kaypro on the desk of William F. Buckley, Jr., founder of the conservative *New Republic* and prolific columnist. Since acquiring his first Kaypro in 1982, he

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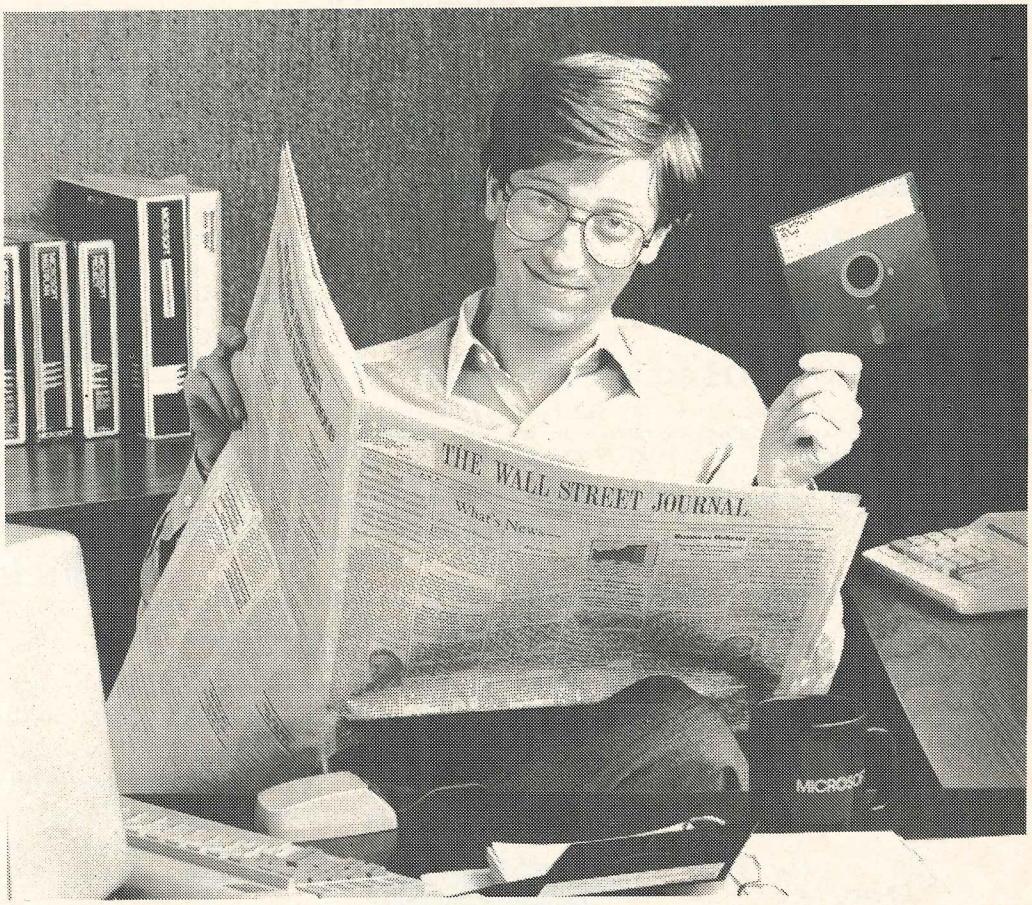

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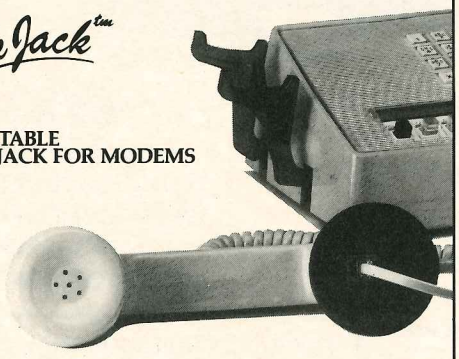

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keeps a Kaypro 10 in each of his offices in Stamford, Connecticut, New York, and Switzerland, where he writes most of his books. The latest, an espionage tale entitled *See You Later Alligator*, was written entirely on a Kaypro 10; by the end of the year, a total of five Buckley books will have been composed on a Kaypro.

Buckley says he writes "more tidily, more fluidly" on an electronic keyboard. "I really resent it if I have to push a carriage return any more," he says. He praises the machine's speed: "You stick your feet up on your desk, stick your keyboard in your lap and just go!"

"I really resent it if I have to push a carriage return any more."—William F. Buckley, Jr.

The columnist known for his articulate criticism has little but praise for the Kaypro. When a hard disk crashed in mid-novel, the company had a new one delivered to Switzerland the next morning. As a satisfied customer, Buckley is also one of Kaypro's most ardent promoters. "I must be responsible for about 25 people getting Kaypros," he says. His son, Christopher, is one; but Buckley has yet to convince his conservative colleague George Will. "I doubt he'll ever be a convert," Buckley admits. "I'd as soon expect to see him with a regular necktie as a word processor."

And while the peculiarities of varying operating systems and eccentric keyboards sometimes frustrate him, Buckley foresees a strong and varied roll call of computer manufacturers. "There are many ingenious people around who will survive," he says. "Apple is very sturdy." And while both Big Blue and Televideo gave him samples of their wares, Kaypro has won his loyalty.

Kaypros not partisan

But Kaypros aren't politically partisan. A half dozen Kaypro 2s and a pair of Kaypro 10s have done their job in traditionally liberal Berkeley, California, at the offices of the *Whole Earth Software Catalog*, for editor Stewart Brand. "I wouldn't say they've saved me any time, because I produce more work and that creates more work," Brand says. But his publication gave Kaypro computers a favorable review, so he was glad to use them in the office. Keeping everything on disk made typesetting easier, Brand notes; but he's

still waiting for "a good, inexpensive laser printer."

For later editions however, the editor has moved to an IBM PC because of the greater availability of software, though the Kaypros are still in the office and frequently put to work. He predicts 16- and 32-bit machines are the computers of the (near) future. "The more people use the equipment, the more they want," Brand says.

Brand predicts computers will move into the average home merely as hidden components of household appliances—microchips in the toaster or television, for instance. "Right now, they're between revolutionary technology and something I just can use to do my job."

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As a reporter for InfoWorld, *Peggy Watt has also covered robots, artificial intelligence, people making news in microcomputing and computer use at the Democratic Convention and the White House. She was the author of* PROFILES' *February 1985 cover story, "Use a Modem—Go To Jail?"*

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The Conservative Computer

by William F. Buckley, Jr.

PROFILES *is especially grateful to William F. Buckley, Jr. for allowing us to reprint the following, which appeared earlier in Steve Ditlea's* Digital Deli *(Workman Publishing, New York, 1984)—a collection of computer lore, culture, and lifestyles. We also thank Ms. Frances Bronson of Mr. Buckley's office for her special efforts to help us.*

I have heard more guff from my brothers in the conservative and libertarian movements on the subject of computers than on any other that comes to mind—and none does, since we are generally all correct about everything. The assault is at every level. My brother George Will seems to be saying that you cannot love the written word unless you set it down by pencil on a legal pad. The California libertarians declared war several years ago against a projected identifying number that would permit taxonomizing an American via computer in a matter of seconds. Well, well.

It is the primary contention of the conservative faith that we are individuals. That in order to stress that individuality we need as few collective social assertions as possible. This is an invitation not to solipsism, but rather to continued, relentless individuation. We get this primarily, I think, from the Bible, in which, at a most important level, there exists only God and the individual's soul, the saving of which is his superordinate responsibility. Perhaps he can do this by the ultimate immersion in communal life. Still he stands out as an individual, even as Mother Theresa stands out as an individual.

Along come the computers, and they throw a new light on the question. Not only is the computer capable of distinguishing John Jay Jones of Shaker Heights, Illinois, from John Jay Jones of Winesburg, Ohio; it can also tell us that Mr. Jones from Ohio has had his appendix removed, whereas the other Jones has not. And this could be a life-saving datum—don't ask me to give you the scenario, do it.

The notion that to carry an identifying number is to surrender privacy is so wrong as to be exactly the opposite of the truth. If we have individual fingerprints, why not an individual number? And while on the subject, what objection can we reasonably have to giving out our fingerprints to a computer?

The conservative dream of maintaining one's individuality in a highly technical age is surely advanced, rather than retarded, by this capacity to mark everyone's uniqueness. The collectivizing mania, where gradually the individual disappears to be replaced by classes, groups, professions, is surely set back by this means, no?

I have recently subscribed to an electronic communications system (Telenet) that gives you a password. But mark this: the password is so secret that when you tap it on your screen you yourself cannot discern its letters. This means that you carry in your memory or in your notebook eight letters with the aid of which, computer in lap, you can communicate instantly with anyone who also subscribes to that service. And if you do not wish to give out that number, this side of torture I know of no way it can be got from you. Such strengthening of individual powers appeals greatly, or should, to conservatives.

For us, also, there is the eternal quarrel about the market. Conservatives believe simultaneously that

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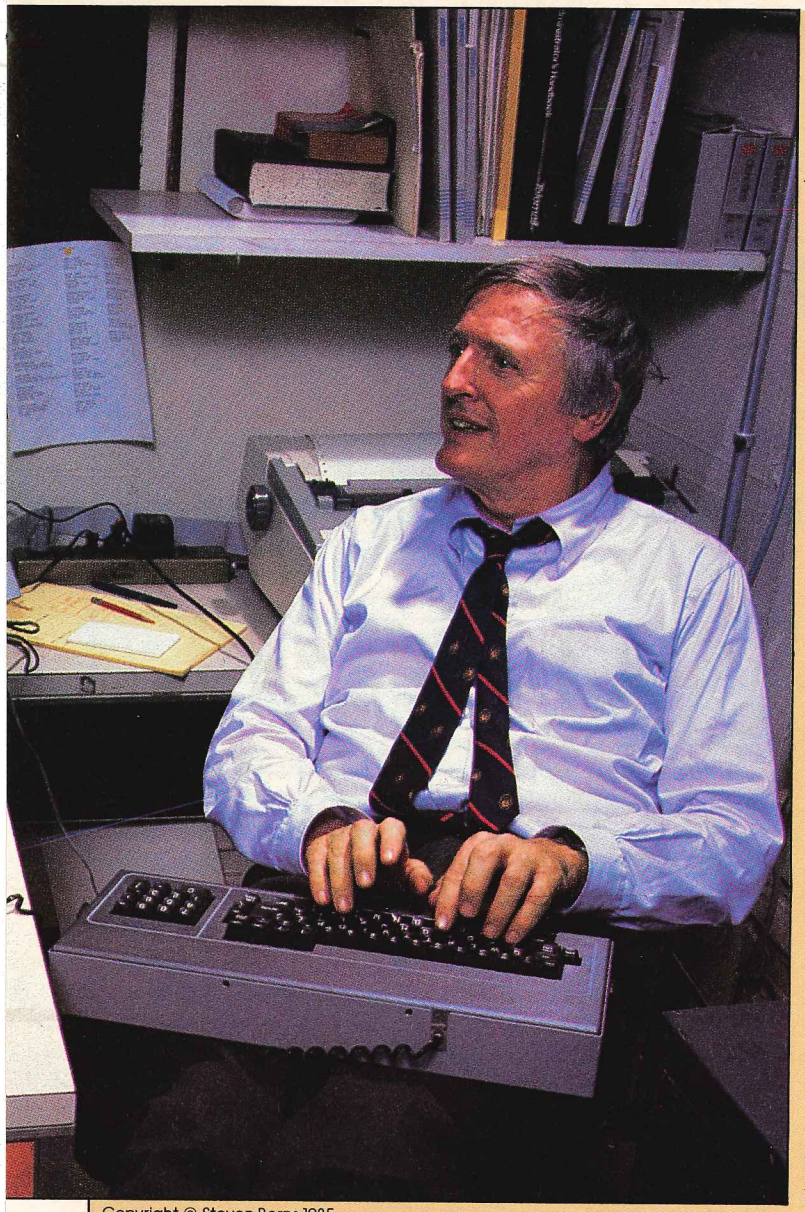

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a) the free market will yield the correct social-economic decision, and b) the "correctness" of that decision is purely utilitarian. The People can vote "Dallas" the best program on television, and we can distinguish between whether "Dallas" is worth looking at and whether it is right that people have it. Yes to the latter, no to the former.

The computer is going quickly to reduce the distance between the individual and the supplier. Companies can often go broke before they can transcribe the public reaction to their products. The antennae focused on the public will in the past have been rudimentary. You have for many years been able to get instant reactions to, e.g., a new rock release. The disk jockeys will know within a matter of hours whether they have a winner. But this is not so concerning, for instance, a new model of automobile.

Computer speed cannot help to advertise a poet's freshly minted sonnet, or a classical composer's new oratorio, because these have built-in counterinertial forces that prevent, in all but a few cases (Eliot's *Prufrock*, Verdi's *Rigoletto*) instant acclaim. But if we put high emphasis on consumer satisfaction, and consumer sovereignty over market forces, why should we look with dismay at the discovery of the means by which the consumer's will can decisively assert itself?

The list of computer benefits is so very long. I mentioned my old friend John Jay Jones who needs his appendix taken out. The computer, we are told, will accelerate and render more accurate diagnostic work in the days to come and why should we object if a country doctor, with the aid of a data bank, can discover that the baby has a rare disease, rather than discovering what that disease was in an autopsy?

And, of course, there is word processing. John C. Calhoun, one of his biographers once wrote, had such powers of concentration that when tilling the soil on his farm his mind was working to compose his speeches. When he came in from the farm, he was left with a purely mechanical chore: that of transcribing his own memory. But tedious stuff this, since I do not understand why anyone should take pleasure in the act of handwriting (any more than I see why anyone should take pleasure in the act of tilling). Writing is menial work. It is not artistic, unless one is a calligrapher. So then, why not attempt to abbreviate that work? The arguments against using a word processor instead of a typewriter are not different in kind from those against using a typewriter in place of a pencil. I find them as reasonable as arguments against using an airplane instead of an automobile, or an automobile instead of a horse, if the idea is to arrive, as distinguished from, say, to enjoy a horseback ride.

Enough people by now know what a word processor does to make unnecessary the recounting of its versatility. It is resistance to it that absolutely confounds. And the notion that this resistance is widely deemed to be conservative is to reinforce the stereotype of the conservative as someone who cannot appreciate that which is self-evidently progressive. I fear that I know people among my closest ideological friends whose forebears must have looked suspiciously upon the wheel.

Well, then, there is only one thing for it. Progressive conservatives should pass a law making it unlawful not to use a computer. □

William F. Buckley, Jr., is the editor of National Review. *He is the author of numerous books, including the Blackford Oaks series of spy novels.*

Hold The Phone!

Powerful public domain alternatives to commercial modem programs

by Ted Silveira

It's 2 a.m. in California. I can't sleep. Wrapped in my bathrobe, I pad downstairs, through the kitchen, and out to my office. I flip some switches—green glow from the computer, red from the modem. I type a command and the modem stutters to life, dialing the CP/M-Net bulletin board in New Jersey. Busy. (It's 5 a.m. in New Jersey.) I try Palatine in Illinois. Busy. Tampa Bay and El Paso. Busy. Barstow, Thousand Oaks, Sacramento, Mountain View, Los Gatos. All busy. Why sleep when the phone rates are low?

Computer communication is hot. To get your computer on the phone lines, you need a modem (the best-selling peripheral after printers) and a communications program, usually called a modem program. Modems cost money, but you can get excellent modem programs from the public domain.

Please note—the programs I'm describing here will let you communicate with another personal computer, a bulletin board system, or a commercial information utility such as The Source, CompuServe, or Dow Jones. Often, they'll let you communicate with a mainframe or minicomputer, too, but some big computers require special communications protocols (sets of conventions for the transfer of information between devices) that these public domain programs don't have.

The basics

To be useful, any modem program needs some basic features. It should send and receive data in the most common format—one start bit, eight data bits, no parity bit, one stop bit. It should let you change the transmission speed if your modem has more than one speed. It should be able to use either an external modem hooked to the serial port or the Kaypro internal modem, if you have one. And the program should store a library of phone numbers and dial them for you, if your modem is Hayes Smartmodem-compatible.

The modem program should be able to save everything that crosses your screen into a disk file, if you want. It should let you send a plain text file (such as a prepared message) and let you insert delays after each character and line to "throttle" the transmission speed if the receiving computer is slow. And while sending, the program should respond to start and stop signals (XON and XOFF) from the other computer.

Finally, to download public domain software from bulletin boards, the modem program must be able to send and receive files using the XMODEM protocol. With this protocol, sometimes called the Christensen or Modem7 protocol, a file is transmitted in blocks of 128 bytes. Each block received is checked for errors and retransmitted if any are found so that the file received is identical to the original file.

MDM740

MDM740 is probably the most frequently used public domain modem program. It has all the basic features and has gone through a long development so that it's stable and bug-free, as far as I can tell.

MDM740 also has some nice extras. It can dial a list of phone numbers, one after the other, repeating until it makes a connection. And it has ten programmable function keys, which store strings of characters (up to a total of 235) that you can send to the remote computer with two keystrokes. You can use these function keys to store log-on information (your name and password) and common bulletin board commands (such as "DIR *.* $U0AD"). You change the phone library and the function keys by using two accompanying programs, M7LIB and M7FNK.

Modem programs must be adapted to different computers because they deal directly with the com-

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puter hardware, which differs from one brand and model to another. Fortunately, you can adapt MDM740 to your Kaypro more easily than most other modem programs. You use a small assembly language file, called an overlay, which you patch into the main MDM740.COM file by using DDT (from your CP/M distribution disk). The overlay contains all the technical information you'll need, and the instructions for patching MDM740.COM are straightforward, so even a novice has a good chance of success. The two MDM740 overlays for the Kaypro are M7KP-1.ASM and M7KP-2.ASM: M7KP-1.ASM is the current overlay for all Kaypros; M7KP-2.ASM is a special purpose overlay, not an update of M7KP-1.

Quibbles

I've found a few things I don't like in MDM740. First, MDM740 has a menu you can call up to review the commands and options. But the menu covers three screens, and you have to look at all three, even if the information you wanted was on the first screen. I don't often need to change the default settings, but when I do, I end up paging through the menu several times before I get things set the way I need them. Perhaps my short-term memory is at fault here, but it would be better if the menu fit on one screen or if I could jump back to the command prompt without going through the whole menu.

Second, I used to think I couldn't check the function key assignments without exiting the program—a serious problem since I sometimes forget exactly which string is stored where. But, after months of use, I just found that there is a way—hit the ESCAPE key followed by the RETURN key at the MDM740 command prompt. Why did it take me so long to figure this out? Because the command isn't listed on the menu.

Third, the documentation for MDM740 is complete, but it's not easy reading. It's clear to people who have some experience in modem communications but not to those who don't—at least that's the consensus in my users' group. And it gives no easy answer to the question, "What do I have to do to call up my local bulletin board?"

Fourth, with the Kaypro overlay file, M7KP-1.ASM, you can set MDM740 either for an external modem or for the Kaypro's internal modem, but only for one or the other—you can't switch back and forth once you've set up the program. This problem isn't serious if you're satisfied with one modem or the other. But if you want to use a 1200 baud external modem at home and the internal modem when you travel, for example, you'll have to set up two versions of MDM740, one for each modem.

Some people also consider it a drawback that they have to fool with an assembly language overlay to get MDM740 running. I can see their point, but every sophisticated modem program requires some similar adaptation, whether it's done by you or by someone else, and the overlay file is a simpler method than most. If you just can't stand the thought of it, though, you'll have to look for a version of MDM740 already adapted for your Kaypro. Try your local Kaypro users' group, the national KUG, or the commercial outlets like Micro Cornucopia.

MEX112

MEX112 (Modem EXecutive version 1.12) is a new program, now only in its fourth revision, though version 1.20 is due as I write. Like MDM740, it has its roots in the original MODEM7, but it has been extensively reworked to include some unique features.

To be useful, any modem program needs some basic features.

MEX112 has all the basics, and like MDM740, it has ten programmable function keys and can continuously dial a list of phone numbers. Unlike MDM740, MEX112 lets you reset both the function keys and the phone number library without exiting the program.

Like MDM740, MEX112 must be adapted to particular computers through an assembly language overlay. With the latest Kaypro overlay, MXO-KP41.ASM, you can use either the internal modem or an external one, and you can switch between the two from inside the program. You can also control many other modem functions and can even change the data transmission format—number of data bits, parity, and so forth. (Though most systems you'll call use the standard microcomputer format of eight data bits and no parity, some people who communicate with minicomputers or mainframes need to use other formats, such as seven data bits and even parity.)

MEX112 also has a CLONE command, which makes a new copy of MEX112 and saves it to disk. You can run MEX112, fiddle with the phone library, function keys, and other settings until you have everything set just right, and then CLONE a new copy of MEX112. This cloned copy will have all your new settings as its default settings.

MEX112 has a HELP command, which gives you

information about commands from a special 52k help file. It's a good thing, too, since I can never remember all the MEX112 commands.

Along with the XMODEM protocol, MEX112 can also use the CompuServe A protocol to download files from the CompuServe data libraries (assuming you have a CompuServe account). MEX112 is the only program I know of, commercial or public domain, that can handle both protocols. CompuServe has started using the XMODEM protocol also, but I always use the CompuServe protocol. When lots of people are on the system, CompuServe suffers from frequent delays, and these delays can cause your modem program to cancel an XMODEM transfer because it thinks CompuServe has died. (You'll think so, too, sometimes.)

I don't use command files; I dread running up an astronomical phone bill.

Command files and MEX112

Finally, MEX112 allows you to create command files. In these files, you can put instructions both to MEX112 and to the remote computer. MEX112 will execute the command file just as if you were typing everything at the keyboard. You can, for example, create a command file that will dial your favorite bulletin board, give your name and password, save all messages to you in a disk file, and then log off. (So I'm told—I've never done it.)

This feature has potential, but from what I read on some bulletin boards, people have trouble getting complicated command files to work because unexpected responses or delays can cause MEX112 to lose control. I don't use command files for just that reason: I dread coming back hours later to find my computer and the remote computer staring blankly at one another and running up an astronomical phone bill. If you want to use command files, look for AUTOMEX.INF, which gives information about setting up for automatic log-on, as well as MEXWELCM.LBR and MEXUSER.LBR, which contain sample command files.

Weaknesses

MEX112 has drawbacks, too. First, because it's a new program, it has had some bugs (that's how it got to version 1.12). The latest one is described in the file MEX112.BUG, but it won't affect most people. I use MEX112 without any problems, though I don't use any of its fancier tricks.

Second, MEX112 isn't as easy to get running as MDM740 because you use two overlay files (MXOKP41.ASM to install it for the Kaypro and MEXPAT11.ASM to set some program options) and the instructions aren't quite as straightforward. MEX112 takes a little more tinkering to get it running.

Third, the documentation for MEX112 is like that for MDM740—thorough but not easy for the novice. Some kind soul wrote a file called MEX-EASY.DOC to make things clearer, but it's not the complete answer.

Finally, MEX112 has no menu. Instead, it has the HELP command and a STAT command that lists most of the current settings. These two provide more detailed coverage than a menu but aren't always easy to use. For example, you might expect that **HELP COMMANDS** would list the basic commands; instead you get the message "NO HELP AVAILABLE FOR 'COMMANDS'."

A question mark brings a partial list of commands, including the most common ones (T, S, and R). To get more help on these, you must type **HELP SINGLE** because they are single-letter commands. To get help on the secondary options (also single-letter) you can use with the main commands, you must type **HELP SECOND**. But who would guess that "SINGLE" and "SECOND" are the key words? They certainly weren't my first, second, or even third guess. For basic commands, I think a menu is better.

Other public domain programs with XMODEM protocol

MDM740 and MEX112 are the most common public domain modem programs, but there are others that can handle the XMODEM protocol.

COMM725: COMM725 has the basics, ten programmable function keys, a good menu that only takes one screen, and two extras. It allows you to change the data transmission format—start bits, data bits, parity bits, and so forth. And it has a built-in file-handling utility that lets you copy, delete, rename, view, and print files, all without having to exit the program.

COMM725 won't continuously dial a list of phone numbers. The function keys can't be changed without reassembling the program or using a disk editor. And most serious, COMM725 doesn't use overlay files; it comes as a set of five linked assembly language files. You'll need to have some technical information and know some assembly language to

get COMM725 running full blast on your Kaypro, though you can borrow much of what you need from the MDM740 and MEX112 overlays. It's too bad that a program so easy for a novice to use, because of its menu, is so hard for a novice to get running in the first place.

MODEM903: MODEM903 has the command structure and three-screen menu of MDM740, but also allows change of the data transmission format, as COMM725 does. It comes as a set of assembly language files; you adapt it by choosing one of several generic input/output files (SIOSYS.ASM works for Kaypro, Big Board, and others). MODEM903 is harder to get running than MDM740 or MEX112 and easier than COMM725.

MODEM7: MODEM7 is the ancestor of MDM740, MEX112, COMM725, and MODEM903. It lacks the extras the newer programs have and is difficult to get running. MODEM7 went through many revisions, finally reaching MODEM798, and then was taken off in different directions by various people, spawning the MDM700 and COMM700 series, among others. Note the difference in spelling between MODEM and MDM—MDM740 is a newer and better program than MODEM798.

YAM: YAM stands for Yet Another Modem program. It's a sophisticated program, written in the BDS version of the C language. If you have BDS C, you'll probably want YAM, if only to see how it works. If you don't have BDS C, forget it.

You want a program that can handle the XMODEM protocol, not the XMODEM program.

Special Note: There is a *program* called XMODEM, which is used on RCP/M (Remote CP/M) bulletin board systems to allow file transfers. Unless you're starting a bulletin board, you don't want the *program* XMODEM. You want a modem program that can handle the XMODEM *protocol*.

What's best?

For most people, it's a toss-up between MDM740 and MEX112, since they'll never use the extra features of either program. I rarely do.

In the users' group I belong to, I recommend MDM740 for people just starting out. It's easy to set up for different computers, it's thoroughly reliable, and it's slightly less confusing to a novice (though I've *never* seen a modem program that's easy for the first-time user).

I use MEX112 most of the time, not because of its command files or other super features, which I rarely use, but because it's so easy to reset the phone library and the function keys.

Why bother with public domain modem programs?

Many, even most, of you got a commercial modem program (Suprterm or, better yet, MITE) bundled with your computer. You don't *need* another program, since Suprterm and MITE are both capable programs, and MITE in particular has some sophisticated tricks. So why mess around with these public domain modem programs?

For most people, it's a toss-up between MDM740 and MEX112.

First, they're free. You have a no-risk, no-cost chance to compare the public domain programs to your commercial one. And instead of just matching features, sort out the programs that meet your needs, and then choose the program that feels best when you use it. Most programs have definite personalities.

Second, the public domain programs have a huge user base. If you ever need to talk modem programs with someone, the chances are that your common ground will be the public domain programs—they set the standards.

Third, the public domain programs are constantly evolving, and the bug fixes and updates are free. Someone reports an esoteric new bug in the program? The fix appears within a few weeks. Kaypro adds a new wrinkle to its computers? A new Kaypro overlay comes out shortly after.

Fourth, if you want special features, no program has more than MEX112—full modem control, command files, function keys and more. And MEX112 is the only program I know that has both XMODEM and CompuServe A protocols.

And last, if there's something you want to change or add—well, you have the overlay file. Brush up on your assembly language and join the legion of public domain tinkers. Maybe someday the overlay file will say "Version 5.10—new features added by . . ." □

Ted Silveira is a freelance writer and editor.

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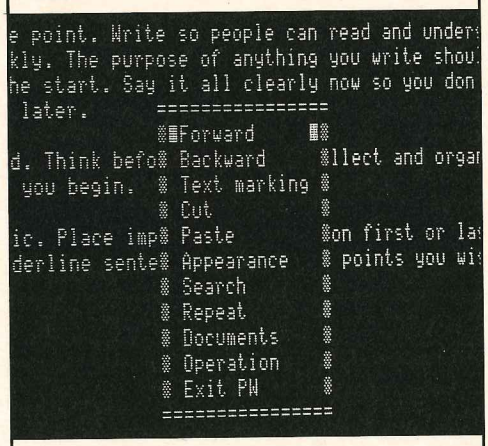

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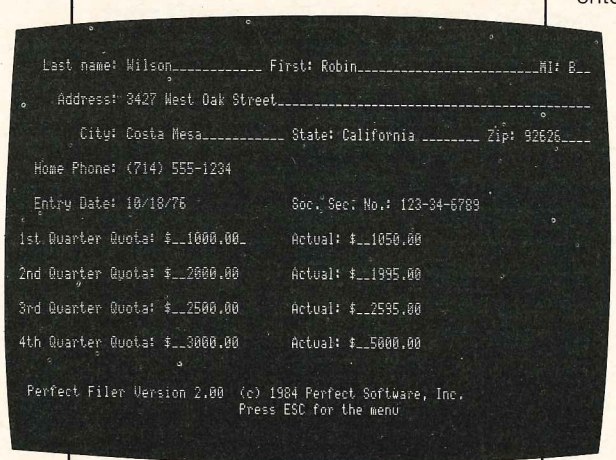

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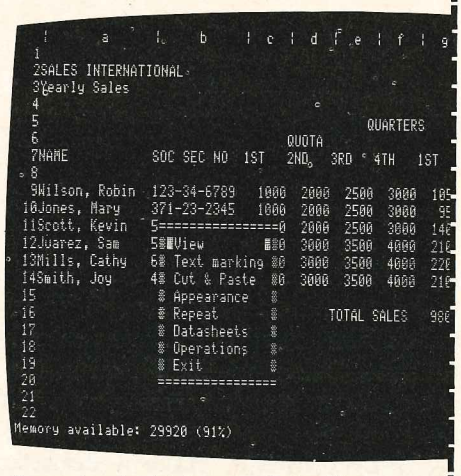

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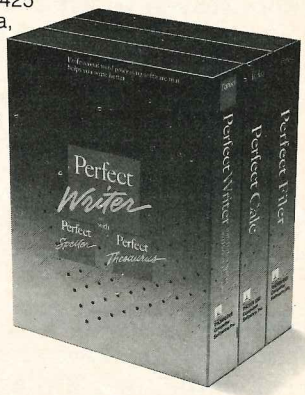

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Taking the Drudgery Out of Tax Preparation

Software for home and business use

by Casey Cook

There really are people who enjoy preparing tax returns. They can't wait for Christmas to end so that documentation can be assembled and calculators can rattle. You've probably met people like that. They bring to mind the little CPA in the movie *Ghostbusters*, who threw a party for tax purposes.

But you are reading this article to give you one more reason to avoid sitting down and appeasing Uncle Sam for another year. "Maybe," you're saying to yourself, "the Kaypro and some tax software will bail me out." Well, maybe.

We've selected three tax programs to review. This is far from comprehensive; there are many good programs devoted to tax preparation and tax planning. These three, however, indicate what features you can expect at a given price.

General guidelines

Before getting down to specifics, here are a few general guidelines. Buying tax software is not as complex as buying a computer, but there are certain similar and nagging questions. Why do some packages cost $50 and others cost $1,500? What features are particularly helpful, and to whom? You only have a week left—is much training involved? Is there some particular program that combines heavy-duty features with ease of use at a reasonable price? These are questions to consider before you buy.

What is appropriate?

As with any software there is the question of appropriate technology; you don't need a $50,000 tractor to cut the lawn. If the short form is all you plan to use, you won't need tax software. Appropriate users range from people who itemize their deductions to professional tax consultants with hundreds of clients, all of whom have unusual and specific problems.

Aside from price, tax packages are distinguished by the number of tax forms they run. If you don't have a depletion allowance from off-site drilling activities, you may not need a tax package to address that problem. However, if you breed Afghan hounds who eat only solar-generated corn mash, you should consider a full-feature package.

Once you decide what forms you really need, there are further refinements. For example, a good professional package should offer a tax planning module that does more than simply prepare taxes. It should allow the professional to discuss strategy with the client and to attempt a number of different scenarios in order to decide which is best.

How much is your time worth?

In tax preparation, time is of the essence. Duplication of input should be kept to a minimum. Does a number entered into form SE carry to form 1040? Can you integrate 1983 with 1984? Batch processing of multiple forms for numerous clients is essential for the high-volume office, but unnecessary for the individual. The ability to utilize high-speed printers is important for high-volume operations, but if a Banana printer is all you've got, laser jet compatibility becomes a moot point.

Primarily because of time considerations, ease of learning is important. In general, tax software is used intensively once a year. You don't want to relearn the command structure every year. If you prepare taxes for a living, you'll want input commands to be accessible to part-time help unfamiliar with computers. Most software is menu driven for this reason. If it isn't, watch out!

Well-written tax programs require little docu-

ILLUSTRATION BY RICK GEARY

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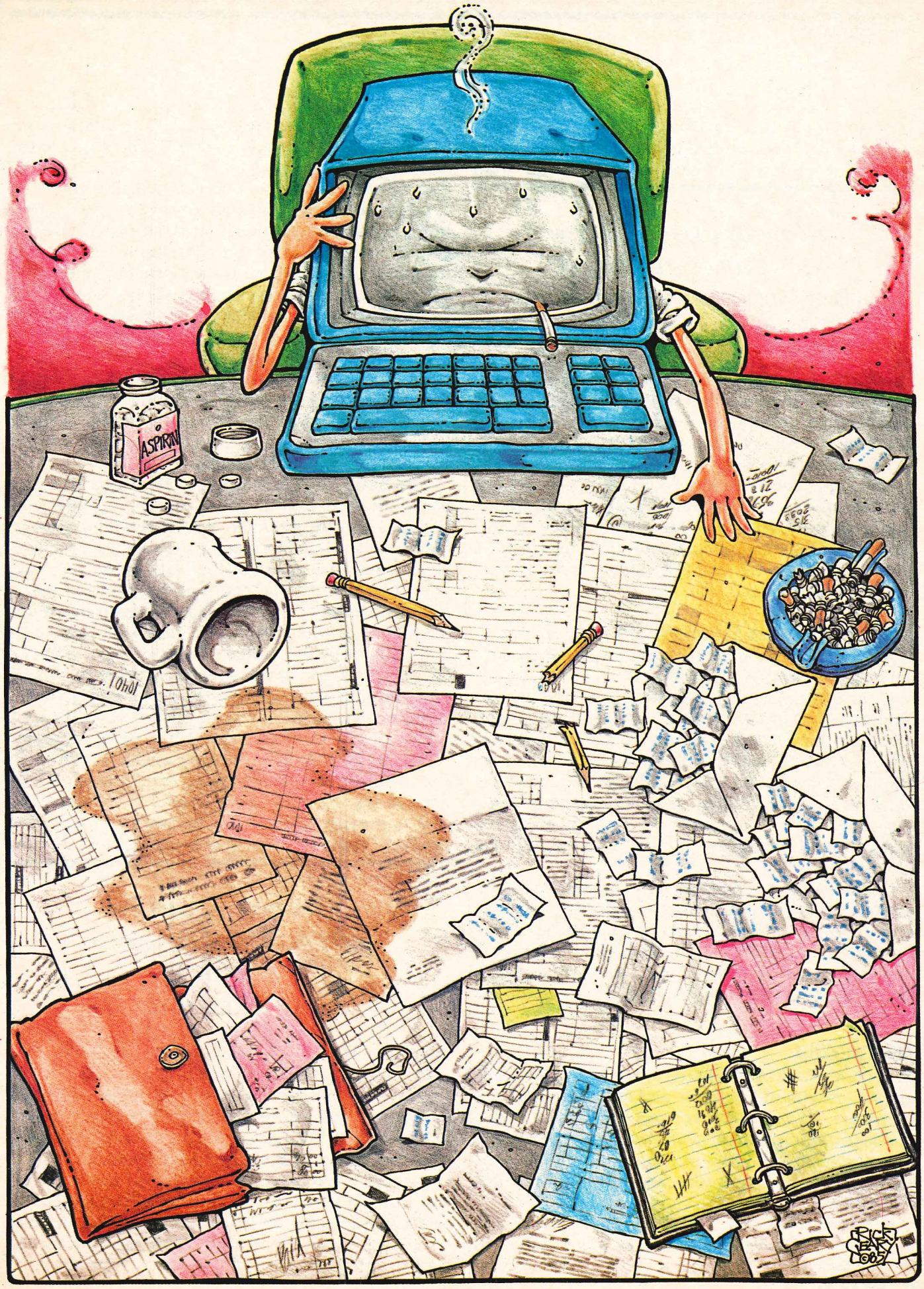
ASPIRIN
RICK GEARY 1985

mentation. They are not like multi-faceted database packages that require copious explanation. Tax programs are designed to take you specifically from point A to point B (or from form W to form 1040A). Special features—such as how and when to use a depreciation calculator—need to be explained, but generally documentation need not be extensive.

Buying tax software isn't as complex as buying a computer, but there are similarities.

Importantly, these programs are not designed to replace the professional accountant. They aid and facilitate the accountant's job; ideally they eliminate much of the drudgery and inaccuracy. They provide information, such as when to watch out for the minimum alternative tax, but they won't serve as a substitute for judgment.

Helpful strategies for evaluation

Most tax packages offer annual updates at reasonable prices. For this reason it's worth knowing how long the company has been in business and if users are happy. Generally information on the number of users is either classified or unreliable, but a few user phone numbers will be invaluable in getting the lowdown. On one hand, you shouldn't be prejudiced against a new company that has developed the elegant tax prep program of the year. On the other hand, some of these companies have the half-life of a lit match.

Considering the number of tax forms and the annual changes, developing tax software becomes very complex indeed. Almost any tax software is a giant step up from the manual method in terms of accuracy and convenience. Anyone who has taken the time to develop such a program should be commended.

TAXCALC84

In general, TAXCALC84 appears to be a good package for individual home use and for low-volume tax preparers. Its major advantages are ease of set-up and learning, simplicity of use, ample error and consistency cues, and low purchase price ($59.95 plus $4 shipping; subsequent annual updates are $39.95 plus $4 shipping).

It has limitations. Only the basic forms are included: U.S. 1040 and schedules A through E, G and W. State rate variations and tax calculations are not automatically handled, and it does not print final forms (although the printing feature is promised for next year, as is a depreciation package).

In preparing this package, Southwest Computing has emphasized simplicity for the less experienced user: it is menu driven, provides many concise and straightforward help cues, has prudent safety features such as automatic saves, and uses logical and/or familiar functions (^Q quits an operation and returns you to the menu, ^S saves things, and it uses standard WordStar cursor, delete and move functions). Also impressive are automatic amount transfers between forms (with consistency checking); this saves time and should reduce errors, particularly if one starts at the top and proceeds in order through forms as they appear.

The simplicity of TAXCALC84 shows in other ways, too. It is easy to get in and out of both subroutines and the package, which should appeal to busy users who favor short, piecemeal entry sessions when time allows (as between Johnny Carson and "honey-aren't-you-coming-to-bed?"). Similarly, the basic nature of the package makes it useful for tax planning when lots of details are not available. In addition, the program alerts users to major 1984 tax law changes and gives specific references to IRS directions for some of the more mysterious entries.

Phone conversations with several TAXCALC84 users (this is the first year it has been generally available) showed them to be pleased with the package, whether they were new or experienced. While none noted any major frustrations, there were several common suggestions for improvement—for example, that the confusing procedure for entering state sales tax rates be modified (or better yet, that state tables be built in or made available separately). Similarly, most would have liked an integrated program for figuring their state tax. All believed TAXCALC saved them time, and some volunteered that they thought it saved them money.

The basic nature of TAXCALC makes it useful for tax planning.

Although the supplier says about half of TAXCALC users are in the tax business, the program is really intended for the home market. A feature that would improve its utility there (but probably

increase cost, and maybe memory requirements) would be a tax record-keeping spreadsheet that would allow periodic item entries under appropriate headings, with cumulative totals eventually being transferred directly to the calculation program.

While this package will not completely satisfy all users' needs and wishes, TAXCALC seems to be a very good option for small-business and home users who can't justify the dollars or learning time for a full-feature package, and yet have a fairly complicated series of year-end computations. TAXCALC takes much of the work and frustration out of the final tedious chores of tax reporting, but stops short of making it downright fun or telling you where to find the money you owe.

Micro Tax CLR

Microcomputer Taxsystems, Inc., has done its homework. This is an experienced company with a few thousand packages on the market, most of which were sold to professional preparers. This system offers a viable alternative for the professional seeking to reduce the escalating costs of a service bureau. One accountant estimated you'd need to prepare 75 returns a year to make it cost effective.

Microcomputer Taxsystems believes in the appropriate package for right user. It sells a system for the individual (the "Bronze" system) that retails for $295 and prepares 14 forms and schedules for printing on the IRS-approved substitute forms.

The Silver package, which retails for $995, is the next step up. It prepares up to 30 schedules and offers a variety of print options that include direct printing on IRS forms, printing on substitute forms, printing on stock paper for transparency overlays, and batch processing.

The Gold package includes laser jet compatibility and runs only on the IBM PC or XT. With the exception of the Bronze system, each package includes an integrated depreciation module that will interact with schedules C, E and F, as well as forms 2106 and 4835. This depreciation module is a complete asset file maintenance and computation system. It provides space for up to 255 items per client, with a wide variety of depreciation options.

Each package is menu driven and designed around an integrated database. This both simplifies the learning process and minimizes data entry. Professional time can be reduced by the input forms Micro Tax provides. A preparer completes the form and a non-professional staff member uses it to input data and subsequently print the return.

In general, Micro Tax emphasizes convenience and flexibility. For example, the display recap allows the user to review information before printing. The system enables the user to modify input at nearly any point. Many errors occur in the selection of appropriate forms or in omitting a form entirely. The system anticipates this problem by automatically selecting the related form or schedule.

CPAs are a demanding lot and have found Micro Tax to be less than perfect. Micro Tax offers 31 state forms, including those for Washington D.C. Users complain that the state schedules they do offer are not fully integrated.

Support may also be a problem. One CPA we interviewed chose another system over Micro Tax because a representative failed to keep a scheduled appointment. In defense of the company, it does conduct extensive user surveys annually to check for problems or for specific features users want. In addition, it maintains an electronic mailbox with The Source for user convenience.

Taxware is a system that has gained people's confidence.

Taxware

Perhaps one of the more telling comments about Taxware was made by a three-year user: the people at Taxware "listen to suggestions and have a satisfactory response time." That's not bad, considering the user is a CPA who will depend on Taxware to help prepare more than 500 returns for 1984. Moreover, this hardworking professional inputs the data at his desk while the client answers questions. Apparently this is a system that has gained people's confidence.

Taxware is designed for the professional preparer. The individual package processes approximately 30 fully integrated forms. It includes batch, laser, overlay and substitute form printing capabilities and has special features for client billing and letters. It takes integration one step further than most packages in that it supplies all the state forms and allows you to recall the prior year's information to generate a proforma for the current year. The basic package is not cheap at $1,050, and state forms are an additional $300. There are also packages that generate corporate and partnership returns, as well as an asset depreciation manager.

The system is menu driven and is accompanied by a complete set of instructions to guide the user through the schedules. Input forms are also avail-

able. Although the system is friendly, it does require a knowledge of the forms, as well as proofs to assure that information is complete.

This is a good program, but it is not for lightweights. The input should definitely be done by qualified personnel. The depreciation package simplifies a lot of manual calculations and should be considered a must. Printed instructions could be improved to ease reference. Primarily because the system is so comprehensive, these instructions are necessary to avoid problems with incorrect entry, to help understand overrides, and to clarify the steps necessary to correct or change information. In short, if tax preparation is your business, this could be your program.

Bottom line

Overall, we were impressed with all three packages. We emphasize, however, that most tax software is written for the professional preparer, and the $1000-and-up price tags reflect that.

What, then, can the ordinary user expect to gain from tax software, and what is it worth? 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. However, most of the time and aggravation in preparing your own taxes is spent in assembling the data. Since this task is best handled by good spreadsheet, database, or home accounting programs, these make an essential complement to any inexpensive tax program.

If tax preparation *is* your business, what are other ways of separating the competitors from the perfect package? It isn't just bells and whistles. The better packages handle both federal and state forms. Others offer integrated client billing and invoicing. And in some (e.g., Taxware) the tax module is just one function in a complete accounting package.

Finally, Jeff Felder of Microcomputer Taxsystems talks about certain intangibles such as "consistency." If a company uses different programmers to develop programs for each form or module, confusing variations in language and syntax can develop. A good package will strive for consistency and clarity throughout its components.

In short, the perfect package for you really depends on your needs for specific features and the intangibles—how the product *feels* to you. To zero in on this systematically, take the time to list your needs and ask just how important each is, and how well each package's mix of features meshes with those needs.

And no matter which package you choose, remember there's *really* nothing *complicated* or *demanding* about tax preparation. It all boils down to two wonderfully simple imperatives: complete the forms and send them in. □

Quick Reference Summaries

Product Name: TAXCALC84
Uses: Tax preparation
Audience: Primarily for the small business or home
Noteworthy Features: Basic package at a reasonable price.
Manufacturer: Southwest Computing
P.O. Box 13725
El Paso, Texas 79913-3725
List Price: $59.95 plus $4 shipping.

Product Name: Micro Tax CLR
Uses: Multi-level tax preparation
Audience: Primarily professional tax preparers.
Noteworthy Features: Full-feature tax preparation including state, individual, corporate, partnership and expatriate returns.
Manufacturer: Microcomputer Taxsystems, Inc.
P.O. Box 111012
Carrollton, TX 75011-1012
List Price: Basic package $295 ranging up to $2,195 for the top system.

Product Name: Taxware
Uses: Multi-level tax preparation
Audience: Primarily professional tax preparers.
Noteworthy Features: Full-feature tax preparation, including all state, individual, corporate, partnership and expatriate returns.
Manufacturer: Taxware Systems Inc.
P.O. Box 329
North Euclid Ave.
Ontario, California 91761
List Price: Basic package produces approximately 30 forms and schedules and costs $1,050, plus $300 for each state package. Updates are $600.

The above roundup represents a group effort by this cross section of professionals: Casey Cook, commercial real estate appraiser; Ed Knop, professor of sociology, Colorado State University; Sheila Knop, editor of a demographics newsletter; Sandy Tinsman, real estate developer; and Mike Perry, CPA. All own Kaypros, pay taxes, and belong to the Kaypro Users Association of Fort Collins, Colorado.

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dBASE II and The Real-time Clock

dBASE and assembler code team up to time-stamp dBASE files

by Bill Kennedy

Unless you can get your real-time clock to do something for you that a watch can't, the watch is more convenient. I just completed a dBASE routine that goes a bit beyond the humble watch. This article contains a dBASE listing that will access the Kaypro 4'84 clock and produce a small group of memory variables that may be used to make your dBASE output look a lot better.

Non-Kaypro 4'84 owners, are you still with me? I sure hope so, because the routine will also convert your standard date string ("dd/mm/yy") into several more wholesome looking strings.

How about those of you who may not give a hoot about date strings? I've got something for you, too. This listing implants a simple assembly language routine in upper memory, executes it, and then converts its output into dBASE memory variables. This is something many of us want to do on occasion but are a little afraid to try, largely because we don't know assembly language very well (and maybe because Ashton-Tate hasn't done a great job in its documentation of showing us how to do it).

I've presented this listing in modules so that I can explain each section as we go. When you type this routine into your system, you may omit all the text and items following the * comment markers (except my name, since I'm trying to make a living at this sort of thing and like the advertising). The modules are sequential and the code is in boldface print, so you shouldn't have much trouble entering the program even if you haven't tried to follow how it works. One more comment about the modular structure of this listing before we start: Enter it as one CMD file. Enter the first module first, the last module last, and name it something clever like CLOCK.CMD.

I've listed the instructions for getting your other programs (checkbook, etc.) to use this routine in the final paragraphs of this article. Inexperienced dBASE programmers should read it too.

Module 1: Introductory comments

```
* Start of Module 1 - dBASE CLOCK.CMD code.
*
*            Clock routine for Kaypro 4'84
*
* Copyright 1984 (c) Bill Kennedy - All rights reserved
*                  9315-D S. Ash
*                Tacoma, WA 98444
*
* This  program  may be copied  for  personal,  non-
* commercial use only,  provided that this copyright
* notice is included in all copies.  Copying for any
* other use without previously obtaining the written
* permission of the author is prohibited.
*
* Uses Kaypro memory from A4ØØ to A455 hex for assembly
* language subroutine.
* Use: enter DO CLOCK near front of your Dbase code.
* Clock.cmd returns the following character strings:
*   DATE mm/dd/yy
*   DATELONG like  October 17, 1984, with enough leading
*   spaces so that every date is the same length. Other
*   memory variables generated by this program are:
*   DATERIGHT like October 17, 1984.
*   DATESHORT like  Oct 17, 84.
*   TIME like 12:29 pm
*
* End of Module 1 - dBASE CLOCK.CMD code.
```

Module 1 is simply a bunch of comments that may be omitted (except my name) without any ill effect. Go ahead and type them in, though. They may be your only reminder of what the memory variables are called after you've lost this copy of *PROFILES*.

Module 2a: Get date and time values

Here we go:

```
* Start of Module 2a--dBASE CLOCK.CMD code.
*
IF REALTIME
  SET  TALK  OFF
  SET CALL TO 41984
  STORE 41984 TO CLOCK
  POKE 41984,62,15,211,34,62,Ø9,211,32,219,36,5Ø,8Ø,;
  164,62,Ø7,211,32,219,36,5Ø,81,164,62,Ø6,211,32,;
  219,36,5Ø,82,164,62,Ø5,211,32,219,36,5Ø,83,164,62,;
  Ø4,211,32,219,36,5Ø,84,164,62,Ø3,211,32,219,36,5Ø,;
  85,164,2Ø1
  CALL CLOCK
*
* End of Module 2a - dBASE CLOCK.CMD code.
```

ILLUSTRATION BY DAVID DARROW

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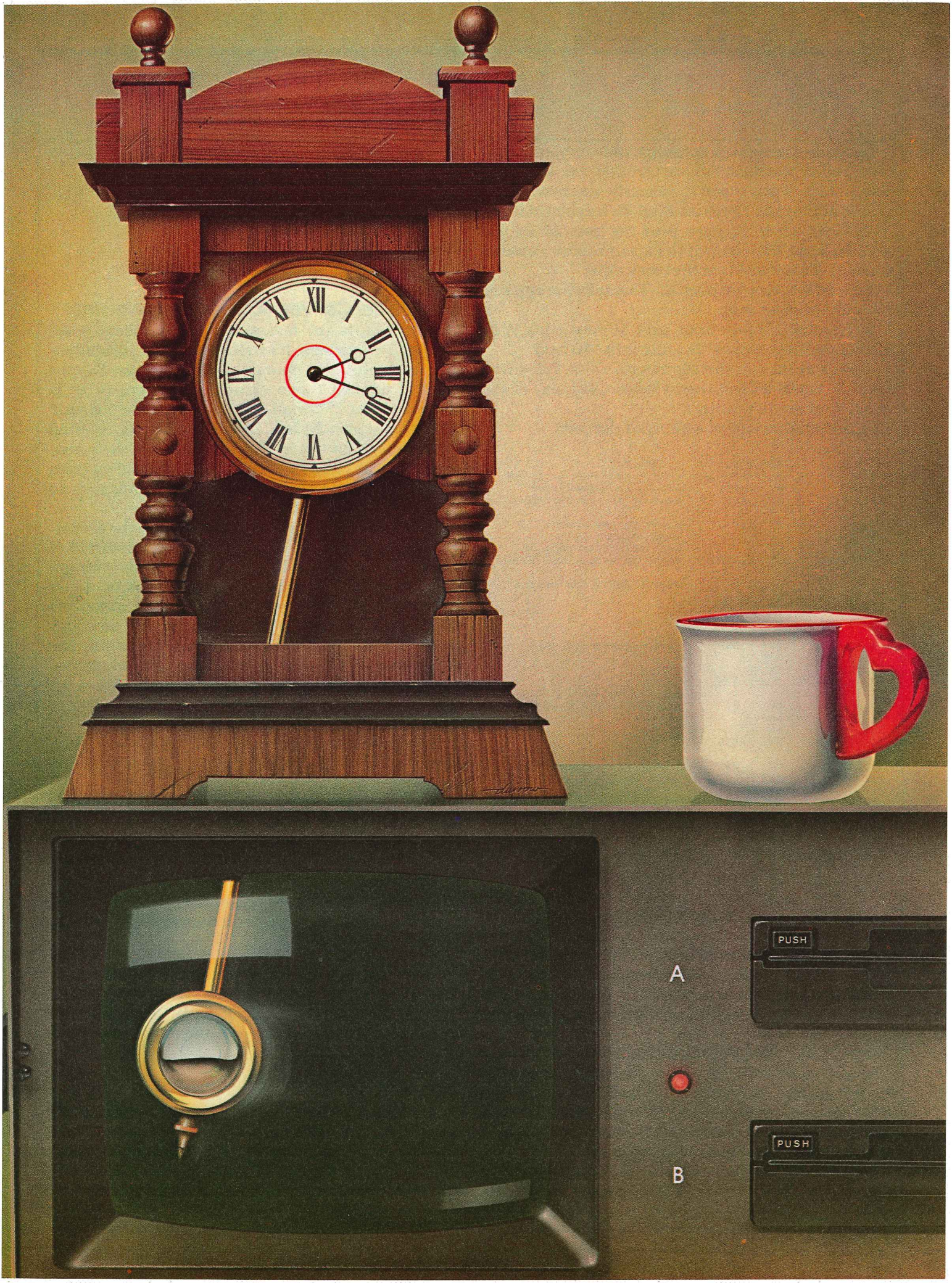
PUSH
A
PUSH
B

Darnedest assembly language routine you've ever seen, right? You don't have to compile it or anything else. In fact, if you typed it correctly, you never have to look at it again. Here's an English translation:

1. Send 15 to Kaypro port 34 (put 15 in the accumulator; then output the accumulator value to port 34). This initializes the clock chip.

2. Send 9 to Kaypro port 32. This tells the clock to send its value for year.

3. Receive a value from port 36 and stick it in memory a little above this routine (A440 hex).

4. Repeat the last two steps with value 7 down to value 3. These will represent month, day, day of the week, hour, and minutes.

Here's another way of looking at the code.

```
dBASE code     8Ø80 mnemonic   Comments
----------     -------------   ------------------------
 62,15,         MVI A,15       put 15 in accumulator
 211,34,        OUT 34         send it to clk init port

 62,Ø9,         MVI A,Ø9       put 9 in the accum.
 211,32,        OUT 32         send to port 32
 219,36,        IN 36          get years from port 36
 5Ø,8Ø,164,     STA ØA45ØH     store in memory for later

 62,Ø7,         MVI A,Ø7       repeat above for months
 211,32,        OUT 32
 219,36,        IN 36
 5Ø,81,164,     STA ØA51H

 62,Ø6,         MVI A,Ø6       repeat above for days
 211,32,        OUT 32
 219,36,        IN 36
 5Ø,82,164,     STA ØA52H

 62,Ø5,         MVI A,Ø5       repeat above for weekdays
 211,32,        OUT 32
 219,36,        IN 36
 5Ø,83,164,     STA ØA53H

 62,Ø4,         MVI A,Ø4       repeat above for hours
 211,32,        OUT 32
 219,36,        IN 36
 5Ø,84,164,     STA ØA54H
 62,Ø3,         MVI A,Ø3       repeat above for minutes
 211,32,        OUT 32
 219,36,        IN 36
 5Ø,85,164,     STA ØA55H

 2Ø1            RET            return to dBASE
```

Module 2a is very machine-dependent. If you have a non-Kaypro clock, then you've got lots of numbers to change before this thing will work. The good news is that most of the changes will be in the little routine we've just finished. The remaining lines won't change very much from machine to machine.

Module 2b: Assign to dBASE variables

The last assembly language instruction brought us back to dBASE, but we're not entirely done with that little patch of upper memory. The following lines will assign those clock values from memory to dBASE memory variables: *(see next column)*.

We could have done seconds and hundredths of seconds too. I didn't need them, do you?

```
* Start of Module 2b - dBASE CLOCK.CMD code.
*
STORE PEEK(42Ø64) TO YEAR
STORE PEEK(42Ø65) TO MTH
STORE PEEK(42Ø66) TO DAY
STORE PEEK(42Ø67) TO WDAY
STORE PEEK(42Ø68) TO HOUR
STORE PEEK(42Ø69) TO MIN
*
* End of Module 2b - dBASE CLOCK.CMD code.
```

Module 2c: Convert BCD values to decimal

Honest, this is the last machine dependent code. Kaypro 4'84 owners, it's written for your computers and won't need any change at all. When the Kaypro clock produced those values, they were in BCD (binary-coded decimal) format. The value for year 1984 was sent as 84 hex. Unfortunately, the decimal equivalent of 84 hex is 132, not 84. We have to convert the BCD values to decimal. The following lines do that and build a string value for the date such as you normally store in your date fields.

Yes, I know it should have been done in the assembly language routine (module 2a), but I'm afraid of assembly language, too, and was anxious to get back to dBASE where I feel more at home. (Just kidding—I did it for you.) I wanted the assembly language section to be very simple and straightforward. I just want it to spit those numbers out. The program would be easier to adapt to other machines if module 2a always produced decimal values for dBASE to use, but the assembly language section would be a little harder to follow.

If your clock doesn't send BCD numbers, then omit the following STORE INT(. . .) lines from the listing.

Next time you're bored and desperately looking for something to do, check one of the following lines out and see how it works. Start with the decimal equivalent of 84 hex (132) in place of YEAR and see if you finish with a value of 84 decimal being assigned to YEAR at the end of the line. If you don't, then you have one more good reason to use a computer for your taxes.

```
* Start of Module 2c - dBASE CLOCK.CMD code.
*
STORE INT(YEAR/16)*1Ø+(YEAR-(16*INT(YEAR/16))) TO YEAR
STORE INT(MTH/16)*1Ø+(MTH-(16*INT(MTH/16))) TO MTH
STORE INT(DAY/16)*1Ø+(DAY-(16*INT(DAY/16))) TO DAY
STORE INT(WDAY/16)*1Ø+(WDAY-(16*INT(WDAY/16))) TO WDAY
STORE INT(HOUR/16)*1Ø+(HOUR-(16*INT(HOUR/16))) TO HOUR
STORE INT(MIN/16)*1Ø+(MIN-(16*INT(MIN/16))) TO MIN
*
* End of Module 2c - dBASE CLOCK.CMD code.
```

Also, if your clock was set with the Kaypro BASIC clock program, the year will be wrong unless you substitute the following line for the first line of module 2c: **STORE 85 TO YEAR**. The year value (85) will have to be changed each year to remain current.

Module 2d: Decimal numbers to dBASE date string

This module converts our new decimal numbers into the dBASE date string format "mm/dd/yy". All of the IF statements are done to make a date look like "01/08/84" instead of " 1/ 8/84." If you're not used to writing dBASE code, all of those IF statements are going to cloud things up a bit. Just try to remember that it's really a simple, straightforward routine that looks a little cluttered because we want your output to look professional.

After the date string is finished, we do the same operation with the time variables, creating a memory variable named TIME. Its format is hh:mm am (or pm), such as "4:26 pm." Seconds and hundredths of seconds are available and would be simple to implement. I didn't do it simply because they aren't very useful in most database operations.

Notice also the "ENDIF * (Realtime)" at the end of this module. It works with the "IF REALTIME" that I inserted back in module 2a. It certainly spoils my grand modular scheme, but it serves a very useful purpose. More on this after we get through the next few modules.

```
* Start of Module 2d - dBASE CLOCK.CMD code.
*
IF MTH < 1Ø
  STORE ´Ø´+STR(MTH,1)+´/´ TO DATE
ELSE
  STORE STR(MTH,2)+´/´ TO DATE
ENDIF
IF DAY < 1Ø
  STORE DATE+´Ø´+STR(DAY,1)+´/´+STR(YEAR,2) TO DATE
ELSE
  STORE DATE+STR(DAY,2)+´/´+STR(YEAR,2) TO DATE
ENDIF
STORE ´am´ TO AMPM
IF HOUR >= 12
  STORE HOUR - 12 TO HOUR
  STORE ´pm´ TO AMPM
ENDIF
IF HOUR = Ø
  STORE 12 TO HOUR
ENDIF
IF MIN < 1Ø
  STORE STR(HOUR,2)+´:Ø´+STR(MIN,1)+´ ´+AMPM TO TIME
ELSE
  STORE STR(HOUR,2)+´:´+STR(MIN,2)+´ ´+AMPM TO TIME
ENDIF
ELSE
 STORE 8 TO WDAY
ENDIF
RELEASE CLOCK,YEAR,MTH,DAY,HOUR,MIN,AMPM
*
* End of Module 2d - dBASE CLOCK.CMD code.
```

Module 3a: fancy formats for dBASE strings

This is an important module (even if you don't have a real-time clock), since it creates some very nice date strings from the standard dBASE date string. The three new memory variables that are created from whatever "mm/dd/yy" string labeled "DATE" is processed are DATERIGHT, DATELONG, and DATESHORT. DATERIGHT is about the handiest because the string is always the same length, regardless of the number of characters in the month. In other words, the string will print right justified on your document if you tell dBASE to print DATERIGHT 18 spaces to the left of your right margin. DATELONG is the same character string, minus the leading spaces. If you want to print the date in a line of text, then use DATELONG. DATESHORT is an abbreviated date, created to be placed in date blocks of forms or informal communications. I think "Sept 11, 84" is easier for most of us to read than "09/11/84," and it's hardly any longer. If you don't agree with me, you still get to use my code—just tell dBASE to print DATE instead of DATESHORT.

```
* Start of Module 3a - dBASE CLOCK.CMD code.
*
DO CASE
  CASE $(DATE,1,2)=´Ø1´
    STORE ´January ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATELONG
    STORE ´  January ´+$(DATE,4,2)+´,  19´+;
          $(DATE,7,2) TO DATERIGHT
    STORE ´Jan ´+$(DATE,4,2)+´, ´+;
          $(DATE,7,2) TO DATESHORT
  CASE $(DATE,1,2)=´Ø2´
    STORE ´February ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATELONG
    STORE ´ February ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATERIGHT
    STORE ´Feb ´+$(DATE,4,2)+´, ´+;
          $(DATE,7,2) TO DATESHORT
  CASE $(DATE,1,2)=´Ø3´
    STORE ´March ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATELONG
    STORE ´     March ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATERIGHT
    STORE ´Mar ´+$(DATE,4,2)+´, ´+;
          $(DATE,7,2) TO DATESHORT
  CASE $(DATE,1,2)=´Ø4´
    STORE ´April ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATELONG
    STORE ´    April ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATERIGHT
    STORE ´Apr ´+$(DATE,4,2)+´, ´+;
          $(DATE,7,2) TO DATESHORT
  CASE $(DATE,1,2)=´Ø5´
    STORE ´May ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATELONG
    STORE ´      May ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATERIGHT
    STORE ´May ´+$(DATE,4,2)+´, ´+;
          $(DATE,7,2) TO DATESHORT
  CASE $(DATE,1,2)=´Ø6´
    STORE ´June ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATELONG
    STORE ´      June ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATERIGHT
    STORE ´June ´+$(DATE,4,2)+´, ´+;
          $(DATE,7,2) TO DATESHORT
  CASE $(DATE,1,2)=´Ø7´
    STORE ´July ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATELONG
    STORE ´      July ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATERIGHT
    STORE ´July ´+$(DATE,4,2)+´, ´+;
          $(DATE,7,2) TO DATESHORT
  CASE $(DATE,1,2)=´Ø8´
    STORE ´August ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATELONG
    STORE ´    August ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATERIGHT
    STORE ´Aug ´+$(DATE,4,2)+´, ´+;
          $(DATE,7,2) TO DATESHORT
  CASE $(DATE,1,2)=´Ø9´
    STORE ´September ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATELONG
    STORE ´September ´+$(DATE,4,2)+´, 19´+;
          $(DATE,7,2) TO DATERIGHT
    STORE ´Sept ´+$(DATE,4,2)+´, ´+;
          $(DATE,7,2) TO DATESHORT
```

```
  CASE $(DATE,1,2)='1Ø'
    STORE 'October '+$(DATE,4,2)+', 19'+;
          $(DATE,7,2) TO DATELONG
    STORE '  October '+$(DATE,4,2)+', 19'+;
          $(DATE,7,2) TO DATERIGHT
    STORE 'Oct '+$(DATE,4,2)+', '+;
          $(DATE,7,2) TO DATESHORT
  CASE $(DATE,1,2)='11'
    STORE 'November '+$(DATE,4,2)+',  19'+;
          $(DATE,7,2) TO DATELONG
    STORE ' November '+$(DATE,4,2)+', 19'+;
          $(DATE,7,2) TO DATERIGHT
    STORE 'Nov '+$(DATE,4,2)+', '+;
          $(DATE,7,2) TO DATESHORT
  CASE $(DATE,1,2)='12'
    STORE 'December  '+$(DATE,4,2)+',  19'+;
          $(DATE,7,2) TO DATELONG
    STORE ' December '+$(DATE,4,2)+', 19'+;
          $(DATE,7,2) TO DATERIGHT
    STORE 'Dec '+$(DATE,4,2)+', '+;
          $(DATE,7,2) TO DATESHORT
ENDCASE
*
* End of Module 3a - dBASE CLOCK.CMD code.
```

Module 3b: dBASE date string to day of week

This module is very similar in operation to module 3a. One important difference, though, is that if you don't have a real-time clock, it will store "unknown" to the memory variable "WDAY." No problem—just don't tell dBASE to print "WDAY" unless you have a clock! Of course, if you want to get fancy, it's easy to derive weekday from date as long as you provide a reference. Since I have a clock, you get to write your own code for that one. If your clock was set with the Kaypro BASIC clock program, change the CASE values in this module from 1-7 to 0-6 (e.g., CASE WDAY=0 instead of CASE WDAY=1).

```
* Start of Module 3b - dBASE CLOCK.CMD code.
*
DO CASE
  CASE WDAY=1
    STORE 'Sunday' TO WDAY
  CASE WDAY=2
    STORE 'Monday' TO WDAY
  CASE WDAY=3
    STORE 'Tuesday' TO WDAY
  CASE WDAY=4
    STORE 'Wednesday' TO WDAY
  CASE WDAY=5
    STORE 'Thursday' TO WDAY
  CASE WDAY=6
    STORE 'Friday' TO WDAY
  CASE WDAY=7
    STORE 'Saturday' TO WDAY
  OTHERWISE
    STORE 'unknown' TO WDAY
ENDCASE
RETURN
*
* End of Module 3b - dBASE CLOCK.CMD code.
```

The big picture

So, what have we got? It depends on whether or not "REALTIME" was true when we called the routine with a DO CLOCK command. If "REALTIME" was true, the program first loads and executes the little assembly language routine, then creates the DATE and TIME strings. If, on the other hand, "REALTIME" was false, the program accepts whatever "mm/dd/yy" string you've assigned to the DATE variable.

Anyway, the last half of the program works with the memory variable DATE and creates some new strings to make your reports look much better.

Calling the clock routine within dBASE

There is a good reason for those of you with clocks to leave that "IF REALTIME" in there. I know good and well a few of you are already thinking you can save a few lines of typing by omitting it—you're thinking, "Why have the program ask if I have a real-time clock when I know I do?"

After you type this code in, you'll be anxious to see if it works, right?

Here's why you should leave "IF REALTIME" in. Let's say that you're working with a record format that contains several dates. Pretend that these records are part of a credit billing program and the only time you get concerned with a date field is when its value is not equal to the current date. Early in your billing program you got the current date by running the CLOCK.CMD routine with "REALTIME" true. You've already printed the current date at the top of the reminder letter, and now you're ready to insert the date that the account becomes overdue. Try this little routine:

```
STORE DUEDATE TO DATE
STORE F TO REALTIME
DO CLOCK
```

This tells dBASE to ignore the current values in your real-time clock and convert your DUEDATE value instead to a nice, clear, unmistakable string to print in your letter.

This type of routine can be used on any of the dates in your records as often as required. Just be sure to reset "REALTIME" to true and run the routine again before you attempt to print the current date or update a record with the current date.

After you type this code in, you'll be anxious to see if it works, right? Call up dBASE, then enter:

```
STORE T TO REALTIME
DO CLOCK.
```

Nothing much will seem to happen, but when the '.' prompt reappears, enter **DISPLAY MEMORY** and dBASE will list all of the new variables available for your use. If you don't have a clock, then enter:

```
STORE F TO REALTIME
STORE '01/31/80' TO DATE
DO CLOCK
DISPLAY MEMORY
```

I hope that even if you don't know dBASE very well, you were still able to follow my discussion. Even if you couldn't follow it, the code will still work.

This routine was developed on dBASE II version 2.4. It has not been verified with with any earlier versions of dBASE II, but it should perform properly. □

Bill Kennedy has a software development and consulting company, Information Management Systems, in Tacoma, Washington. He also teaches computer science at St. Martin's College.

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For Clarity's Sake

Computer magazines have a unique problem. For most of their subject matter, it's much easier to demonstrate the points being made with examples of what you type and what you get, than it is to write in general about them. Understanding this, there's a conscious effort to include articles that blend theory with "learning by doing" in *PROFILES*. We do this through a mixture of program listings, sample command sequences, and occasionally, specific instructions for patching, etc.

Some of our articles contain commands that, when entered *exactly* as they're printed, cause your computer to do—something. You'll find these embedded commands most often in "Free Lunch," our column devoted to public domain software, the "Technical Forum," and in some feature articles.

How to read and enter commands

The following guidelines should help in determining precisely what you should type when attempting to enter these commands: Type in only the boldfaced (darker) characters and include the spacing and punctuation exactly as you see it. For example, to copy files from drive A to drive B using the PIP utility program, you'd enter **PIP B:=A:FILE.EXT[GOV]**.

Notice the space between **PIP** and the **B**. Also note that the period between the filename and its extent is boldfaced, which means it should be included in the command. The period at the end of the line is *not* boldfaced; therefore it is not part of the command and should not be entered.

Other pointers

When the names of files are not part of a command, they're printed in all capital letters, are not boldfaced, and include their extent (an optional three-character file type, e.g., .COM, .BAS, .TXT) only if necessary for clarity.

Onscreen messages, such as "NAME OF FILE TO PRINT?," are printed in uppercase with double quotes to signify verbatim quoting of what the screen displays.

When referring to a key sequence that involves pressing the CTRL key and another key or keys, we use an upcarot symbol (^) to signify the CTRL key. For example, ^S is WordStar's CTRL-PS print command for underline. □

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Trial Balance	Master File Maintenance
Balance Sheet	Enter Transactions
Income Statement	Account Status
Department Income Statements	Generate Financial Reports
Comparative Financials	Generate Budget Reports
Budget Reports	Accounting Transactions Transfer
Transaction Listings	End-of-Period Processing
Master File Listings	General Utility Functions
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REPORTS	PROGRAMS
Customer Account Detail	System Initialization
Aging Report	Customer File Maintenance
Transactions Report	Query Customer Activity
Customer Accounts Listing	Enter Transactions
G/L Transactions Register	Invoice Generation
Invoices-Service Invoices	End-of-Period Processing
Statements	Auto-Billing

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REPORTS	PROGRAMS
Vendor File List	Vendor File Maintenance
Open Vouchers	Enter Vouchers
Accounts Payable Aging	Enter Credits
Cash Requirements	Report Generation
Check Register	Decide Vouchers to Pay
Checks	Query Vendor Account Status
G/L Transaction Register	End-of-Period Processing
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REPORTS	PROGRAMS
Employee File List	New Period Initialization
Payroll Register	Calculate Payroll
Payroll Worksheet	Print Payroll Register
Paychecks	Print Checks
Monthly Summary	End-of-Month Processing
G/L Transactions Register	End-of-Quarter Processing
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MathStar

Presto! One command produces numeric answers in WordStar files – right before your eyes

by William J. Higginson

How many times have you been writing along in WordStar and suddenly needed to do a few simple calculations? Or been writing a report or proposal and come to the budget page, only to find that you had left your calculator at the office?

Do you save your work, exit, and replace your WordStar disk with a spreadsheet program, spend the next 20 minutes building a simple spreadsheet and making your calculations, then print it to disk, exit, replace the spreadsheet disk with your WordStar disk, return to editing your text file, call in the spreadsheet file—and get back into your writing after a half-hour delay?

Or do you type the arithmetic right into your WordStar work file and go right on as if nothing had happened?

With **Math*** (pronounced "MathStar") you can calculate in WordStar. Math* comes ready to install in your WS.COM file and gives you the ability to add (+), subtract (-), multiply (*), and divide (/), right in your WordStar text.

*Basic arithmetic in Math**

Math* will handle the four basic math operations either in horizontal equation-like statements or in vertical columns. The following calculations were done with Math* while writing this article:

```
1.   2,586,359 + 564,971 + 7,359,728 = 1Ø,511,Ø58

2.   14 * 2.98 = 41.72
      9 * 3.59 = 32.31
                 -----
     Total       74.Ø3

3.   Income      $4,567,21Ø.11
     Expenses    (4,622,1Ø3.53)
                 -------------
     Profit         (54,893.42)

4.   85 + 76 + 1ØØ + 79 + 91 = 431/5 = 86.2

5.   3.14159265 * 15 = 47

6.   $259.68 - $259.68 * .25 = $194.76
```

In Example 1, I put the commas in the addends; Math* put them in the result.

In Example 2, I used Math* to calculate each equation and add the results. Note, however, that if the equation is written as 14 * 2.98 + 9 * 3.59 = 494.06, it produces a quite different result. Math* does all calculations from *right to left* or *bottom to top*. It ignores the usual order of operations we all learned in school. So it is not safe to simply type in an expression using normal algebraic format. For example, while 5 - 3 * 15 = -40 and even 5 - (3*15) = -40 produce the correct result, -3 * 15 + 5 = -60 and -(3*15) + 5 = -60 do not. In the first two equations, Math* takes 15 times -3 and adds 5. The second set has Math* adding 5 to 15 and then multiplying by -3. That's not the same thing. Math* ignores the parentheses and simply performs the operations in order, starting at the equals sign and working to the left.

Example 3 shows how Math* does use parentheses to indicate negative numbers where needed, as in accounting. Math* will also put in commas and format results in dollars and cents, if you wish.

Example 4 shows one method of dealing with the Math* order of operations. Equations can be chained, taking the result of one calculation and using it in another without bothering to write a whole new equation. This will drive math purists wild, but it gets the job done easily and quickly. Thus a teacher can calculate a grade average by deriving the total of the grades and dividing it by the number of grades, in a two-step process.

As Example 5 demonstrates, Math* will round results off according to instructions from the user.

In Example 6 a simple discount or payroll deduction is shown. Note that the number to be discounted must be repeated. If a number of deductions are to be taken, it would probably be

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better to do them in a column, thus:

```
Salary                          359.68
F.I.T    -359.68 * .24 = -86.32
F.I.C.A. -359.68 * .Ø6 = -21.58
Savings                        -2Ø.ØØ
Net Pay                        231.78
```

As the documentation says, you can use WordStar's ^PS command to make a line between a column of figures and the total. However, it is wise to use ^OD (hides on-screen control characters) before performing the calculation, as the screen position resulting from imbedded underline commands can throw Math* off. Other approaches include using a line of hyphens (as in Examples 2 and 3) or equals signs, or using an otherwise blank line of underscore characters. (The WordStar strikeover-line command, ^P <RETURN>, can be used to position underscoring appropriately without its taking up a full line-space in your printed copies.)

Spreadsheet in WordStar?

One common office headache is preparing reports and proposals that include budgets. While these are often not very complex, they do lend themselves to spreadsheets—except that it usually takes longer to build a spreadsheet and read it into WordStar than it does to write the budgets out on paper, then type them directly into the report. Of course, I always verify totals with a calculator. When I first had Math* up and running, it seemed to me I ought to be able to build a simple spreadsheet for one of my budgets right in WordStar. It only took a little bit of time to figure out how.

Here is a way to accomplish the sort of simple budget figuring that goes on daily in many offices.

```
            Our     + Other   + Grant    = Total
            Agency  + Source  + Request  = Project
            Share   + Match   + for ´86  = Budget

Personnel   ØØ2ØØ0  + ØØØ2Ø0  + ØØØØØØ0  = 22ØØ
Equipment   ØØØ45Ø  + ØØØ45Ø  + ØØØØØØ0  = 9ØØ
Supplies    ØØØ5Ø0  + ØØØ15Ø  + ØØØØ75Ø  = 14ØØ
Printing    ØØ35ØØ  + ØØ15ØØ  + ØØØ1ØØØ  = 6ØØØ
Postage     ØØØ35Ø  + ØØØØØØ  + ØØØØ35Ø  = 7ØØ
Telephone   ØØØ6ØØ  + ØØØØØØ  + ØØØØØØ0  = 6ØØ
            ------  + ------  + -------  = ------
```

In the initial setup, the columns are only separated by math symbols and single spaces. In this early stage, we can leave no more than one space between numbers and operators. If figures are two or more spaces apart the program will not read the one to the left. For the same reasons, all figures are filled to six or seven digits with leading zeros. Now we can perform horizontal calculations.

The next step is to separate the columns, so we can perform column addition. To do this, simply place the cursor in the line above the budget, then "FIND" and "REPLACE" the plus and equals signs with a handy number of spaces. The completed step looks like this:

```
            Our       Other     Grant      Total
            Agency    Source    Request    Project
            Share     Match     ´86        Budget

Personnel   ØØ2ØØ0    ØØØ2Ø0    ØØØØØØ0    22ØØ
Equipment   ØØØ450    ØØØ450    ØØØØØØ0    9ØØ
Supplies    ØØØ5Ø0    ØØØ150    ØØØØ750    14ØØ
Printing    ØØ35ØØ    ØØ15ØØ    ØØØ1ØØØ    6ØØØ
Postage     ØØØ35Ø    ØØØØØØ    ØØØØ35Ø    7ØØ
Telephone   ØØØ6ØØ    ØØØØØØ    ØØØØØØ0    6ØØ
            ------    ------    -------    ------
```

The next step is to use Math* to calculate column totals, then remove unwanted zeros. Order of operation is critical because a column with figures above two or more blank lines will be ignored and result in incorrect totals. The zeros will enable Math* to find all the numbers in each column.

```
            Our       Other     Grant      Total
            Agency    Source    Request    Project
            Share     Match     for ´86    Budget

Personnel   ØØ2ØØØ    ØØØ2ØØ    ØØØØØØØ    22ØØ
Equipment   ØØØ45Ø    ØØØ45Ø    ØØØØØØØ    9ØØ
Supplies    ØØØ5ØØ    ØØØ15Ø    ØØØØ75Ø    14ØØ
Printing    ØØ35ØØ    ØØ15ØØ    ØØØ1ØØØ    6ØØØ
Postage     ØØØ35Ø    ØØØØØØ    ØØØØ35Ø    7ØØ
Telephone   ØØØ6ØØ    ØØØØØØ    ØØØØØØØ    6ØØ
            ------    ------    -------    ------
Totals       74ØØ      23ØØ      21ØØ      118ØØ
```

That done, remove the unwanted leading zeros; "FIND" <space>0 and "REPLACE" with <space><space>. This avoids removing zeros *after* significant digits. It will clean up completely with a few repetitions of the command. The finished budget looks like this:

```
            Our       Other     Grant      Total
            Agency    Source    Request    Project
            Share     Match     for ´86    Budget

Personnel    2ØØØ      2ØØ                 22ØØ
Equipment     45Ø       45Ø                 9ØØ
Supplies      5ØØ       15Ø       75Ø       14ØØ
Printing     35ØØ      15ØØ      1ØØØ       6ØØØ
Postage       35Ø                 35Ø        7ØØ
Telephone     6ØØ                            6ØØ
            ------    ------    -------    ------
Totals       74ØØ      23ØØ      21ØØ      118ØØ
```

It took about as long to figure out how to do this with Math* as it would have to set up a spreadsheet with my favorite program and then bring that file into this WordStar file. The second time, the process took about half the normal spreadsheet time.

Math* is not advertised or sold as a spreadsheet program—it is not one. But, with adept use of WordStar's Find-and-Replace command, it will handle some simple spreadsheet functions.

Pitfalls to avoid

While Math* responds with error messages in a number of situations, it will not always detect that you have the cursor incorrectly positioned under a column of figures when you tell the program to calculate the total, or that extraneous numbers are within range of any particular calculation.

In columnar math, you determine the position of

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Start with	add		
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RAM Disk	*		*

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*Software available in IBM format.

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EMA Kaypro 10'83 ..... **$82.95**
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the result by typing the last character of the calculate command (always the letter "M" in upper or lower case) with the cursor located where you want the units position of the result. The following example shows what can happen if you are not careful about the placement of that command; note the total in the right-hand column:

```
$4,8ØØ.ØØ       $11,2ØØ.ØØ       $16,ØØØ.ØØ
   816.ØØ          1,9Ø4.ØØ          2,72Ø.ØØ
   14Ø.ØØ              Ø               14Ø.ØØ
 1,76Ø.ØØ              Ø             1,76Ø.ØØ
 1,32Ø.ØØ              Ø             1,32Ø.ØØ
----------       -----------       -----------
$8,836.ØØ        $13,1Ø4.ØØ        $3,22Ø.ØØ
```

The problem here is that the "M" of the calculate command fell on the column with the comma. This apparently resulted in Math* not reading the numbers above "140" on the screen. Since the full command, in this case, is "$,=m" (requesting that the result be formatted in dollars and cents with commas), it is not always obvious just where the final character of the command will fall.

My solution for avoiding such problems is to set decimal tabs, and when I am ready to add a column I tab to the decimal, then <DELETE> back as many times as there are characters in the calculate command I am using. In the example just above, deleting four spaces puts the cursor in the correct position to start the command. On doing this, Math* correctly figures the total as $21,940.00.

When I called Math*'s author, Chuck Woodford, he told me that this problem and a related one have recently been corrected. (Earlier versions yield error messages if the "M" lands to the right of the last digit in the column to be calculated.)

The Math process took half the normal spreadsheet time.*

Still, it is more elegant to pay attention to the location of the command and have the result fall neatly lined up in the first place. For me it took only a little practice to achieve this regularly.

When I tried to find ways to create errors that did not seem to be covered in the documentation, three turned up. In working with horizontal line equations, two math operators in succession, without intervening numbers, will remove all numbers to the left from the calculation. Placing a letter "O" where a zero should be, or a lower-case "L" where a numeral one should be, yields similar results: 51*O*+ *l*6 = 6; 1*O*5 * 12 = 60.

And marked blocks and screen-indicated page breaks will blind Math* to numbers above them. This is true for both older Kaypros without reverse video and those with new graphics. However, hiding the block markers with ^KH will eliminate the problem for blocks. (If you have trouble remembering where you had block markers, ^QB or ^QK will take you to the appropriate marker and display it; ^KH will then turn them both on.) Similarly, ^OP (hide page-breaks) or .pa (forced page-break) above the column to be calculated will get the page-break indicator out of the way.

A slightly more subtle problem, which is documented: The absence of a sign between two numbers within calculating range is interpreted as "plus"; one can get into the following situations without trying very hard:

```
                          ... contained 12 to a bundle.
  12
  36                                      1Ø
  58 25 + 25 = 1Ø8                      * 35
 + 8                                    ----
----                                     362
 114
```

Obviously, 108 is not the sum of 25 + 25, nor is 362 the product of 10 * 35. In the first example, the number 58 was added to the horizontal equation; in the second example, the number 12 from the line of text above the equation was added to the vertical equation of 10 * 35. Placing at least two character- or line-spaces between irrelevant figures and the numbers involved in a calculation will eliminate this problem.

A similar problem in reverse occurs when doing calculations near the right margin if one forgets to turn off justification (^OJ toggles justification on and off). If the result, or an error message, runs into word-wrap, it will wrap to the next line. This is no great problem, because one can easily bring it back up to the correct line by deleting the soft carriage return. However, with justification on, the line will also have additional spaces inserted, no doubt some of them shifting numbers either out of calculation range or into arrangements that will not yield correct results if the calculation must be performed again. I suggest that anyone using Math* adopt the routine of turning off justification before setting up any calculations. (Those who normally have justification turned off will not have this problem.)

The worst of my difficulties was adjusting to Math*'s order of operations. As noted above, all calculations are performed from the command back toward the left or top-most number to be operated upon. Multiplication and division do not receive their usual priority over addition and subtraction,

and parentheses cannot be used algebraically. This bottom-to-top, right-to-left order is also the reverse of most calculators. Despite these quirks, after less than 15 minutes of familiarization with Math* I was using it easily for the full range of calculations shown in this article, without fear that I would make subtle errors that I might not spot. The main warning I would pass on to anyone using Math*—or an adding machine for that matter—is to estimate answers before obtaining results. People who work with numbers a great deal do this automatically; you're more likely to spot an error that the program would miss.

Requirements and limitations

Math* is written in Z80 assembly language, so it will only run on machines with the Z80 microprocessor. An easy-to-follow set of prompts allows one to install Math* into WordStar versions 3.3, 3.0, and 2.26. The Kaypro 2 format diskette on which my copy arrived ran easily in my Kaypro 4. My 18k WS.COM file became 24k with Math* installed.

The bare-bones documentation is simple and straightforward, but I would have appreciated a few more examples of specific applications. Math* handles numbers up to 19 digits long and equations up to the width of the screen. All figures involved in a specific calculation must be on screen, so columns more than 20 items long must be handled in two or more calculations. This is no problem because the sum of one column can easily become an addend in the column immediately below it. (A line of hyphens, etc., between addends and sum will isolate the sum from addends above it.) □

William J. Higginson works for Union County, New Jersey, and is the author of The Haiku Handbook, *just published by McGraw-Hill.*

Product Summary

Product Name: Math*
Uses: Performs calculations from within WordStar files.
Manufacturer: Writing Consultants
11 Creek Bend Drive
Fairport, NY 14450
List Price: $75

GRAF 2.0 $29.95

GRAF 2.0 allows you to create amazing graphics on your dot-matrix printer. Features include:

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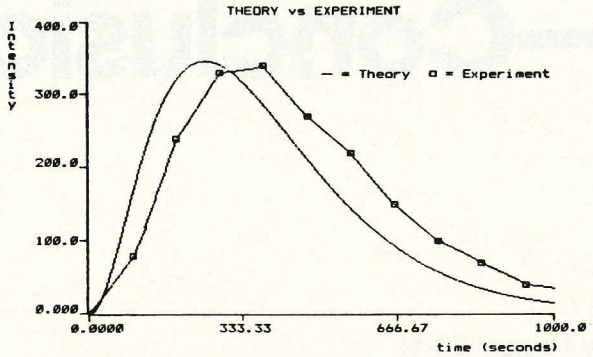

System Requirements Any model Kaypro computer driving an Epson, Gemini, or C. Itoh dot-matrix printer.

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(LISP) for KAYPRO

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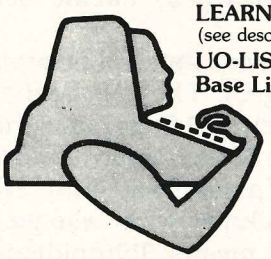

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"Use a Modem" —Conclusion

by Peggy Watt

California bulletin board operator Tom Tcimpidis and his attorney received an early Valentine February 7 when the Los Angeles city attorney's office dropped charges of telephone fraud it had sought against him for nine months.

The city attorney's office simply decided it didn't have enough proof to win the case, said Reginald Dunn, chief of the city's criminal division. "We decided it wasn't feasible to go forward," Dunn said. The city had charged Tcimpidis with a misdemeanor after an anonymous message containing an AT&T credit card number was found on his bulletin board, The Mog-Ur. Police seized his BBS equipment last May under a search warrant obtained with evidence provided by Pacific Bell's security team.

Most of Pac Bell's evidence consisted of printouts of messages from The Mog-Ur. The city and the phone company said they believed Tcimpidis knew of and encouraged exchange of such information on his board— but the charge of phone fraud didn't even require proof that the sysop knew what was going on, just that he provided the means. Tcimpidis has said all along he didn't know the message was on the board until the day police knocked on his door.

Allan Nadir, the assistant city attorney who was handling the prosecution, suggested the city drop the case after reviewing the evidence at Dunn's request, Dunn said. He reportedly asked Pacific Bell whether they had any more information, and, left without further proof, told his boss he didn't have enough to win.

Court Commissioner Charles Peven dismissed the case "with prejudice"—meaning the city can't file it again—at what was originally scheduled as a hearing for a motion for demurrer filed by Tcimpidis' attorney, Charles Lindner. The demurrer, if granted, would not only have closed the Tcimpidis case, but would have killed the state statute under which it was filed (on the grounds that it was an unconstitutionally vague law).

An ambivalent Lindner said he is glad for the victory but would have enjoyed a more decisive ruling on the question of freedom of online speech. "I'm happy it's over," he said, "but I'm saddened that Pacific Bell still can't see beyond its myopic view of protecting its toll charges."

The sysop was likewise both pleased and disappointed. "I'll take the win any way I can," said Tcimpidis, who drew both support and salvos from fellow sysops during the course of the case. Some argued that sysops should censor even private messages to protect themselves, while others said it's too much to ask a hobbyist to monitor a BBS continuously as long as he or she states up front that illegal material will not be tolerated. "This may make judges think a little more before issuing search warrants to seize computers," Tcimpidis added.

Pacific Bell Security Officer Tom Cassani confirmed that his department will pick its next case more carefully—but there will be a next case. "Clearly in future cases we'll have to make triple sure that there's no question that the sysop knew [the message] was there and actively participated in its posting," he said.

He said he still believes Pacific Bell gathered good evidence against Tcimpidis, but, of course, will live with the court's ruling. "If our interests were to bring this problem to everyone's attention and make them aware of what their boards are being used for, well, maybe we gained," he added. "Legitimate board operators need not worry."

Tcimpidis in turn asserted that The Mog-Ur is not a pirate board but a hobbyists' outlet. He has, however, turned it into a semi-private system because of the charges. □

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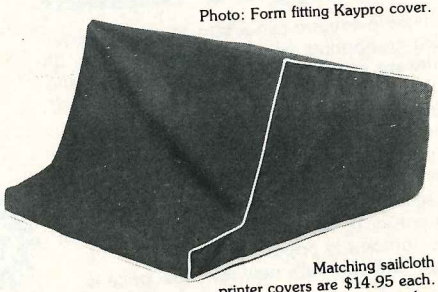
Photo: Form fitting Kaypro cover.



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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.

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CENTRAL COMPUTER PRODUCTS
330 Central Avenue • Fillmore, CA 93015

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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."

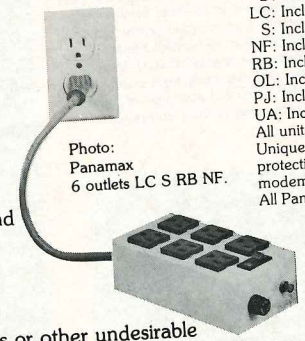


Photo:
Panamax
6 outlets LC S RB NF.

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.

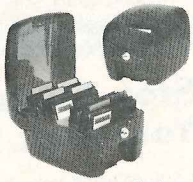
"Power line-associated problems are estimated to cause nearly 70 to 90 percent of the malfunctions in the IBM PC."

"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

SmartKey $$ Slashed

Now everyone can afford to supercharge their computing with **SmartKey II Plus**, the software program that Peter McWilliams and a cast of thousands rave about. *SmartKey II Plus* speeds up and improves accuracy in computing by letting you reduce multiple keystrokes to the touch of a single key. In a new national ad campaign Software Research Technologies, originators of SmartKey II, have slashed the retail price of this immensely popular program. In response, Central's new low, low price is:

SmartKey II Plus Super Combo Pak $49

—includes SmartPrint II Plus and Screen Smarts

You can use this powerful program to assign thousands of keystrokes to one or more keys on your keyboard. Once you have redefined keys, you can put them to work or change them at will. All without interfering with the regular function of your typewriter-like keyboard. You can also store your "smartkey" definitions in a special file and use them later, or make numerous definition files to use with a variety of your favorite programs or projects. Imagine saving complex command codes, boilerplate paragraphs, inventory numbers, or whatever, and then injecting any of them into your work with the stroke of a single key. It's true, SmartKey makes computing exciting again.

Central's specially priced **$49** combo pak includes SmartPrint II, a program that greatly enhances the operation of dot matrix printers. In addition, Central's combo pak includes, as an exclusive bonus, a free copy of Paul Golding's $15.95 book, *Screen Smarts, The Computer Tamer's Guide*. This book shows how Mr. Golding, a professional writer, uses SmartKey II to turn his humble computer into a supercharged dedicated word processor. Please don't delay, this offer may not be repeated. Order today to get this hard hitting $115 combo pak for $49.

Warning: SmartKey II has many imitators. Comes with a complete step-by-step manual. Easy-to-use.

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3M diskettes.
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Guaranteed for life.
Tested 327 ways.
They work like a charm on Kaypros.

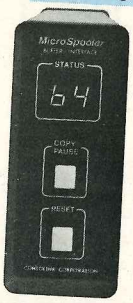
Factory sealed. Best data diskette made.
3M — *One less thing to worry about.*

No minimums — No limits

Box of 10 SS-DD Kaypro 2 diskettes: **$18.**
Box of 10 DS-DD Kaypro 4 diskettes: **$23.**
Box of 10 DS-DD Kaypro 10 diskettes: **$23.**
3M Head Cleaning Kits for Kaypros: $21.95
3M DeskTop 24"x 26" Anti-Static Mats: $44.

Stop Tearing Up Your Disk Drives

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



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

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

CONSOLINK MICROSPOOLERS

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

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

Photo: MicroSpooler 64 K P-P

Includes these unique features:

- Status digital readout
- Multiple copy function
- Temporary pause function
- Sleek internal power supply
- Comprehensive self test routine
- Slimline attractive casing
- Front panel reset
- 12 month factory guarantee

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

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

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Kaypro Software

Product Description		List	Central
ATI TRAINING SOFTWARE			
CP/M			
MBasic	**Interactive training**	$ 39.95	$ 33.00
Microplan	**teaches how to use**	$ 39.95	$ 33.00
Multiplan	**software. Fast results.**	$ 75.00	$ 57.00
Wordstar		$ 75.00	$ 57.00
		$ 75.00	$ 57.00
BORLAND INTERNATIONAL			
Turbo Pascal 2.0 ★		$ 49.95	$ 45.00
Turbo Toolbox ★		$ 49.95	$ 44.00
Turbo Gift Pak with ★ & Tutor		$ 99.00	$ 94.00
CDE SOFTWARE			
Checks & Balances		$ 74.95	$ 69.95
CHUCK ATKINSON PROGRAMS			
Quick Check Money Manager		$ 99.00	$ 74.00
Quick Check + AR		$195.00	$149.00
Retail Inventory + Q Register		$395.00	$289.00
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 with The Creative Loan Consultant		$399.00	$349.00
Don't buy or sell property without this			
CONTINENTAL SOFTWARE			
Home Accountant Plus		$ 99.95	$ 79.95
DATA DECISIONS, INC.			
KBAR, K-10 backup utility		$ 89.95	$ 69.00
DG/SYSTEMS			
Rembrandt Graphics Pak		$ 79.95	$ 59.00
DIGITAL MARKETING/PRO TEM			
Bibliography		$ 99.00	$ 84.00
Datebook II		$150.00	$115.00
Footnote and Pair ★		$ 99.00	$ 79.00
Grammatik ★		$ 75.00	$ 69.00
Hyper Typer, Typing Tutor		$ 29.95	$ 26.00
Index ★		$ 99.00	$ 87.00
Milestone, Project Planner		$250.00	$199.00
Bibliography and Footnote		$150.00	$130.00
Notebook		$150.00	$119.00
Writer's Pak — includes		$250.00	$219.00
all ★ products and Spelling Checker			
EAGLE ENTERPRISES			
Citation		$185.00	$155.00
General Ledger		$185.00	$145.00
FOX AND GELLER			
QuickCode ★		$295.00	$235.00
QuickScreen ★		$149.00	$129.00
QuickScreen MBasic		$149.00	$129.00
All ★ products are dBase II enhancers			
FYI, INC.			
FYI 3000		$395.00	$299.00
SuperFile with Sort & Merge		$195.00	$149.00
Free form textual matter database managers			
INFOCOM			
Enchanter		$ 39.95	$ 37.00
Deadline		$ 49.95	$ 46.00
SeaStaker		$ 39.95	$ 37.00
PlanetFall		$ 39.95	$ 37.00
Infidel		$ 44.95	$ 42.00
Witness		$ 39.95	$ 37.00
Zork I		$ 39.95	$ 37.00
Zork II & III each		$ 44.95	$ 42.00
LEXISOFT			
SpellBinder		$495.00	$359.00
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		$ 69.95	$ 49.95
Reads 32+ machine formats			
Uniform Kaypro IV or 10		$ 69.95	$ 49.95
Reads 90+ machine formats			

continued on next page —

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Kaypro Software – continued		
MYCROFT LABS		
Compat	$ 99.00	$ 89.00
Mite	$150.00	$ 99.00
Mite Plus Terminal Emulations	$175.00	$129.00
NORTHWESTERN ANALYTICAL		
StatPak	$495.00	$399.00
PEARLSOFT		
Personal Pearl	$295.00	$225.00
PLU PERFECT SYSTEMS		
Plu Perfect Writer CP/M 2.2E	$ 39.95	$ 31.00
Backgrounder	$ 45.00	$ 38.00
CP/M 2.2E only	$ 32.00	$ 27.00
Date Stamper	$ 39.00	$ 29.00
QUIC-N-EASY PROD.		
Q-Pro-4 with multikey file indexing	$595.00	$395.00
ROBONICS		
Grafiks 2.4	$125.00	$ 99.00
Graphic Express NEW	$125.00	$ 99.00
Stardrive —with thesaurus, checker, graphics, etc.	$200.00	$159.00
SAN FRANCISCO COMP		
Power!	$149.00	$ 99.00
DocuPower!	$149.00	$ 99.00
SCIENTIFIC MARKETING		
MarketFax Dynamic computerized sales generating tool	$495.00	$359.00
SOFTCRAFT		
Fancy Font 2.0	$180.00	$149.00
SOFTWARE RESEARCH TECH		
dFastest — sorts dBase II files 33 times faster	$ 89.00	$ 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
call for prices on other Toolworks products		
SORCIM		
SuperCalc 2	$295.00	$235.00
STAR SYSTEMS		
The Accounting Partner	$395.00	$285.00
Star Systems 1, Integrated	$795.00	$635.00
Upgrade AP to SS1 Integrated	$400.00	$350.00
SUPERSOFT		
Disk Doctor	$100.00	$ 75.00
T/MAKER COMPANY		
T/Maker Integrated with database manager & spelling checker	$495.00	$379.00
WRITING CONSULTANTS		
Proportional Star	$ 75.00	$ 69.00
Hardware		
DATASOLVERS		
Internal 300 Baud Modem	$199.75	$187.00
Internal 1200 Baud Modem models for all Kaypros	$427.50	$389.00
PANAMAX		
PowerMax — 250 Watt Battery Back-up	$559.00	$399.95
SWP MICROCOMPUTER PROD		
128k Co-Power-88 MSDOS	$400.00	$375.00
256k Co-Power-88 MSDOS	$500.00	$435.00
256k Co-Power-88 Plus plus board is expandable up 1 megabyte NEW	$600.00	$535.00
Supplies		
Kaypro and Juki	print wheels	$ 25.95
Dysan SSDD Kaypro II disks	10/box	$ 23.00
Dysan DSDD IV & 10 disks	10/box	$ 29.00
Bookware		
Compleat Kaypro II, IV & 10	$ 16.95	$ 15.00
CP/M for the Kaypro with an Intro to dBase II	$ 16.95	$ 15.00
Kaypro WP Plain & Simple	$ 13.95	$ 12.50
Free Software Handbook	$ 17.95	$ 15.00
FS Handbook & 70 programs	$ 57.95	$ 44.00
Using CP/M on Kaypro 10	$ 19.50	$ 18.00
Screen Smarts	$ 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

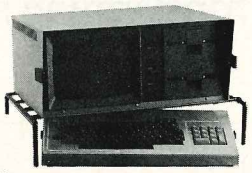
NEW!

Synonym 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. *Synonym 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.

Synonym 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. *Synonym Finder* will help you find the exact word you need to properly express your thought. *Synonym Finder* retails at $124. Central's current low introductory price is **$89.** This offer may not be repeated. Please order today.

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

Perfect Kaypro® Stand



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

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.

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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

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CA Resident 6% Tax _____

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

☐ Visa/Mastercard # _____

Exp. Date _____ Sig. _____

Name _____

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City _____ State _____ Zip _____

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

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Data Plotter

Transforming numeric data into meaningful graphics

by Bruce Gale

Spreadsheet programs are powerful tools for summarizing and analyzing figures. However, data analysis is only part of the picture. In order to be useful, the results obtained must be presented so others will clearly understand their implications. Verbally communicating data requires solid speaking skills, plus the ability to quickly reduce complex figures to a few significant conclusions. Some people don't find this a problem, but others may find it formidable.

Fortunately, there is an alternative. Visual aids such as graphs and charts have been increasingly employed to simplify and summarize data, making large, complex spreadsheets more easily digestible.

This all sounds like great news, except for one minor problem. The majority of spreadsheet programs currently available for CP/M computers lack graphing capabilities, and the quality of the graphs generated by the few programs that do have this capability are primitive and lack flexibility.

Enter Data Plotter

Data Plotter is an inexpensive, presentation-quality graphing program for CP/M machines (also MS-DOS, CP/M 86, and PC-DOS). It is available for just about any disk format (more than 70 are listed) and comes configured for your particular dot matrix printer (more than 30 brands and models are listed). Data Plotter is a versatile tool for generating pie charts, bar graphs, scatterplots, and line graphs (any graph, except pie graphs, may be single- or multi-function).

If you want power and flexibility, Data Plotter gives it to you. An unlimited number of functions can be plotted (although plotting many functions on a single graph can make interpretation difficult). Any number of labels may be placed on the graph, anywhere on the page, and labels may be in standard text characters or larger, customized characters (if you choose the latter, Y-axis labels will be rotated sideways).

Scaling for X and Y axes can be performed automatically by Data Plotter, or you may choose parameters and axis divisions manually. Any single-axis division may be labeled with numbers or text. For pie and bar graphs, five different fillings are available, and Data Plotter will continue to repeat the order of fillings if you plot more than five variables. (You may override this feature on bar graphs; this will be discussed later).

Two modes

Think of Data Plotter as having two modes of operation. You can quickly create graphs of a few hundred data points, complete with titles and X and Y axes labels (all automatically centered) if you can use the default parameters Data Plotter suggests. In general, the more extra labels and "customizing" you require, the longer it will take you, initially, to create graphs. Once you become more familiar with Data Plotter's operation, you will find that you can graph just about any function you desire and set it up according to your own specifications.

Data Plotter does not print its graphs to the computer screen, so it can run even on the older Kaypros. Data Plotter only plots integer data, although label placement and graph sizes can include decimal points—e.g., 4.45 inches. To compensate for this built-in limitation, a program is included called TRANSF(er) that will convert data to an integer format by multiplying the numbers used by a scaling factor and then rounding off. TRANSF will perform several other utility functions, including the transfer of data from columnar to free-form format (and vice versa, of course).

ILLUSTRATION BY DESIGN CONSORTIUM

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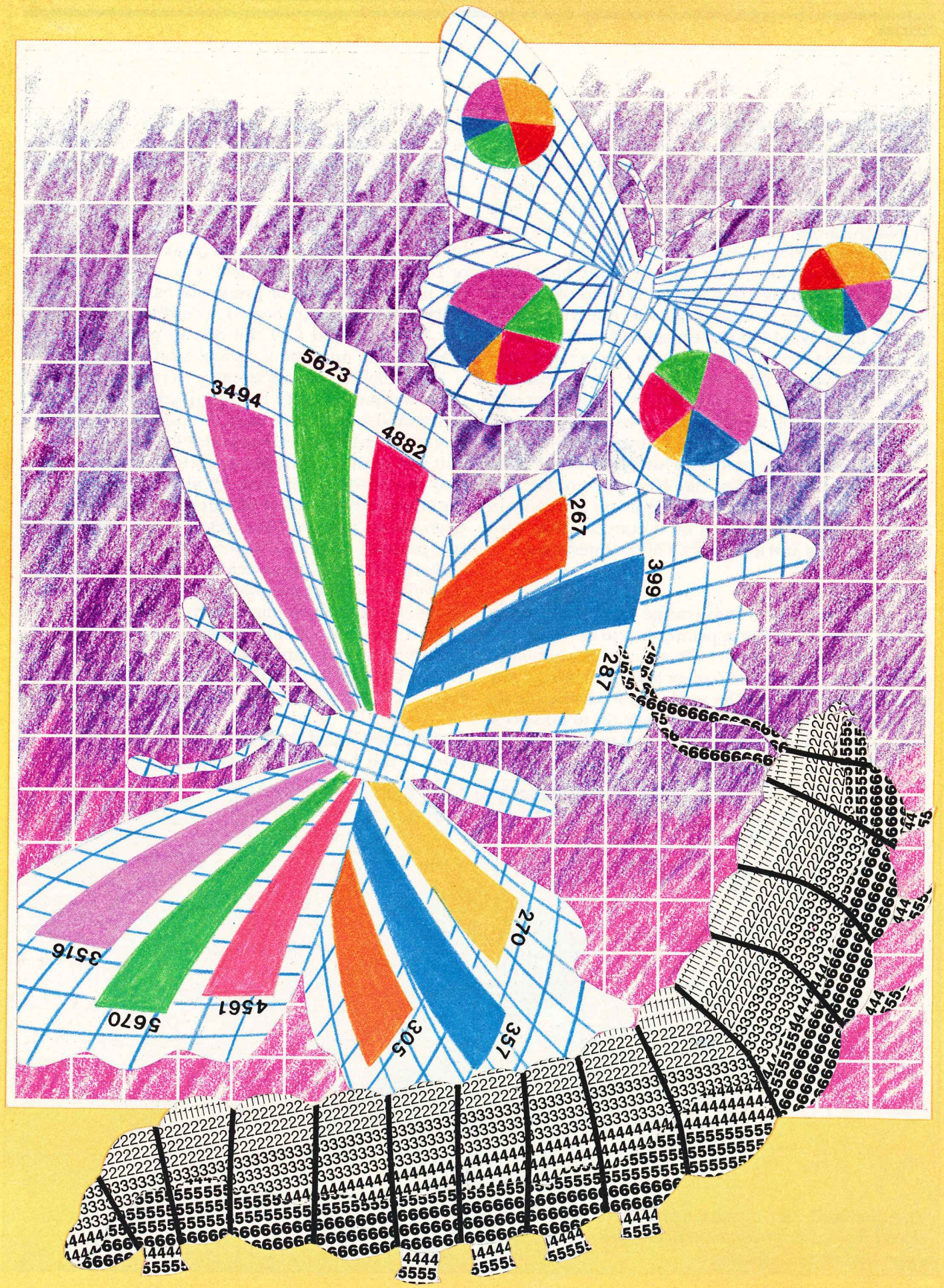
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Painless graph preparation

Graph preparation is quite painless. First you create a text file containing the data you wish to graph. You may choose either to type the number in directly or have the spreadsheet program "print to file." If you choose the latter, be certain to view the file to be sure that no control characters have been sent.

Once you create your text file you have two choices for creating your graph. The simplest is to run Data Plotter and answer the questions presented. If you would like to reuse the format created by answering the questions, Data Plotter will save the graph parameter specifications in a separate "answer file" (standard text file). You may then edit this file should you want to change any parameters.

Alternatively, you may create an answer file using a text editor (or word processor) and then direct Data Plotter to read from that file. Here's where the fun comes in. All you do to create a graph is run Data Plotter and watch it carry on a conversation with itself as it asks and answers all of the questions.

Types of graphs

Pie chart diameters may range from one to five inches on an 80-column printer (up to seven inches on a 132-column printer). Slices can be shaded in different patterns (up to five) or left unfilled, and any number of slices may be exploded from the pie for emphasis. Although a pie can have up to 50 slices, most graphs should be limited to far fewer for the sake of clarity. The pie chart in Figure 1, below, shows a breakdown of restaurants by type in the fictional Land of Oz. Labels may be generated from your text file in three formats: labels only; labels and raw data; or labels and percentages.

For bar graphs, you can vary the length of the X and Y axes (X axes can be up to seven inches or 12 inches, depending on whether your printer is an 80- or 132-column model). There is no built-in limit to the number of bars, or groups of bars, that can be plotted. Bar sizes are scaled according to the quantity being plotted and the overall graph size. You may plot any number of variables on a bar chart.

Data Plotter automatically arranges grouped bars. You may specify the filling you wish for each individual bar, or let Data Plotter automatically assign fill patterns (repeats after five bars).

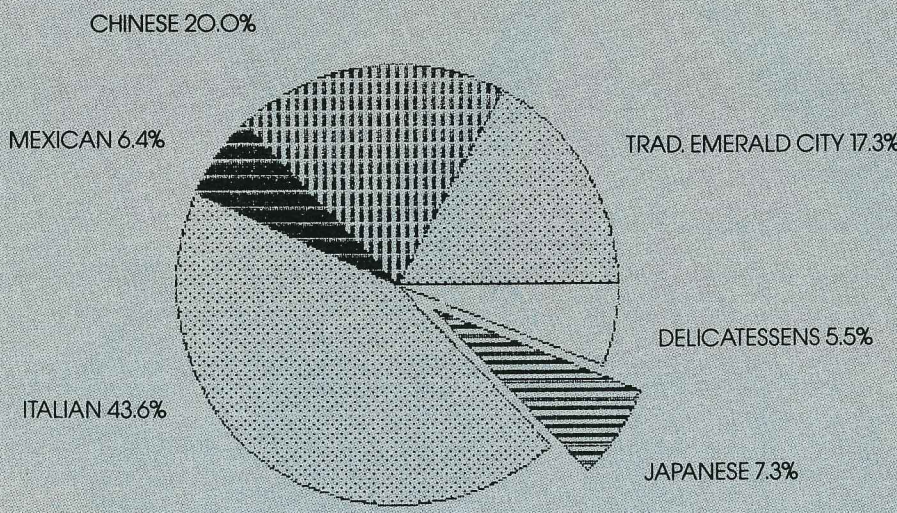
If you want to highlight a particular variable, you may make the other bars all one filling and your highlighted bar a different filling. Figure 2, opposite page, shows the number of restaurants classified as inexpensive, moderate, and expensive.

Data Plotter automatically creates legends for multi-function bar graphs; all you do is provide the labels. For this particular graph, I elected to specify fill patterns individually for each variable to exactly match the pattern automatically selected in Figure 1. Had Data Plotter automatically assigned the fillings, the order would have been slightly different.

Providing visual punch

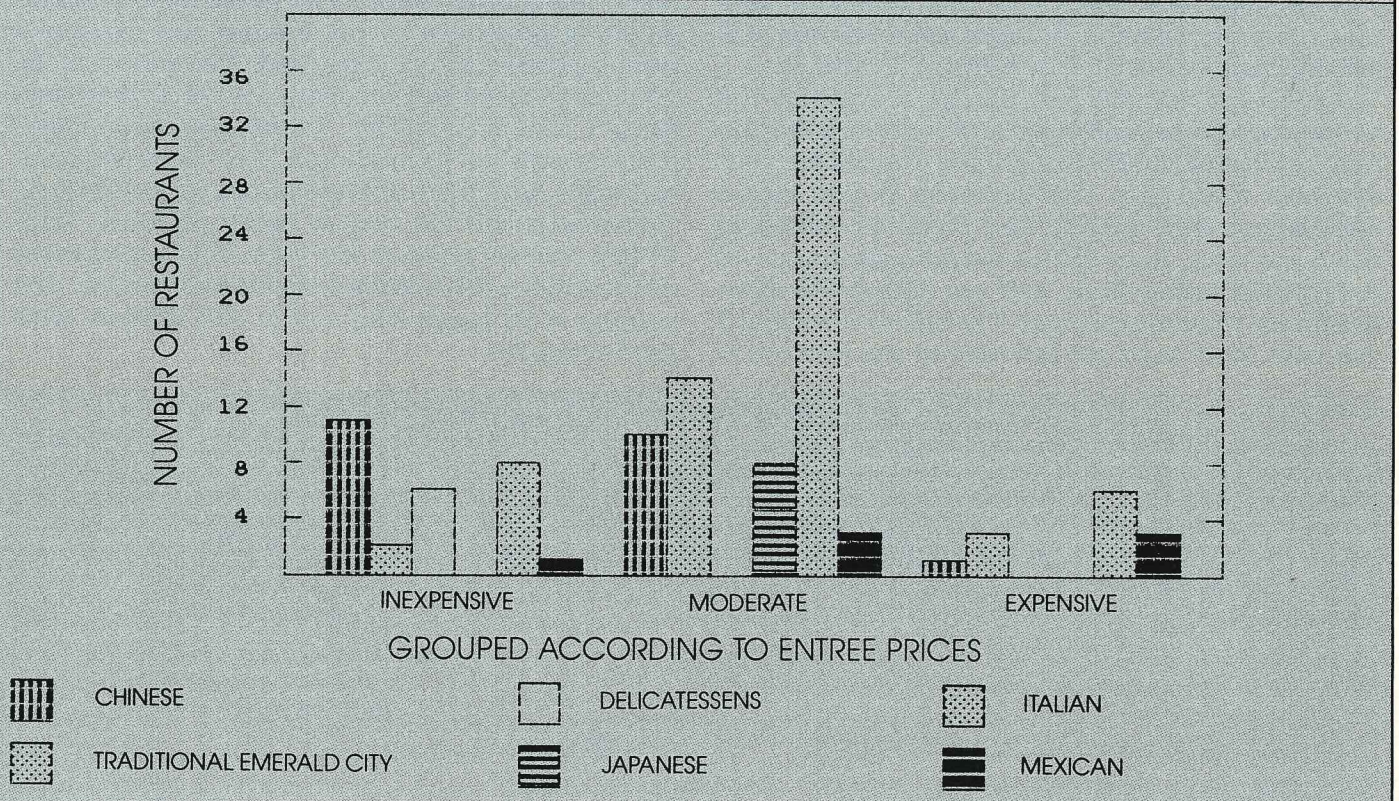
Even if you have already used other graphing pro-

FIGURE 1: RESTAURANTS IN THE LAND OF OZ BY TYPE



The pie and bar charts appear as they would taken from a dot matrix printer. The labels, however, have been typeset.

FIGURE 2: RESTAURANTS IN THE LAND OF OZ



grams to produce line graphs, you will likely find the choices and variations available with Data Plotter quite impressive. As with bar graphs, you may specify the X and Y dimensions, depending on the size of your printer. Up to 300 data points may be plotted for a single function on 8-bit computers (CP/M 2.2, 3, etc.) and up to 2,000 points on 16-bit machines (MS-DOS, CP/M 86).

If you do not want symbols to appear, you may make the lines without symbols and decide whether you want lines to be continuous or broken (the length of the dashes can also be varied). If you want symbols to mark data points, there's quite a selection. You may choose circles, squares, or diamonds, and any of these may be filled in, shaded, or unfilled.

Need more than nine choices of symbols? You can also select X's or +'s. In addition to the 12 choices of symbols, error bars showing standard deviation for individual averages can be plotted for each data point. You may manually select the size of all symbols, or let Data Plotter automatically scale the size, and different sizes may be mixed in a single graph. All points can be connected or unconnected (scatterplot), and you may connect just selected points. If there's a gap in your X-axis data points, indicating missing data or uneven intervals, the line will still be connected.

One particularly useful feature is the program's ability to read X and Y point coordinates three different ways. You can have it read Y coordinates only, and Data Plotter will assume X coordinates in serial order; X coordinates can be specified (which means you can give it data in jumbled form and it will sort it prior to plotting) to precede all Y coordinates; or X and Y can alternate.

Figure 3, on page 76, is an example of a mixed line graph with six variables. It depicts the growth or decline of particular types of restaurants over a ten-year span. The data was arranged in "column" format (discussed below) in order to identify six distinct variables. The X-axis was scaled manually to begin plotting data points farther to the right, leaving room for a legend. Because the legend itself was created in a separate file, it can be reused for other graphs with minor editing. The legend and data points were then merged to create this graph.

Free-form or column

Whenever you plot a bar graph or a line graph, Data Plotter will ask whether data is in "free-form" or "column" format. Free-form is just what it sounds like; as long as you have entered numbers, the data will be read continuously until the file is exhausted. However, column format requires that each line of

the input file contain an equal number of columns of data. Despite this restriction, this method of data input is more efficient because each column will automatically be treated as a different variable.

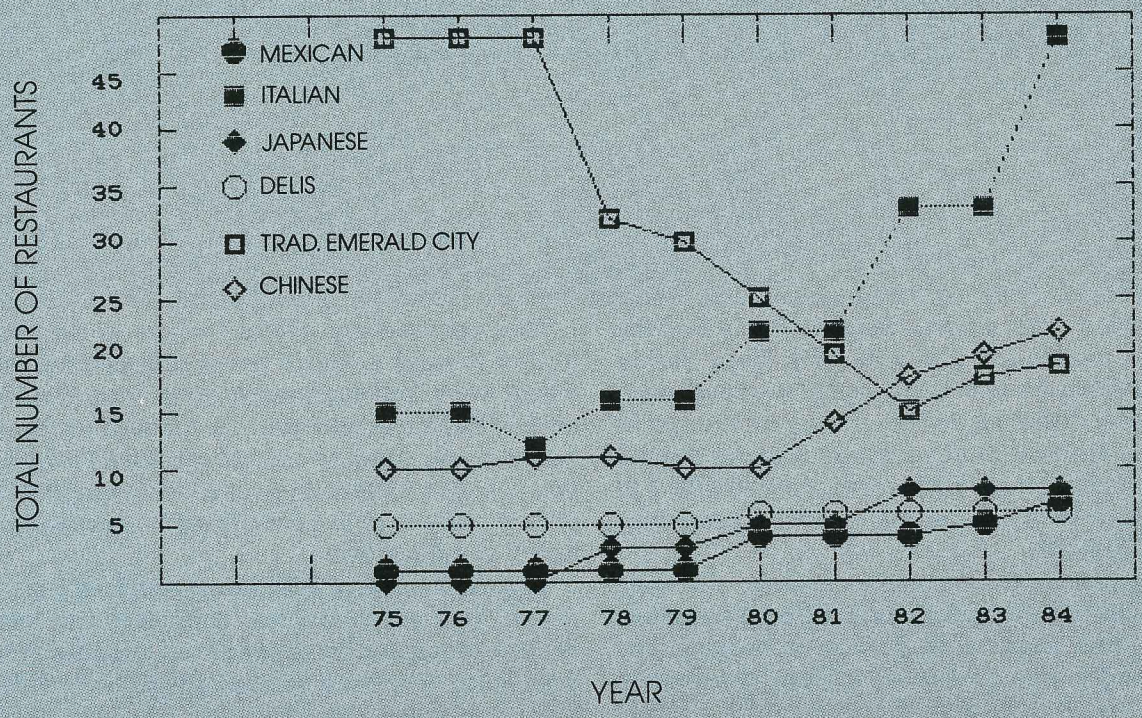
For bar graphs, different fillings or symbols will automatically be assigned, although this feature may be overridden. For line graphs, you choose your symbols manually. For example, if you had a spreadsheet with data in four columns extending down ten rows, Data Plotter would read that as 40 data points in free-form, and ten data points (four functions) in column format. The difference is that if you have more than one function to plot over many data points, it's much easier to let Data Plotter automatically group the variables.

A word about label placement: If you use Data Plotter's custom characters to create labels, they will be placed more precisely, since it uses the printer's dot-addressable mode. Any other text will be placed using the printer's best quality mode (for my Okidata 92 it uses correspondence mode, ten pitch). When using your printer's text mode, label positions may be slightly different from those you specified because the printer cannot position the labels exactly at those coordinates. I've found such differences to be minor and correctable.

User-friendly

Before using Data Plotter I had purchased two other graphing programs for my Kaypro and examined sample printouts from three more. The quality of the graphs produced by Data Plotter is better than anything I had seen before. I have also been quite pleased with its "friendliness." For example, error messages, which are in English, are very clear (e.g., "Label won't fit: too long or badly placed."). Data Plotter permits you to re-key your entry and ignores all incorrect entries when it creates its plot file. The manual is 78 pages long and is well written, with good examples.

FIGURE 3: RESTAURANTS IN THE LAND OF OZ FROM 1975-1984



If you should have further questions, Lark Software fully supports its product. My call to ask about some of the more advanced capabilities of the program was returned the next day by Dr. Leah Larkey herself, the developer of the program. She was patient and extremely helpful. This kind of responsiveness is something I expect from a software company but have not consistently experienced. Lark Software is to be commended for this attitude toward its customers.

Tips for using Data Plotter

If you want to create a particular type of graph that

requires you to manually specify parameters (e.g. axis scales or legends), look carefully through the manual to see if one of the examples has used this feature. Since all of the examples are carefully outlined and carry you through step by step, this will serve as a handy reference. Also, you will find that creating "batch files" using SUB or the public domain program EX will save you much effort in typing the filenames.

I was able to add Sysgen, Disk (a file management program), and a copy of Perfect Writer (with an 8k swap file), which is sufficient for editing data and answer files, by moving TRANSF to my utility disk. While the manual suggests using the filename extension ".DAT" for creating data files, I have found it more helpful to substitute ".PIE", ".BAR", or ".LNE" (*do* use ".PLT" and ".ANS" for labeling your plot and answer files).

How quickly can you create graphs? Data Plotter took from 30 to 90 seconds to process the graphs (not including time spent printing, which will depend upon your particular printer). Preparation of graphs takes only a few minutes. If you need to plot very complicated functions, it may take a little longer. I created a graph with 300 points (single function) and a few extra labels as a test, and Data Plotter processed it in just under five minutes. A four-inch square graph with 100 points took about two minutes.

I was pleased with its friendliness; error messages are very clear.

Conclusions

Is Data Plotter perfect? Almost. I missed having an automatic generation feature for line graph legends. The ones created by the bar graph program are so simple and professional looking, it's too bad there isn't one for line graphs. When I spoke to Dr. Larkey, she said she is planning to include this feature in a future version. Sometimes the automatic centering feature placed extra labels that were very short (fewer than ten characters) a bit too far to the left in the default text mode. I experienced no problems with automatic centering when making titles (any mode), labeling axes, using the custom character set, or creating long labels with default text (more than 20 characters).

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Answer files really make graph-making fun, allowing you to watch the program essentially run itself. However, it would be even easier to edit and alter existing answer files if you could have the options of selecting, on a question-by-question basis, the response from the answer file or inputting a new value (label, etc.) from the keyboard. While not a fault of the program, this feature would allow you to rerun Data Plotter without editing the answer file each time. Finally, I wish the program could rotate graphs if the X axis exceeded 8.5 inches (standard paper width), thus minimizing the need for a wide carriage printer, but this may be asking too much.

I highly recommend this program to anyone who needs to make high-quality graphs. If you have a computer that does show graphs on the screen, you may want to run rough drafts with that program, but you'd be hard pressed to beat the hard copy output produced by Data Plotter. I frequently use Lotus 1-2-3 for data analysis onscreen, but I print the final form to a text file and use Data Plotter to produce graphs for my reports and presentations. □

Bruce Gale is a clinical psychologist and behavioral consultant based in Boston. He specializes in problems of the autistic and mentally retarded and is interested in the use of computers as active stimulation devices for this group.

QUICK REFERENCE SUMMARY:

Product Name: Data Plotter, Version 2 (10/84)
Uses: Software for generating pie, bar, and line graphs or scatterplots.
Noteworthy Features: Does not require a graphics screen; unlimited functions can be plotted on one graph; choice of fill patterns; labels may be placed anywhere, as many as you wish; customized font option for labels; graph size can be specified; formats can be saved in answer files; program runs automatically by reading answer files.
Manufacturer: Lark Software, Inc.
131 North Leverett Road
Leverett, MA 01054
(413) 773-8687
Hardware Needed: Kaypro 2, 4, or 10 (will also run on many other systems).
List Price: $99 (complete package)
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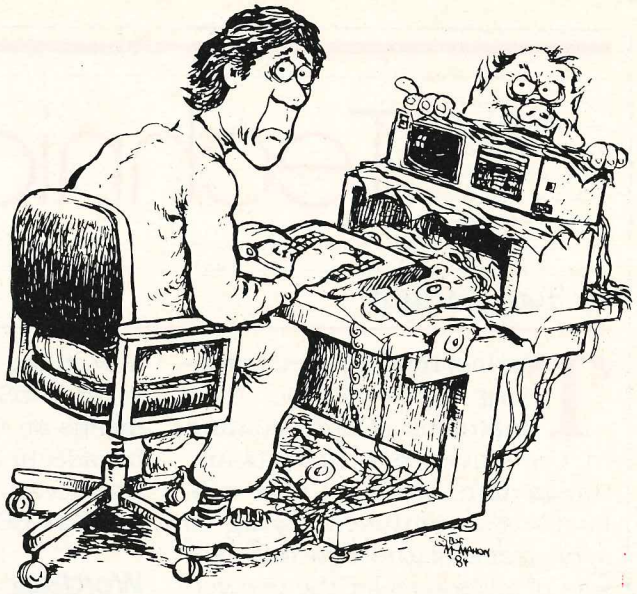
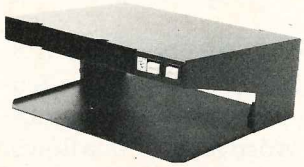


Porta-Enemy No. 1

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

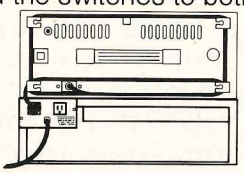


The **Porta-Micro Mate** (also known as the PMM) stores up to 20 of your most commonly used diskettes in the included plastic library boxes, as well as the keyboard, under the computer saving 1/3 of your desk space. The PMM's new sturdy steel base holds any transportable to a comfortable viewing angle.

DEALER INQUIRIES INVITED

Porta-Enemy No. 2

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



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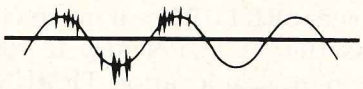

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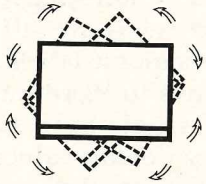
Available in two models, the PMM comes as a stationary unit or mounted on a swivel base for 180 degree positioning.



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Technical Forum

by Tom Enright

The last time we tried patching WordStar, the infamous "Oops" column in the November 1984 issue, things didn't work out very well. People got confused trying to keep track of the two different sets of addresses for the two versions of WordStar. This time we'll take a slightly different approach. Instead of using DDT and absolute addresses, we'll use WordStar's built-in patching utility and reference all locations with mnemonic labels.

Patches to WordStar take two forms: single-byte patches for delays or default values, and control strings that are sent to either console or printer.

Single-byte patches are numbers controlling the length of a delay loop or an on/off switch that determines whether some feature is on or off. In both cases, that single byte controls the default value of a feature.

A default is the state or value of a feature when the program is started. That value remains in force unless you give a command to change it. An example of a default is WordStar's page offset. The default page offset is eight and is added to the left margin when the file is printed. So, unless you specify otherwise with a dot command or change the default, your file will have eight spaces added to the left margin when sent to the printer.

Control strings for the console or printer take the form of a length byte followed by the control string. For example, the string to begin reverse video, on the Kaypro '84 series, is **ESC B 0**. This would be entered in a patch as **03 1B 42 32**; the 03 tells how many bytes long the string is, 1B is ESCape, 42 is B and 32 means an ASCII zero. This is the hexadecimal form of the string. The decimal version of the string is **03 27 66 50**.

WordStar 3.0

If you have WordStar 3.0, and have used the INSTALL program, you've seen the entry point to the built-in patching utility. When everything else is finished, the INSTALL program asks you "ARE MODIFICATIONS TO WORDSTAR COMPLETE?" If you answer "no," the patching utility is invoked.

To use the built-in patcher with 3.0, you specify the mnemonic code for the feature in the form of **LABEL:** (the trailing colon is required) or a hexadecimal address in memory. When a valid label is entered, INSTALL shows the current value in that location and asks you to enter the new value as a hexadecimal number.

In 3.0, after entering each byte of a patch, you are returned to the entry point of the patching utility. At this point you can press RETURN, enter a new label or address, or type a zero to exit the patching utility. Pressing RETURN takes you to the memory address immediately after the last entry. Entering a new label takes you to the new label address, and a zero is the signal that you are finished entering patches.

In the following example, when you see **<RETURN>** it means to press the RETURN key. If you were patching location TRMUNI to erase the screen when you exit WordStar, the sequence of entries from the initial patch screen would be:

TRMUNI: <RETURN>
01 <RETURN>
<RETURN>
1A <RETURN>
0 <RETURN>

The 3.0 patcher works; it's just a little cumbersome having to enter any new values in hexadecimal.

WordStar 3.3

To make the same patch in WordStar 3.3 the sequence is a little different. First of all, the entry point to the built-in patching facility is hidden; at no point in the WINSTALL program are you asked if you want to make any patches.

WINSTALL, for WordStar 3.3, lets you change many more features than the INSTALL program used for WordStar 3.0 allows. But there are still a number of features that aren't accessible from the regular WINSTALL menus.

The trick is, once you've answered all the questions about which file you are installing, WINSTALL shows you an INSTALLATION MENU and asks what feature you want to install. Enter a "+" as your choice. This is a hidden command that invokes the built-in patching utility. Once you enter "+" to start the patcher, it gives you the opportunity to enter **X** to get out of the patching utility, or RETURN to continue.

Since WINSTALL's patching utility is not menu-driven, you have to already know either the address or WordStar's label for the feature you're going to patch (more on what the labels are a

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little later). When using the 3.3 patching utility, you must preface the label with a colon. This is exactly the opposite of the procedure in 3.0's patching utility.

Once you enter the label, WINSTALL displays the value in the first byte of that label location plus the next 15 bytes of memory and asks if this is the location you want. You have to answer **Y** before being allowed to enter any new values. Once you have verified that the displayed location is the one you want, WINSTALL displays an instruction screen of how to enter new values. When entering new values, the 3.3 patching utility will accept decimal, hexadecimal, or the ASCII keystroke for the new value.

Once you've entered a new value, the patching utility automatically increments to the next sequential address, not back to the main patching screen. To stop entering new values, enter a period. To leave a value alone, press RETURN.

Since values can be entered in any one of three forms, you must preface the value with an identifier to tell WINSTALL which form you are using. Use a colon to preface an ASCII keystroke, a comma before a hexadecimal entry, and the number sign prior to decimal entries. The erase screen string, CTRL-Z, could be entered as ":^Z", ",1A", or "#26". Using the same example that we used for 3.0 gives us an entry sequence of:

:TRMUNI <RETURN>.

WINSTALL displays the address of the label and the next 15 bytes of memory, and asks if this is the right location.

Y (Do *not* touch RETURN.)

Now you get the instruction screen for entering new values. The current contents of the address are displayed with the cursor positioned to enter a new value.

,01 <RETURN>

,1A <RETURN>

That's it, enter a period to end the session and you are returned to the initial patching screen. Now you can press "X" to exit or RETURN if you have more patches to make.

Before you can make any patches, you must find out what labels WINSTALL recognizes.

Label locations

Before you can make any patches, you need to find out what labels WINSTALL recognizes. If you know anyone with a set of manuals for WordStar 3.0, patch point labels and addresses are listed in the back of the manual along with an explanation of what they do. These are in the form of commented assembly language listings and the labels are valid for WordStar 3.3. Note that the addresses are different in 3.3; it's the labels that are the same.

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Technical Forum

Another way to find the labels is to buy a copy of the *MicroPro Technical Support Manual*. This manual gives the addresses and labels of the patch points for all MicroPro products. Your dealer should be able to order this one from MicroPro. They do not sell directly to end-users.

A third source of information on WordStar patch points is a local users' group or your favorite bulletin board system. Particularly useful is a list of patch points written up by Milton Hicks (his name appears at the top of the list). Addresses in this list are for WordStar 3.0, but labels are also listed. Remember, all the labels are the same for both versions.

There isn't room in this column to list and explain the function of all the patch points. We can, however, list the some of the more useful labels:

IVON—Up to a six character command to start highlighted video.

IVOFF—Command that returns the screen to normal video.

Comment: Straight reverse video is a little too bright to be comfortable for normal use. Try defining IVON to be half-intensity reverse video. This would make IVON contain **6 ESC B 0 ESC B 1** and IVOFF would be **6 ESC C 0 ESC C 1**.

ITHELP—One byte defining the default help level, zero through three. Controls which menus show up on the screen.

DEL1—One byte, controls the length of a short delay loop that determines how long the cursor stays on during its blink cycle while doing global search-and-replace operations.

DEL2—Medium short delay. Single byte that times the off portion of the cursor blink cycle.

DEL3—Medium long delay, single byte. Controls the amount of time between pressing the first character of a two-character editing command and the appearance of the menu for that command on the screen.

The Juki 6100 uses a subset of Diablo 630 commands.

DEL4—Long delay. One byte value that defines how long the initial sign-on screen stays on the screen. Also determines how long the "NEW FILE" and "ABANDONING" messages stay on the screen. This is one of the two delays you need to change in order to shorten the notorious MicroPro sign-on screen.

DEL5—Controls how long it takes to update the entire screen. Interacts with DEL4 in timing the initial screen that everyone wants to get rid of.

(Note that the first 3 delays should be of increasing duration. None of them should be less than 1 or greater than 127, or the results can be unpredictable. Useful values are: DEL1 = 3,

DEL2 = 5, DEL3 = 9, DEL4 = 2, and DEL5 = 5. These values eliminate the long pause for the initial screen that everyone finds irritating. Now the sign-on screen goes away as soon as it appears, and the command menus come up as soon as the first key of a two-key command is pressed.

The following four locations are single-byte flags for setting default answers to the questions that WordStar asks when you print a file. Once you have reset the defaults to whatever values you use most of the time, you just press ESCape after entering the filename of the file to print. ESCape accepts all the default answers and skips the questions. Flag values are 00 for no and FF for yes.)

PODBLK—Disk file output. Should be yes only when you want to write to a disk file rather than to your printer.

PODBLK:+1—Use form feeds. Yes if you want a form feed sent to the printer before printing the document and form feeds between pages rather than several line feeds.

PODBLK:+2—Suppress page formatting. If page formatting is suppressed, all dot commands print out on the paper instead of being executed. Useful for printing examples of "boilerplate" header files.

PODBLK:+3—Pause for paper change between pages. If you are printing on single sheets of paper it would be nice if the printer stopped after each page to let you put in a new sheet of paper.

The default value of these is normally 00 for no. Change to a **FF** hexadecimal, or **255** decimal, to make the default yes.

Printer patches

PALT—Enter as **CTRL-P A**. Command to switch your printer to an alternate character width. Room for up to a five-character string, including the leading length byte.

PSTD—Entered as **CTRL-P N**. The command to return your printer to the standard character width. Room for up to five characters.

PSINIT—Initialization string sent to the printer. Defaults to a simple carriage return. The command string(s) here are sent to your printer before a file is printed. Room for up to 17 characters, including the length byte.

PSFINI—Up to a 17-character string sent to the printer when a file has finished printing.

USR1—Enter as **CTRL-P Q**. A user-defined print-control command sent to the printer whenever the program encounters a CTRL-Q in a file. Room for five characters with the length byte.

USR2—Entered as **CTRL-P W**. User defined command sent to the printer when a CTRL-W is encountered. Room for up to five characters.

USR3—Enter as **CTRL-P E**. Printer command sent when CTRL-E is encountered in a file. Room for up to five characters.

USR4—Entered as **CTRL-P R**. Printer command sent when CTRL-R is encountered. Room for up to five characters including the leading length byte.

Juki patches

Quite a few readers have asked how to get the Kaypro letter quality printer (Juki 6100) to print the special characters on the print-

(continued on page 89)

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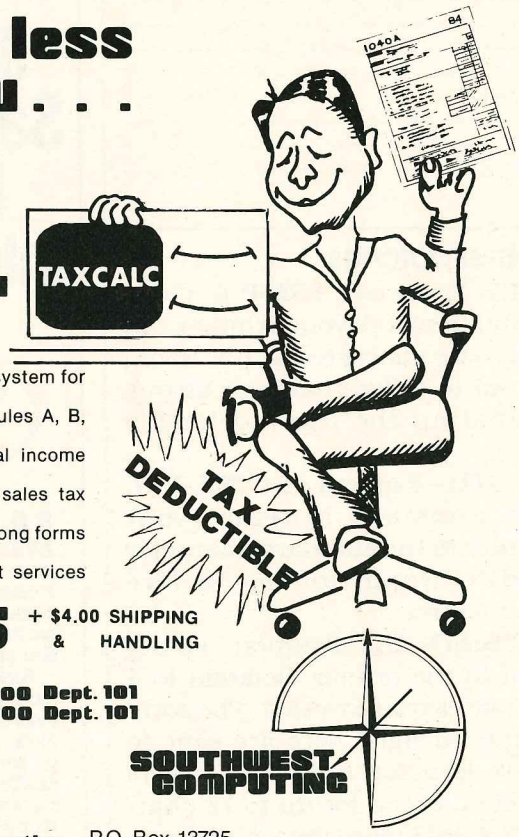

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FREE LUNCH
(continued on page 23)

space occupied, unless you erase the source files before you start editing—requiring an even longer sequence of commands:

A0>**USER 9**
A9>**PIP A:=A:WS*.*[GOV]**
A9>**USER 0**
A0>**ERA WS*.***
A0>**USER 9**
A9>**WS**

For that matter, you may not have enough free diskette space to double up before erasing the extra copy.

MOVE.COM solves all of this by letting you move files from the current user area to a new user area; e.g. the command: A0>**MOVE WS*.* 9** will move all files defined by the wildcard file name WS*.* from user 0 to user 9 (actually just changes the directory pointers so that the files themselves are never physically moved on the disk). Likewise, the command: A0>**MOVE *.COM 9** would move all .COM files—including MOVE itself—to user 9.

MOVE aborts if it discovers there's already a file with the same name in the destination area, thereby avoiding UNERA's duplicate file problem.

MAKE

MAKE 2.0 is a general purpose utility that modifies file attributes and supports the following functions:

—Changing the user area of a file, or group of files, effectively "moving" the files from one user area to another.
—Setting (or clearing) the CP/M read/only, read/write, system, or directory attributes for a file, or group of files.
—Erasing a file, or group of files, regardless of status.
—Recovering erased files.

The syntax used for the command is: **MAKE FILENAME.EXT X** where X may be a

user area number in the range of 0 to 15, or any one of the following options:

—Blank views the current status.
—**S** to set 'System' status.
—**D** to set 'Directory' status.
—**R** to set 'Read/Only' status.
—**W** to set 'Read/Write' status.
—**E** for erasure regardless of status.
—**U** to unerase an erased file.

Invoking MAKE with no parameters will bring up all its valid options.

Please note that unlike MOVE, MAKE searches the *entire* disk in *all* user areas for the specified files. For example, the command: **MAKE *.COM 1** will search *all* user areas on the logged drive, and make all .COM files belong to user area 1. Similarly, the command: **MAKE *.* 0** changes *all* files, in *all* user areas, to user 0 (not a good idea).

Caution!—Because MAKE does not abort if there's a conflicting file name in the destination user area, and because it only changes the directory's user area assignment, it can leave you with duplicate file names for the same user area.

Conclusion

All three utilities are well worth having, especially UNERA. But before you're forced to use any of them on valuable data, experiment with dummy files so you'll have a good idea of how you can go wrong. That goes for all software—but particularly for that in the public domain. □

Mr. Lutz is always interested in new public domain material. You may send information or disks to him at this address:

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Q&A

(continued from page 12)

Every time I answer the question "Name of file to install" with WS.COM, I get the error message "INS. FILE MISMATCH." Am I doing something wrong?

Money Luckett
Clarksdale, Mississippi

Whenever you run the WINSTALL program, a file called WS.INS has to be on the same diskette with WINSTALL and the WordStar files. If that file isn't on your WordStar working diskette, PIP a copy of it onto the disk before running WINSTALL.

If WS.INS was already on your working diskette, try copying a new copy of both WS.INS and WINSTALL.COM onto the working diskette from the WordStar Master that came with your computer.

If the same problem persists after doing all this, you're going to have to contact Kaypro Technical Support to get a new WordStar master. An alternative is to get new copies of these files from someone else who has a Kaypro with WordStar 3.3.

Can't read the disks

I have been having some trouble reading disks sent to me from another Kaypro. My dealer informs me that this is most likely due to our having different CP/M releases and that I will have to have my CP/M master diskette updated.

If my CP/M disk is updated to CP/M 2.2G, or whatever the latest release is, will I have to reinstall all of my software? Most of the disks I have been unable to read had WordStar manuscripts on them. My Kaypro is a 4'84 and the other computer is a Kaypro 2.

Do I really have to have my CP/M diskette updated? If so, who should I contact at Kaypro?

David Oettinger
Rhinebeck, New York

The version of CP/M you have has absolutely nothing to do with whether your computer can read data files from another Kaypro.

Since you are trying to read disks from a single-sided Kaypro on your double-sided machine, you should warm boot your machine with the Kaypro 2 disk in drive B. When you warm boot your Kaypro it looks at the diskettes in both drives. If one of the diskettes is single-sided, the operating system makes a note of the fact because it has to treat single-sided disks a little differently. On a single-sided diskette, the directory information is on the opposite side of the disk than it is on a double-sided diskette.

If warm booting the computer makes no difference and you still can't read the diskettes, one of the two computers should have its drive alignment checked. You can test this by taking disks from both machines and trying to read them on a third computer. The diskette that can't be read by the third Kaypro came from the computer that needs its drives aligned. If this test fails to turn up unreadable diskettes, have the drives on both computers checked for alignment. □

(continued from page 85)

wheel. The solution is all in WINSTALL.

Step one is to install the printer as a Diablo 630. The Juki 6100 uses a subset of Diablo 630 commands. This lets WordStar access features like variable character width, variable line spacing, superscript, subscript, etc. Part of the Diablo definition is the assignment of two codes called phantom space (CTRL-P F) and phantom rubout (CTRL-P G). The Diablo definition defines phantom space as **ESC Y** and phantom rubout as **ESC Z**, so that automatically takes care of two of the six special characters.

Step two is to patch the other special character sequences into USR1 through USR4. Patching USR1 as **ESC H**, USR2 as **ESC I**, USR3 as **ESC J**, and USR4 as **ESC K** gives you access to all of the Juki special characters from within your WordStar files.

Screen dump program

The ability to dump whatever is on your screen to a printer, or a disk file, is a very handy tool.

Screen dump programs for the '83 series Kaypro have been around for some time, but, until now, they were not available for the '84 series.

I recently acquired a copy of XSCREEN from Xpert Software in San Diego, California. It works and it's solid. XSCREEN can filter out unwanted characters, add a command string to the beginning or end of the dump, and send the output to printer or disk file. The price is only $25, and it is well worth it if you can use this ability. □

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by Susan Hyman

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

To be considered for publication in New Products, send press releases and product information to: New Products Editor, PROFILES *Magazine, Kaypro Corporation, P.O. Box N, Del Mar, CA 92014. Releases must state the price and on which Kaypro machines the product runs. Send black-and-white photos if available.*

Special interest group and newsletter for Kaypro 16 users.
The independent national Kaypro Users' Group (NATKUG) is forming a special interest group for users of the Kaypro 16 (SIG-16). This group's newsletter, *The NATKUG 4 Bits X 4 National Newsletter*, will add an IBM-compatible emphasis to the current *Piece of Kayke National Newsletter*.

The newsletter will cover the overall computer industry with a focus on Kaypro. It will contain hardware/software reviews for the PC-DOS/MS-DOS software environment, and 8088 compatible products. It will also feature tutorials, a users' forum, Kaypro 16 updates, users' tips, and columns such as "Other People's Computers" and "The Devil's Advocate."

The cost for SIG-16 membership (which includes the newsletter) is $15 per year. Regular membership is $12 per year. Members can receive their newsletters on floppy disks for $25 per year.

The National Kaypro Users Group, Box 28360, Queens Village, NY 11428 (212) 776-2909.

Label and data entry program.
T/H/C MAILLIST lets you input labels to be used with MicroPro's MailMerge or its own program, T/H/C LABELS. T/H/C MAILLIST uses a simple format to enter data into small databases, such as those used as mailing and price lists, and personnel records.

T/H/C MAILLIST allows users to define their own data entry formats, each having up to 15 fields. There is a default data entry format that can be changed to match the user's most frequent use. The program can also create a MailMerge print control file that will let the user select the name of the document file, data file, MailMerge format file and the date s/he wishes to use.

Designed to be used with T/H/C MAILLIST, T/H/C LABELS prints multiple-across labels (up to ten), and can set such label parameters as desired offset from a printer's left margin, label width and height, number of printing lines on labels and more.

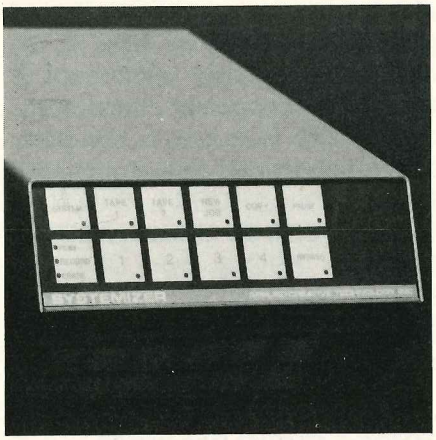
$75 for T/H/C LABELS alone, or $100 for T/H/C LABELS AND T/H/C MAILLIST.

The Hutchinson Company, 2900 W. Northern Lights, Suite 9, Anchorage, AK 99503 (907) 243-6001.

Sherlock Holmes game.
The **DocuSoft Mystery Series** combines elements of an interactive novel with a game. The two disks in volume one of this series contain two original mysteries written in the style of the 1880s—Sherlock Holmes' era.

The object is to solve the crime in as few clues as possible. The reader is presented with a crime and is then free to visit the suspects and locations in the story to gather clues. The user may make notes in "Watson's Notebook," an online notebook, and exit the game anytime without losing his place. The game does not finish until the reader finds the correct solution. A clue counter counts the clues used.

$19.95. DocuSoft, P.O. Box 3056, Redmond, WA 98073 (206) 881-2792.



Networking printer buffer.
The **SYSTEMIZER** is a printer buffer that can also serve as a link in a printer-sharing network. This product enables up to 15 computers of mixed brands, each equipped with a SYSTEMIZER, to share up to 15 printers, plotters and other peripherals.

The SYSTEMIZER provides each workstation with an advanced printer buffer that can control the order in which jobs are printed, stop between pages for paper insertion, and stop between jobs to change forms. It can also interrupt a print job in process to print something else, remotely select the printer's character font, and make multiple copies of specific documents. The

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SYSTEMIZER works with most computers and printers, and accepts either parallel or serial data.

Prices begin at $299.

Applied Creative Technology, Inc., 2156 W. Northwest Highway, Suite 303, Dallas, TX 75220 (214) 556-2916.

Online comedy.

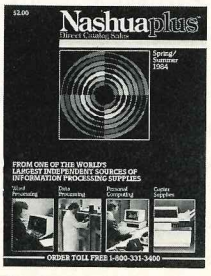
Comedy By Wire is an online comedy newsletter created by Billiam Coronel, a professional stand-up comedian based in New York City. Each issue reports overlooked news, stupid product reviews, unknown industry trends, and superficial interviews with the seriously misinformed. It is available through The Source ("Public 153 Direct" at Command Level) and DELPHI (Infomania section under newsletters).

COMEDY BY WIRE, 431 West 45th Street, New York, NY 10036.

File archive utility program.

ARCHIVE allows groups of files to be saved in one file to conserve disk space. This one file's contents can be listed, updated, appended, extracted and deleted. Binary and text files are supported, as well as wildcard filenames.

$24.95. Generic Computer Products, Inc., P.O. Box 790, Marquette, MI 49855 (906) 249-9801.



Supply catalog.

This new color catalog of information processing supplies and accessories is geared to small and medium-sized businesses. It includes magnetic media, paper, furniture, printer supplies, filing products and other related items. Free shipping, toll-free ordering and toll-free consultation with trained service representatives is also available from the company.

No fee. Nashua-Plus, 70 Franklin St., CS-2038, Dept. P-2, Nashua, NH 03061 (800) 331-3400.

Gin rummy program.

Your Kaypro will shuffle, deal, play hands, discard, and keep score with **GIN©**, a self-instructing gin rummy game. The object is to beat the computer, which will play gin hands against you until one of you acquires more than 100 points to win.

Kaypro II only. $49.95. JWE, 7302 Marc Drive, Falls Church, VA 22042.

WordStar patching service.

Any version of WordStar on the Kaypro can be patched to obtain true proportional spacing with this service. The patch produces the best result with the Juki 6100 letter-quality printer equipped with a Juki Roman PS wheel, but will also work with that printer's original Courier 10 daisywheel. The patching service is also available for other letter-quality printers, including Diablo, Qume, NEC, Brother, C.Itoh and Silver Reed.

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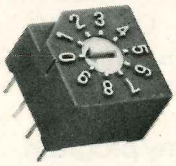
New Products

alternate character pitch, shadow print, boldface, double strike, superscript, subscript, overprint, underscore, strikeout or a combination of features.

The price is $10 per patch for the Juki; write for prices on other printers. The price includes a 30-page instruction booklet.

Chaucer Software, P.O. Box 2308, Princeton, NJ 08540.



Dip switch.

The **BCM10-V110** miniature binary-coded dip switch is a vertically mounted, low-profile product using a simple design. The sealed gold-plated contacts offer a switching electrical rating of 5 volt DC, 100MA, while the easy-to-read flat numbered screwdriver slot features a ten-position real time function.

$1.25. Eagle Switch, 709 N. Memorial Parkway, Huntsville, AL 35801 (205) 534-1006.

Tax preparation for Multiplan users.

TaxVision is an income tax analysis and preparation package for users of Microsoft's Multiplan financial software.

TaxVision is an integrated set of templates, each of which represents an IRS form or schedule. Users simply fill in the blanks and the program calculates the results. The data entry screens parallel those of the actual IRS forms and schedules and enable users to explore "what-if" analyses.

TaxVision supports most IRS schedules and forms and comes with an instruction manual, tutorial, ten 1040 forms, green bar printer paper, and low-cost annual updates.

$89. Vision Information Products, Inc., 5500 Atherton St., Suite 306, Long Beach, CA 90815 (213) 431-5284.

Kaypro software directory.

This is the second printing of the *Kaypro Software Directory* and it contains over 1,500 software products that are available to run on CP/M-based Kaypros. It's divided into three sections: a topic index, an alphabetic index by program name, and a software manufacturer product summary.

The main body of the directory is the manufacturer's product summary. Listed by manufacturer, it contains software abstracts which include retail price, compatible Kaypro systems, source language, and a brief description.

$35. Available from Kaypro dealers nationwide.

Kaypro hardware directory.

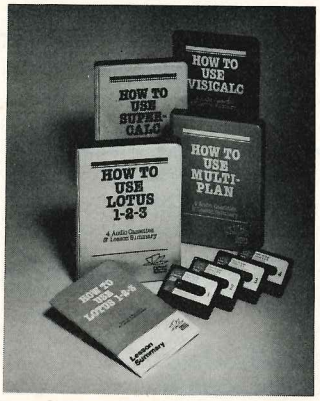
Just released, the *Kaypro Hardware Directory* is a catalog of add-ons and accessories for Kaypro computers. It contains items from new ROM chips and Co-Power boards to carrying cases and reading racks.

$3.95. Available from Kaypro dealers nationwide.

Audio courses for spreadsheet programs.

Tutorials on cassette tapes are now available for the software programs Lotus 1-2-3, Multiplan, VisiCalc and SuperCalc.

Designed for first-time users, the audio courses lead users from the programs' essential commands



to their more difficult operations. In other words, the programs start by coaching the user into creating his own worksheets or templates, and then ease him into doing more complex functions and analyses. All skills learned can be applied to any computer.

The tapes use a branching learning format. Flipping over the tape at various stages in the lesson lets the learner pursue optional special-interest topics, hear instructions for equipment variations or obtain extra practice.

Each tutorial comes with four cassettes packaged in an album and a quick reference guide.

$75 each. FlipTrack® Learning Systems, 999 Main, Suite 200, Glen Ellyn, IL 60137 (312) 790-1117.

Business printer.

With a full-size 15-inch carriage and adjustable tractor feed, the **RITEMAN 15** prints in 9 X 9 dot matrix and occupies less space than many business printers.

The RITEMAN 15 prints at 160 characters per second and has a column width of 136 characters. In addition, the RITEMAN 15 has a quiet mode that prints at 80 characters per second, graphic capabilities in seven densities, nine foreign character sets, and 128 character modes. Paper can be fed from the bottom or top.

$799. Inforunner Corporation, Airport Business Park, 431 North Oak Street, Inglewood, CA 90302 (213) 453-6688. □

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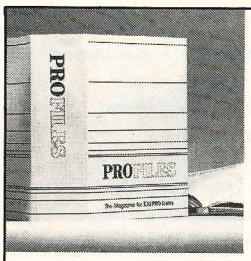

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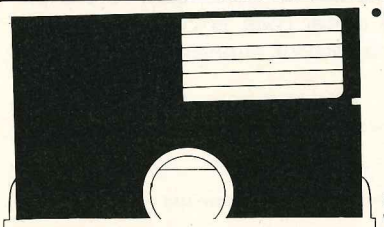

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Next Month

In May, *PROFILES*' will cover "The Impact of Computers on American Life." Gil Gordon, president of a New Jersey consulting firm and an author specializing in telecommuting, will interview noted futurist Alvin Toffler, discussing how computers affect the ways we live and work. In a related article, Gordon will explore the pros and cons of telecommuting and the problems it is likely to create—and solve—in the next decade. Other writers will delve into other dimensions of this intriguing theme. And *PROFILES* will continue to offer its readers articles on the practical information they need to get the most out of their Kaypros.

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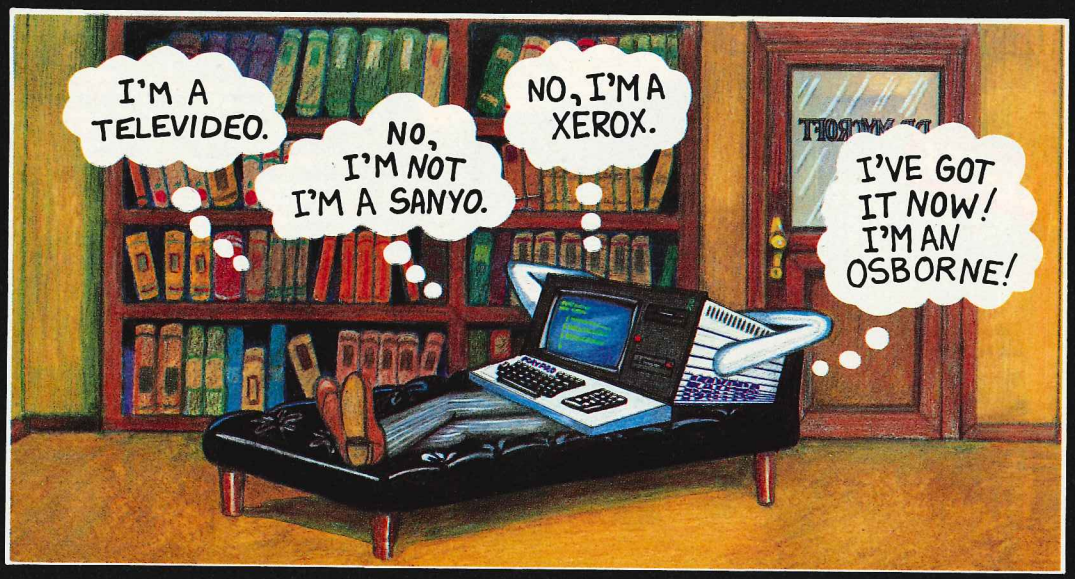

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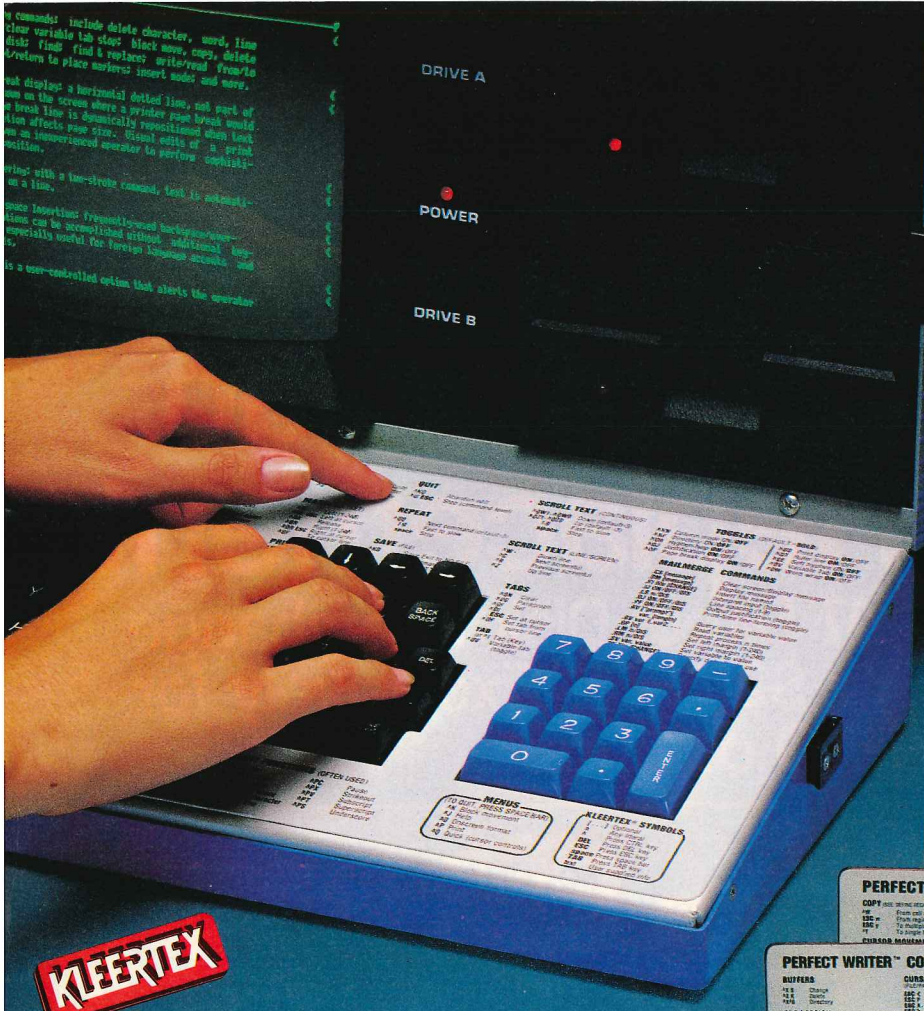

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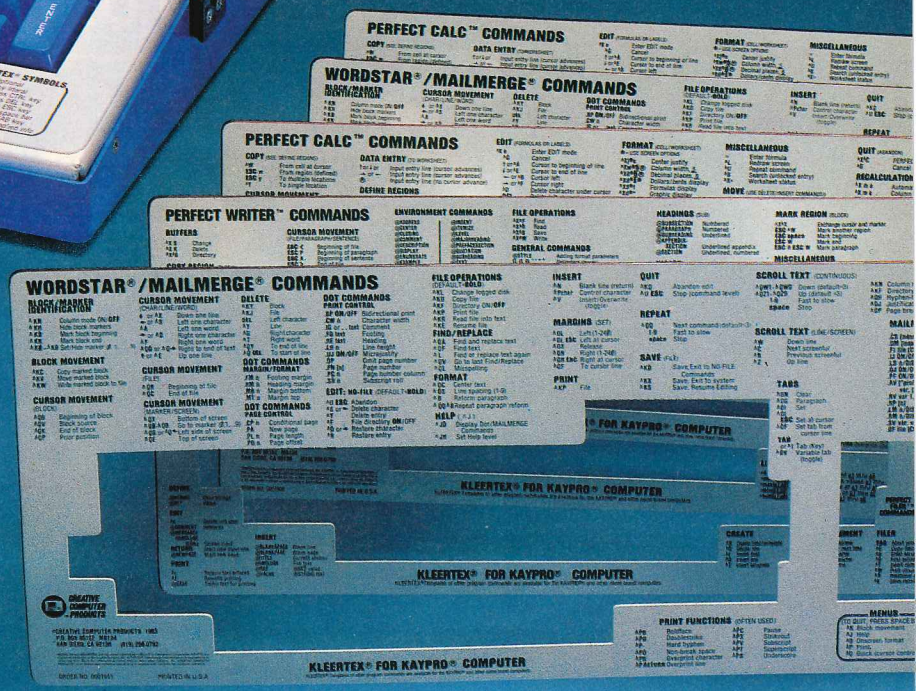

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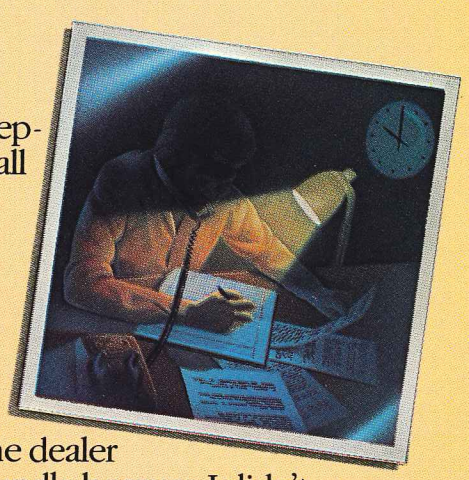
"MY OWN RAGS TO RICHES STORY" CHAPTER 1

(Your picture here)

Computerized Books Without Red Ink, Sweat or Tears.

by _____
(Your name here)

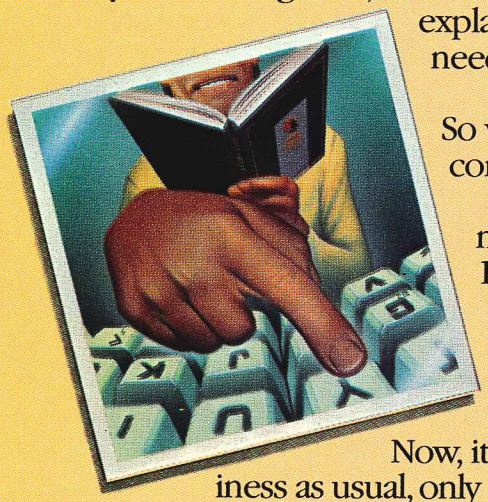


I was an _____ {established, industrious, entrepreneurial} business person, looking for an escape from bookkeeping drudgery. But the computer "solutions" I'd seen all seemed too _____ {expensive, complex, intimidating}.

Then the local computer dealer called and said "Try Rags to Riches™ It was made for you."

So I did. It was really easy to use! No codes or names to type—just pre-assigned customer and vendor keys. Five basic commands ran all the modules I needed: _____ {Ledger, Sales, Payables, Receivables, *all of them*}.

They worked together, and all fit on one disk. The dealer explained I'd save a bundle because I didn't need _____ {an extra disk drive, a consultant to set it up, a training course, *all of the above*}.



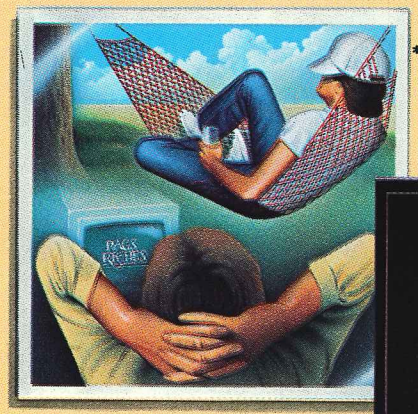
The price was right—less than $100 per module. So was the price of the _____ {IBM® PC, compatible, PC*jr*, _____*} computer it ran on.

The clincher was the way it's customized to suit my business. There are even Rags to Riches Solution Booklets™ to help make the most of my investment.

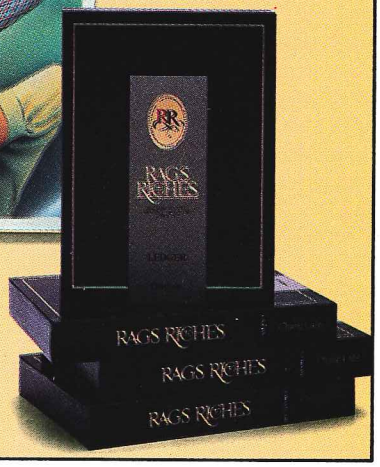
Rags to Riches is the only "RAM-based" accounting software. It calculates instantly—no waiting. Its "Open Architecture," means the data works with hundreds of other programs, so I won't outgrow it.

Now, it's business as usual, only better. I actually have extra time to _____ {work on increasing profits, drum up more sales, relax}.

And, of course, to tell my friends that success doesn't have to be difficult anymore. (To be continued.)



*Ask your dealer about availability on others.



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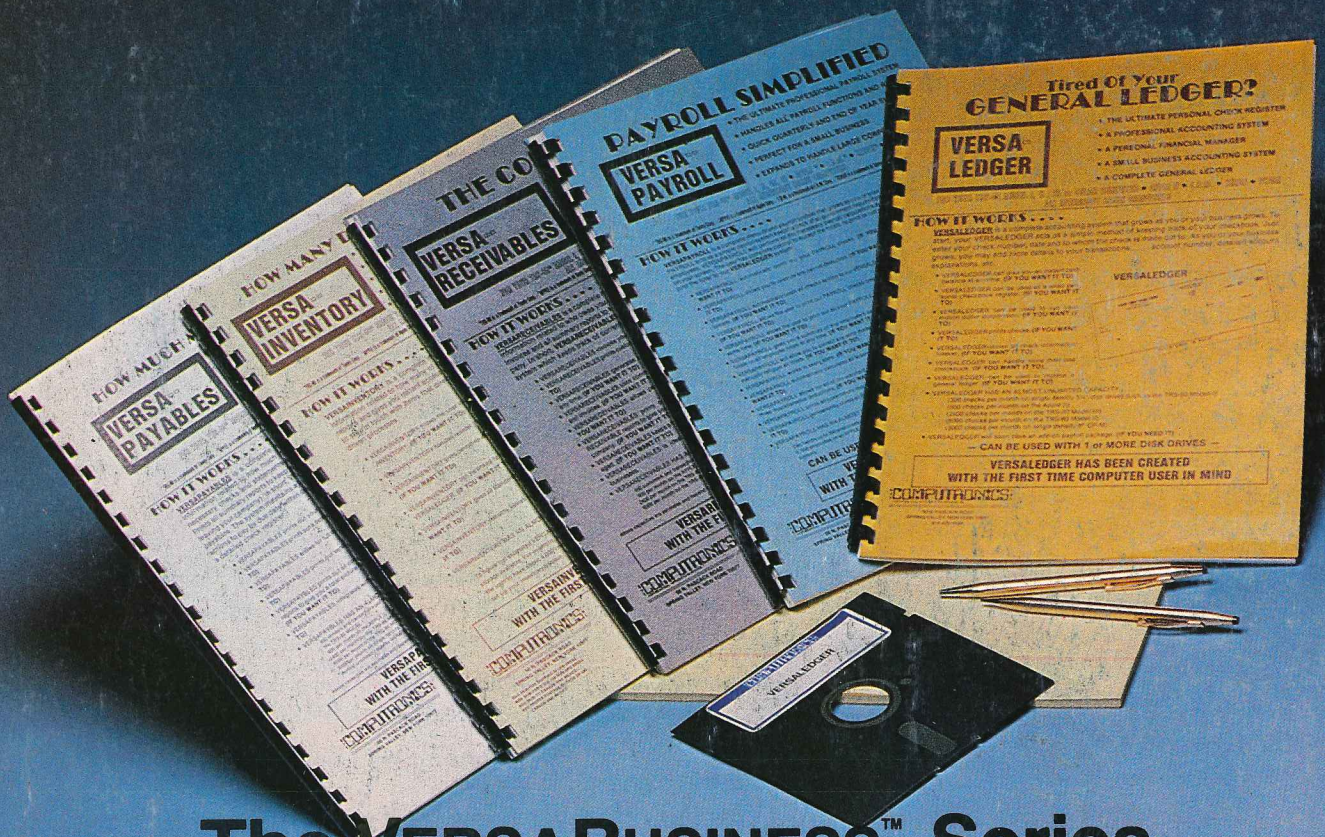

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VERSAPAYABLES™ is designed to keep track of current and aged payables, keeping you in touch with all information regarding how much money your company owes, and to whom. VERSAPAYABLES™ maintains a complete record on each vendor, prints checks, check 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.

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