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PROFILES

The Magazine for Kaypro Users

July/August 1985

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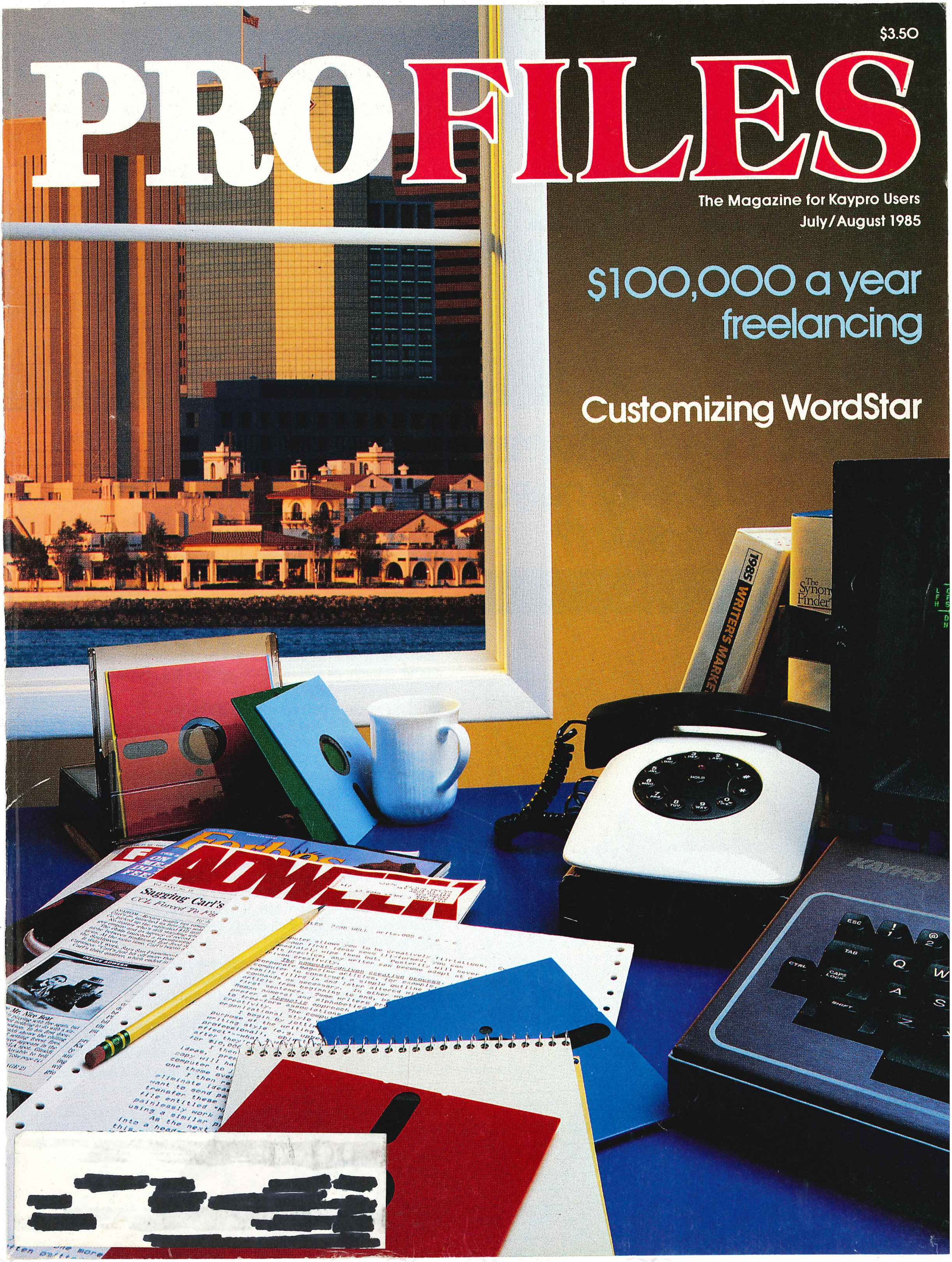

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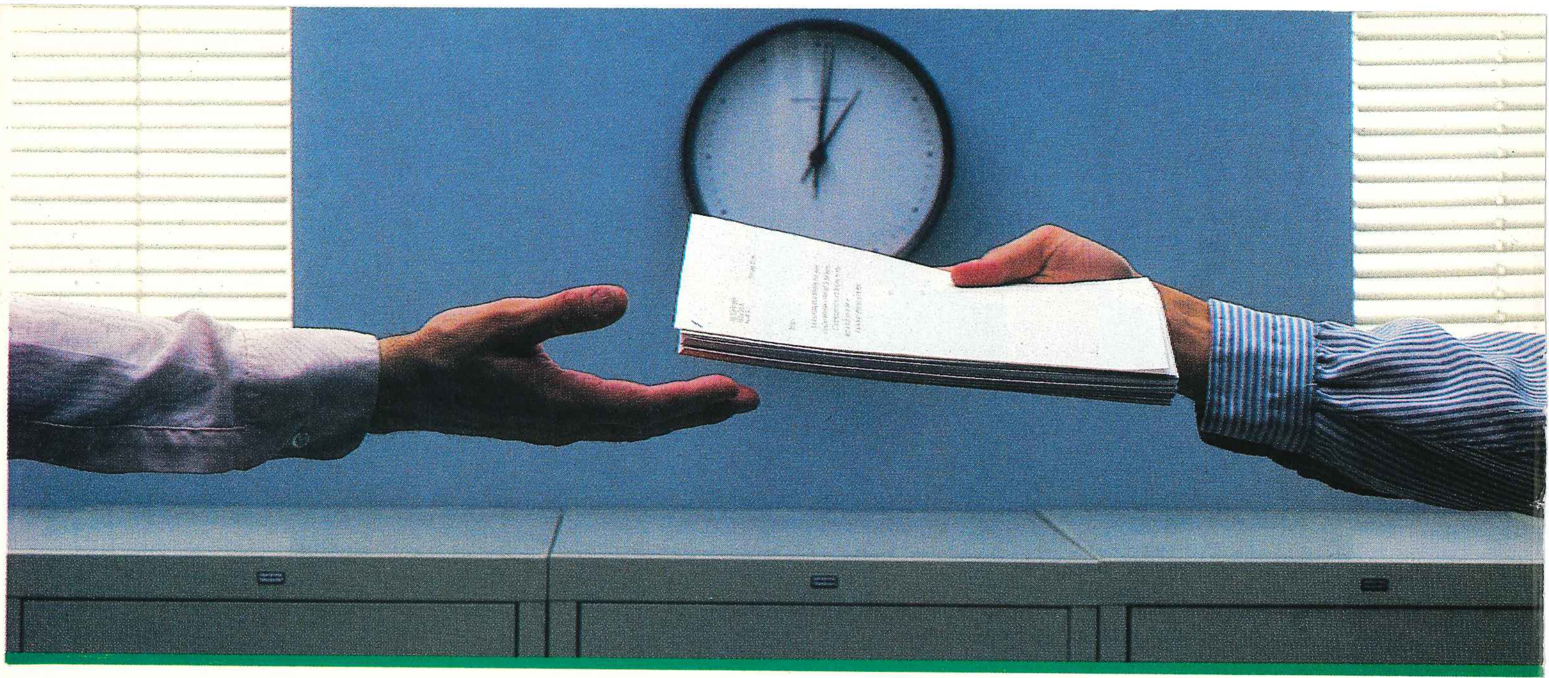

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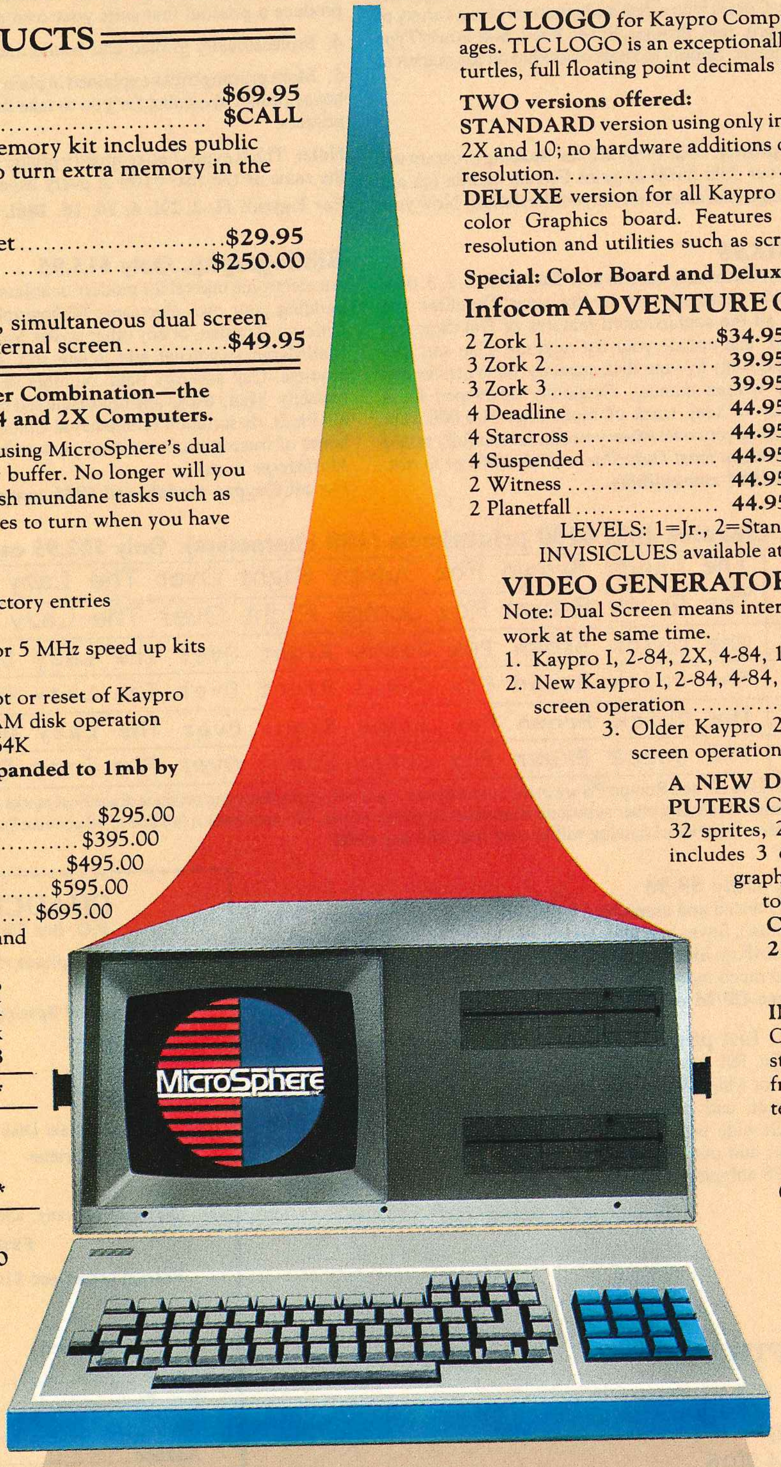

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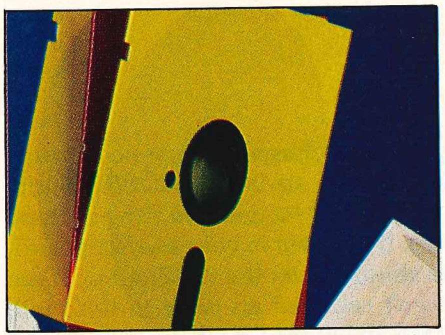
Volume 3, Number 1
July/August 1985
The Magazine for Kaypro Users



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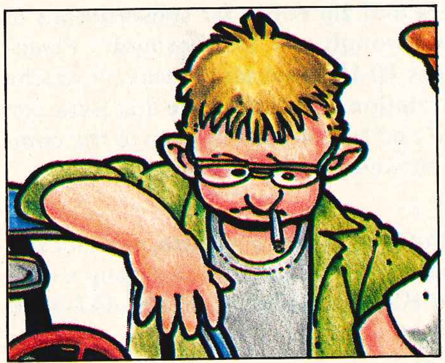

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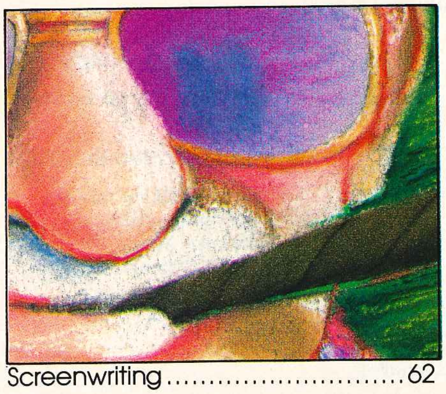

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Introducing

PROFILES

A Magazine For Kaypro Users

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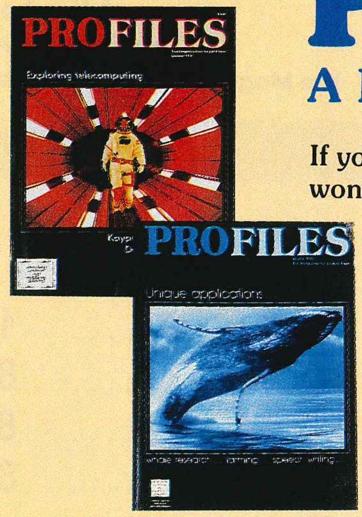
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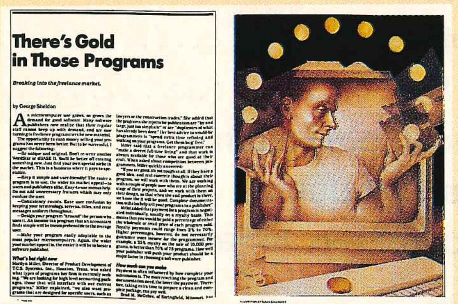
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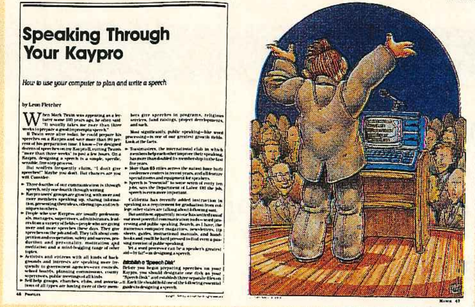
Breaking into the freelance market.
by George Sheldon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by Leon Fletcher

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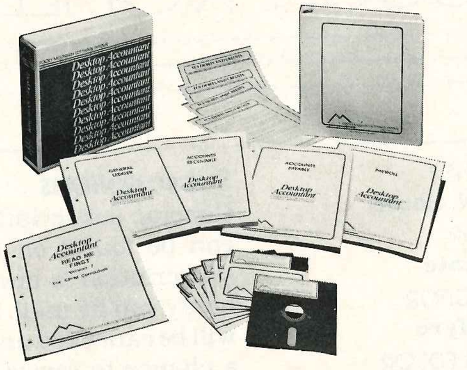

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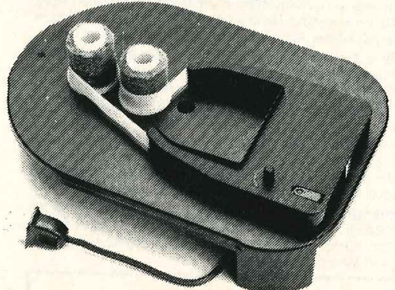

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Letters

V-e-r-y interesting!

The article "Here's to Your 26-Pound Pocket Calculator!" (by Darrell Huff, May 1985) was v-e-r-y interesting and provided my first foray into MBASIC. Oddly enough, I was able to modify Figure 3 and Figure 4 and then added the query regarding whether the values entered were correct.

This may not sound like much, but it was quite a step to further modify Figure 3 to print the entered information.

Now I'm going to relax a little, brush the dust off the MBASIC manual and see what I can do on my own.

Ben R. Burney
Crystal Springs, Mississippi

. . . but wrong?

Any reader who actually ran the amortization program found in "26-Pound Pocket Calculator" knows that the "minor miracle" described so breathlessly was indeed only "a computer-assisted bit of hypnosis." Readers who just took the author's word for it should be disabused of the hope of getting something for nothing.

It is true that by paying off a mortgage in fewer years it will cost the borrower fewer total dollars (as in $286,000 over 19 years vs. the $426,000 over 30 years for the 14 percent $100,000 loan discussed) and may be a "good buy."

But doing so naturally requires paying *more* per year ($15,071 per year vs. $14,218 with monthly payments). There is nothing magical about more frequent payments; they save about $10 per year. Apparently the author compared two of his 26 (not 24!) payments with one monthly payment.

Morals: Don't believe the documentation—run it yourself! And using a computer doesn't eliminate the need for thought in interpreting results.

Craig Chester
Pebble Beach, California

Your letter was the most accurate of several critiques of Huff's article that we received. Your results agree with our own (with the exception of your annual figure of $15,071—we get $15,061). However, PROFILES stands by the technical accuracy of Huff's following core statement (in which we have inserted the relevant numbers for clarity):

"Do you find it interesting that by making slightly less than half-size payments every two weeks [$579.27 26 times a year versus $1184.87 12 times per year] you can pay off the debt in 19 years instead of 30? And that the total paid over the lifetime of the mortgage is reduced by more than the whole amount of the mortgage [$426,554 (over 30 years) minus $286,161 (over 19 years) equals a reduction of $140,393—which is greater than the original mortgage of $100,000]."

The above is simply a mathematical fact of compound interest. Whether it qualifies as a "minor miracle" depends on your perspective.

Automatic delight

This letter is being typed on a Kaypro with WordStar automatically logged onto drive B, thanks to your article ("Adding Auto-Log to WordStar," May 1985).

Now, how can I program WordStar so the Main Menu is automatically suppressed, yet retrievable if I should want it? And how can I program WordStar to bypass the copyright information at the beginning,

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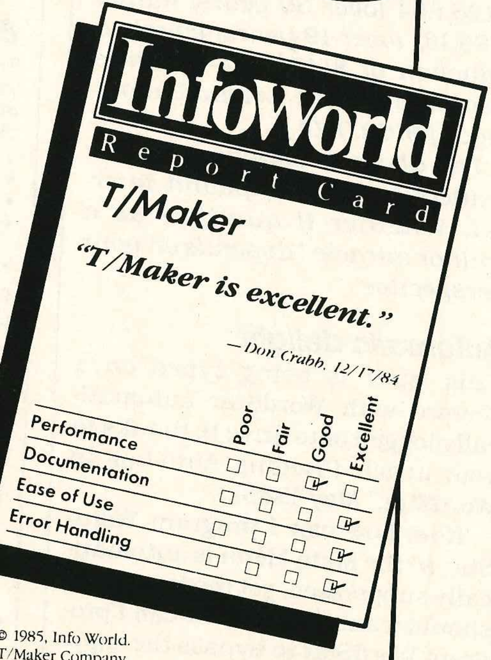

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Letters

so that the program immediately logs onto the Opening Menu (if this isn't strictly verboten)?

Sheldon H. Laskin
Ellicott City, Maryland

To suppress WordStar's menus, patch WordStar's ITHELP location (initial help level) from its default of 03 to 00. If you later find you need more menus, you can always reset your help level from within WordStar with a ^JH.

Avoiding delays caused by WordStar's opening messages can be done by 1) patching DEL4 and DEL5 to 00 or 01; 2) making the patches suggested by Tom Enright in this issue's Technical Forum; or, 3) hitting "D" immediately after your A0>WS command starts scooting upward on the screen.

P.S. Check out this issue's "WordStar Deluxe" by Ted Silveira for several more WordStar patches you might like.

I enjoyed Katz's article. For those who may not be comfortable with machine language patches, there is another, perhaps easier, way of accomplishing the same thing.

You can use the SUBMIT utility program on the Kaypro system master diskette to make WordStar log onto drive B. SUBMIT is a CP/M utility program that will automatically execute a series of operating system commands stored in a separate file.

Donald L. Williams
Pueblo, Colorado

In this issue William Hogan explains how to get SUBMIT to accomplish the same end as Katz does—and to set you up for *other programs besides WordStar. However, our experience with both patching and SUBMIT approaches to autolog-on reveals the patching approach to be faster than SUBMIT—so much so as to make the patching worth the initial effort. We use both: a SUBMIT routine to load our key redefinitions, and a patched WordStar to handle autolog-on to B.*

Microcomputing's effects

I'm glad you brought the subject up (Editor's Notes, May 1985): Are we the ones being programmed? We were programmed in the past to accept to many absurdities instead of promised efficiency, but now the industry is losing its grip. They have failed to program us to become joy stick operators . . . . No doubt about it, the PC will make an impact beyond all expectations. However, it will be doing useful things—useful beginning with chores we are already doing because of necessity. The enrichment you mentioned is accomplished in the time saved by the more efficient and versatile programs.

James O.B. Wright
Chattanooga, Tennessee

An editor myself, I am not much given to writing "letters to the editor." Two items in the May issue touched me so closely that I could not resist commenting on them.

First was your own insight (Editor's Notes) into the fact that you spend more time on an assignment now than before. You relieved my own guilt about just that, and you helped me realize that the reason for it is that we do more than before. What was once impractical, if not impossible, is now so easy that we have no excuse for not doing it.

The second stimulus was Ted Silveira's article on key redefinition ("Flea Market"). Again, here was something right on the button as far as I was concerned.

Bertram Coren
Fort Lee, New Jersey

Neat little tricks

About Ted Silveira's "Flea Market" and all the neat little WordStar tricks that can be done with programs like XtraKey, Smartkey II, Backgrounder, and others: I came to realize that I already had a program called CONFIG.COM on my dusty CP/M disk. I just PIP'd it onto my WordStar disk, and after 30 minutes of following Silveira's directions, I was doing all of the neat tricks he spoke of by using the keypad, which I don't utilize when using WordStar.

Thanks, Ted. I saved enough to make a scuba trip I had planned.

Thomas J. Wilkins
Pascagoula, Mississippi

Many thanks to Ted Silveira for his very useful hints on using key redefinition programs to enhance the use of WordStar. I have incorporated many of his suggestions into my use of NewWord and I have found them very helpful.

Gerry Litton
Berkeley, California ☐

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Q & A

by Tom Enright

We welcome and read all your letters. Some letters are of general interest and are printed in the Letters column; others are pleas for technical help. 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, we simply can't respond personally to every request for assistance. For questions requiring an immediate reply, you should contact your dealer. Kaypro Technical Support now gives priority to dealer calls. This means it may be difficult to get them on the phone. They are still at (619) 481-3920, or you can write to Kaypro Software Technical Support, P.O. Box N, Del Mar, CA 92014. Please include your daytime phone number in all correspondence.

Proportional problems

I recently purchased a Kaypro 2X Business Pak with the Juki 6100 letter-quality printer. Learning to use it has been fun, but I'm a bit confused by the large number of advertisers in *PROFILES* who offer programs and enhancements to provide "true" proportional spacing capabilities to WordStar 3.3.

Adding to the confusion, my dealer says go ahead and use a PS printwheel with standard WordStar to get results very close to "true" proportional spacing.

Please define "true" proportional spacing and explain how my results will vary from that definition without a "fix" for WordStar.

Jerry T. Johnson
Plano, Texas

The definition of "true" proportional spacing depends on who is defining it. Roughly, it means that each printed character takes up a different amount of horizontal space on the paper depending on how much space the person designing the software thought it should get.

What usually ends up happening in a production situation is that the printable characters are divided up into certain width groups. The number of groups depends on how much space, in ROM or wherever, is available for storing the character width table.

A third-party vendor, such as those advertisers you mention, can include more character width groups than the Juki factory can. His customers are willing to pay for the capability. Not all printer customers need, or even want, proportional spacing. Also, the more inclusive the spacing table, the more a printer will cost. You pay more to get more.

The only remaining question is whether you need more character width groups than the Juki provides. Try using a PS printwheel with the front panel switch on the Juki in PS mode. Compare this output with print samples from advertisers who sell the enhancements. If an advertiser won't send you a print sample done on a printer similar to yours, don't buy the product.

Then it's up to you to decide if their version of proportional spacing is worth the cost.

Selective software

Doesn't anyone out there use the SELECT word processing program that came with the Kaypro I bought in 1982? It has been updated since that time and, as I like this program, I quickly paid the $100 for the new disks.

All *PROFILES* talks about is WordStar; I tried it once and went back to SELECT. Let's hear it from

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SELECT users.

Beth Stebbins
Mendocino, California

If SELECT does what you require and you like it, you'd be silly to switch to something else.

SELECT pre-dates Perfect Writer on Kaypro computers. I've never used it myself, nor do I know anyone who uses it.

If there are enough SELECT users out there, you may want to start a SELECT Users Group. You could probably exchange tips through one of the major information exchanges like CompuServe.

Slow 4

I have a Kaypro 4 computer and I find the processing speed too slow. Do you know of any way I can speed things up?

Someone suggested that there are speed-up kits available that will cut the processing time in half. Is this a valid expectation?

I have not been satisfied with the Perfect Writer program I have been using. Are any word processors superior to Perfect Writer available for the Kaypro? Could you give me your opinion of the NewWord program as compared to WordStar?

Gary Joslin
Salt Lake City, Utah

Because you got Perfect Writer instead of WordStar with your Kaypro, it appears you have the older Kaypro 4'83. Clock speed on the '83 is indeed slower than on the newer '84 Kaypros.

There are several speed-up kits available for '83 series Kaypros. Most of the vendors advertise in PROFILES. A test of the Advent Turbo-board appeared in the December/January 1985 issue.

I'm afraid no one modification will double your throughput. A speed-up kit is a good place to start. Since your letterhead is from a legal practice and you seem to do a lot of word processing, you might consider a hard-disk upgrade. The I/O time for hard disks is several times faster than for floppy disks. You should observe a demonstration

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As for word processors, you've got a slight problem. NewWord uses both onscreen boldface and underline. The '83 series Kaypro can do neither one. So WordStar seems to be your best bet. In WordStar, what you see on the screen is what you get on paper including indentation and an onscreen indication of page breaks. For more detail on how WordStar compares to Perfect Writer, see the table in our June 1985 issue.

Drive protection

I'm confused about the cardboard inserts that come in Kaypro disk drives. I've been told that they should be inserted in the drive and the drive door closed each time the computer is transported. One dealer tells me that using them is totally unnecessary, while another dealer tells me to use them even if I am moving the computer across the room to another desk.

Personally, I have been using them when the computer goes in the car for the trip to work. I haven't put them in when carrying it from place to place inside a building. What is the real story?

Russ Jennings
APO New York

For my money you're already using them correctly. The purpose of the protectors is to put the read/write head under normal operating tension when the computer could be subject to shock or vibrations. This prevents mechanical damage to the head and helps keep the drive from getting misaligned during transport. Unless you are playing catch with the computer, carrying it around by hand should not have any effect on drive alignment. ☐

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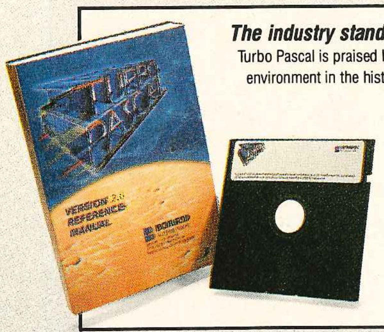

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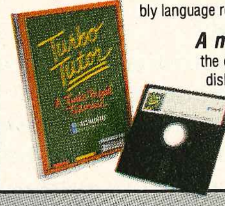

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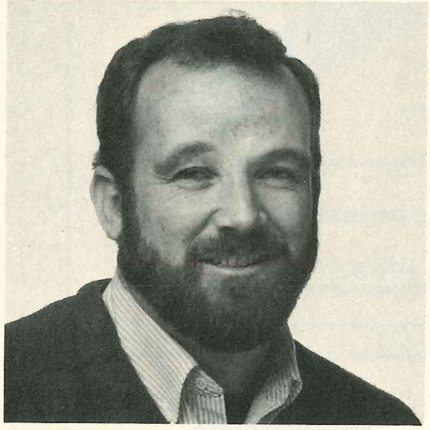

PHOTO BY RON POWERS

Editor's Notes

Making machines work so people can think

by Tom Foote

This issue delivers writers' tools: tools used by May Brown to make $100,000 a year at freelance writing; tools used by Michael Scheff to write major television scripts; and tools used by others who dial in daily to the nation's bulletin boards for writers and publishers.

But it's not all for writers. It also launches our new beginners' column; gives a closer look at the 286i; and details how to use SUBMIT to automatically set your system for writing, telecommunicating, and financial work.

WordStar extravaganza

In addition, we've dropped a whale into the "well." The extraordinarily large "WordStar Deluxe" by Ted Silveira displaces much of our features section (what journalists call the "well").

But it also fulfills a wish that I have had for years. As the grateful beneficiary of piecemeal WordStar tidbits—scavenged anywhere from the *Atlantic Monthly* to obscure BBSs, I have long wanted to see someone gather all known pieces and neatly tie them together—once and for all.

Silveira delivers exactly what I asked for: what I believe is the most comprehensive (and comprehensible) article ever done on patching WordStar—the world's best selling word processor ever (and still the hands-down best seller in '84, according to *InfoWorld*). Moreover, he does so in a way that should interest the thousands who use WordStar on (I dare say) any CP/M or IBM-compatible machine.

You're sitting on a gold mine

"Machines should work, people should think," says an often ignored IBM slogan. Yet the letters I get and what I hear at users' group meetings suggest that few have made their machines do the work that people shouldn't.

Though most users already own SUBMIT, COMLINE, COPY, CONFIGURE, and the tools for patching WordStar, few have put these dynamos to work. Yet many would like to, as was revealed by responses to my suggesting a "Did You Know?" column on efficiency tips. (Letters showed overwhelming demand for such tips, but scant supply.) Then there are the skeptics who feel that taking the time to turn on the dynamos could never deliver much added performance. And to a few, I'm sure, some efficiency efforts appear fanatical. (I've seen plenty that *are* fanatical.)

But try it. You'll like it.

If you haven't yet taken advantage of certain work savers, you're in for a delightful surprise. You'll be amazed at how much senseless, repetitive trivia you can avoid from now on—or, alternatively, at how much better it is to have your machine do the work while you do the thinking.

The work savers we've offered in the past have been splintered up among many issues, and most users don't have time to try them all. That's why I thought you'd like to see the following summary of those inexpensive ones I've tried, enjoy most, and use regularly—what I call "vital fixes" that seem to give new life to my hardware and software, fixes I think most users ought to at least try.

Finally, I urge you to proceed unafraid—but carefully at every turn. This means always working first from an expendable diskette (not your hard disk) containing expendable files—files you have backed up on other diskettes stored away from your machine. It also means first testing your work under conditions where it can't do any harm (e.g., while logged onto your expendable diskette containing your expendable files and without any calls to any other drives).

What to expect

Once you have your fixes working, you can expect what I expect every time I turn my machine on: Merely flicking the power switch (or hitting the reset button, or running the public domain's COLDBOOT.COM) automatically executes a custom SUBMIT file. That file, in turn, triggers custom key redefinitions, then quickly brings up a patched, speedier version of WordStar (without the "ad" but with all defaults set just the way I want them—including margins, spac-

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ing, menu toggles, help levels, Epson printer codes, and automatic logon to Drive B). In other words, a few seconds after touching the power switch, I have everything pre-set the way I want it, and have only to select which file to edit. (I could have WordStar go directly into a prespecified file, but I prefer to see WordStar's directory of my files first.)

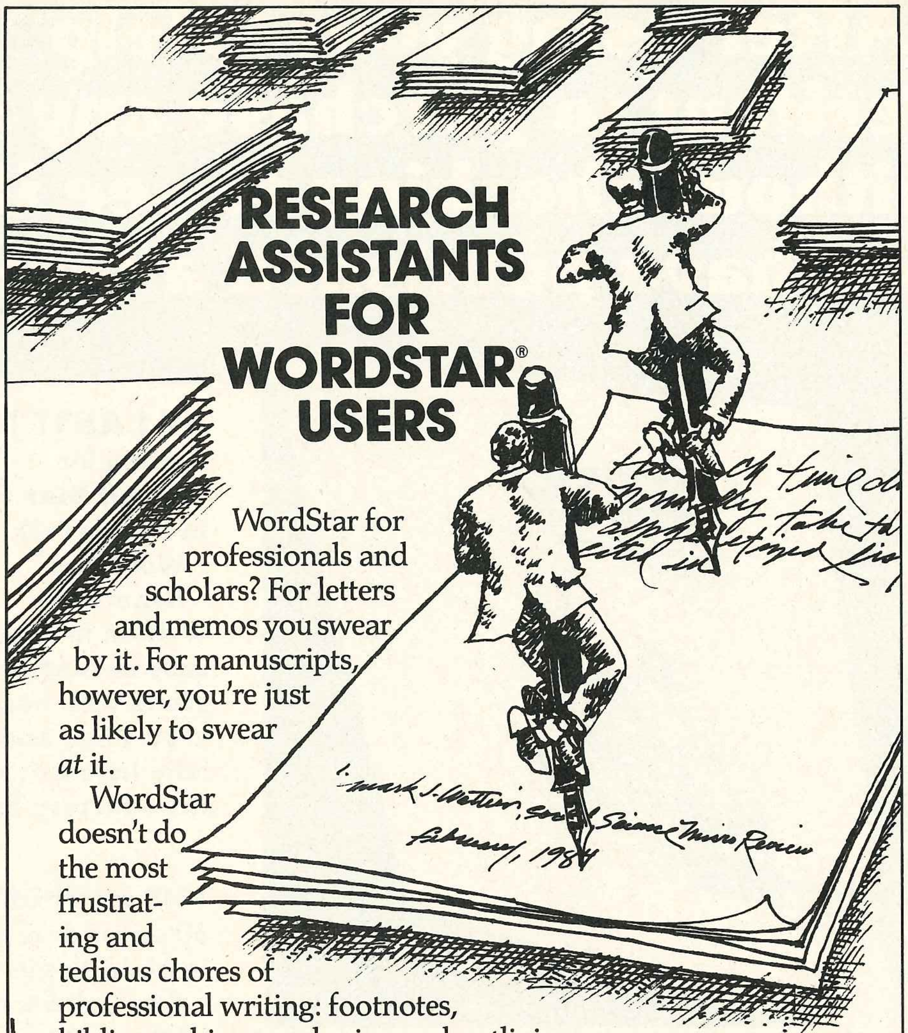
The fixes and where to read about them

Automatic execution at coldboot is achieved by using COMLINE.COM, COPY.COM, (or even DU.COM—see "Technical Forum," June 1985) to write on your CP/M system tracks the single command you want your system to chain to after CP/M is loaded. For example, I have CP/M chain into the command "SUBMIT WS," which executes SUBMIT.COM, which in turn submits for execution the list of commands I have written in WS.SUB. These commands ask XtraKey to redefine my keys and then execute my patched version of WordStar. (Bill Hogan elaborates on all the above in his article on SUBMIT, "The Best Kept-Secret of CP/M," found later in this issue.

> *I urge you to proceed unafraid—but carefully at every turn.*

My redefined keys offer many of the tricks described in Ted Silveira's "Flea Market" columns (May and June, 1985) along with fixes I prefer. Those inlcude: defining the numeric keypad keys (which repeat when held down) to quickly drive the cursor a character, a word, a line, or a screen at a time; a notepad "window" that appears when I want to jot something down and write it to another file; prompt invocation of my directory or SWEEP programs when I don't like what I see on WordStar's file directory; a single key that saves and prints the file; another that calls in my let-

(continued on page 21)



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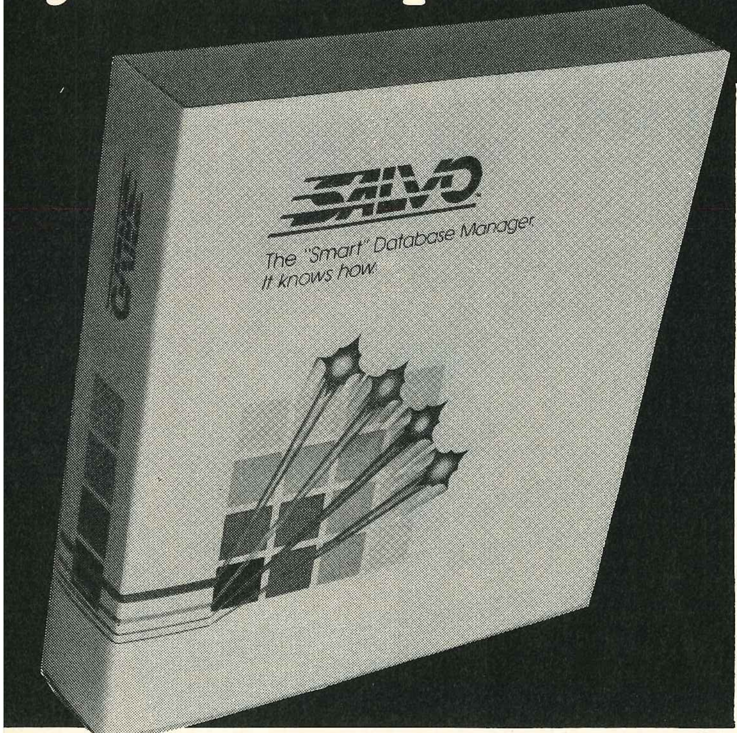

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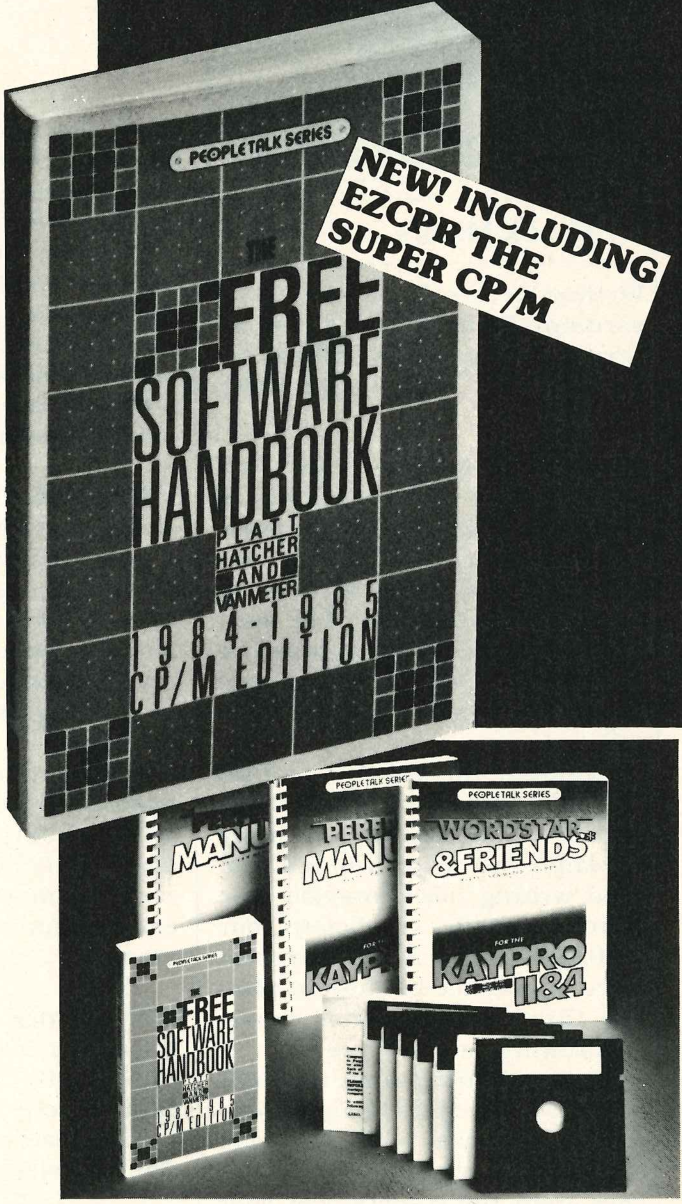

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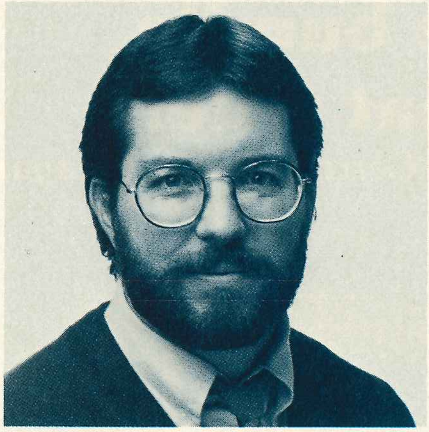

PHOTO BY RON POWERS

by Brock Meeks

Writing is the hardest way of earning a living, with the possible exception of wrestling alligators.
—Olin Miller

Miller may be right, but every day thousands of people publish their prose electronically. Most pieces are simple essays on local bulletin board systems (BBSs). The open format of a BBS is fertile ground for your writing—and the cost of publishing is the price of a local phone call.

Granted, the content of BBS "articles" often leaves something to be desired. But let's face it— as any accomplished writer will tell you, good writing takes practice. The more you write, the better your writing becomes. A BBS is a great place to practice because it offers two things every writer needs: opportunity and audience.

Electronic publishing makes it possible to have your thoughts read the same day you "publish" them. In turn you receive immediate feedback from the readers. Did your piece excite emotions or tweak someone's personal dogma? It's not surprising that so many writers are turning to online bulletin boards for the audience they seek. Feedback like this is available to you on computer-based systems ranging from the two-disk micro in a Cleveland basement to the giant mainframes in the polished halls of The Source.

Not only does this new online literary world offer you a ready-made audience, but as an "isolated" writer you can now tap into an online network of fellow writers who can offer a broad range of advice, support and criticism.

"Pros" lead the way

Bouncing from coast to coast via modem reveals several systems dedicated to online literary efforts. These systems are run by professional writers who, for different reasons, decided to establish an electronic gathering place for their colleagues.

Sysops and writers find few monetary rewards in the world of online publishing. However, the opportunity to be part of a new, creative medium is motivation enough for most "publishing" sysops.

Modem Times
Location: Colorado Springs, CO
Phone: (303) 578-5405
Hours open: 24/day
Log-on: password issued
Baud rate: 300/1200

Modem Times is an online literary magazine run by Jim Bates and Jennifer Petkus. Both have journalism backgrounds—he is an editor and she is a reporter. Modem Times offers book and movie reviews, short stories and a list of literary agents willing to look at unsolicited manuscripts.

Bates says that their regular contributors are better-than-average writers. There are standards that must be adhered to, however, even in electronic publishing.

Bates and Petkus see their roles as online editors. Every submission is read at least three times before it is featured on the board. Even if the writing isn't up to "feature" standards, any contribution can get published in the BBS's "letters" section.

Modem Times was established to bridge the gap between conventional print magazines and bulletin boards. The results are equivalent to a small literary magazine, minus the overhead.

The Notebook
Location: West Palm Beach, FL
Phone: (305) 686-4862
Hours open: 24/day
Log-on: password issued
Baud rate: 300/1200

The Notebook is another local BBS that caters to writers. Sysop Karl Meyer is a professional freelance writer. Meyer started The Notebook "as a service to the growing online community of writers."

The Notebook contains a "lending library" of downloadable files that include magazine and book markets for writers. The biggest advantage of The Notebook is the audience it draws. The regular user base contains a large number of

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professional writers in all fields. These professionals "drop by" often and are known for giving priceless advice to fledglings.

"I figured since most writers were going to word processors it wouldn't be long until they all got modems," said Meyer of The Notebook's humble beginnings. "Once writers got their hands on a modem and discovered the world of electronic publishing, I knew that there would need to be a specific outlet for these electronic authors to park their prose."

You want someone to critique your work? Any submissions left on this board will benefit from a broad range of editorial talent.

Just give the word, says Meyer, and decades of editorial experience can be brought to bear on your writing.

Your name in pixels

User-publishing is available on some of the big commercial information systems. Delphi, a Massachusetts-based system, offers two complete user-published books online.

Science fiction writer Orson Scott Card wrote *Ender's Game* online. Delphi allowed Card to submit chapters online as he finished them. Readers could then give Card feedback as each chapter was finished. This feedback helped to shape the final version, which is due out in hardcopy this summer.

A non-fiction book, *The Naked Computer*, is also available online. You can find this in bookstores already.

Delphi has two literary special interest groups (SIGs): Writers Corner (open access) and Writers & Editors Network (WEN), by invitation only for professionals. Those interested in joining WEN supply the sysop with credentials to gain access to a special WEN members' directory and a publishing industry newsletter.

Authors who participate on WEN can share "works in progress" with others, or they can "publish" items in the regular Writers Corner SIG.

Anyone can publish in the Writers Corner. In addition, you can take a crack at a collaborative novel. There are ten collaborative novels currently online, and you can contribute as many chapters as you like. (I enjoyed *The Rune Witches* and *The Life and Times of Chester O'Riley*.)

There is even a section called the "Casbah" that provides classified ads to link editors and writers.

The Source has a unique system of user-publishing with the potential of turning a profit. Members of The Source can create publications for the public to read and then advertise their new publications via electronic mail. If a publication draws a good crowd (with an online system, the process of tallying up readers is no problem), The Source will approach the writer with a royalties plan—a prearranged sum paid for each minute someone spends reading the text. (Writers are self-published—they "rent" online text storage space from The Source each month.)

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petitive area, and certainly the words "publish or perish" apply. For those who wish a less risky forum, there are options available on CompuServe.

CompuServe offerings include writer support (Writers and Editors SIG); a forum for online publishing (Literary SIG); and, for those who just want to "curl up with a good cursor," the *H. Caines Mystery Magazine*.

The Writers and Editors SIG provides contact with a large and diverse group of writers. There are online databases that list the editorial needs of book and magazine publishers. Information on any aspect (or level) of writing can be gleaned from this forum.

> *An author of a Source "best seller" can expect royalties of about $400 a month.*

The Literary SIG is for actual submission of your work. There are ten categories of submissions, including poetry, fiction, book reviews and essays. There is even a spot for writers to gripe about questionable publications. This section is called, appropriately enough, "Potshot Corner."

Even if you are not a writer you can enjoy online literature, such as the full-length mysteries on the *H. Caines Mystery Magazine*. (I must admit that reading any kind of literature on a nine-inch CRT at 300 baud is tedious. I'd prefer to be next to the fireplace with a vintage Gamay Beaujolais.)

Academia online

Although most members of the formal academic community haven't taken advantage of electronic publication, there are a few notable exceptions.

Louis Marder, professor emeritus at the University of Illinois-Chicago, is spearheading a program to put the complete works of William Shakespeare online for the public. Additionally, he has 20 scholars working on putting together a database that will "computerize everything known in the world about Shakespeare for retrieval."

Marder estimates that there are 150,000 books, articles and dissertations available for data entry. With articles on Shakespeare appearing at the rate of 3,000 a year, a comprehensive reading of all the literature becomes a full-time occupation.

But with Marder's database some 75,000 pages of abstracts and digests—spanning 400 years of literature—could be just a carrier tone away. Marder hopes his database will be available at libraries, schools, and even homes.

Elsewhere the letters of the 19th century English author Thomas Carlyle—some 8,500—are being input for the creation of an online database. Coordinator of the project is Duke University professor Clyde De L. Ryals.

While working on this massive project Ryals has leaned heavily on online communications to coordinate with others working on the project. He now sends printouts in response to inquiries from outside scholars, but in the future he expects all of this type of activity to take place online.

Facing tightened budgets, The National Endowment for the Humanities (NEH), which supports a large part of scholarly printing, is reluctant to publish complete paper editions of anybody's work. Ryals says the NEH demands that only the most workable parts be in paper form; the remaining part is to be documented in some kind of computer format.

Edit mode

The cursor's now in your court. If electronic publishing sounds appealing to you, by all means, find a spot where you are comfortable and begin to "publish." ☐

EDITOR'S NOTES
(continued from page 15)

terhead file; and a crude outlining feature that successively indents my left margin according to taps of the successively indented 1, Q, A, and Z keys.

I should emphasize that the most valuable key redefinitions—those that help me fly through my work (and my thinking)—are those that speed cursor movement, allowing me to drive the cursor anywhere I want almost instantly. Though I use a commercial program to do this, you'd be amazed at how much mileage you can get out of CONFIG.COM and the public domain programs. (Ezra Shapiro described how to use CONFIG in our July/August 1983 issue.)

Besides most of the patches detailed by Silveira in this issue, my WordStar contains MathStar patches (made using the commercial program reviewed by William Higginson in our April 1985 issue), this issue's patch by Tom Enright to avoid WordStar's opening "ad" altogether (though not the copyright notice), and last issue's patch by Joseph Katz to automatically log to Drive B. (The latter can also be done using SUBMIT, but Katz's approach is speedier.)

Other tricks

Other tricks I enjoy are having a custom-configured style checker whose dictionary embodies a nonredundant merging of dictionaries from Grammatik, (including the sexist file), Punctuation and Style, various entries from style books, and *PROFILES*' style list of microcomputing terms. I also use public domain sorters, mergers, patchers, text utilities, carriage return softeners, MODEM7 for telecommunications, and a high-powered SWEEP program. The latter is an absolute must for quick and easy file manipulation.

The quest to save unnecessary work might well appear fanatical. But just let those who think so do the work. You, the adventurous, will have fewer mindless distractions and more time to do the thinking. ☐

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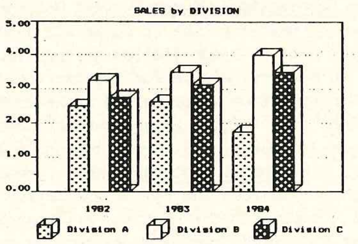

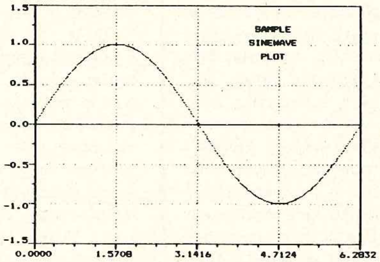

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The 'Write' Marketing Angle

Using your 'computer edge' for lucrative freelancing

by May L. Brown

I'm not famous. I hardly have a byline to my name. But in 1984, I made more than $100,000 as a freelance writer.

When other writers began pressing me for tips, I initially shrugged off my success as sheer beginner's luck. After all, it wasn't because of my track record; I had almost no professional writing experience when I opened shop in 1983. Nor could I claim I was a better weaver of words or slinger of sentences. Many who came to me for advice honed their craft with much greater eloquence and pizazz.

What I eventually surmised was this: I had used my computer as my marketing edge. And I'm going to tell you exactly how I set up a direct line to steady freelance work. While the strategies are geared to corporate or advertising work, many of them apply to any type of professional freelance writing.

Common mistakes beginning freelancers make

First, a bit of advice I gleaned from clients about where beginners miss the boat:

1. *Not recognizing that this is nearly the 21st century.* A computer, printer, and, in some cases, a modem are *de rigueur*. One of my clients told me he refuses to hire anybody without these essential writing tools. He also informed me that most freelance writers *do not have computers*. So, pat yourself on the back. If you're a *PROFILES* subscriber, you have a major marketing advantage over many writers: your Kaypro.

2. *Lacking requisite writing skills.* Agencies assume that freelancers can merge words into coherent sentences. What they also expect is an ability to write with style and in many styles. Client turn-offs include stilted language, poor organization of thoughts and "flat" prose that fails to excite the reader.

3. *Failure to recognize client needs.* Advertising agencies, for example, generally hire freelance writers because they have a deadline problem or temporary shortage of staff. Their regular writer is stuck in Jamaica because of an airline strike, or what have you. Whatever the case, they have a deadline to meet, and the freelancer has to make the copy sound as if the guy in Jamaica wrote it—or better. Failure to deliver—in terms of deadlines and quality—is the surest way to end a client relationship.

4. *Sloppy copy.* This includes white-outs, cross-outs and last-minute additions. If it isn't absolutely clean, don't send it out. One of the telltale differences between a novice and a professional is the appearance of the copy. Trite as it sounds, first impressions count.

5. *Sending the wrong writing samples.* Agencies on the lookout for backup writers usually seek close compatibility with their current "operating system." Your writing samples should prove that you're the right interface. And what if you're short on published samples? The writer's marketing caveat is this: Do your homework. Research what they do and the style they like, and make up samples that approximate what they need. If it's an ad agency that promotes underwear, write up a sexy ad and present it as the type of quality work you can *consistently* produce.

So those are the basic shortcomings of the uninitiated freelancer. Next are my homespun principles for marketing a much-needed "product": solutions to client problems.

Creating a marketing niche

Before marketing your craft, outline your strengths and the target markets that can use them. That's the first step to market positioning.

My forte is stamina in meeting deadlines. I decided to specialize in Fortune 500 corporate communications, which includes writing "house organs," speeches, brochures, videoscripts, business proposals and training handbooks. By and large, my clients are busy, businesslike and bottom-line conscious.

In addition to large corporations, one of the fastest growing writer's markets is what you've got in your hands: computer literature. Don't confine yourself to the well-known computer magazines. Consider the specialty journals of various industries and profes-

PHOTO BY JON WOODWARD

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sions. That's how one friend of mine found a medical publication willing to buy her Kaypro-written article on computerized infant eye exams.

Start with the right tools

If you have a computer, you have *many* marketing advantages over the writer without one. Recognize, cultivate and promote them. By having the right tools for the job, you create the right first impression, and that can lead to repeat business. Here's what a basic inventory of high-tech writer's tools should include:

Hardware. Besides your Kaypro, you'll need a fast, letter-quality printer with boldface and underlining capabilities. A dot-matrix printer might do the trick, too, if the type approximates that of a letter-quality printer. But again, keep in mind the needs of your clients. With some of my projects, my printout has served as camera-ready copy. Dot-matrix copy would not have been suitable in these instances.

Software. Fortunately for Kaypro owners, the machine comes equipped with just about all the software a writer needs to get started. My computer came with Perfect Writer and I've been using only that since day one. A speller program is handy at checking for obvious typos, but it's not much good for catching other writing errors, such as subject-verb agreement and double word entries. A style checking program might catch those major grammatical glitches or awkward phrasing, but may not clue you to clarity of content. So, if you use these programs, don't neglect the editing capabilities of your "wetware"—your brain.

If you have a computer, you have many marketing advantages over the writer without one.

You might also decide to enhance your word processing program with something like SmartKey, which allows you to program your keys. The rule of thumb is to spend less time processing, more time creating. Other than that, the additional software you'll need depends on your client base. If you specialize in audiovisual training scripts, for example, a scriptwriting program that allows for instant formatting might be the ticket.

Peripherals. Definitely consider getting a modem if your client is set up for telecommunications. A 1200-baud modem is worth the higher price if you will be sending copious amounts of copy on a regular basis.

Supplies. The writer's dictum here is "Never get caught short." It doesn't do you any good to work feverishly through the night to meet a 9 a.m. deadline and then discover you can't print the blasted thing out because you've run out of printer ribbon (yep, that happened to me). Keep yourself well equipped with extra printwheels, ribbons, paper, and blank diskettes.

A backup system. The professional writer's maxim when dealing with clients must be "No problem." And the corollary to that is "My problems are not the clients' problems." If your computer breaks down—God forbid—you should be able to hook yourself up almost instantly with a borrowed machine. The same advice goes for printers. Believe me, if you use your equipment like a workhorse, there will be times when it develops high-tech writer's cramp.

Your product line. Before you even set foot in a client's office, be sure you have what it takes to represent yourself as a "made-to-order" writer. Remember that your prospective client base is finite, that you won't get a second chance if you flub the first, and that the word about "who's hot and who's not" gets around.

To get off on the right foot, equip yourself with a complete "product line" of writing styles. Store them on separate diskettes and keep adding to your repertoire. That way you can pick the style that best meets a particular client's needs. If the client wants short, punchy prose, you've got a sample. If they want well-organized, straightforward writing for manuals, you've got that, too.

Business sense. To sell what you write, you need to sell yourself. That includes running a tight ship that shows the client you're the right "vendor" to deal with. So, as part of your armamentarium to market yourself effectively, develop a business plan.

When I started, I outlined a personal business plan that delineated my services, a list of prospective clients, my market "positioning," my overhead, and the amount of income needed to keep me out of debtor's prison. In addition, since writing would be my only source of income, I boned up on tax issues that affect the freelancer—what constitutes a deductible "office in the home," when quarterly estimated tax payments are due and whether I needed to charge sales tax. And like any entrepreneur, I paid attention to the little details that make a difference. For example, since most of my clients are of the corporate cloth, I dress accordingly.

Using the computer to conduct interviews

I stumbled across the benefits of computer interviews by happenstance: I happened not to own a tape recorder when I landed my first interview assignment. Since I type about 100 words per minute (replete with mistakes), I was able to capture that first interview almost verbatim. No transcribing from a taped interview or listening to interminable false starts and off-the-cuff chatter.

Interviewing with a computer provides several distinct advantages near and dear to the client's heart. You can more easily capture exact spellings of names of people or things and asterisk items that the interviewee says are especially important to highlight in the article. And you can insert notes about the surroundings or interviewee's non-verbal expressions.

The final kicker is that most people love computer interviews—that is, once they get over their initial "courtroom stenographer" terror. They're more assured that you've captured exactly what they've said—or what they don't want said. At the end of your interview, you can review your notes aloud with the interviewee, quickly summarizing topics and points covered to ensure nothing was omitted. As an added plus to the agency that hires you for the project, you can offer "conference reports" of interviews, thus sparing the account executive from performing this task.

I used to carry my Kaypro everywhere, but later decided I didn't want my right arm to assume simian proportions. So these days, I usually tote a lap-top computer. When I get home, I simply hook my lap-top up to the Kaypro and dump the notes over for storage.

Letting loose with the creative process

Composing with a computer frees you to put your first thoughts down, no matter how ridiculous they sound. After all, the hardest part is getting started, what used to be called "committing yourself to paper." The computer allows you to be creatively flirtatious. Even if your first ideas seem ill-formed, you can immediately wipe them out. Posterity will never know. With practice, any writer can become adept at computer-driven creativity.

The computer-driven creative process. When writing corporate magazine articles, for example, I use the computer to construct a simple outline that can be easily filled in and later altered with regional "move" commands as necessary. In other words, I organize the article from beginning to end, before I even write the first sentence. Some writers prefer the traditional Roman numeral and alphabetical outline format. I prefer a *thematic* approach because it's more conducive to free-form associations and, for me, fresh creativity. The computer accommodates this organizational style well.

After you've written the piece, the computer lets you do one more thing: instant editing.

I begin by jotting down a "copy platform:" the purpose of the writing project, the audience, preferred writing style (e.g. upbeat, humorous, inspirational, professional), objectives, and what I call "the effect"—what I want readers to think, feel or do after they're finished reading (e.g., write out a check for $10,000).

I then let loose with a barrage of "theme ideas": ideas, premises or metaphors on which the rest of the copy will hang. During this process, I use the computer to jot down notes, such as the advantages of one theme over the other.

I then review my list and use my "delete" key to eliminate ideas one by one. If I'm not sure whether I want to send particular ideas into oblivion, I simply transfer these "not so bad" ones into a newly opened file entitled "MAYBE." So from my long list, I painlessly work my way down to one theme. From there, using a similar process, I begin developing sub-themes.

The computer allows you to be creatively flirtatious. Posterity will never know.

As the next refinement, I turn my major theme into a header and my sub-themes into sub-headers. At this point, writing the article is a cinch. I just fill in the copy points that relate to the sub-heads.

Computer-driven writing style. One other word about the benefits of writing with a computer. A lot of freelance material—from advertising, scripts and brochures to corporate speeches and magazine articles—is often written in a colloquial style, the language that people actually use when they talk. So if you can write almost as fast as you can talk, you're more apt to capture the breeziness of a good conversation. I try to think of two or three people who represent my audience and then write as though I'm talking to those folks over coffee, or a beer, as the case may be.

After you've written the piece, the computer lets you do one more thing: instant editing. This is a step often omitted by non-computer writers, so you should use it to your advantage. That means reviewing the copy for clarity and conciseness. Your final "once-over" should also include reading the copy aloud. That's the best way to catch quirky sentences and typos.

Formatting that solves problems for your client

Writers usually submit copy in a standard form—double-spaced, for one thing. With a computer, you can take that a step further. I have one client, for example, who was ecstatic when I delivered my copy with the right margin set at 40. The reason? The art director could instantly estimate how long the article would be when typeset. Translation: time and money savings for my client, appreciation and repeat business for me.

Art directors also appreciate copy that clearly denotes what should be **boldfaced** and what should be *italicized*. As a general rule, however, they detest too heavy a sprinkling of either, since it makes the finished product look clumsy.

I also format my copy so it's easier for the account executive, who's likely to be in charge of many projects, to know exactly what he or she is looking at. I include a pageheading at the top of each page that denotes my client's client, the project number, the name of the project, the date of the draft and whether this is the first draft or final copy. I do *not* emblazon the copy with my name, since the account executive may want to present my hard copy as the client copy; AEs prefer not to advertise that their "product" was not crafted in-house.

Invariably your clients, or *their* clients, will want to make revisions. Your computer enables you to revise quickly and painlessly and get a clean final copy to the client the same day. Now that's something that even their in-house writers can't always do if they're still locked into a manual mode.

> *Interviewing with a computer provides advantages near and dear to a client's heart.*

Telecommunicating your way into the client's heart

There are four reasons why a modem makes sense for you and the client. First, many agencies, businesses and corporations have word processing departments with telecommunications capabilities. Second, if your computer system doesn't happen to match theirs, they can still have access to your files via modem. That saves them time and money since they don't have to re-input what you write. Third, by being accessible to the client or their typesetter via modem, you make the client feel you're almost as accessible as an in-house writer. Copy and revisions can be easily transferred back and forth as though you were sitting in the office next to the account executive. Lastly, you are free to take your writing with you wherever you go. You can accept that last-minute invitation to go skiing, knowing you can write by the evening fire and send the copy by modem the next morning.

If you'll be sending copy by modem on a regular basis, the 1200-baud rather than 300-baud model is your best bet. It means the difference between three minutes and 12 minutes when sending six double-spaced pages. The numbers may seem small—until you and your client add up how often you transmit copy.

If you like to travel, you might consider a lap-size computer with a built-in modem. My lap-top only has 24K of memory, but I solved that problem by signing up with CompuServe, which gives each subscriber 128K of storage space. That way, I can free up my RAM by dumping everything over to CompuServe and retriev-

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The Compleat Computer
KAYPRO

ing it later with the Kaypro. Another solution would be to set up the modem hooked to the Kaypro with auto-answer, if your modem has that capability.

The ultimate perks of freelance writing

No doubt about it, freelance writing is a competitive, hard-nosed business. I've seen too many talented writers fail because they neglected to market themselves properly. But for those who use their computers with marketing savvy, the rewards are plentiful.

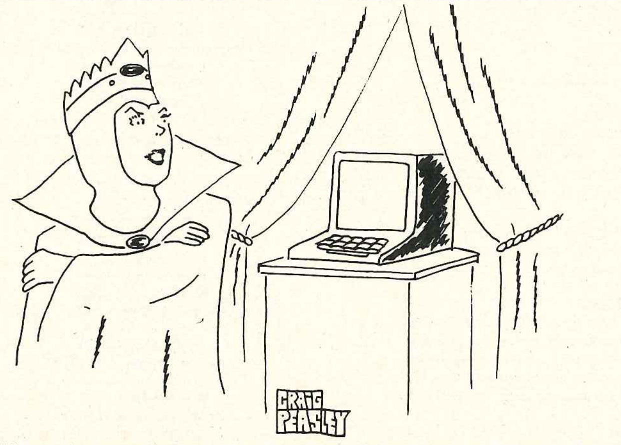
For starters, doing good work for one client begets referrals to others. Account executives and art directors from one agency may move on. If you've served them well, they'll remember you in their new positions. That's one of the reasons I no longer need "new business," and thankfully so, because I prefer pounding the keyboard to pounding the pavement.

As a computer-driven writer, I can also charge a higher hourly rate. My clients readily accept my rates because, as I've been told, I produce copy three times faster than other writers they've used. (Would you believe I write five times slower without my Kaypro?)

And there are the personal rewards of freelancing, though they're not unqualified: You're the boss (but the buck starts and stops with you). You have an office in the home and justifiable tax write-offs (but watch out for those IRS "red flags" and changing rules on deductions). You determine your own hours (so they fit your clients' needs, not your sleep patterns). You decide when to take a vacation (but you don't get paid for time off). You allot time to write the great American novel (if the gray cells are still clicking at the end of the day).

And one last thing: You make it happen. No two ways about it—it's worth it. □

May Brown is a San Francisco-based freelance writer specializing corporate communications, public relations and advertising copy. Her clients represent AT&T, Pacific Bell, Wells Fargo and Bank of America, as well as high-tech firms and hospitals.



"Computer, computer, look at my face. Am I the fairest in your database?"

Need Info and Support?

Learning to operate a computer isn't easy—everyone needs help at one time or another. This is precisely the reason users' groups were born.

Basically, a users' group is a collection of computer owners and users who learn from each other. These are non-profit membership organizations which are devoted to making life with a computer easier.

Got a problem with making your Okidata printer do proportional spacing with WordStar? Someone in your group probably has the solution. Need advice on how to set up dBASE II to run your inventory program? Ask around—no doubt your group has a resident dBASE expert just waiting to be consulted. People helping people, that's what users' groups are all about.

Kaypro Users' Groups (KUGs) exist in every state, in Canada, and in countries all over the world. There are two groups in France, one in Belgium, one in Germany, plus others in Finland, Switzerland, Saudi Arabia, and Australia.

All KUGs officially recognized by Kaypro Corporation are recorded in a database. These groups receive periodic informational mailings and have access to KUG support programs offered by the corporation. This support may include speakers, training aids, special accessory offers, and gifts of promotional items from Kaypro or other computer-related companies.

Official KUGs will also receive *ONKUG* The Official National Kaypro Users' Group newsletter, published by Kaypro Corporation. It contains news and information about the activities and events of KUGs worldwide and provides a vital link between all the groups and Kaypro Corporation.

Finding your KUG

To find the KUG closest to you, write to the KUG Manager at Kaypro Corporation and include your home address, state, and zip code. He will send you a list of the KUGs in your immediate area.

To register a KUG with Kaypro Corporation (and be entitled to corporate support offers), you again should notify the KUG Manager.

The KUG Manager can be reached by writing to:

Jim Durkin, KUG Manager
Kaypro Corporation
533 Stevens Avenue
Solana Beach, CA 92075. □

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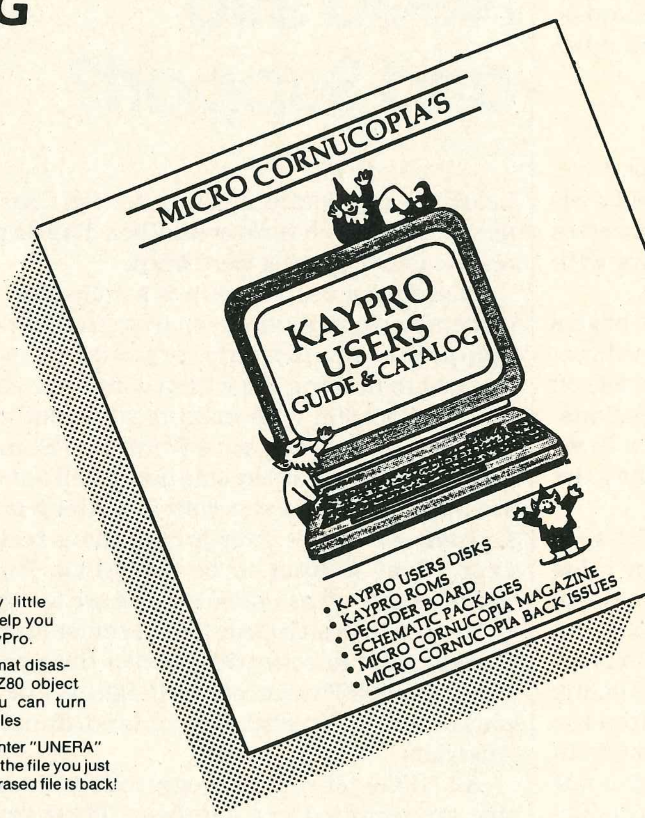

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KayPro Disk K2
Utilities

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

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

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

FINDB54.COM: Checks an entire disk, reports bad sectors, and then creates a special file containing those sectors. You save a bundle on disks.

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

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

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

KayPro Disk K3
Games

KayPro Disk K4
Adventure

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

KayPro Disk K5
MX-80 Graphics

KayPro Disk K6
Word Processing Utilities

KayPro Disk K7
Small C Version 2 Compiler

KayPro Disk K8
Small C Version 2 Source

KayPro Disk K9
ZCPR

KayPro Disk K10
Assemblers

KayPro Disk K11
Library & Checkbook Programs

CHECKS: This has been a very popular group of programs. Categorizes checks so you can keep track of which are tax deductible and which get charged to which projects. Includes source and 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 file, 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 Program

KayPro Disk K15
Hard Disk Utilities

KayPro Disk K16
Pascal Compiler

KayPro Disk K17
Z80 Tools

KayPro Disk K18
System Diagnosis

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 & 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 KayPro's new and old. You can buy a similar package elsewhere for $60.

KayPro Disk K22
ZCPR (Again)

This disk is filled with ZCPR files. You get ZCPR for the KayPro II, KayPro 4, and the KayPro 10. This version is fixed so that you can pass control characters from the keyboard to the printer, 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!

ZCPR, 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 the 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 a 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).

KayPro Disk K28
Modem 730

KayPro Disk K29
Turbo Pascal Games 1 With Source

KayPro Disk K30
Turbo Pascal Games II With Source

KayPro Disk K31
Turbo Bulletin Board
Complete Bulletin Board Package for only $12

KayPro Disk K32
Forth-83 Much Fancier Forth

PRICELESS ________

MAGAZINE

Micro Cornucopia Magazine

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

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

If you need more information before subscribing, order the most recent back issue for $3.00 (Postpaid).

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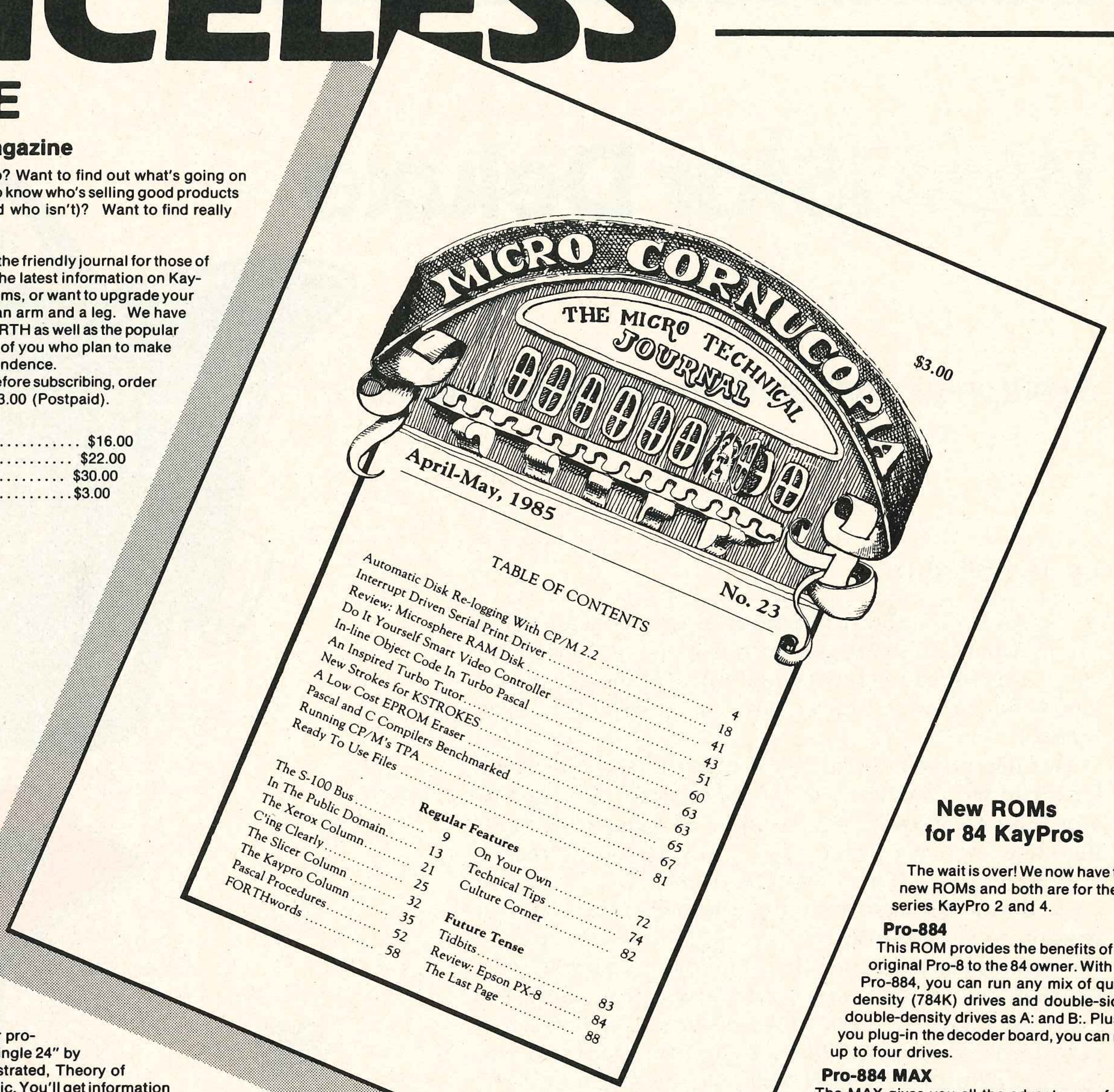

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Schematic Packages

Finally, a complete schematic of your processor board, logically laid out on a single 24" by 36" sheet, plus a very complete, illustrated, Theory of Operation that's keyed to the schematic. You'll get information that's available nowhere else.
For instance, those of you with the 10 and new 84 systems get a thorough rundown on your video section complete with sample video control programs in assembly language. Of course, all packages contain serial and parallel port details and programming examples as well as complete coverage of the processor, clock, I/O, and disk controller (information that is not even available in KayPro's own Dealer Service Manual).

KayPro Schematic Packages

KayPro II & 4 (pre-84)	$20
KayPro 10 (pre-84)	$20
KayPro 84 series (II, 4 & 10)	$20

All prices include postage.

New ROMs for 84 KayPros

The wait is over! We now have two new ROMs and both are for the 84 series KayPro 2 and 4.

Pro-884

This ROM provides the benefits of the original Pro-8 to the 84 owner. With the Pro-884, you can run any mix of quad-density (784K) drives and double-sided double-density drives as A: and B:. Plus, if you plug-in the decoder board, you can run up to four drives.

Pro-884 MAX

The MAX gives you all the advantages of the Pro-884 , plus faster screen scrolling, ZCPR in ROM (you "warm boot" on any disk, whether it has system tracks or not), screen dump, ctrl-p type printer output, and VT52H/19 terminal emulation in addition to the original ADM3, to name a few. (We worked on this hummer for nearly a year.) If you need more information on the Pro-884s or our '83 compatible ROMs, call, write, or yell for our KayPro Users Catalog.

Pro-884	$59.95
Pro-884 MAX	$79.95
Decoder Board	$39.95

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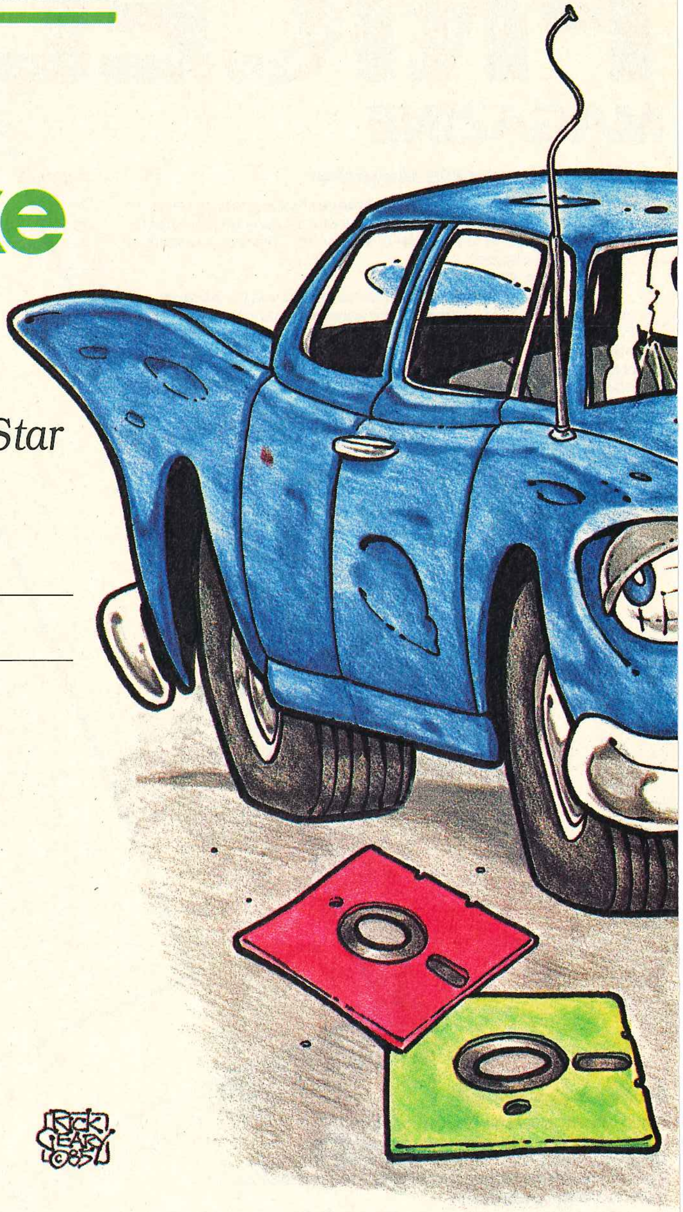

A comprehensive guide to customizing WordStar

by Ted Silveira

People talk about WordStar as if it were an aging American sedan, something like a '56 Mercury. It was top drawer in its day, but now it's showing its age. It doesn't have the features or the zip of the new models.

But like an old Mercury, WordStar has another side for those who can see—it can be customized. In fact, WordStar can be patched, tweaked, and generally modified like few other programs, all in your own garage.

Why bother? If you customize WordStar, you can avoid doing that elaborate finger-dance at the start of a session to get WordStar set up right. You just change the defaults for margins, line spacing, help level, justification, etc., so they start out the way you want. For example, I have one copy of WordStar that defaults to a standard manuscript format: justification and the hyphen-help off, help level 0, double line-spacing, right margin 65, 10 pitch printing, and page offset 10. I have a second copy of WordStar for letters: justification off, hyphen-help on, help level 0, single line-spacing, right margin 78, 12 pitch, and page offset 12. And I have a third copy for programming: it defaults to non-document mode, help level 0, 12 pitch, and page offset 5.

If you customize WordStar, you can also wring a little extra performance out of it. You can use your Kaypro's video features to improve your screen display. You can make it possible to edit one file while printing another, without annoying delays or lost characters. And you can use the special features of dot matrix printers, like condensed or expanded print.

You can't get multiple windows or onscreen italics by customizing WordStar, but you can make the most out of what you've got. Best of all, you end up with a WordStar that suits your particular style.

What customizing WordStar involves

To customize WordStar, you have to patch it—change individual bytes in the main WordStar program, WS.COM, and thereby change the instructions that WordStar gives to the hardware inside your Kaypro. In one sense, patching WordStar is a very technical operation, since you're actually fiddling with the program's innards; but in practice you'll find it quite easy, and you'll need very little technical knowledge. It is very helpful to know something about hexadecimal numbers; if you're unfamiliar with them, read the related article, "Bits, Bytes, and Hexadecimal Numbers," on page 35.

To customize a particular feature in WordStar, you have to find the right location in WS.COM to patch. The table on pages 41-43 lists key patch points. This table exists through the work of many people in the public domain—most recently, Milton Hicks and Guy Gamble, and before them, many anonymous contributors. This information has been steadily added to, sorted, edited, and re-edited for almost as long as WordStar has been available, and my additions certainly won't be the last.

For each patch point, the table shows a mnemonic label, hexadecimal addresses for the different versions of WordStar, a *brief* description of what the patch point controls, and the bytes that a standard Kaypro Word-

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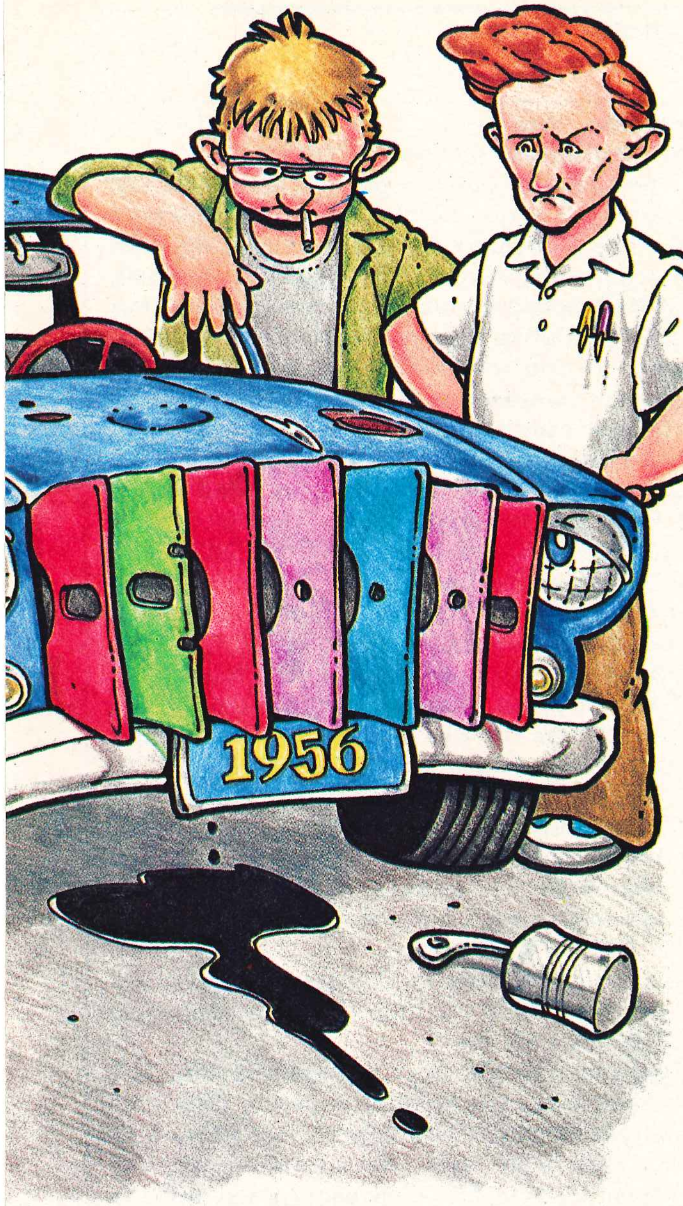


Star 3.3 has at that point. Depending on which method of patching you use, you can locate a patch point by using either the label or the hexadecimal address. The hexadecimal address will work with any method, while the labels will work only with WordStar's own installation program (WINSTALL.COM or INSTWS.COM). However, since the labels are the same in all versions of WordStar, I'll use them as a convenient way to refer to a particular patch point.

First steps

Find out which version of WordStar you have. Kaypro now ships WordStar 3.3 with its computers, but earlier owners may have WordStar 3.0. Most of the differences between these won't concern us here, but the patch points have different addresses in the two versions.

Owners of the new Kaypro 16 and 286i have the 16-bit version of WordStar 3.3. The labels are the same in this version as in the others, so you can use the WordStar installation program, but many of the hexadecimal addresses are different. If you want the addresses, the installation program will give them to you as it locates the labels.

Whatever version you have, always work with an expendable copy of WordStar. I suggest you set up a separate disk for all your patching. It will need:

- WS.COM—an already-installed version of your working WordStar.
- WSOVLY1.OVR and WSMSGS.OVR—the overlay files that go with WS.COM to make up the complete WordStar program. You don't patch these two files, but you'll need them to test your patched WS.COM.
- INSTWS.COM or WINSTALL.COM/WS.INS—the WordStar installation program. If you have WordStar 3.0, your installation program is INSTWS. COM. If you have WordStar 3.3, your installation program comes in two parts—WINSTALL. COM and WS.INS; you'll need both.
- DDT.COM—from your CP/M distribution disk. You only need DDT if you plan to patch WordStar with it instead of the WordStar installation program.
- PIP.COM or NSWP.COM—a copy program to copy files on and off the disk.

It's also handy to have a two- or three-page text file that you can use to test your newly patched WordStar.

Finally, make a list of everything you're going to change and what you're going to change it to. Otherwise it's easy to forget one or more patches, resulting in a WordStar that may behave very oddly.

When you're ready to begin patching, you can use either the WordStar installation program or DDT.COM. Each has its advantages: With the installation program, you gain the use of the mnemonic labels; with DDT you gain speed. Tom Enright and Joseph Katz have already described how to use the WordStar installation program (see "Technical Forum," *PROFILES*, April 1985, and "Adding Auto-Log to WordStar", *PROFILES*, May 1985), so I'll concentrate on DDT.

Patching with DDT

If you patch WordStar using DDT.COM and CP/M's built-in SAVE command, you gain two advantages. Once you're comfortable with DDT, you can patch and repatch WordStar very quickly. (Patching becomes a habit, like sorting your socks by color or correcting people's grammar.)

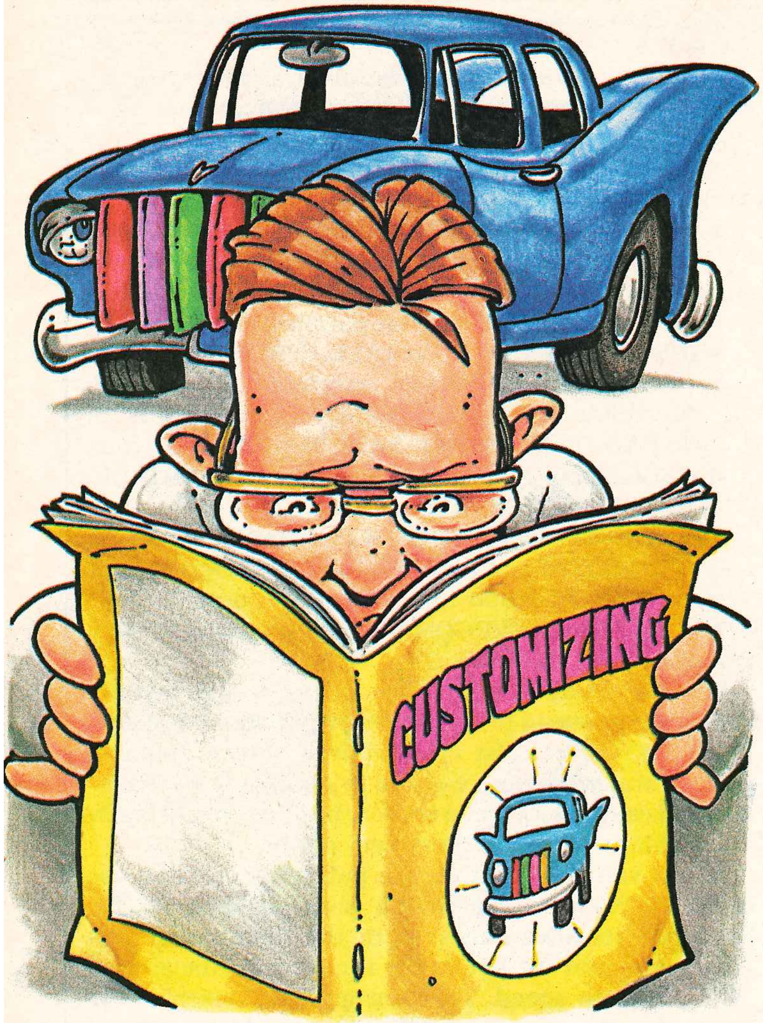
You can also patch very large routines onto the end of WS.COM, making it larger than the original. You can't make such patches with WINSTALL or INSTWS because they automatically truncate WS.COM to its original size. In fact, if you use the installation program after adding an oversize patch or a commercial enhancement such as MathStar, you'll wipe out everything beyond the normal end of WordStar and thoroughly bomb the program.

You don't get any step-by-step prompting with DDT, and you can't use the WordStar labels, only the hexadecimal addresses, so it's easier to make mistakes. With DDT, you can patch *anything* and create some spectacular failures.

A session with DDT

To patch WordStar with DDT, you go through three

ILLUSTRATION BY RICK GEARY



steps: 1) load DDT and WS.COM into your computer's memory so you can work with them; 2) patch a new value into the copy of WS.COM now in memory (repeat as many times as necessary); 3) exit DDT and save the patched copy of WS.COM from memory into a disk file.

Notice you're not patching the file WS.COM that exists on your disk, only a *copy* of that file in your computer's memory. If anything goes wrong, you can bail out any time before the third step by hitting ^C or the reset button—your disk file of WS.COM will be untouched. For the same reason, if you have a power failure or other disaster while you're using DDT, you'll lose all the patches from that session.

Let's walk through one simple patch using DDT. I'll assume you have a standard, unmodified Kaypro version of WordStar 3.3. If you have WordStar 3.0, or if your WordStar has already been modified, you'll have to adjust the examples accordingly.

Load DDT and WS.COM. In drive A place a disk that contains the files DDT.COM, WS.COM, WSOVLY1.COM, and WSMSGS.OVR. At the CP/M A> prompt, enter **DDT WS.COM <RTN>**.

DDT will load itself and then load WS.COM. When it's ready, it will sign on and display the following information:

```
NEXT PC
4600 0100
```

All numbers from here on are going to be hexadecimal. The number under NEXT tells you where the next free memory in your computer is after WS.COM has been loaded. The number under PC tells you where WS.COM starts in memory. So you know that WS.COM is occupying the space from 0100h (100 hexadecimal) to 4600h (4600 hexadecimal). Write down the number under NEXT (4600h in this case) in a safe place; you'll need it when it's time to save your patched WS.COM.

The hyphen (-) you see below these numbers is DDT's prompt. It's now waiting for you to tell it what to do.

Patch a new value into WS.COM. Suppose you want WordStar to clear the screen when you exit and return to CP/M. To do that, you need to insert two bytes at the label TRMUNI, which is short for TeRMinal UNInitialization, a function executed as you exit WordStar. When you look up TRMUNI in Table 1 on page 41, you find its address in WordStar 3.3 is 027Eh. So, at the DDT hyphen (-) prompt, type **-S027E <RTN>**.

The **S** tells DDT you want to substitute new values starting at address 027Eh. DDT replies by echoing back the address and its present value: 027E 00.

Notice that the hyphen prompt has disappeared and DDT has left the cursor to the right of the present value. To leave this value unchanged, hit RETURN and DDT will move you to the next address. To change it, type in a new value. In this case, enter the value 01h and hit RETURN: 027E 00 **01 <RTN>**.

DDT will then move to the next address and show the value stored there: 027F 00. This time, enter the value 1Ah: 027F 00 **1A <RTN>**.

DDT will move to the next address (0280h), but you're finished with this particular patch. (The first entry, 01h, tells WordStar how many bytes follow, and the second, 1Ah, is the code that actually clears the screen.) To get back to DDT's hyphen (-), just enter a period (.):

```
0280 00 . <RTN>
```

From this point, you can go on to patch other areas in WS.COM by using the **S** command in the same way, as many times as you need to. You can even go back and patch the same areas over again; nothing is permanent until you take the next step.

Exit DDT and save the patched WS.COM. When you've made all your patches, you're ready to save the results. Exit DDT by typing ^C (control-C) at DDT's hyphen (-) prompt; the computer will warm boot, and you'll be back at CP/M's A> prompt:

```
-^C
A>
```

Now, *before you do anything else*, you must use CP/M's built-in SAVE command to save your patched WS.COM from memory into a disk file. I suggest you save it under a new name, such as WSX.COM (X for eXperimental). If you save it as the name WS.COM, you'll wipe out your old unpatched WS.COM, which you may need again if your patches don't work. So save it as

ILLUSTRATION BY RICK GEARY

Bits, Bytes and Hexadecimal Numbers

Your Kaypro doesn't really understand graphs or words or even letters; it only understands binary numbers, in which every digit is either 0 or 1. The smallest piece of information the Kaypro can deal with is a single binary digit (0 or 1), which is called a "bit."

Most often, your Kaypro deals with a group of eight bits, called a "byte." A single byte can be an instruction telling the computer what to do next, or it can be a value for the computer to work with (like the value for WordStar's right margin setting or for the letter "A"). Two bytes together can make an address, which identifies a particular spot in the Kaypro's 64K memory.

Few people ever deal with bytes as binary numbers; it's just too inconvenient for a human being to decode the binary number 10110111, for example, into the more familiar decimal number 183. BASIC programmers often deal with bytes as decimal numbers. Those work pretty well for a single byte, which can have a decimal value from 0 to 255. But decimal numbers, too, get clumsy when you start working with two-byte (16 bit) addresses, which can have a decimal value anywhere from 0 to 65,535.

So assembly language programmers and patchers (and their tools, like DDT.COM) most often use hexadecimal numbers (base 16) instead of decimal numbers (base 10). The decimal number system, of course, uses ten single digits (0-9) to make up its numbers. When you get to the last single digit (9) and need to add one more, you start over again one column to the left, placing a zero in the previous column (10).

The hexadecimal number system works the same way, except that it has sixteen single digits to make up its numbers. It gets these sixteen by using the usual 0-9 and then adding A, B, C, D, E, and F to make up the rest. So in hexadecimal numbers, when you add 1 to 9, you get A (instead of 10, which you would get in decimal numbers). Only when you get to the hexadecimal digit F and add 1 does the count roll over to 10 hexadecimal (which equals 16 decimal). Here's a comparison of hexadecimal and decimal counting:

HEXADECIMAL	DECIMAL
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
A	10
B	11
C	12
D	13
E	14
F	15
10	16
11	17
.	.
1F	31
20	32
.	.
2F	47
30	48
.	.
9F	159
A0	160
.	.
FF	255
100	256
.	.
200	512
.	.
FFF	4095
.	.
FFFF	65535

Humans don't naturally think in hexadecimal numbers, and it takes a while to get used to the fact that BEAD is a valid hexadecimal number (equal to decimal 48,813). Fortunately, you only need to know a few things about hexadecimal numbers to be able to patch WordStar:

Often, hexadecimal numbers are written with a trailing H to distinguish them from decimal numbers, so that hexadecimal 1A is written 1AH or 1Ah. I use a lowercase h to show hexadecimal numbers (the WordStar installation patcher does the same), except for those cases in which I'm reproducing exactly what you'll see on your own screen, as in the examples from the DDT patching session. You *never* type the H (or h) when actually entering a hexadecimal number using DDT.COM or the WordStar installation program.

To convert a hexadecimal number (ACh, for example), to decimal, follow these steps:

1) Convert the righthand digit to decimal.

C = 12 decimal

2) Convert the lefthand digit to decimal and multiply by 16.

A = 10 decimal
10 X 16 = 160

3) Add the two results together.

12 + 160 = 172

So AC hexadecimal equals 172 decimal.

To convert a decimal number (like 172) to hexadecimal, divide the number by 16 (172 / 16 = 10 with 12 remainder). Convert the whole number result (10) to hexadecimal (10 = A hexadecimal) and use that as your lefthand hexadecimal digit. Then convert the division remainder (12) to hexadecimal (12 = C hexadecimal) and use that as the righthand digit. Put the left- and righthand digits together and you have your hexadecimal answer (ACh).

There's also another method. Just take a known equivalence, such as 30h = 48 or A0h = 160, and work out the rest on your fingers. I do conversions this way much of the time. And why not? It works. □

—**Ted Silveira**

WSX.COM, and test it. If it works, rename it to WS.COM. (When it's named WSX.COM, the Run-a-Program command on the no-file menu won't work properly, but everything else should.)

If you haven't made WS.COM longer than it was by tacking a patch on the end or adding a commercial enhancement such as MathStar, saving the file is easy. If you have a standard WordStar 3.3, when you loaded DDT and WS.COM you should have seen:

```
NEXT PC
4600 0100
```

If the number under NEXT was 4600, then to save your patched WS.COM, type A>**SAVE 69 WSX.COM**.

If you have a standard WordStar 3.0, when you loaded DDT and WS.COM you should have seen:

```
NEXT PC
3F00 0100
```

If the number under NEXT was 3F00, then to save your patched WS.COM, type A>**SAVE 62 WSX.COM**.

In either case, you'll find a new file named WSX.COM on your disk when you're done.

If your NEXT number was different from the two given above, you'll have to compute the right number for the SAVE command yourself. Follow these steps:

1) Find the number that was under NEXT when you loaded DDT and WS.COM (say 3F00 for this example).

2) Take the two left digits of the number (3F). You convert this number from hexadecimal to decimal.

3) Take the righthand digit of the pair (F) and convert it to decimal (hexadecimal F equals decimal 15).

4) Take the lefthand digit of the pair (3), convert it to decimal (hexadecimal 3 equals decimal 3), and multiply it by 16 (3 x 16 = 48).

5) Add the two decimal numbers together (15 + 48 = 63).

6) Look again at your original number (3F00). If the two rightmost digits are 00, then subtract one from the decimal result you got in Step 5 (63 - 1 = 62), and use the result in the SAVE command (SAVE 62 WSX.COM). If the two rightmost digits are not 00 (if the original number were 3F80, for example), then do *not* subtract one; just use the decimal result you got in Step 5 (SAVE 63 WSX.COM).

If you think this process is a little weird, I agree. Here's what you're doing. To use the SAVE command, you have to specify the number of "pages" of memory to save. Each page of memory is 100h bytes, so the space from the bottom of memory up to 3F00h is 3F (hexadecimal) pages. Easy. Unfortunately, CP/M's SAVE command can only handle decimal numbers, so you have to convert 3F hexadecimal to 63 decimal.

And why subtract one? Because a standard CP/M program like WS.COM always starts at 0100h, not 0000h (the space from 0000h to 0100h is used by CP/M for housekeeping). So it takes only 3E hexadecimal pages (62 decimal) to cover the area from 0100h to 3F00h, but it takes 3F hexadecimal pages (63 decimal) to cover the area from 0100h to 3F80h (even though only part of the last page is filled).

ILLUSTRATION BY RICK GEARY

Major patch points in WordStar

As you start customizing WordStar, you'll find there four main kinds of patch points:

Flag— A single byte that signals whether a function, such as justification, is turned on or off. Usually, patching the flag to FFh turns a function on, and patching it to 00h turns it off.

Value— A single byte that sets a default value, such as the initial right margin setting or the delay before menus appear. If you don't know exactly what new value to patch in, raise or lower the current value a few points at a time, testing WordStar after each change to see what effect the new value has. In the case of delay values especially, you can only find your ideal setting by experimenting.

String— A series of bytes sent to the screen or printer to control some function, such as turning on reverse video or changing character pitch. The first byte gives the number of bytes in the following string;

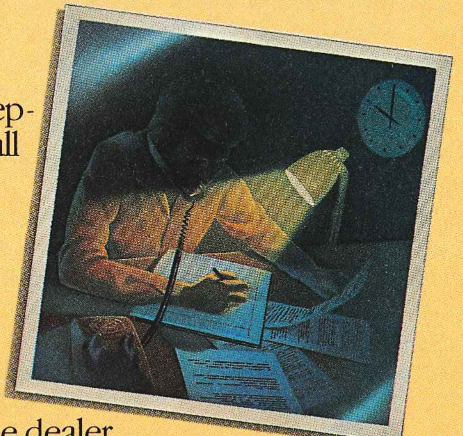
"MY OWN RAGS TO RICHES STORY" CHAPTER 1

(Your picture here)

Computerized Books Without Red Ink, Sweat or Tears.

by ______________
(Your name here)

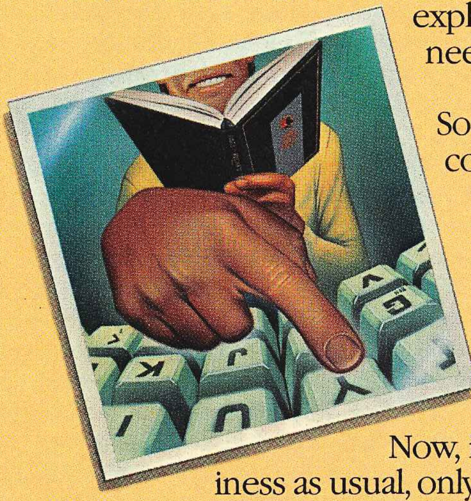
I was an ______________ [established, industrious, entrepreneurial] business person, looking for an escape from bookkeeping drudgery. But the computer "solutions" I'd seen all seemed too ______________. [expensive, complex, intimidating]



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*]



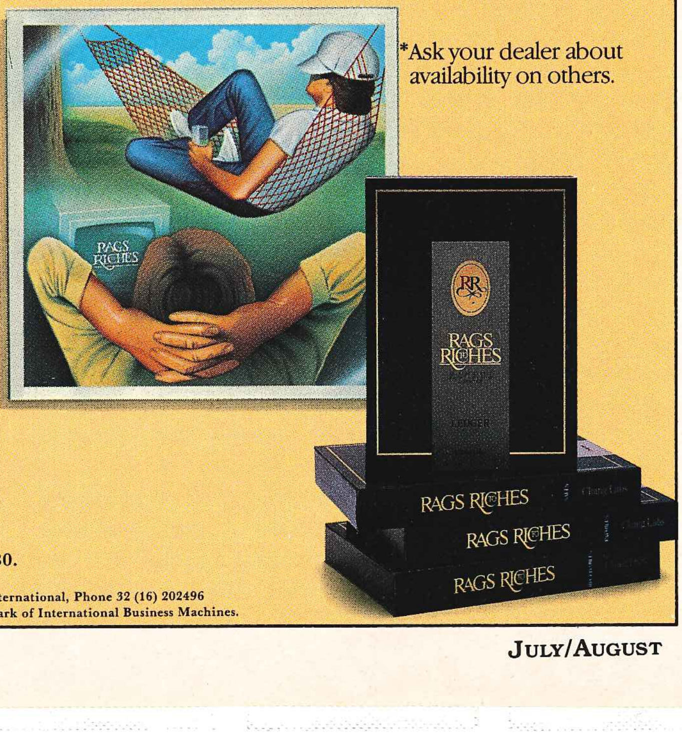
The price was right—less than $100 per module. So was the price of the ______________ [IBM® PC, compatible, PC*jr*, __________*] computer it ran on.

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.)



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the rest of the string contains the bytes that do the work. When the first byte is 00h, the label is inactive, regardless of what other bytes may follow.

Routine— A special user-installed set of program instructions that add a function. These patch points don't contain the routines themselves, only an instruction that jumps to the address where the routine has been installed (usually at MORPAT). For advanced programmers only.

Make sure you always know which kind of patch point you're working on so that you don't insert a routine at a string patch point or vice versa. TRMINI and INISUB, for example, both deal with terminal initialization, but the first is a string patch and the second a routine. If you confuse the two, your customized WordStar won't roll an inch.

With that warning in mind, let's go to work. In Table 1, you find a list of key user patch points for Word Star, each with its label, its addresses in WordStar 3.3 and 3.0 and a brief description. What follows here is a fuller description of the most useful ones.

> *Make sure you always know which kind of patch point you're working on.*

LINDEL (String)— Deletes a line from the screen. Your Kaypro has a special code for this function, but the Kaypro WordStar doesn't use it. By patching in the proper strings here and in the following Line Insert function, you'll improve screen scrolling on commands like ^W,^Z, ^QW, and ^QZ. Insert the following bytes at this label: **02h 1Bh 52h**.

Warning: All versions of the *Kaypro User's Guide* I've seen contain an error—they have reversed the codes for Line Insert and Line Delete. The proper escape sequence for Line Insert is <ESCAPE> E (1Bh 45h), and the proper sequence for Line Delete is <ESCAPE> R (1Bh 52h).

Some people who use this patch together with reverse-video highlighting get some flickering when the status line or menu portion of the screen is rewritten. If you do, and you find it annoying, you can either remove the LININS/LINDEL patches or change your highlighting from reverse video to half-intensity video (see IVON and IVOFF).

LININS (String)— Inserts a line on the screen. Read the comments at LINDEL above and patch this section only if you also patch LINDEL. Insert the following bytes here: **02h 1Bh 45h**.

IVON (String)— Turns on inverse video (highlighting). WordStar uses IVON and IVOFF to start and stop highlighting for menus and marked blocks. On '84 Kaypros, this function is set to **06h 1Bh 42h 30h 1Bh 42h 31h**, which produces half-intensity inverse video. I don't like inverse video, even at half-intensity; it's like staring into a searchlight. So I changed mine to use half-intensity only by patching in these bytes: **03h 1Bh 42h 31h 00h 00h 00h**. The last three bytes aren't necessary; they just keep things neat. If you patch IVON, patch IVOFF also.

IVOFF (String)— Turns off inverse video (highlighting). See comments at IVON above. Must be patched to cancel out video effects turned on by IVON. To go with the change I mentioned at IVON, I patched IVOFF with these bytes: **03h 1Bh 43h 31h 00h 00h 00h**.

TRMINI (String)— Sent to the terminal (screen) when WordStar first starts up (TeRMinal INItialization). The standard Kaypro installation just sets this to clear the screen on start-up.

TRMUNI (String)— Sent to the terminal when exiting WordStar (TeRMinal UNInitialization), usually to reverse the effects of TRMINI, which is the string sent to the terminal when WordStar first starts up. Standard Kaypro installation has nothing here. To have WordStar clear the screen on exit, patch in these bytes: **01h 1Ah**.

DELCUS (Value)— Sets the length for a delay after the cursor is moved to a new spot. Lower this value to shorten the delay; if you lose characters after cursor moves, you've made the delay too short. (I've set this delay and the following one to 00h without any problems, so far.)

DELMIS (Value)— Sets the length for a delay after miscellaneous screen functions. Lower this value to shorten the delay; if you lose characters or find odd things happening on the screen, it's too short.

DEL1, DEL2 (Values)— Sets length for short delays. These two values set the cursor blink rate when the cursor is on a highlighted character. They also control how the cursor jumps back and forth between the ^QA "REPLACE Y/N:" prompt and the text to be replaced. You gain little or nothing by changing these.

DEL3 (Value)— Sets length for a medium delay. This value controls how long WordStar waits after you press a prefix key (^K, ^Q, ^P, ^O, ^J) until it displays the menu. It also controls the delay before the display of the special characters menu. If you're unsure of WordStar commands, you can lower this value to shorten the delay; the menus will come up more quickly. If you know the commands, you can raise this value to lengthen the delay; the menus won't come up so quickly and get in your way.

DEL4 (Value)— Sets the length for long delays. This value controls the time for the "abandon file" and "new file" messages and for WordStar's sign-on messages, including the MicroPro copyright message. This delay (with DEL5) also controls screen update after a horizontal scroll. To shorten these, you can lower this value considerably. There's no general agreement on whether or not it's OK to lower DEL1 through DEL5 to 00h or not. Some people swear it works fine; others say that doing so will eliminate some important messages. I play it safe by not lowering any of them all the way to 00h.

DEL5 (Value)— Sets the delay for screen update after a keystroke and (with DEL4) affects screen update after a horizontal scroll. You can lower this value, too.

SCRLSZ (Value)— Sets the number of columns WordStar will move during a horizontal scroll. The standard value here is 14h, which means you scroll 20 columns at a time. You can get faster horizontal scrolling if you increase this value to 28h for a 40 column scroll and shorten the delays at DEL4 and DEL5.

> *Poking around in MORPAT I discovered some odd code. Anyone know why it's there?*

MORPAT— An empty section available for user-installed subroutines. In a standard WordStar, this area will be filled with 00h. Don't put anything here unless you know what you're doing. If your WordStar has been modified and you find anything here, leave it alone.

Note: Poking around here, I discovered something odd. The standard Kaypro installation of WordStar 3.3, just as it comes off the master disk, has 12 bytes of code right at the beginning of MORPAT. But the code isn't activated from any of the usual places, and it calls UNISUB and jumps to INISUB, both of which are empty. I've checked several Kaypro WordStar masters and they all have this code. Anyone know why it's here?

ITHELP (Value)— Sets the default help level. In a standard installation, this byte will be 03h for help level 3. Patch to 02h, 01h, or 00h for help levels 2, 1, or 0, respectively.

INITPF (Values)— Sets up the initial page format (paper length, top and bottom margins, etc.) used for onscreen page-break display and pagination during printing. All can be overridden by dot commands. Most are of no interest unless you habitually use some odd page format.

INITPF+16h (Value)— Sets default standard character width in 1/120ths of an inch, for printers installed as precision (daisy wheel) printers only. It's normally set to 0Ch, which gives 10 characters per inch. If you like to print 12 characters per inch all the time, you may want to change this to 0Ah. Then your normal printing will be 12 pitch without using ^PA.

INITPF+17h (Value)— Sets default alternate character width in 1/120ths of an inch, for printers installed as precision (daisywheel) printers only. It's normally set to 0Ah, which gives 12 characters per inch. If you change the standard character width as described above, change this to 0Ch. Then your alternate printing, controlled by ^PA, will be 10 characters per inch.

INITPF+18h (Value)— Sets the number of characters for the default page offset, the margin that WordStar automatically supplies when printing. The standard value for this is 08h. I've changed this value to 0Ah for a page offset of 10 characters, one inch at 10 pitch.

INITLM (Value)— Sets the default left margin on the screen. You set this value to *one less* than the margin you want. Its standard value is 00h, which sets a left margin of 1.

INITRM (Value)— Sets the default right margin on the screen. As above, you set this value to *one less* than the margin you want. Its standard value is 40h (64 decimal), which sets a right margin of 65. Remember, when you're using DDT or INSTWS to make patches, this value and all others must be entered as hexadecimal numbers.

INITWF (Flags)— Turns various word-processing flags on or off. Most of these 11 flags you probably won't want to bother with, but I've found it useful to patch the following three.

INITWF+01h (Flag)— Turns right margin justification on or off. The standard setting is FFh, which turns justification on. I prefer ragged right margins, so I patched this byte to 00h to turn justification off.

INITWF+04h (Flag)— Turns hyphen-help on or off. The standard setting is FFh, which turns hyphen-help on. I've patched this byte to 00h to turn hyphen-help off (most publishers prefer unhyphenated manuscripts).

INITWF+09h (Value)— Sets the default line spacing for both screen and printer. The standard value for this byte is 01h, which sets the line spacing to one. I've patched it to 02h so that my default line spacing is two.

NONDOC (Flag)— Sets WordStar to either document or non-document mode when you enter a filename on the CP/M command line (i.e., when you do A>WS B:EXAMPLE.TXT). The standard setting is 00h, for document mode. Patch to FFh to make non-document mode the default—useful if you use WordStar for programming.

> *Lowering the HZONE value will mean more stops for hyphenation and less empty space.*

HZONE (Value)— Sets the hyphenation zone used when reforming a paragraph with hyphen-help on. This value decides how far from the right margin the last full word can end before WordStar tries to hyphenate a word that carries over the margin. Lowering this value will mean more stops for hyphenation and less empty space on the line. Raising the value will mean fewer stops and more empty space.

PAGFIL (Character)— Defines the character used to mark page breaks on screen. Standard setting is 2Dh, the hyphen (-) character. You can change this character

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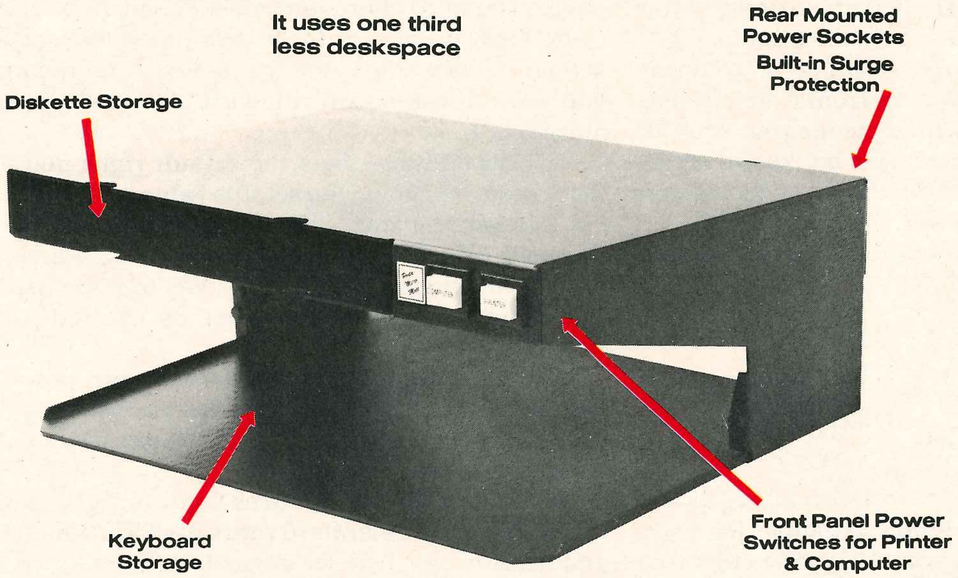
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Labels and Addresses of Key Patch Points for WordStar 3.3 and 3.0

The following is an abridged version of tables widely available in the public domain. Ted Silveira's complete version of this table, called WS3330.DOC, can be found on the following bulletin boards: CompuServe's Kaypro SIG (PCS-25); Wayne Masters' Potpourri (408) 738-7474; John Sojak's Smokin' Silicon (312) 941-0049; and Steve Sanders' DataCOM (813) 937-3608. As mentioned in the article, the WordStar install programs respond to either the patch point's hexadecimal addresses or the labels listed (put a colon before each label used with WINSTALL.COM; after each with INSTALL.COM or INSTALLWS.COM). On the other hand, general purpose CP/M utilities (e.g., DDT, PATCH) respond only to hex addresses. If you use such a general purpose program, you'll need to use this table to convert the label you read in the article to the hexadecimal address corresponding to your particular WordStar version (3.0 or 3.3).

LABEL	*WS 3.3 ADDR*	*WS 3.0 ADDR*	*DESCRIPTION*	*KAYPRO WORDSTAR 3.3 ORIGINAL SETTINGS*
IDTEX	018A	018F	terminal id text	
PIDTEX	01AE	01B3	printer id text	
PROTTX	01D2	01D7	printer protocol text	
PDRVTX	01F6	01FD	port driver text	
ERAEOL	0250	026D	terminal erase to end of line string	00 00 00 00 00
LINDEL	0257	0274	terminal delete line string	00 00 00 00 00 00 00
LININS	025E	027B	terminal insert line string	00 00 00 00 00 00 00 00 00
IVON	0267	0284	turn on highlighting string	06 1B 42 30 1B 42 31
IVOFF	026E	028B	turn off highlighting string	06 1B 43 30 1B 43 31
TRMINI	0275	0292	terminal initialization string	01 1A 00 00 00 00 00 00 00
TRMUNI	027E	029B	terminal uninitialization string	00 00 00 00 00 00 00 00 00
INISUB	0287	02A4	jmp to user term init routine	00 00 C9
UNISUB	028A	02A7	jmp to user term uninit routine	00 00 C9
USELST	028D	02AA	FF = can use last row/o scrolling	00
DELCUS	028E	02AE	delay after cursor positioning	0A
DELMIS	028F	02AF	delay after misc other functions	05
MEMAPV	0290	02B0	FF = memory-mapped video display	00
MEMADR	0291	02B1	address of home pos in mm video	00 00
HIBIV	0293	02B3	FF = highlighting by setting high bit	00
HIBCUR	0294	02B4	FF = show crsr by setting high bit	00
CRBLIV	0295	02B5	FF = WS blink crsr in iv, term or mmv	00
ZAFCIN	0296	02B6	fix for backspace on delete	00 00
RUBFXF	0298	02B8	FF = use RFIXER	00
RFIXER	0299	02B9	fix for backspace on delete	00
DEL1	02AF	02CF	short delay – highlight crsr blink on	03
DEL2	02B0	02D0	short delay – highlight crsr blink off	09
DEL3	02B1	02D1	medium delay – time to prefix menus	19
DEL4	02B2	02D2	long delay – time for msg displays	40
DEL5	02B3	02D3	delay until screen redisplay/refresh	09
RSTFLG	⟨n/a⟩	02DB	FF = no disk resets by WordStar	00
DEFDSK	02B9	02DC	drive for OVR files after logged drive	01
SCRLSZ	02BA	02DD	columns for horizontal scroll	14
MORPAT	02CB	02E0	space for user-added routines (with mysterious 12 bytes of code)	CD 8A 02 C3 AB 24 CD A0 3E C3 87 02 00 00 00 00 00 00 00 00
ITHELP	034D	0360	initial help level	03
NITHLF	034E	0361	00 = display spec msg if ITHELP 1 or 2	FF
ITITOG	034F	0362	FF = insert mode on, 00 = off	FF
ITDSDR	0350	0363	FF = no-file dir on, 00 = off	FF
INITPF	0351	0366	initial page format: line height 1/48s	08
	0352	0367	paper length (.pl) in lines (66)	42
	0353	0368	paper length in 1/48s	10 02
	0355	036A	line height in 1/48s again	08
	0356	036B	margin at top (.mt) in lines	03
	0357	036C	margin at top in 1/48s	18 00
	0359	036E	line height again	08
	035A	036F	heading margin (.hm) in lines	02
	035B	0370	heading margin in 1/48s	10 00
	035D	0372	line height again	08
	035E	0373	bottom margin (.mb) in lines	08
	035F	0374	bottom margin in 1/48s	40 00
	0361	0376	line height again	08
	0362	0377	footing margin (.fm) in lines	02
	0363	0378	footing margin in 1/48s	10 00
	0365	037A	line height again	08
	0366	037B	00 for standard character width	00
	0367	037C	std char width in 1/120s	0C
	0368	037D	alt char width in 1/120s	0A
	0369	037E	page offset in characters	08
INITLM	036A	037F	initial left margin less 1	00
INITRM	036B	0380	init right mar less 1, up to WID – 4	40
INITSR	036C	0381	initial sub/superscrip roll in 1/48s	03

LABEL	WS 3.3 ADDR	WS 3.0 ADDR	DESCRIPTION	KAYPRO WORDSTAR 3.3 ORIGINAL SETTINGS
ITITWF	036D	0385	word wrap (^OW), 00 = off, FF = on	FF
	036E	0386	justification (^OJ), 00 = off, FF = on	FF
	036F	0387	variable tabs (^OV), 00 = off, FF = on	FF
	0370	0388	soft hyphens (^OE), 00 = off, FF = on	00
	0371	0389	hyphen help (^OH), 00 = off, FF = on	FF
	0372	038A	show ctrl char (^OD), 00 = off, FF = on	FF
	0373	038B	show ruler line, 00 = off, FF = on	FF
	0374	038C	figure page breaks, 00 = off, FF = on	FF
	0375	038D	show page breaks, 00 = off, FF = on	FF
	0376	038E	line spacing	01
	0377	038F	(^KN) 00 = block move, FF = column	00
NONDOC	0378	0392	direct entry, 00 = doc, FF = nondoc	00
DOTSON	0379	0397	dot cmds during edit, 00 = disable	FF
DECCHR	037A	0393	decimal point character	2E
DOTCHR	037B	0395	character to begin dot cmds	2E
BLNCHR	0386	0396	non-break space char (^O)	0F
CMTCHR	0387	⟨n/a⟩	comment char (;)	3B
ENDEXP	0388	⟨n/a⟩		47
RVELIM	0389	03D8	MailMerge delimiter for data values	2C
RVQUOT	038A	03D9	MM delimiter for enclosed values	22
VARCH1	038E	03DB	MM delimiter to introduce variables	26
VARCH2	038F	03DC	MM delimiter to terminate variables	26
VAROPC	0390	03DE	char after name before option letters	2F
	0391	03DF	opt ltr for omit line if variable null	4F
COMPOP	0396	⟨n/a⟩	table of MM comparison operators	3C 3E 00 FD 3E
LOGICP	03B7	⟨n/a⟩	table of MM logical operators	2E 41 4E 44 2E
HZONE	03C9	039A	hyphenation zone at end of line	04
	03CA	039B	pointer to non-consonant table	D3 03
	03CC	039D	pointer to vowel table	CE 03
VOWTAB	03CE	039F	table of vowels	59 5B 5D 7B 7D
NONCON	03D3	03A4	table of non-consonants	41 45 49 4F 55 00 00 00 00 00
SOFHYC	03E7	03B8	character used for soft hyphens	AD
PAGFIL	03E8	03B9	character used for page breaks	2D
MARKS	03E9	03BA	character used for start of blocks	42
	03EA	03BB	character used for end of blocks	4B
	03EE	03BF	characters (0-9) used for place markers	30 31 32 33 34
PODBLK	03F8	03CA	disk file output, 00 = no, FF = yes	00
	03F9	03CB	use form feeds, 00 = no, FF = yes	00
	03FA	03CC	suppress page format, 00 = no, FF = yes	00
	03FB	03CD	pause between pages, 00 = no, FF = yes	00
NOUFF	03FC	03D1	FF = suppress form feed question above	00
ITPOPN	03FD	03D3	print page numbers, 00 = on, FF = off	00
ITMIJ	03FE	03D4	microjustification, FF = on, 00 = off	FF
ITBIP	03FF	03D5	bi-directional print, FF= on, 00 = off	FF
FNWSCM	0400	03E6	name of main WordStar program	WS COM
DSKTNA	040C	03F2	name of message file	WSMSGS OVR
FNOVLY	0418	03FE	name of overlay file	WSOVLY1 OVR
FNMRGP	0424	040A	name of merge-print overlay	MAILMRGEOVR
AUTOBS	0430	0422	table of auto-backspace characters	00 00 00 00 00 00 00 00 00 00
BSCHR	043B	042D	char to use after autobs, usually ^H	08
NOFTAB	043C	0430	no-file command table (each entry 4 bytes, first two are cmd chars, next two are address of routine)	04 00 00 01 . . .
VTAB	0489	0481	file editing command table (same format as NOFTAB)	11 FF 12 00 .
XTAB	0655	0649	expansion space for edit cmd table (same format as NOFTAB)	00 00 00 00 .
FPTAB	067A	066E	merge-print cmd table (same format as NOFTAB)	10 00 28 43 .
PNFTAB	068B	067F	pointer to no-file cmd table	3C 04
PVTAB	068D	0681	pointer to edit cmd table	89 04
PFPTAB	068F	0683	pointer to merge-print table	7A 06
POSMTH	0699	0690	type of printer FF = teletype, no backspace 00 = teletype w/backspace 01 = daisywheel 03, 04 = special oem printers	FF
BLDSTR	069A	0691	number of strikes for boldface	03
DBLSTR	069B	0692	number of strikes for double-strike	02
			(Next 8 labels active only if POSMTH = FF or 00)	
PSCRLF	069C	0696	string to do CR and LF	02 0D 0A 0D 0A 0A 00 00 00 00 00
PSCR	06A7	06A1	string to do CR only	02 0D 00 00 00 00 00
PSHALF	06AE	06A8	string to do CR and half-LF	00 0D 0A 00 00 00 00
PBACKS	06B5	06AF	string to do backspace	00 08 00 00 00 00
PALT	06BB	06B5	string to set alt char width ^PA	00 1B 45 00 00
PSTD	06C0	06BA	string to set std char width ^PN	00 1B 4E 00 00
ROLUP	06C5	06BF	str to roll carr up part line ^PT	00 00 00 00 00
ROLDOW	06CA	06C4	str to roll carr down part line ^PV	00 00 00 00 00
USR1	06CF	06C9	string for user function 1 ^PQ	00 00 00 00 00
USR2	06D4	06CE	string for user function 2 ^PW	00 00 00 00 00

LABEL	*WS 3.3 ADDR*	*WS 3.0 ADDR*	*DESCRIPTION*	*KAYPRO WORDSTAR 3.3 ORIGINAL SETTINGS*
USR3	06D9	06D3	string for user function 3 ^PE	00 00 00 00 00
USR4	06DE	06D8	string for user function 4 ^PR	00 00 00 00 00
RIBBON	06E3	06DD	string to set alt ribbon color ^PY	00 00 00 00 00
RIBOFF	06E8	06E2	string to set std ribbon color ^PY	00 00 00 00 00
PSINIT	06ED	06E7	string to initialize printer	01 0D 54 31 32 00 00 00 00 00 00 00 00 00 00 00 00
PSFINI	06FE	06F8	string to uninitialize printer	00 1B 41 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SOCHR	070F	070B	character for strikeout	2D
ULCHR	0710	070C	character for underline	5F
PRINIT	0711	070D	jmp to user printer init routine	00 00 C9
PRFINI	0714	0710	jmp to user printer uninit routine	00 00 C9
CSWTCH	0717	0717	switch to select printer driver (00 = primary list device) (01 = WordStar's port driver) (02 = user printer driver) (03 = oem driver) (04 = alternate console driver)	00
HAVBSY	0718	0718	have printer busy rtn? FF = yes	00
			(If CSWTCH = 00, next 3 active)	
LIBSY	0719	071A	jmp to user busy test routine	00 B7 C9
LISEND	071C	071D	routine send character to list device	5F 0E 05 CD 05 00 B7 C9
LISINP	0724	0725	jmp to user char input rtn	00 37 C9
			(If CSWTCH = 01, next 11 active)	
POBSY	0727	0728	port driver output status entry	DB
POSTAT	0728	0729	output status port address	05
POMASK	072B	072C	bit mask for transmit ready	01
POOM	072D	072E	bits that change	01
POSEND	0732	0733	port driver send char entry	D3
POOP	0733	0734	output data port address	04
POINP	0736	0737	port driver input status entry	DB
PISTAT	0737	0738	input status port address	05
POINSK	073A	073B	bit mask for receive ready	02
POIM	073C	073D	bits that change	02
POIP	0740	0741	input data port address	04
			(If CSWTCH = 02, next 3 active)	
PUBSY	0744	074C	jmp to user printer busy test routine	00 B7 C9
PUSEND	0747	074F	jmp to user char output routine	00 00 C9
PUINP	074A	0752	jmp to user char input routine	00 37 C9
			(If CSWITCH = 04, next 7 active)	
ACBSY	074D	0758	jmp to usr alt con busy test	00 B7 C9
ACSEND	0750	075B	send char to alt con	CD 6C 07 CD F0 20 C3 63 07
ACINP	0759	0764	input char from alt con	CD 6C 07 CD 55 1D C4 6C 1D 57
ACFIN	0763	076E	exit routine start	78
ACSTA1	076F	076F	set/reset iobyte	32 03 00 7A B7 C0 37 C9
ACSTAR	076C	0777	entry routine start	57 3A 03 00 47 E6 FC F6
CONFIE	0774	077F	alt con device assignment	01
PROTCL	0778	0786	printer protocol type (00 = none) (01 = ETX/ACK) (02 = XON/XOFF)	00
EAKBSZ	0779	0787	ETX/ACK msg buffer size	7F
			(Most of the following are for daisywheels only)	
DVMILE	077A	0790	vertical motion index leadin string	00 1B 1E 00 00
DHMILE	0788	0779	horizontal motion index leadin string	00 1B 1F 00 00
DFWD	0792	07A3	string to set forward print	00 1B 35 00 00
DBAK	0797	07A8	string to set backward print	00 1B 36 00 00
DSP	079C	07AD	forward space	00 20 00 00 00
DBS	07A1	07B2	backward space	00 08 00 00 00
DLF	07A6	07B7	line feed vmi	00 0A 00 00 00
DRLF	07AB	07BC	reverse line feed	00 1B 0A 00 00
DPHSPC	07B0	07C1	print phantom space	00 1B 59 00
DPHRUB	07B4	07C5	print phantom rubout	00 1B 5A 00
DNPROS	07B8	07D3	suppress proportional spacing (00 = on, FF = off)	00
DMJWB	07B9	07D5	use alt microjustification algorithm (00 = no, FF = yes)	00
PSTAB	07BA	07D8	proportional spacing table (righthand digit of each byte is the one involved in the totally unsupported proportional spacing command ^P ^P)	. . .
	083A	083A	END OF USER PATCHING AREA	

to any other one you want. The table of ASCII characters in the back of your *Kaypro User's Guide* will give you the hexadecimal equivalents for all printable characters.

PODBLK (Flags)— Sets default answers to the block of printout questions asked when you start to print a file. Patching these bytes to 00h makes the default answer NO, and FFh makes it YES. You probably won't want to change any of these except perhaps the last one, below.

PODBLK+3 (Flag)— Sets the default answer to the "Pause between pages?" question. If you usually print single sheets, you may want to make the default answer YES by patching this byte to FFh.

ITPOPN (Flag)— Turns page-numbering on or off. The standard setting is 00h, which causes page numbers to be printed, unless you specify otherwise with a dot command. Patch this byte to FFh if you want the default to be no page numbers, as you might for letters or short pieces.

ITMIJ (Flag)— Turns micro-justification on or off. Micro-justification deals only with spaces between words; it is not the same as proportional spacing. If your printer is installed to do incremental spacing (usually 1/120") and micro-justification is on, then WordStar uses incremental spacing between words when justifying a line. If micro-justification is off, WordStar inserts only whole spaces between words to justify a line. If your printer is installed as a teletype printer, WordStar won't micro-justify.

Supposedly, your printer will run faster with micro-justification off.

Supposedly, your printer will run faster if micro-justification is off. I haven't noticed much difference.

FNWSCM (String)— Stores the name of the WordStar COM file, usually WS.COM. This string determines what filename WordStar looks for when it returns after executing another program via the R command. If you are using DDT rather than the WordStar installation program, and you want to rename WS.COM, you must change the string stored here to match the new name. Use the ASCII character table in your *Kaypro User's Guide* to find the hexadecimal equivalents of the letters you need. There are 11 bytes here: the last three for the filetype (COM) and the first eight for the filename. There's no period between the filename and filetype, and the unused bytes in the filename must be set to spaces (20h).

AUTOBS (Table)— Defines characters for auto-backspace operation. Here you can insert up to 10 characters for auto-backspace. When WordStar finds one of these characters in your text, it will follow it immediately with a backspace so that the next character will be printed on top of the auto-backspace character. You can use this trick to print accent marks over letters or slashes through zeroes, for example. The last (11th) byte in this table must always be 00h, to signal the end of the table. Otherwise, disaster.

VTAB (Strings)— Starting at VTAB, you'll find a table of the various key combinations for WordStar's editing commands. Each table entry is four bytes—the first two for the command characters (the second will be 00h for a one-character command) and the last two for the address of the routine that executes the command. Ordinarily, you'll have no reason to change these, but you might want to try one change. I find it too easy to hit ^Y instead of ^T and delete a line instead of a word. So I patched the two bytes at 054Dh in WordStar 3.3 (0535h in WordStar 3.0) from 19h 00h to **19h 19h.**

Now I have to hit ^Y^Y to delete a line instead of just ^Y. I lose a little speed, but I gain insurance against accidents. I'm still experimenting, but so far I like it.

BLDSTR (Value)— Sets the number of strikes used for boldface (^PB). It should be set to 02h if you have a daisywheel printer that uses incremental spacing to create boldface. You can set it higher on a standard (teletype) printer to create a darker image. (These printers don't do incremental spacing; they just type the character several times in the same place.)

DBLSTR (Value)— Sets the number of strikes used to create double-strike (^PD). Daisywheel printers don't use incremental spacing on double-strike, so you can set this value higher to get a darker character.

PALT (String)— Causes printer to change to an alternate character width (^PA)—for non-daisywheel printers only. For daisywheel printers, leave this string empty. If your printer can change pitch (character width) but is installed as a standard (teletype) printer, you can patch this and the following label with the command strings to control pitch changes. Proceed with caution.

PSTD (String)— Causes printer to return to standard character width (^PN)—for non-daisywheel printers only. See comments and cautions at PALT.

USR1, USR2, USR3, USR4 (Strings)— Provides space for user-defined printer commands. At these four labels, you may patch in printer command strings that will let you use special features of your printer. These strings are sent to the printer when WordStar encounters ^PQ (USR1), ^PW (USR2), ^PE (USR3), or ^PR (USR4) in your text. Each label has space for five bytes—the first byte for a character count of the following string and the next four bytes for the string itself. Do not overrun the patch area, and be sure to test these new functions carefully.

RIBBON, RIBOFF (Strings)— Causes printer to change ribbon color, if installed. Often installed even when printers can't execute the command. The print command ^PY toggles between these two strings. At its

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first encounter with ^PY, WordStar will send the string at RIBBON to the printer. At the second encounter, it will send the string at RIBOFF. At the third, the string at RIBBON again, and so on. If your printer can't change ribbon color, or you don't care if it does, you can use these strings for another printer function. If you patch RIBBON, you must patch RIBOFF also.

PSINIT (String)— Sends commands to get printer ready for printing. This string is set up for your printer by the WordStar installation program, but you may want to add to it or change it. It is sent at the start of printing and should always contain at least a carriage return (0Dh).

PSFINI (String)— Sends commands to return printer to its normal state once printing is done. This string is sent when printing is complete in order to undo any unusual settings made by PSINIT. It is often empty.

SOCHR (Character)— Defines the character to be used for strikeout command (^PX). This byte is normally set to 2Dh, the hyphen (-) character, but you can change it to any character you like. Patch it to 2Fh to use the slash (/) for strikeouts.

The wonderful world of printers

Printers cause more grief than any other computer peripheral because they epitomize McHolm's Law—"Every piece of computer equipment thinks it's the center of the universe." So when installing printers for WordStar, manufacturers and salespeople usually do it the simplest possible way: standard or teletype printer, no communications protocol, primary list device printer driver. Unfortunately, this installation sets printer technology back 15 years, treating every printer as a clunky teletype and every communications channel as a one-way street. The following patches will help bring your printer into the 1980s.

Installing the Kaypro/Juki printer

If you have the Kaypro daisywheel printer (really a Juki 6100), you can make a very simple improvement by installing the printer as a Diablo 630—use the printer menu in the WordStar installation program. This daisywheel printer and many others (Brother, Silver Reed, Daisywriter 2000, DTC) understand most of the Diablo 630 command set for boldfacing, incremental spacing, and other tricks.

A patch for parallel printers

Most people now seem to have printers that use a parallel interface. Because Kaypros come with the parallel port assigned as the primary CP/M list device, it's dead easy to use WordStar with a parallel printer. You just plug-and-go, if you're content using the basic WordStar printer installation: standard printer, no protocol, list-device driver. But if you try to edit one file while printing another, you'll face many annoying delays and lose characters from the keyboard.

The problem with this installation is that WordStar has no way to know when the printer is busy and when it's ready for more characters. The solution is to install a "printer-busy test" routine in the area labeled MORPAT. To make sure there's room for this routine, load DDT and WS.COM. At DDT's hyphen prompt type **-D0310 <RTN>**.

Printers epitomize McHolm's Law: They think they're the center of the universe.

This command tells DDT to display part of WordStar starting at address 0310h (which is inside the MORPAT area for both WordStar 3.3 and 3.0). In response, DDT should show you something like this:

```
0310 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0320 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
.
.
.
```

It will show you more lines than I have, but as long as you have two lines of 00h at 0310h and 0320h, you're set to go. Patch in the following 26 bytes:

E5h D5h 21h 10h 03h 11h 17h 00h 19h D1h E3h E5h
D5h 2Ah 01h 00h 11h 2Ah 00h 19h D1h E3h C9h DEh
01h C9h

Check your entries *carefully*; then check them again. When you're sure they're right, patch label HAVBSY from 00h to FFh. This change tells WordStar you now have a busy routine.

Finally, at LIBSY, patch in the following bytes: **C3h 10h 03h**. Now you're done. These bytes tell WordStar to jump (C3h) to address 0310h to find the busy routine. When you patch an actual address (like 0310h) into a program, you must always put the low byte (the two right digits, 10 in this case) first, followed by the high byte (the two left digits, 03 in this case). It seems screwy, but that's the way your computer wants it to be.

If you didn't find two empty lines of 00h at address 0310h, you'll have to find another empty place in MORPAT. Use DDT's **D** command and start at the beginning address of MORPAT. When you find 26 bytes of empty space, note the starting address. Substitute this address for the fourth and fifth bytes in the busy patch itself and for the second and third bytes in the patch at LIBSY. Remember to reverse the two bytes of the address—*low* byte first, *high* byte second.

Test this patch carefully. You should find that editing one file while printing another file is less frustrating now. It's still possible to bog down the system by

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hammering on one or two keys as fast as you can, but under normal conditions all should run smoothly.

Installing a serial printer

There are still many serial interface printers around, particularly among the high-quality daisywheels—NEC Spinwriter, Diablo 630, and so on. To get the best performance from these serial printers, especially when editing one file while printing another, you should set WordStar to use its serial port driver.

> *Dot-matrix printers never get to show what they can do— expanded print, etc.*

In this case, it's easier to use the WordStar installation program than DDT. At the printer installation menu, choose your printer type. Next, choose a communications protocol—X-ON/X-OFF if your printer can handle it. That brings you to the driver menu. Choose the driver labeled "Direct I/O to 8-bit ports" or "Port driver." The installation program will then ask you a series of questions; your answers, in hexadecimal, are as follows:

Output port = 0Ch
Output status port = 0Eh
Bits which change when ready to output character = 04h
Bits which change from 0 to 1 = 04h
Input port = 0Ch
Input status port = 0Eh
Bits which change when ready to input character = 01h
Bits which change from 0 to 1 = 01h

These answers apply to the serial printer port on '84 model Kaypros, which also have a separate serial data/modem port.

Pre-'84 model Kaypros have only one serial port, which the printer and the modem must share. On these models, the output port is 04h, the output status port 06h, the input port 04h, and the input status port 06h. Everything else is the same.

If you install your serial printer using this port driver, you'll find it much easier to edit one file while printing another.

Patches for dot-matrix printers

Because dot-matrix printers are usually installed as dumb teletype printers, they never get to show what they can do—condensed print, expanded print, and so on. The problem is that WordStar knows nothing about the codes that control these features. The solution is to use the patch codes for your particular printer.

As it happens, WordStar has some slots you can use for these codes, at labels PSTD, PALT, RIBBON, RIBOFF, ROLUP, ROLDOW, USR1, USR2, USR3, and USR4. All these labels take strings, and all can be patched with DDT. If you have WordStar 3.3, you can also get at all these labels directly through the WINSTALL installation menu, choice B, Custom Installation of Printers.

Here's a sample of how you might install an Epson FX80, set as a standard or teletype printer (POSMTH = FFh or 00h).

PALT (^PA)— Condensed printing (about 17 characters per inch) is useful for printing anything wider than normal. To have condensed print as the alternate pitch, patch in these bytes at PALT: **01h 0Fh**.

Now ^PA will turn on condensed printing. You can turn it off with ^PN.

PSTD (^PN)— To use ^PN to cancel condensed printing and return to your default print pitch, patch in these bytes: **01h 12h**.

USR1 (^PQ)— Let's use double-wide printing, too. Double-wide printing requires one string to turn it on and another string to turn it off. To turn it on, patch USR1 with these bytes: **03h 1Bh 57h 01h**. When you enter ^PQ, you'll get characters twice the width of the current print pitch.

USR2 (^PW)— To turn double-wide print off, patch USR2 with these bytes: **03h 1Bh 57h 00h**. Now you can enter ^PW to turn off double-wide printing and revert to your previous print pitch.

RIBBON (^PY)— Continuous underlining is nice because it also underlines spaces, unlike WordStar's usual underlining. I chose ^PY for continuous underlining because it's a toggle—the first time it sends the string at RIBBON, the next time it sends the string at RIBOFF, the third time the string at RIBBON again, and so forth. If you use RIBBON to turn continuous underlining on and RIBOFF to turn it off, you can use ^PY just like ^PS—one entry to start it and the next to stop. At RIBBON, patch in these bytes: **03h 1Bh 2Dh 31h**.

RIBOFF (^PY)— To turn off continuous underlining, patch RIBOFF with these bytes: **03h 1Bh 2Dh 30h**. Remember, the first ^PY turns continuous underlining on, and the next turns it off.

There's one catch—you must turn the continuous underlining off at the end of each line. Even if you want the underlining to carry over from one line to the next, you must stop it at the end of each line and restart it at the beginning of the next. If you don't, the printer will underline through your left margin (that's why it's called *continuous* underlining).

ROLUP (^PT)— ROLUP and its companion ROLDOW normally roll the paper up or down a half-line to print superscripts and subscripts. The Epson printer has its own reduced-size super- and subscripts that don't require moving the paper, but in manuscripts, for example, it's sometimes better to have the full-size versions. To install full-size superscripts, patch in these bytes at ROLUP: **03h 1Bh 6Ah 0Eh**. Now any characters bracketed by ^PT will be printed as normal size superscripts, half a line above the normal line.

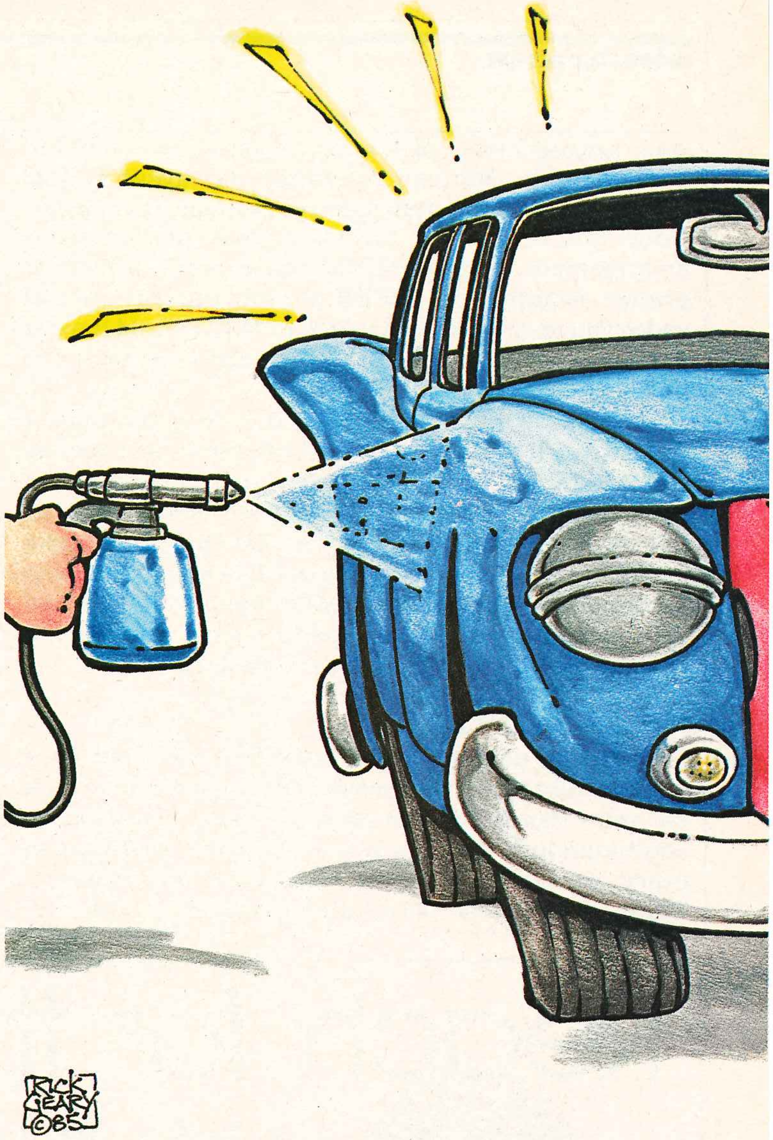
ROLDOW (^PV)— To get full-size subscripts, patch in these bytes at ROLDOW: **03h 1Bh 4Ah 0Eh**. Any characters bracketed by ^PV will be printed as subscripts in the current print pitch. Like RIBBON and RIBOFF, ROLUP and ROLDOW are a pair. If you patch one, you must patch the other.

USR3 (^PE)— We're running out of slots, but the Epson can still do more. So at USR3, patch in these bytes: **01h 1Bh**. Now wherever you enter ^PE in your text, WordStar will send the <ESCAPE> character (1Bh) to the printer. By itself, <ESCAPE> does nothing, but the printer will take it *and the following character* as a command. So if you enter ^PEE in your text, the printer will see it as <ESCAPE> E (1Bh 45h), which turns on emphasized printing. If you enter ^PEF, the printer will see it as <ESCAPE> F (1Bh 46h), which turns off emphasized printing.

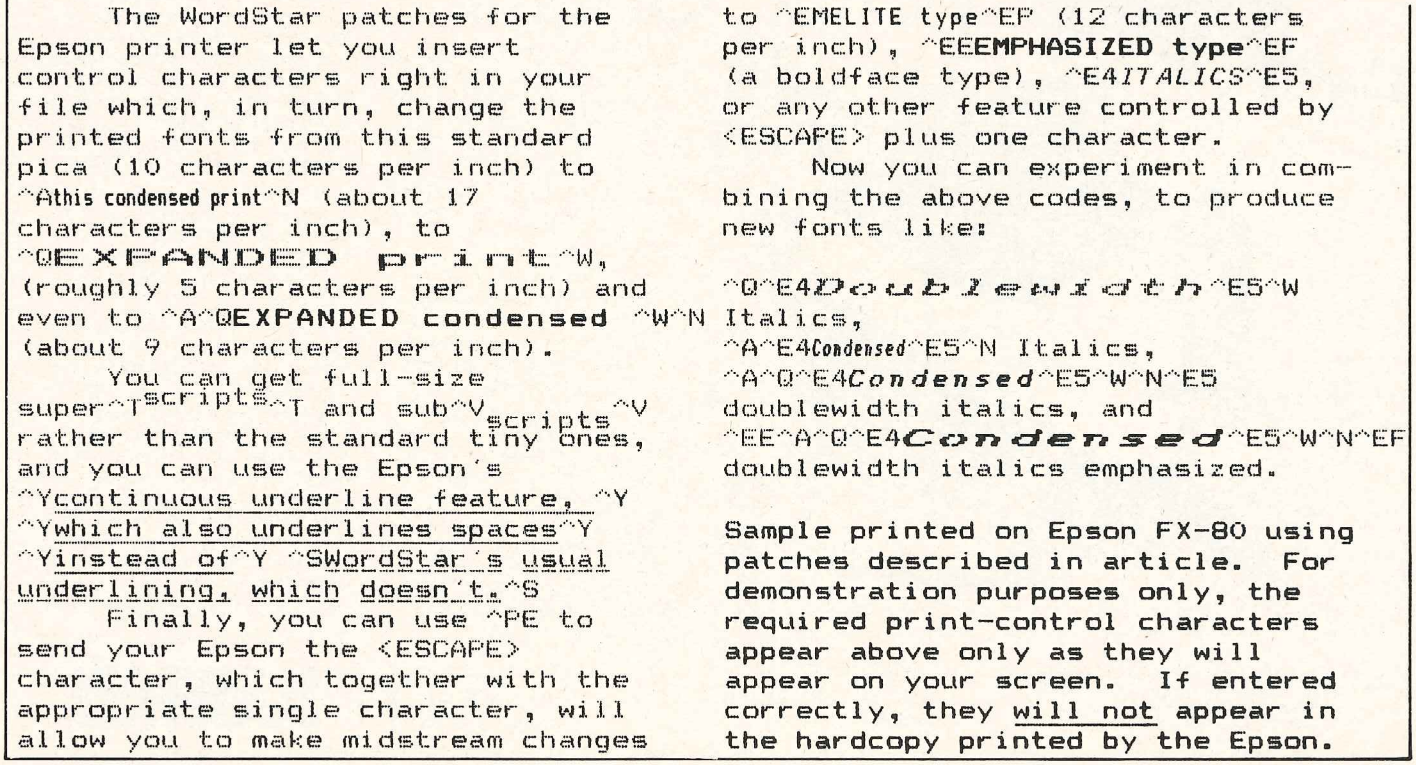
This trick lets you use any two-character escape string without patching it into WordStar beforehand, but it has two drawbacks. First, WordStar won't count ^PE as a character, but will count the following character, even though it won't be printed. That will mess up a justified right margin. (The solution is to insert these characters after formatting your text.) Second, you can only use this trick for a two-character command string, not a three-character one.

USR4 (^PR)— There's one slot left, USR4, controlled by ^PR. I'll leave this one for you.

Listing 1 shows a sample of these patches in action.



LISTING 1



```
     The WordStar patches for the
Epson printer let you insert
control characters right in your
file which, in turn, change the
printed fonts from this standard
pica (10 characters per inch) to
^Athis condensed print^N (about 17
characters per inch), to
^QEXPANDED print^W,
(roughly 5 characters per inch) and
even to ^A^QEXPANDED condensed ^W^N
(about 9 characters per inch).
     You can get full-size
       scripts
super^T       ^T and sub^V       ^V
                          scripts
rather than the standard tiny ones,
and you can use the Epson's
^Ycontinuous underline feature, ^Y
^Ywhich also underlines spaces^Y
^Yinstead of^Y ^SWordStar's usual
underlining, which doesn't.^S
     Finally, you can use ^PE to
send your Epson the <ESCAPE>
character, which together with the
appropriate single character, will
allow you to make midstream changes
to ^EMELITE type^EP (12 characters
per inch), ^EEEMPHASIZED type^EF
(a boldface type), ^E4ITALICS^E5,
or any other feature controlled by
<ESCAPE> plus one character.
     Now you can experiment in com-
bining the above codes, to produce
new fonts like:

^Q^E4Doublewidth^E5^W
Italics,
^A^E4Condensed^E5^N Italics,
^A^Q^E4Condensed^E5^W^N^E5
doublewidth italics, and
^EE^A^Q^E4Condensed^E5^W^N^EF
doublewidth italics emphasized.

Sample printed on Epson FX-80 using
patches described in article.  For
demonstration purposes only, the
required print-control characters
appear above only as they will
appear on your screen.  If entered
correctly, they will not appear in
the hardcopy printed by the Epson.
```

ILLUSTRATION BY RICK GEARY

This arrangement, of course, is only one of many possible ones. You can rearrange the layout or substitute codes for different features as much as you'd like. Once you've settled on your own personalized arrangement, patch PSINIT to set your preferred printer defaults and PSFINI to clear out any special codes you may have been using. PSINIT should have at least a carriage return (0Dh) to make sure the print head is in the right place.

If you have an Okidata, NEC, or C. Itoh dot-matrix printer, you'll find that it doesn't use the same codes as the Epson. You'll also find that your printer may not have some features that the Epson does (such as italics), while it does have some that the Epson lacks (such as a special serif typeface). You can still use this sample installation as a model for doing your own, and your printer manual should tell you what features you have available and what codes control them.

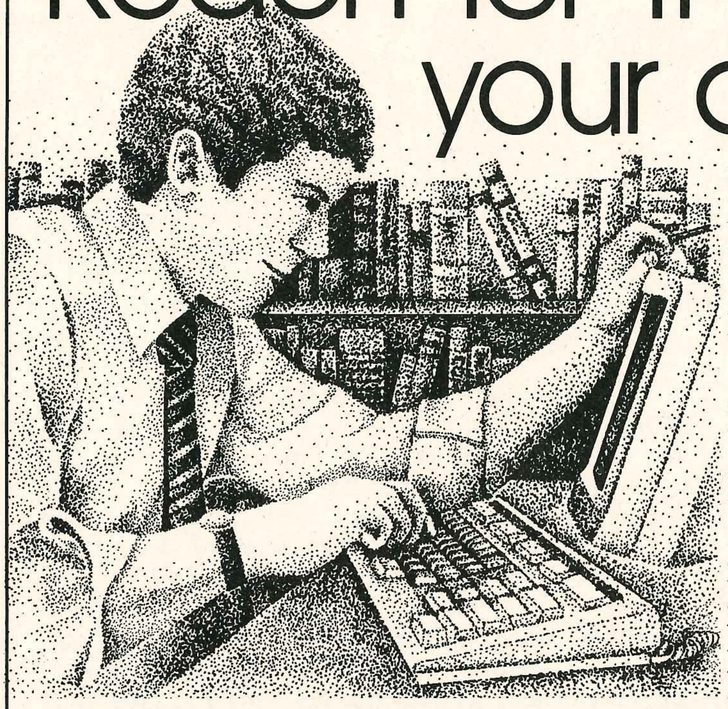
Almost the last word

Though the patches I've covered have all been used successfully by various people, some just may not work for you—there's just no way to test every possible combination of patches in every possible situation on every possible pairing of computers and printers. That's why you test everything before you try it on your irreplaceable files. That's also why you shouldn't expect MicroPro to bail you out if something doesn't work.

Since you *are* working on an expendable copy of WordStar, you can be adventurous. I've tried to pull together all the useful information I could find, but WordStar is a big, complex program. Some people will undoubtedly find patches that no one else has thought of. If you do, let me know. □

*Ted Silveira is a freelance writer and editor and has taught writing at San Francisco State University. He is also a consultant for novice CP/M users and software librarian of a Santa Cruz, California, CP/M users' group. Silviera can be reached on CompuServe (72135,1477) or through the KAY*FOG bulletin board at (415) 285-2687.*

In last month's "Flea Market," Ted Silveira promised he would pass on some good programs he'd scavenged from the public domain in this month's column. "Flea Market" was dropped just for this month to help make room for this landmark article on patching WordStar, but the column will be back in September with the promised material.—Ed.



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- Shopper's guide to modems

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- Kaypro 16 preview
- Finding public domain software

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- Computerized speechwriting
- Statistical software roundup

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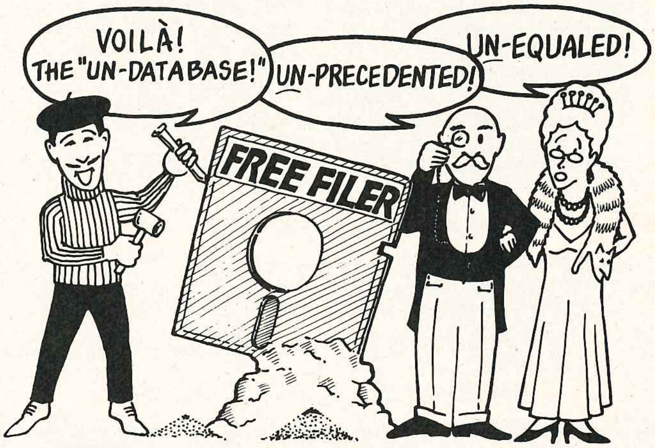
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*Please Note: Specially modified monitors listed above must be used with all models except the Kaypro II & 4.

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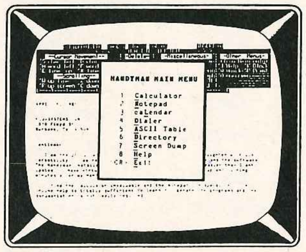

ONE KEYSTROKE

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AUTO DIALER
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The Best-Kept Secret in CP/M

Why didn't anybody tell me about SUBMIT?

by William Hogan

Suppose I told you I had discovered a program that with a single command would automatically execute a whole series of other commands on your Kaypro, even run an entire sequence of other programs for you while you went for coffee?

Suppose I told you this program took up only 2k of RAM and would let you program your own computer using only the most elementary CP/M commands, without having to learn a single line of machine code or being able to tell a GOSUB from a WEND?

Suppose I told you that you already owned this program, that it is lying unexplored and unused right there on one of your bundled software disks, and that you could be running it with gratitude and astonishment by the time you finish this article?

The secret

SUBMIT is the name of precisely such a program, and you're not alone if you didn't know what it did, or even that you had it. SUBMIT is the best-kept secret in CP/M.

SUBMIT reminds me of my bachelor uncle Rudy. Almost everybody in the family seems to have heard about him, but nobody wants to talk about him.

If you're the kind of person who has a coffee maker with a timer so that you wake up to fresh-brewed every morning, you're going to love what SUBMIT does for you. SUBMIT brings automation to your daily computing.

You program SUBMIT in English—simple to do. And SUBMIT lets your Kaypro automate those routine, mechanical housekeeping chores that probably bore you with their repetitive monotony.

Background

SUBMIT is one of the general utility programs on the CP/M disk that came with your Kaypro. It's listed as SUBMIT.COM on the CP/M disk directory, right there with familiar programs like COPY and PIP and strange ones like MFDISK and BAUDM.

Like PIP.COM itself, and the other CP/M ".COM" files, you've got to "PIP" SUBMIT.COM individually onto each disk from which you want it to run.

SUBMIT is the batch processing utility for CP/M. Batch processing is a carryover from the early days of mainframe computing, when programmers wrote their machine instructions not by typing on a detachable keyboard in front of a CRT, but by preparing punched cards to be fed into the computer.

The batch processing procedure enabled the time-sharing programmer to efficiently run a complex sequence of programs on the mainframe, using one set of initial commands.

SUBMIT still works wonders in assembling machine language programs, and programmers need no selling on its features. What can it do for the rest of us? Well, SUBMIT can put your Kaypro on automatic pilot.

Automating my WordStar sessions

I use SUBMIT to automate the routine command sequences I use at the beginning of a work session.

Like the automatic coffee maker plugged into a timer, once it's set it up, I don't have to think about it anymore. I dump in the grounds and some water, and I wake up to fresh-perked brew.

I sit down at the Kaypro keyboard, type a single command, fill my pipe and light it, and pour a cup of coffee while SUBMIT automatically executes the routine commands I need to load and set up my programs for me. I don't have to think about them, or remember the sequence. I'm already thinking about my work, and I'm ready to go when SUBMIT has my programs set up.

To begin a WordStar session, I turn the blinking cursor off; load SmartKey, the macro key-definition program, along with my file of key definitions personalized for my writing; log onto the B drive (so that WordStar will display the directory and work off B—where my text files are); and, finally, call up WordStar.

I created a SUBMIT file to do all that for me automatically. I named the file "WRITE.SUB." I wrote it in WordStar's non-document mode and I made sure it contained a hard carriage return after each line of the file. The whole file looks like this:

Copyright © 1985 William Hogan. All rights reserved.

```
CURSOR
B:
SMARTKEY TEXT
A:WS
```

"CURSOR" is the name of a little public domain program I acquired that stops the cursor from blinking. (You should be able to get this through your local users' group public domain library.) "B:" changes the logged drive from A to B. "SMARTKEY" loads that program (it's on my B disk), and "TEXT" is the name of my personalized keyboard definition file (also on B). "A:WS" loads my A drive's WordStar program, though the logged drive remains B.

I turn on my computer, insert my WordStar .COM disk (which also has SUBMIT.COM and my file WRITE.SUB on it) into drive A, and into the B drive goes my text file disk.

I type "SUBMIT WRITE." The SUBMIT utility executes the commands from my WRITE.SUB file. The machine warm boots. The cursor stops blinking. The logged drive changes from A to B. Smartkey loads and then reads my "TEXT" definition file. WordStar's opening title floats past, and my Kaypro is set up the way I want it. Fresh-perked. Every time.

All that remains for me is to hit D, enter the name of the document file I want, and go to work. I don't have to think through the sequence of my little start-up routine every time. I did it once when I created my WRITE.SUB file. Now, SUBMIT does it for me.

SUBMIT procedures summarized

For each list of commands you want to automate with SUBMIT, you create a text file. The file can have any name, but it must be followed by the extent ".SUB." The file is your SUBMIT "program."

> *I use SUBMIT to automate the routine command sequences I use with my Kaypro.*

You create this .SUB file with your word processing program. I use WordStar in non-document mode to type one command to a line. Type them just the way you would if you were giving the command yourself at the A prompt. Follow each command—including the last one—with a hard carriage return. (Leaving off the hard carriage return after the last command is one of the most common obstacles to successful execution of SUBMIT files.)

"PIP" a copy of SUBMIT.COM onto the disk(s) you use in drive A. Then, to automatically run the sequence of commands in your .SUB file, you simply type at the A prompt: **SUBMIT [SUBMFILE]**, replacing the [SUBMFILE]—and the brackets, too—with the actual name of your .SUB file. (You don't have to type the ".SUB" extent or the square brackets.)

SUBMIT will look on the logged drive for the file you name (if it's on another drive you must put the drive name before the filename), and if the file has ".SUB" after it on your directory, SUBMIT will open the file and execute in order each command you have put there.

> *For each list of commands you want to automate, you create a text file.*

Secretly within the electronic maze of your Kaypro's circuitry, hidden from your view, SUBMIT opens your SUB file, extracts each command, and writes it into a temporary file called $$$.SUB on the logged disk drive. Then SUBMIT does a warm boot to clear the machine memory of any extraneous data and begins executing your commands.

You'll see the "warm boot" on your screen, and you will see each of the command lines as SUBMIT works on them at the A prompt.

SUBMIT rules listed

In short, the rules for creating a .SUB file are easy:

—Each line must be flush left.

—Each line must be typed exactly as if you were entering the command individually.

—Each line must end with a hard carriage return.

The rules for operating SUBMIT are equally simple:

—SUBMIT.COM must be on your logged disk drive.

—Your .SUB file must be on one of your disk drives. (If it is not on the logged drive, you must specify its drive name when you invoke SUBMIT.)

—Each of the Command programs you have specified in your .SUB file must also be on one of your disk drives. Any of these that is on a drive other than the logged disk drive must have its drive name specified in your SUB file.

A SUBMIT file for financial work

I keep track of my personal and business finances with the Checks & Balances David Gerrold discussed in the April issue of *PROFILES*. I have set up an elaborate keyboard definition macro that I use with the program. A single keystroke enters all the bills I have to pay every month, with their fixed amounts. The macro has become indispensable to me. If it isn't present when I get into Checks & Balances, I have to go back to the system prompt and set up again.

And what David Gerrold didn't tell you in April is that Checks & Balances is *slow*. It takes 97 seconds to close a file, exit to the system, and load Checks & Balances again.

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So I created a SUBMIT file, ACCT.SUB. Instead of typing "CHECK" at the A prompt, now I type "SUBMIT ACCT," and I'm sure that not only will Checks & Balances be loaded, but my key definitions will be with it every time. I can't forget, because SUBMIT won't.

> *I've set up a keyboard macro that I use with "Checks & Balances."*

SUBMIT for communications

I use MEX112 for communications and have a 1200 baud modem. My SUBMIT file to set this up, COMM.SUB, looks like this:

```
CURSOR
BAUDM
MEX
```

BAUDM is the CP/M disk utility that lets you alter the baud rate of the Kaypro's modem port. The default rate is 300 baud. I run BAUDM as part of my communications set-up so that I can change the modem port to 1200. When SUBMIT gets to this part of the program, it stops for me to make my choice at the keyboard from the BAUDM screen menu. When I hit "D" for 1200 baud, SUBMIT proceeds to load MEX112.

Any program I regularly use that requires another program to customize it I now access with SUBMIT. It's foolproof and failsafe.

Passing variables to SUBMIT

Some .COM programs permit the designation of a particular file for the program to open. SUBMIT lets you handle that feature, too.

In my WRITE.SUB sequence, for example, if I changed my last line to A:WS B:FOO.DOC, WordStar would take me right into the FOO.DOC document file on drive B. The trouble is, I don't always want to work on old FOO.DOC. So what I've done is use SUBMIT's wildcard feature for even more automation.

Instead of the A:WS line in my WRITE.SUB file, I now have A:WS B:$1. At the A prompt, I might type **SUBMIT WRITE PROFILES.ART**. SUBMIT would replace the "$1" in my .SUB file with PROFILES.ART (or with the name of whatever B:disk file I type in after my .SUB file on the command line). In this case, SUBMIT would execute all the commands as before and take me to the first page of PROFILES.ART. If you know what specific text file you want to work on when you load your Kaypro, SUBMIT's wildcards can be a great feature.

More than one variable

The wildcards permit more than one variable. You can designate more variables with $0 to $9 inclusive

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WILLIAM H. GATES III, CHAIRMAN, MICROSOFT CORPORATION

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(though after three they get a little hard to control).

Here is a way to automate your hard disk backups, using SUBMIT's wildcards. Create a file SAVE.SUB, which consists of these commands:

```
PIP C:=$1[V]
PIP C:=$2[V]
PIP C:=$3[V]
STAT C:*.*
```

Before shutting down your Kaypro 10, at the system prompt type **SUBMIT SAVE JUNK STUFF MESS**, the last three names being the names of the files you have been working on. SUBMIT will copy the files to the floppy in drive C, verify the copied data (specified with the [V] parameter above), and then the concluding STAT command will provide a directory of your C drive to verify the transfer.

Faithfully using SUBMIT to run this mini-batch of commands at the end of every work session guarantees that your work is saved—on floppies and separate from your hard disk—should anything unexpected happen. Think of it as an insurance policy that costs you nothing but a little time.

Finally, if you want to save even more keystrokes, you can shorten the name of the SUBMIT.COM program to SUB.COM, or even S.COM. At the extreme, such renaming could allow you to execute all the commands in the above WRITE.SUB (renamed to W.SUB) by just typing: **S W <RETURN>**.

Finally

I have had perverse enjoyment with SUBMIT, figuring out little ways to trick my Kaypro into being less unwieldy. Sometimes the solution has been more complicated than the problem, the "shortcut" longer than the regular route. That's a common experience in the computer world, however, and also a valuable lesson. The learning process that occurs while devising these "shortcuts" can be much more important that the shortcut itself.

A large part of the fun, for me anyway, has been the fact that SUBMIT is such a well-kept secret. Finding it was not unlike rediscovering the wheel—something so simple and obvious and useful that it makes you wonder, "Why hasn't anyone told me about SUBMIT before?"

Now, about my Uncle Rudy . . . □

William Hogan has been a television writer for CBS, a producer for ABC, and a director and executive producer for NBC. He has also worked for Paramount, Metromedia, and Fox.

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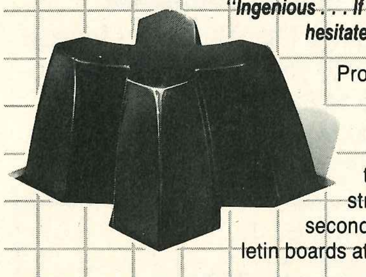

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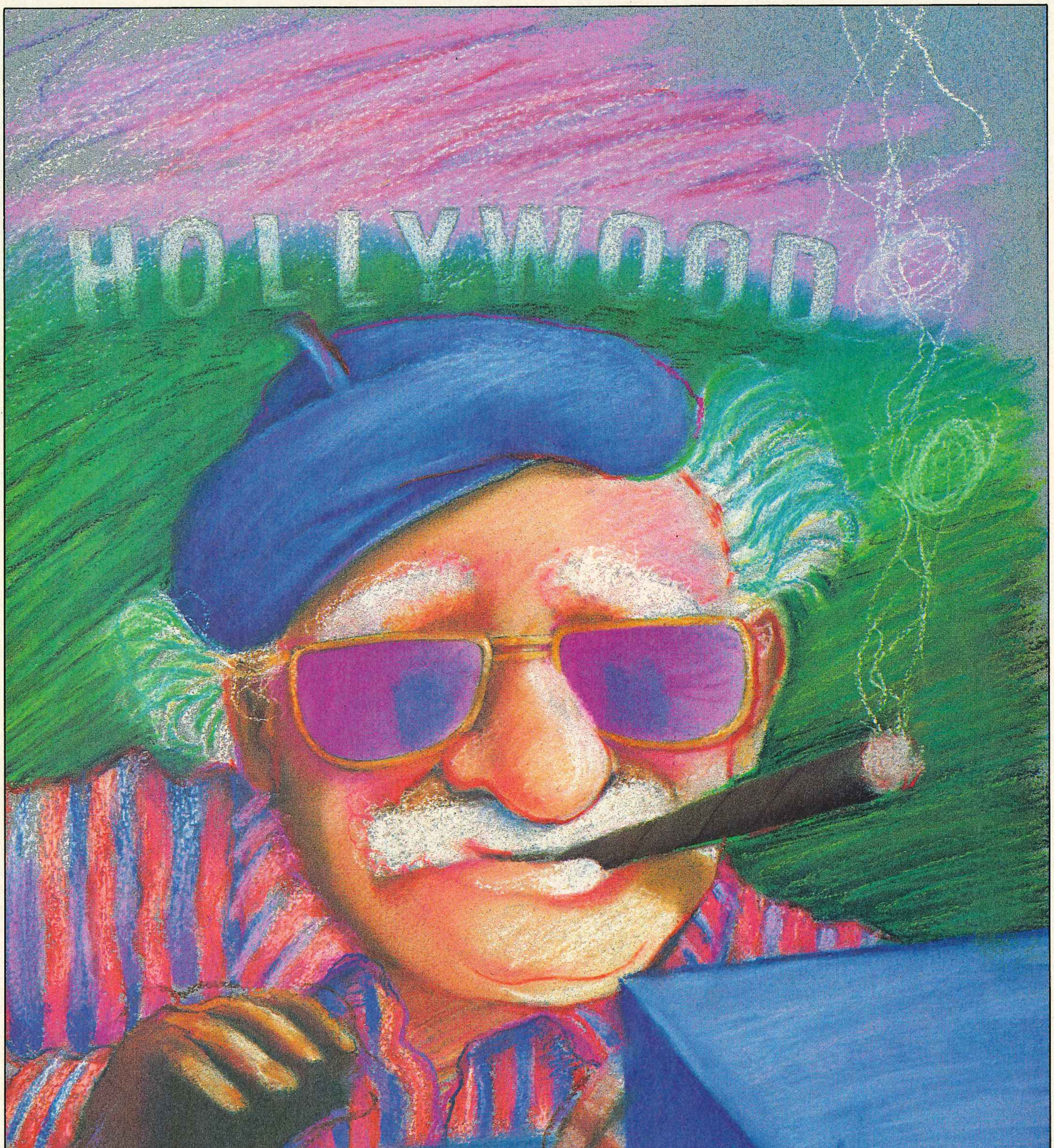

ILLUSTRATION BY JOYCE KITCHELL

Writing Screenplays on a Kaypro

Tools to make special formats painless

by Michael Scheff

Writing is hard work, and hammering out a long television or feature film script on a typewriter can be needlessly time consuming and exhausting.

But my Kaypro and WordStar have freed me from the boring, mechanical work of getting a screenplay onto paper. They've also saved me money, since I no longer need an expensive typing service to produce good-looking final drafts.

Whether you're an aspiring screenwriter or a working professional who wants the ease of computerized typing and editing, you can benefit by "customizing" your Kaypro and WordStar for use as a high-powered screenwriting tool.

A look at a standard screenplay will show you why customization is so important. Here's a short excerpt from the TV show *Murder, She Wrote.*

INT. BUS - NIGHT

Jessica and Tupper climb on board. Tupper is not thrilled to be there. Jessica moves toward the body.

TUPPER
(he sneezes)
I think I'm catching a cold.

JESSICA
Hmm—just what I thought.

TUPPER
You think I'm catching a cold too?

JESSICA
(indicates seat with
Stoner's body in it)
No. I realized that this wasn't
Stoner's seat.

CONTINUED:

Notice that the above excerpt has one set of margins for description, another for the character's name, another for description in parentheses, and another for dialogue. In a typical script you might need to change from one set of margins to another ten times or more on each page. Worse, WordStar requires as many as 15 keystrokes to reset each pair of margins.

You could solve the margin problem by using your Kaypro as a glorified typewriter and just tab from one position to the next, but you'd lose most of the unique features your Kaypro and WordStar can offer in word processing—features like word wrap, consistently accurate line length, ease of editing, and speed.

Ideally, the screenwriter needs a simple method of changing from one margin to another in one or two keystrokes. Help is available, via commercial software or free software you can easily create yourself. First let's cover what's available for purchase.

Feature Format

Once installed, Feature Format becomes an adjunct of WordStar. It redefines seldom-used keys on your keyboard to specific screenplay margins. For instance, hitting the reverse backslash key (\ ) automatically gives you the margins for writing description. Hitting the left single quote key (') gives you the margins for writing dialogue. Better still, any of the margins can be changed using an easy menu. But you do lose some flexibility. The keys they've chosen may not be the most convenient ones for your typing style. Also, at $100, this software might be too costly for someone who's just starting out.

Scriptor

Scriptor isn't designed to help during the writing phase of your screenplay. Instead, it takes your completed screenplay, makes intelligent page breaks, adds top and bottom "Continued's" to each page, renumbers scenes and pages, and gives you the ability to print whole documents, individual pages, or even individual scenes. Completely menu-driven, it's easy to use and is a real timesaver for the busy professional. However,

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unless you are doing a heavy volume of work, or don't mind spending what it costs ($295), you probably don't need it, since most of what it does can also be done manually. Also, although Scriptor is superb for one-camera film shows, it is not set up for dealing with plays or multiple-camera shows like situation comedies.

Doing it yourself

Before you can set up your Kaypro and WordStar for screenplay format, you will need some software that can turn ordinary keys on your keyboard into special function keys. Commercial programs for that purpose include Smartkey, Pro-key, and XtraKey; there are also several public-domain offerings, including Quik-key, QK21, and Kstrokes, available for free on many RBBSs. The installation below is based on Smartkey because that's what I use.

Ideally, you need a method of changing from one margin to another in one or two keystrokes.

I've placed the five most-used screenplay commands in a cluster where they can all be reached with the right little finger. Once you've memorized them, you'll find you can move like lightning as you type.

Other commands are scattered over little-used keys on the keyboard, as well as the 16 keys of the keypad. The following are WordStar command strings that you'll enter. Using the directions for the key defining software of your choice, enter these command strings *exactly*, including any spaces indicated.

Key	Command String	Function
=	^OL1^M^OR61^M^M^M^M	start new scene
[	^M^M^OL1^M^OR61^M	start new description
]	^M^M^OL11^M^OR47^M^I^I^I^I	write character name
{	^OL1^M^OR61^M	description margins
}	^OL11^M^OR47^M	dialogue margins

The following two keys get your editing session started. You'll always press them first to set up the format of your screenplay.

Key	Command String	Function
<	.MT4^M.MB5^M.OP^M.PO17^M	formats page
>	^OH^M^OJ^M^JH0	resets WS defaults

(Commands should be on one line. We have wrapped some command lines for typesetting. Also note that I *is the capital letter "I," not a one.—Ed.)*

The next command is used only once, on the first line of your second page.

Key	Command String	Function
~	^OL1^M^OR61^M.PN2^M.HE^I^I^I^I^I^I^I^I^I^I#.^M.OP^M	deletes page number at bottom of page and places it at top, starting on page two.

You can easily type any screenplay using just the keys I've indicated above. However, why not utilize your keypad's 16 keys as dedicated function keys as well?

First, consult your Kaypro manual for instructions on using the CONFIG program. If you're using Smartkey, you'll want to first redefine your keypad keys so your system can distinguish them from the keys across the top row of your keyboard (e.g., redefine the keypad's 1 key to .1, 2 to .2 and so on).

Once you've redefined the keypad there are many different commands you'll find useful. The following are some I use on my keypad.

Key	Command String	Function
7	^M^OL20^M^OR40^M(	left parenthesis
8	^OL11^M^OR47^M)^M	right parenthesis
9	(v.o.) ^M	voice over
-	(o.s.) ^M	off stage
4	EXT.	exterior
5	INT.	interior
6	- DAY^M^M	- DAY
,	- NIGHT^M^M	- NIGHT
ENTER	^K^S^Q^P	save file & resume

Redefining the keypad's number 1 key to be OL1^M OR61^M^I^I^I^I^I^I^I^ICONTINUED:^MCONTINUED: places the word "CONTINUED:" on the last line of the page and at the top of the next page.

Conclusion

Mechanics can get in the way of the creative process in any type of writing, but the intracicies of the screenplay format can make this especially true of screenwriting. Yet conformance to the proper structure is vitally important and the hallmark of professionalism. Anything that makes producing a polished piece of work easier is no luxury.

My method of writing screenplays in WordStar works well for me. Try it, then experiment and find the key placements and command strings that are most useful for you.

Following on the next page is a list of resources helpful to budding screenwriters.

Michael Scheff is a professional screenwriter. He was the co-author of Airport '77 *and the TV movie* Topper, *and has written episodes of* Hart To Hart, Moonlighting, Hotel, *and* Murder, She Wrote.

SCREENWRITING

Books:

Screensmarts
by Paul Golding
$16.50
Published by Central Computer Products
860 Central Avenue
Fillmore, CA 93015

(If you want to write screenplays using Perfect Writer, this is the only book that tells you how. It also has an excellent section on WordStar).

Screenwriting Made Easy/WordStar For The Screenwriter
by Michael Brown
Published by New York Zoetrope
80 E. 11th St.
New York, NY 10003
(212) 254-8235

(Another good guide to setting up your computer for screenplays. WordStar only).

Software:

Feature Format Professional
$99.99
PowerSoft
8511 Washington Blvd
Culver City, CA 90230
(213) 559-3940

Scriptor
$295
Screenplay Systems
348 East Olive Avenue
Burbank, CA 91504
(818) 843-6557

Smartkey
$49.95
Software Research Technologies
3757 Wilshire Blvd., Suite 211
Los Angeles, CA 90010
(213) 384-5430 (in California)
1-800-824-5537 (outside California)

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$129.95
RoseSoft, Inc.
4710 University Way N.E.
Seattle, WA 98105
(206) 524-2350

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by Dick Lutz

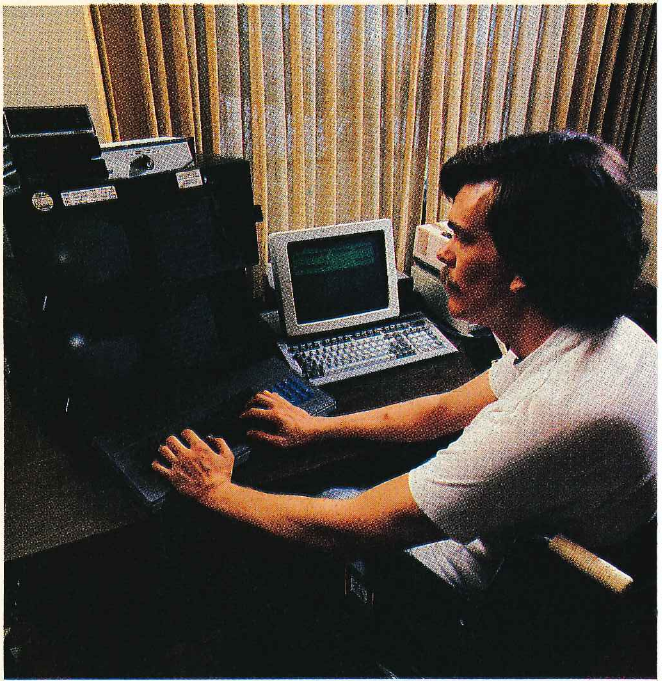

PHOTO BY JAMES REED

On the Gulf coast of Florida, where Clearwater, Tampa and St. Petersburg sit in a sun-washed triangle, there's a Kaypro Users' Group of startling dimensions. It's existed as a body with formal membership for only a year, but in that time it has rocketed to 500 dues-paying members.

Its members have in common not only their Kaypro computers but a shared enthusiasm that draws their loyal involvement from as far away as Chicago, Fort Worth, Tobago, Bimini, Barbados, Saudi Arabia, and Silicon Valley. In fact, only about two dozen members call the Tampa Bay area home.

This is a Kaypro Users' Group with a difference.

The Tampa Bay KUG has never held a meeting. Few of its members have even met another member face to face. Hardly any of them have met the spark plug of the group, a hacker named Steve Sanders.

Sanders will cringe at the word: hacker. But he was a hacker before the word was adopted by Hollywood and the popular press and stuck, like a sticky convention badge, on errant kids who rummage around in private computer systems or start World War III with a handful of casual keystrokes.

Steve Sanders was a hacker when the word identified the cognoscenti . . . when hacker meant guru.

The accident

It wasn't so long ago.

In early 1982, not yet the owner of a Kaypro but the owner of a Yamaha 550 Maxim, Sanders was set upon the path that led to the TBKUG in a split micrograin of time that changed his life. Headed for home after a weekend joyride, the 29-year-old bachelor was cut off by a woman driving a blue Mustang. He was launched on a 40-foot trajectory that landed him, face-down, in a neighbor's front yard.

The Yamaha was totaled, and so was Steve's spinal column.

He remembers his first words, spoken as an ambulance crew gathered to ponder how to move him: "Oh, God, I'm still alive."

Three days later he awoke for the third or eighth or tenth time from a hospital-induced stupor intended by his doctors to let his shocked system deal with physical trauma while putting off the inevitable psychological trauma, and gave a flat order to his doctor: No more drugs. The doctor, given little choice, agreed that the patient was apparently able to deal with the reality of his situation.

Reality for Steve Sanders is that, short of a medical miracle allowing microsplicing of a 50,000-wire spinal cable that nature didn't bother to color-code, he will not walk again.

Recovery

Sanders spent the better part of 1982 in hospitals—all the time he needed, he says, to put bitterness behind him and start looking toward what he might do with the rest of his altered life. Once released from daily medical care, he moved in with his older brother, also a bachelor, and began following up on his developing interest in computers.

Before the accident, Steve had been a dedicated workaholic making a good living in South Florida's booming electronic security industry, installing high-tech alarm systems. He'd come into contact with computers through his boss's computerized accounting system that needed occasional maintenance. Drawing on a natural technical bent (he'd dismantled his mother's vacuum cleaner, and reassembled it, at age 11) Steve had just dabbled in software maintenance.

Now, no longer able to do the kind of contortions required to install burglar-proof wiring, and denied an income-producing outlet for his incurable tendency toward overwork, Sanders acquired a Kaypro 2 and began learning all he could about what it could do.

"I wanted a Volkswagen of a computer," Steve says, "one that could take me anywhere I wanted to go without the sticker shock of a Cadillac."

One of the things he found it could do was talk to other computers. He spent weeks trying to locate a copy of BYE, the public domain software that acts as a

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system attendant waiting for incoming calls, that would run on a Kaypro. But the Kaypro configuration doesn't lend itself to BYE's memory positioning requirements, and it was a frustrating search. When he finally discovered a system running on a Kaypro, he annoyed its owner until he had a copy of the software in hand.

Bulletin board launched

That launched the Tampa Bay Bandit Board, now known more sedately as the Data Com Network. But Sanders wasn't satisfied with the ordinary activity of the run-of-the-mill bulletin board. He began collecting public domain software and adapting it for the Kaypro. Soon he had a fast-growing audience of Kaypro owners clamoring for the latest programs, and the all-electronic Tampa Bay Kaypro Users' Group was born.

Sanders feels, in fact, that the key to his success has been his clear identification with Kaypro machines. "I wouldn't be doing this—it wouldn't have grown so far—without a focus on one line of computers," he says. "Because of that, the system is known among a loyal group of people, and the word gets around."

Before long, Sanders found that to serve the system's serious users, he had to exclude the "twit set": kids who grab Dad's Apple when they get home from school and start dialing RBBS numbers until they find a system they can get into.

This led to an initial yearly membership fee of $25, now $30. "The fee is more of a filter than anything else," Steve says, though these fees, together with a small override on software sales, allowed him to expand the system. Within a short time, he had a Kaypro 10 on line, then another 10, and now he's working toward bringing up a third unit capable of simultaneously handling multiple callers who share access to a hard disk.

The $30 a year is a bargain in anybody's flea market of online services, even if the only consideration is the exclusivity that keeps the TBKUG lines from being tied up by adolescents at play. Activity on the system is heavy enough that Sanders has found it necessary to impose some limits: One hour a day, three hours a week, and one hour maximum between Friday afternoon and Monday morning when long distance rates are low.

That's led to another category of membership: VIP status, at $100 a year, comes without time limits. But Sanders provides his VIPs with monthly software updates by mail, saving long distance costs and tedious modem transfer time. And since members pay $8 each for such disks, VIP membership turns out to be a real steal: The disks alone would cost $96 a year.

Subscriber response

Subscribers respond warmly to the quality of service they get from Steve and his system. Marc Chevalier, deputy superintendent of New York State's Elmira Correctional Facility, is a standard $30-a-year member at home, but at work he's taken out a VIP membership.

"It's easily the best board I use," says Chevalier. "Steve is very meticulous, and he responds readily to feedback. He passes the word around or pulls software off the system if it needs more work." Chevalier feels it's reassuring to know that the people who are contacting the TBKUG systems are serious users interested in maintaining the quality of the software being exchanged—and that many are interested in uploading as well as downloading.

Sanders feels good about that, too. "I used to run up quite a long distance bill calling other systems to find the latest in software," he says. "But now there are so many members across the country that they act like a squad of bloodhounds, running down the best stuff and uploading it." He says it's not unusual for a member to run up an hour of long distance time sending in the assembly-language file and documentation on a new piece of public domain software, and he's not surprised when a weekend brings a megabyte of software to be evaluated. (System timers stop during uploads.)

"Someone who just bought his Kaypro yesterday can get as much out of the board as someone who is already well-versed in the Kaypro and software available for it," adds Deputy Superintendent Chevalier.

"Steve's relationship with the other good boards is very important, too," says Chevalier. "He really brings all their things into one place, so that saves a lot of time and money spent calling around."

Another enthusiastic user is Dr. Dudley Fort, who bought Steve's system software and ran his own system for a while, providing an electronic meeting ground for physicians. "It takes a lot of time to do it right," says Fort. "I had to stop."

> *The Yamaha was totaled, and so was Steve's spinal column.*

The doctor, who became a programmer when he just couldn't find the practice management software he needed, praises the Turbo Pascal section of the TBKUG system—and Steve Sanders for keeping very much on top of the public domain software situation. "Any time you call him—any software you want to know about—he's already tested it extensively and knows about it."

Services, plans and a new enthusiasm

Despite the bargain nature of the $30 yearly TBKUG membership fee, Sanders is not at all unaware that a population of 500 users works out to a gross of some $15,000 a year. While he's plowed all the income back into the system so far, he expects to make a transition sometime during 1985 to earning a living through a

(continued on page 72)

The Kaypro 286i

A closer look at microcomputing's first IBM AT-compatible

by Tom Enright

This article builds on our May 1985 piece "Kaypro's 286i: the Industry's First IBM AT-Compatible."

Also, as we go to press, Kaypro has just announced that it will also offer a slimmed down version of the $4,550 286i described below. According to preliminary specifications, this version will offer all the features of an IBM PC AT Base Model, but will retail for $2,995. Compared to the enhanced 286i detailed below, this stripped 286i will have only GW-BASIC software and will lack the second 1.2 MB floppy drive, the I/O card, and the video card. We reiterate, however, that these specifications are preliminary and subject to change.—Ed.

What is the Kaypro 286i, and why the sudden change in model designations? Well, the 286i, an IBM AT clone, is Kaypro's latest entry in the IBM wars. The model designation, 286i, is shorthand for the processor chip, an Intel 80286, and the "i" means "improved."

Kaypro's 286i is the first IBM AT work-alike on the market (though other AT clones have just been released). As IBM is having some highly publicized trouble with its AT, the 286i could prove popular.

Appearance

In a departure from traditional Kaypro portability, the 286i is strictly a desktop computer, with a separate systems cabinet and keyboard. As with IBM's AT, a monitor is not included in the 286i's advertised price ($4,550). Kaypro does, however, offer an excellent Mitsubishi RGB monitor for $550.

Kaypro's 286i looks much like an IBM AT, except that it's slate gray instead of beige. The only other visible difference is that the ventilation slots are slanted instead of straight up and down.

The metal systems cabinet is 21 1/4 inches wide by 17 inches deep by 6 3/8 inches high and weighs 38 pounds. The keyboard is totally separate and plugs into the back of the cabinet. This machine makes no pretensions of portability; there are no handles or keyboard latches.

The separate keyboard is one that should have been included on the Kaypro 16. It has a standard Selectric layout and a slightly stiffer feel and shorter key travel than the one on the IBM AT. This is a good keyboard and is pleasant to use.

The main board

The system enclosure houses a main board, eight plug-in card slots, two 1.2-megabyte floppy drives, a power supply, and space for a hard disk.

The main board contains the 80286 processor, 512K of RAM on two 256K chips (unlike IBM's 256K on four "piggy-backed" 64K chips), a real-time clock, and an empty spot to plug in an 80287 math co-processor. RAM can be expanded to 640K on the main board and to 15 megabytes with additional cards.

Expansion cards

The 286i uses three of its eight expansion slots for a color/graphics card, a multi-function card with a serial and a parallel port, and a disk controller card.

The graphics card contains a parallel printer port and is functionally the same as the card used in the IBM AT. In fact, it can be used in an AT with no problems. The slot for the video card will also support a monochrome card or any other video card that works in a PC.

Since standard PC expansion cards won't fit in the remaining 286i slots, users should make sure they get expansion cards that are designed for, or compatible with, the IBM AT.

A second parallel port and a serial port are found on the multi-function card. The serial port plug, a nine-pin male connector, is the same one used on the IBM AT. Kaypro chose to use this connector because IBM is using it. Why IBM chose a nine-pin male connector is a mystery—it means regular IBM PC serial cables won't work. You have to have special AT serial cables. Not only are the connectors a different gender, the pin-out is different from the standard PC.

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KAYPRO
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286i with RGB color monitor

The keyboard – a light touch and Selectric layout

PHOTO BY RON POWERS

The disk controller card occupies the last slot, closest to the disk drives. Like the IBM controller card, Kaypro's card has both floppy and hard disk controller chips already on the card. Therefore, to upgrade the computer with a hard disk, you don't need to buy a hard disk controller. All you need is one of the hard disk upgrade kits being advertised for the AT.

Disks and drives

The 286i comes with two 1.2-megabyte floppy drives—for diskettes formatted with 15 sectors per track and 96 tracks per inch. (No hard disk is currently offered by Kaypro.) This is somewhat higher density than regular quad-density, so owners should buy Dysan #802914 or the equivalent. These are premium quad-density disks that will handle the denser storage.

Disks for the 286i—and AT—should be rated at 600 Orstead rather than the 300 Orstead of standard quad-density. Orstead is a measure of how strong a magnetic field must be to alter the media. The stronger the field required to write to a diskette, the more densely you can pack information on it.

Bundled software

At this time the Kaypro 286i comes bundled with WordStar 3.31p plus MailMerge, InfoStar, CalcStar, and GW-BASIC. WordStar 3.31p is very nearly the same one that most of you are familiar with. It's the same WordStar that is bundled on the Kaypro 16, the standard PC-DOS version. There are only three differences from the CP/M version. First is a provision for a telecommunications overlay called TeleMerge. Second is a provision, in WINSTALL, to play around with foreground and background colors for text and menus. Third, also through WINSTALL, is the ability to assign command strings to the function keys at the left of the keyboard.

InfoStar is a database management package that consists of DataStar, ReportStar and StarBurst. DataStar and ReportStar make up a powerful database management system. StarBurst is a systems management utility that you use to build a set of menus. These menus, like Kaypro's Master Menu, allow operators to use the system with minimal training.

CalcStar is MicroPro's spreadsheet program. While not as powerful as Lotus 1-2-3 or some of the other integrated packages, it shares its command structure with WordStar and the InfoStar package. This means that if you know the WordStar commands, you've already learned most of the commands for CalcStar.

GW-BASIC is the generic version of IBM's BASIC-A. Since BASIC-A depends on the ROM BASIC that comes with IBM computers, clones have to find another way—IBM doesn't take kindly to anyone copying its ROM. Microsoft's GW-BASIC does in software what BASIC-A does with ROM calls.

The operating system

The 286i uses the same operating system as the IBM AT— PC-DOS 3.0. As with the AT, however, the 286i does not come with that operating system. You have to purchase it separately from an IBM dealer. The reason? In a regular IBM PC the operating system is PC-DOS 2.1, and Microsoft sells a generic version called MS-DOS 2.1. Unfortunately, there is no generic version of PC-DOS 3.0. The only way to get the operating system is to buy it from an IBM dealer for $65—not an ideal situation, but it isn't really Kaypro's fault. (The good news is that your operating system could not be more IBM-compatible—right down to the letter of IBM's accompanying documentation.)

PC-DOS 3.0 has several improved commands and a few more new ones, compared to MS-DOS/PC-DOS 2.1. Most of them deal with the different classes of disk drives or country-specific parameters.

The FORMAT command has several options, so you can format diskettes for PC-DOS 1.x, 2.x or 3.0 (IBM changed the diskette format for each of them). The default is to format the 1.2-megabyte diskettes. Options for transferring the system and specifying a volume label are the same as under MS-DOS 2.1.

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A new feature of PC-DOS 3.0 is the ability to set the keyboard, character set, time/date format, currency symbol, and decimal separator for one of five other countries entirely in software. Some countries use a comma where we would use a decimal point. The other countries supported are the United Kingdom (England), Germany, France, Italy, and Spain.

You can set the defaults for another country with the SETUP program. This program sets these options into a bank of CMOS RAM that has a battery backup. That way the defaults stay effective after the machine is turned off. During the power-up sequence, the operating system checks this CMOS RAM to see what country you chose as standard.

If you want to make the change temporarily, the same thing can be done two other ways—either with a series of programs to reconfigure the keyboard for different countries or with a program called SELECT. If you choose the keyboard programs, you run the one for the country you want. The SELECT program offers two options that reconfigure the keyboard and select the date/time format for a given country.

Another improvement over PC-DOS 2.1 is a program that lets you change the volume label on a diskette. Under PC-DOS 2.1 you could only specify the volume label for a disk when you formatted it. Of course, several public domain programs are available that allow you to change it. Now, under PC-DOS 3.0, IBM includes a program to change the volume label.

Speed comparisons

Both the 286i and the IBM AT run at 6 MHz, rather than the 4.77 MHz of IBM's PC. Add to that the increased throughput due to the 286i's true 16-bit processor, and the result? Kaypro's 286i is a considerably faster machine than the Kaypro 16 and the IBM PC.

To see how much faster, benchmarks were run under controlled tests on a Kaypro 4'84 under CP/M 2.2F, a Kaypro 16, a Kaypro 286i, an IBM PC XT, and an IBM AT. The CP/M machine was included to give more of our readers a point of reference for the times recorded.

The benchmark programs were written with Turbo Pascal 2.0. Turbo was preferred because of the fast code it compiles and its portability. This portability allowed much better control of the comparisons, since the same code was run on each machine. (The only exception to this was that a slightly different clock access coding was required for the Kaypro 4.)

Areas tested were screen I/O, disk I/O, and memory manipulations. Two separate tests were used for testing RAM calculations: a shell sort routine and the "Sieve of Eratosthenes."

The Sieve of Eratosthenes is a benchmark routine that calculates the prime numbers between 1 and 8,190. The range of numbers doesn't have any particular significance—it's merely an arbitrary range adopted to provide some comparative standard. Our test reflects the time required for 100 iterations of the test.

The shell sort sorts a 5,000-element real-number array. In each case the array was submitted to the sort routine with numbers in precisely the reverse order of the final sorted state. This worst-case situation gave a good indication of processor efficiency.

The disk I/O test records the time required to write 3,000 82-byte records to a disk file. Each test wrote the file to an otherwise empty disk.

To test screen I/O, the time required to write 23 75-column lines, erase the screen, and repeat the procedure 100 times was measured.

The average times for ten trials per test appear in the accompanying chart.

```
Comparative Benchmarks for Selected IBM and Kaypro Microcomputers

          Shell sort: (5000 element
          real-number array.)
                |    Sieve of Eratosthenes:
                |    (100 iterations.)
                |          |         Disk I/O: (3000,
                |          |         82 byte records.)
                |          |         |       Screen I/O: (100
                |          |         |       iterations of
                |          |         |       23, 75 column lines.)
                |          |         |          |
Kaypro 4      0:34.35   3:49.90   3:58.43   1:52.60
Kaypro 16     0:41.31   2:34.52   1:50.68   5:02.15
IBM PC XT     0:41.18   2:34.12   3:26.88   4:07.17
Kaypro 286i   0:17.34   0:55.30   1:29.68   2:26.98
IBM PC AT     0:17.53   0:54.92   1:30.53   2:10.21
```

Conclusions

The table does reveal the expected higher speeds for the AT and 286i. Both machines cut the IBM XT's shell sort time by 58 percent, and reduced its Sieve time by 64 percent.

The only surprising results were the screen I/O times for the Kaypro 4'84 and disk I/O times for the Kaypro 16. The 4'84 had the best screen I/O time of the bunch. And the Kaypro 16 was significantly faster in disk I/O than the IBM PC. Otherwise the results were just about as expected.

The Kaypro 286i and IBM AT are both very nice machines—expensive, but nice. Also, both the IBM and Kaypro have keyboards with Selectric (normal typewriter) layout. The Kaypro 286i has a lighter feel, similar to other Kaypro keyboards.

In performance, the two machines are neck and neck—there's not enough difference to really matter. The price/performance ratio tips in favor of the Kaypro when standard hardware features and bundled software are considered.

Unfortunately, the price puts this computer out of reach for most of us. It is targeted at the demanding business user or software development market.

The bottom line, however, is that the Kaypro 286i is one heck of a nice machine if you need that much performance. IBM, watch out. ☐

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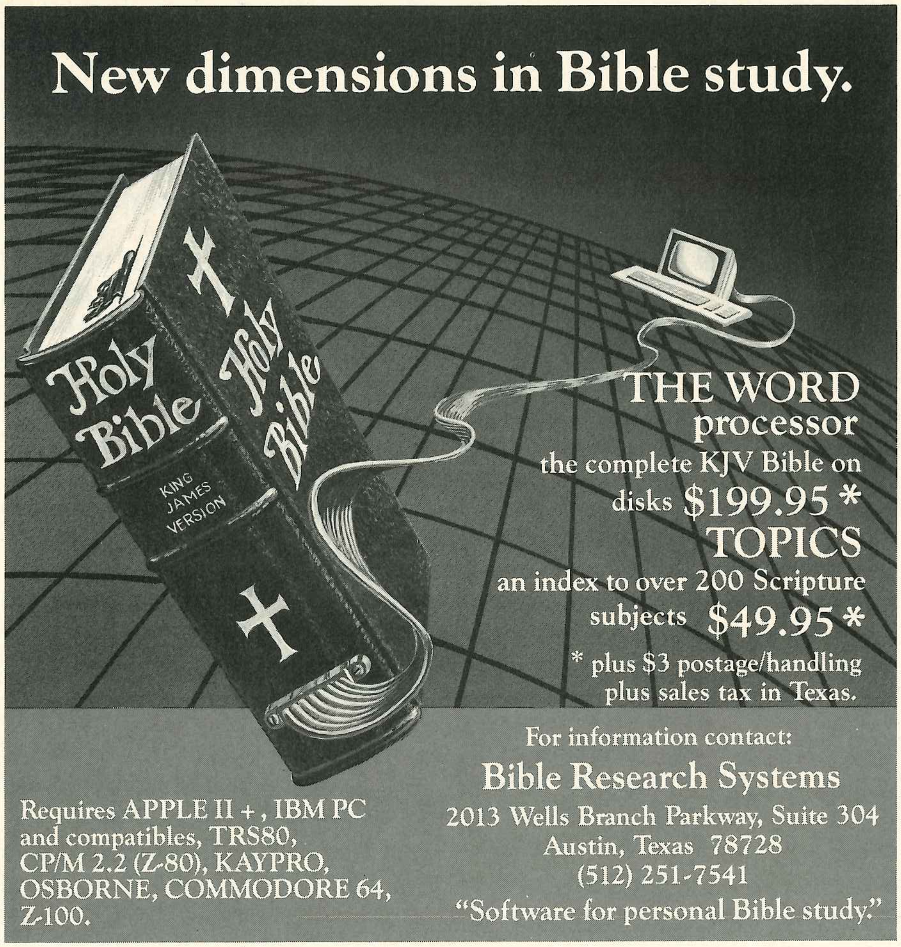

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SUPER SYSOP
(continued from page 67)

combination of related activities: Operating the electronic users' group, duplicating public domain software at $8.00 per disk, and marketing his K-NET84 RCP/M software.

He's enthusiastic about that. "It'll take me off disability payments," he says, "and next to providing a valuable service to the members, I want nothing more than to be off disability payments."

At age 32, now three and a half years away from that moment that changed his life, Steve Sanders has turned an investment in a Kaypro into a valuable service, a plan, and a new enthusiasm. □

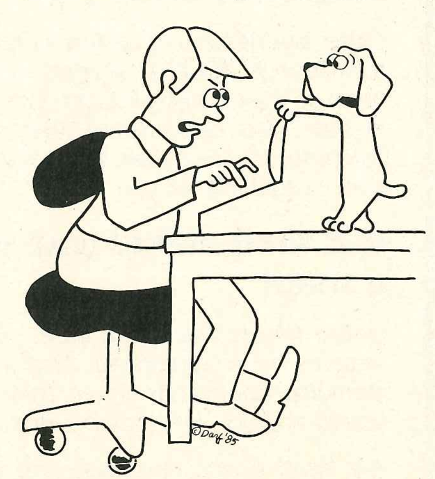
Membership information

TBKUG membership is $30 a year, $100/year VIP, $250 lifetime. Anyone—with or without Kaypro—can join by sending a check to:

Steve Sanders
Data Com Network
14 Cypress Drive
Palm Harbor FL 33563

In response, Sanders provides an ID number that allows modem access to the TBKUG system, as well as the right to order from the system's collection of public domain software by mail.

Dick Lutz, a broadcast journalist for more than 20 years, is now a freelance writer and independent consultant in New York City.



"One more remark about how slowly I type and I'll format your bone-inventory diskette!!!"

A Remote CP/M System on Your Kaypro?

One collateral effect of Steve Sanders' operation of the Tampa Bay "electronic KUG" has been the constant debugging and rewriting of the software he wrote for the purpose, which he calls K-NET84. Written in CBASIC in modular form, the program runs on all Kaypro models and sits on a phone line waiting for users to call in and identify themselves.

While the software has a standard "bulletin board" capability for message exchange, it's primarily intended as a remote CP/M system. The key difference, to Sanders, is seriousness of user intent. In an RCP/M system, the caller can drop out of "bulletin board" mode and, with some limitations necessary for system integrity, operate the host computer as though present at its keyboard.

Using special programs, the distant user can transfer files either way, thus making the system ideal as a repository for programs and text of common interest.

Sanders has sold some 20 copies for use on publicly accessible systems and several more for systems dedicated to specialties like anesthesiology, law, music, and printing. They're all over the United States, including Honolulu, Anchorage, Chicago, Denver and Missoula, Montana.

Sanders sells the software at $349 a copy and supports it with his virtually constant availability by telephone. ☐

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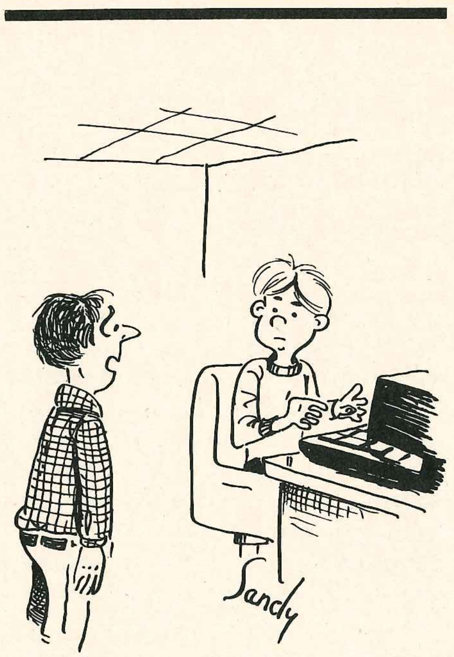

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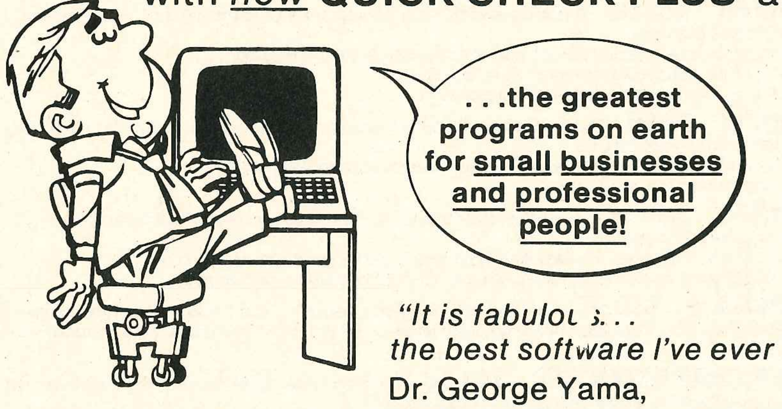
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Beginner's Luck

by Don and Sharyn Conkey

Readers' letters have long indicated substantial demand for articles targeted at beginning users. We are happy to respond with "Beginners Luck," the first installment of a regular column dedicated expressly to the absolute novice.

Kaypro Technical Support informs us that, elementary as it may appear, this initial column offers extremely important information linked to many machine problems they see daily.—Ed.

Once you've grown comfortable with your Kaypro and you've learned all about the quirks and idiosyncracies of its software, it's natural to treat your system with no more special care than you would give a typewriter. It's easy to forget that your computer is an electromechanical device sensitive to dust, dirt, heat, moisture, manhandling, and power vagueries. Here are ten surefire ways to hurt your computer.

1. Smother it

Inadequate ventilation causes heat buildup, which can cause computer chips to burn out on the spot or shorten the life of your equipment, resulting in more frequent, unnecessary, and costly repairs.

Vents need air. There must be adequate space around them—an inch or more—for air to circulate freely, cooling the equipment. Be especially careful that all equipment that is turned on is breathing, even if it is not being used. If power to all equipment is turned on by a master switch, make sure that all dust covers are removed.

2. Plug it directly into an ordinary wall socket

Power surges, spikes, and line noise account for 70-90 percent of all personal computer malfunctions. They can result in loss of data or programs from memory or disk and can damage the chips. You can protect yourself from power variations with a surge suppressor. The cost ranges from $30 to $150, depending on the level of protection and options you select.

3. Turn it off and on a lot

The greatest stress on electronic equipment occurs during start-up. Frequent on/off cycling of your computer equipment fatigues and stresses the components. If you plan to come back to the computer within 30 minutes or so, leave it on.

4. Paint a permanent picture on your screen

Leaving a static image on the screen for extended periods of time can cause the electron beam that produces the display to permanently etch the display image on the screen. The picture is effectively burned onto the screen.

Turn down the intensity when you're not using the screen. Better yet, use one of the many programs available that blank out the display after a short period of time.

5. Zap it

Static electricity, a high voltage charge, builds up in dry air, causing your body to develop an electrical charge. Touching your computer transfers this charge, applying a high voltage spike to the equipment. This can damage the electronics or the diskettes.

To avoid this problem, spray the area around the computer with anti-static spray. Or ground yourself by making sure your chair and feet both rest on an anti-static mat. In exceptionally dry climates, a humidifier will help.

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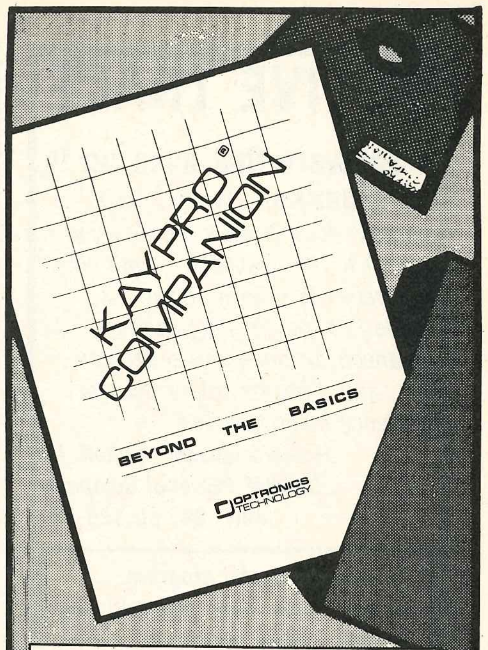

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Howard Glosser, *Softalk for the IBM Personal Computer*
July '84, pp 120-121

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Jerry Pournelle, *Byte Magazine*
April '83, p 234

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Thomas Bonoma, *Microcomputing*,
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6. Get it dirty

Dirt, dust, grease, and smoke creep in through the air vents, blanketing the components and virtually suffocating the equipment, causing it to operate at a higher temperature. These thermal stresses shorten the life of the equipment.

Contaminants also damage floppy disks. One speck of dust, for example, is 1,000 microns wide (one-thousandth of an inch); it takes but a 20-micron bit of dust to cause a read error on the disk.

Keep your equipment and work area clean and free of contaminants. Use lint-free cloths; consider a small air purifier if the computer is operated in a smoky environment. Periodically remove the computer's cover and check to see that dust is not accumulating on the circuit boards. If you do not know your way around your machine's delicate circuitry and its extremely high voltages, then have only an experienced repair person clean it.

7. Get it wet

Moisture, whether it be from a humid climate, spills, zealous cleaning, or from the condensation formed by carrying equipment from a cold environment into a warmer one, can short-circuit the equipment if it is turned on before it dries out. Also, floppy disks may operate erratically.

If any part of your equipment gets wet, turn it off immediately, carefully dry what you can reach with a lint-free cloth, remove the covers and let it air-dry. The computer must be *completely* dry before you turn it back on.

8. Be careless around it

Stray paper clips, staples, and kids endanger the health and welfare of your equipment. Computers may be "personal," but they are sensitive electronic devices.

9. Jar it

Careless moving or storing, or operating your equipment in unstable or precarious positions, can cause permanent damage.

When moving your equipment, use the cardboard protectors in floppy disk drives to secure the read/write heads. To avoid scratching the surface of a hard disk, position the disk head over the track designated for moving. (This is done automatically on the Kaypro 10.) If the move is for any distance, use some protective packaging to cushion the equipment for the trip.

10. Install it improperly

Dan Wager of Mountain Computer, a manufacturer of disk drives, estimates that 75 percent of hard disk repairs are caused by improper installation of the controller card. Other components are equally important. A cable that is twisted or crushed can break a connector or create a short. Internal damage (in a signal cable, for example) can be hard to isolate and can result in costly repairs. Circuit boards are easily flexed and therefore susceptible to hairline fractures and/or cracks if handled roughly.

Whether it's your initial installation or an upgrade, follow all instructions carefully. Pay special attention to information about handling static-sensitive devices. *Never* install equipment with power turned on. Finally, if you do not know what you're doing, then seek the service of someone who does. ☐

Don and Sharyn Conkey have a combined total of 17 years of computer experience, ranging from programming through education and sales. They have written for a variety of magazines and are working on a book about using online databases in business.

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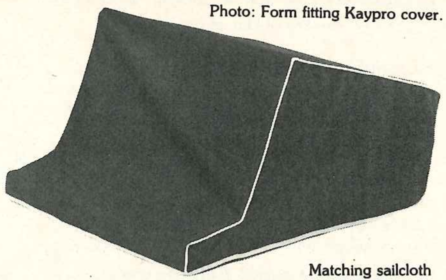
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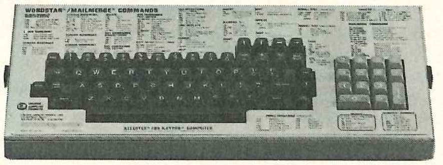

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MORE ON NEXT PAGE

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

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

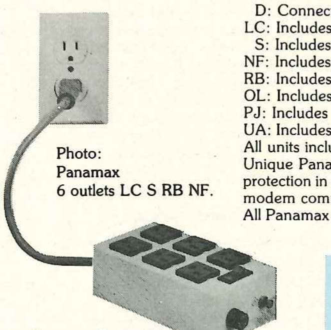
Photo: Panamax 6 outlets LC S RB NF.

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.

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!

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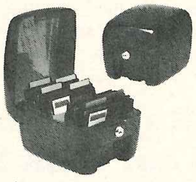
"Power line-associated problems are estimated to cause nearly 70 to 90 percent of the malfunctions in the IBM PC."

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

Lockable Diskette Defender



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

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Everyone's favorite keyboard redefining program is now on sale. Saves you thousands of keystrokes. **SmartKey** does not interfere with the regular function of your keyboard. Once you've tried it, computing will never be the same. Lets you save complex command codes, boilerplate paragraphs, inventory numbers, or whatever, and inject any of them into your work with the stroke of a single key.

Central's super priced **$45** *SmartKey II Plus* combo pak includes a free copy of *SmartPrint II Plus*, a program that greatly enhances the operation of dot matrix printers, and a free copy of Paul Golding's $15.95 book, *Screen Smarts, The Computer Tamer's Guide*. This book tells how you can use SmartKey to turn your computer into a supercharged mean machine. Save time and money. Order today to get this hard hitting $115 software & book combo for only $45.

Text Filing Machine

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

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Stop Tearing Up Your Disk Drives

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

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

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

CONSOLINK MICROSPOOLERS

Description	List	Price
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Two Cables	$ 56.00	$ 29.00

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

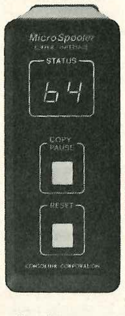

Photo: MicroSpooler 64 K P-P

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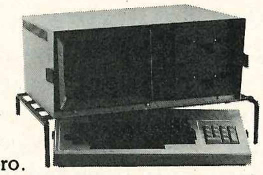

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Technical Forum

by Tom Enright

This month we have a series of subjects pertaining to the Juki printer to cover. New features keep cropping up that need discussion.

Printwheel update

I recently got a letter from Juki Office Machine Corporation about problems people have been having finding the printwheels for their printers. Juki does publish a catalog of printwheels. It is available to dealers, not end-users. If you want one, have your dealer order it for you. Do not call or write Juki yourself. The catalog is called the *Juki Type Style Guide for 6300 and 6100 Printers.*

Juki representatives assure me that they will cooperate in getting catalogs and printwheels to Kaypro dealers. Juki would prefer that dealers order the printwheels from authorized Juki distributors rather than directly from Juki. In the event the distributor is unable or unwilling to deliver, Juki will sell directly to Kaypro dealers. Remember: only dealers, not end-users, can deal directly with Juki Office Machine Corporation.

Ribbon problems

Printwheel problems seem to be under control. Now we're getting letters from people having ribbon difficulties. The problems fall into two areas: failure to feed a new ribbon and ribbon jams about three-quarters of the way through a cartridge.

Technicians from Juki admit that the 6300 is sensitive about the brand of ribbon it will use. They will only recommend IBM Selectric 2 (non-correctable) and Techmate 2 multistrike ribbons.

As for failures of ribbons to feed properly, Juki technicians cite the size of the sprocket on the ribbon take-up reel as the culprit. The arm that actuates the sprocket is barely long enough to reach the sprocket on the ribbons they recommend. Other, less expensive, brands of ribbons may have slightly smaller diameter sprockets on the take-up reels. The problem is most severe on cartridges that have more ribbon in them. To fit in the extra ribbon, manufacturers made the sprockets smaller—just small enough that the actuating arm won't reach them on Juki printers.

The problem doesn't exist on IBM Selectric typewriters, which are what the ribbons were designed to fit—just on Juki printers.

Jamming of the ribbon near the end seems to be due to variations in the thickness of the cartridge body. Or possibly the ribbon platform is lower, in relation to the ribbon path, than on Selectric typewriters. Anyway, the end result is that the ribbon tends to bunch up at the top of the take-up reel. After about three-quarters of the ribbon has been used, this bunching takes up so much space in the cartridge that the ribbon jams. One user from Hawaii puts a double thickness of business card stock under the cartridge to line it up better with the ribbon path. This trick seems to work for him.

The Juki technician I talked to also recommended that some of the ribbon on a new cartridge be manually wound onto the take-up reel. You can take that for what it's worth. I personally think Juki should redesign its ribbon feed mechanism.

Juki tractor feed

Both in letters and around the Kaypro plant I've heard complaints about the Juki tractor feed. People say that the paper keeps slipping despite being held in the tractor.

I can't vouch for the letters, but in every case that I've personally checked, the paper was loaded incorrectly. The Juki tractor feed is a bi-directional tractor mechanism. If the paper isn't properly loaded, the printer loses vertical indexing rather easily.

You know the little doors that you open to put the paper on the sprockets? Look on the back of the tractor and you'll find another set of doors. They're hard to reach, but they're there and ought to be used. Your paper has to be held by the tractor *before* it goes around the platen as well as *after* it leaves.

If you don't thread the paper through the tractor before and after the platen, you lose vertical registration with both superscripts and subscripts. It also makes doing graphics on the Juki impossible. (Yes, the Juki can do graphics, and yes, an article telling you how is in the works.)

In addition to making sure you have put the paper through the tractor feed properly, be certain you've given your printer enough room to allow the paper to feed freely. The slightest drag on the paper can cause feed problems.

Finally, some complain that when the tractor is installed the platen doesn't seem to hold the paper tightly enough. Well, the pinch rollers that hold the paper against the platen aren't supposed to function when the tractor is installed. If both the pinch rollers and the tractor held the paper, the paper would tear out of the tractor. That goes for almost any printer, not just the Juki.

When you want to use single sheets of paper, just remove the tractor. You'll see two square buttons on the sloped edge of the tractor. Press both of these at the same time and lift the tractor right off. Then you can use single sheets of paper or put on a bin-feeder to feed stacks of single sheets.

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WordStar graphic screen

For a long time now, a lot of users—including me—have been annoyed by the first screen that comes up in WordStar 3.3 (though this is not a problem with earlier versions of WordStar.) The first screen is a full-screen graphic advertisement for MicroPro done with characters.

Until now everyone has had to be satisfied with shortening the delays, making that screen visible for a shorter length of time. There is a better way. You can patch around the subroutine call that paints that screen. Then the ad screen never appears; you go straight to the MicroPro version sign-on screen.

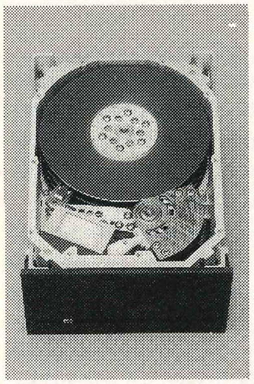
This patch can be done with DDT only. WINSTALL won't let you make patches outside the normal user patch area. First I'll explain exactly what we're going to do—then we'll do it.

In WordStar 3.3, address 3CF4h should contain a CALL 1B2A instruction. The subroutine located at 1B2Ah is the one that paints the graphic screen. What we're going to do is eliminate this subroutine call entirely. That way, when you start WordStar, it goes right on past to the next subroutine that does the version sign-on screen.

Now, the instruction CALL 1B2A is stored in memory as three bytes of code, CD 2A 1B, starting at 3CF4h. So we'll replace those three bytes with NOP instructions. A NOP means **N**o **OP**eration, or do nothing. When a NOP instruction is sent to the Z80 running your computer, it just fetches the next instruction and goes merrily on its way.

If your version of WordStar 3.3 doesn't have CDh at 3CF4, 2Ah at 3CF5, and 1Bh at 3CF5, *don't insert this patch!* I don't think this is likely, but don't take any chances. DDT tells you what the current value of a memory address is when

(continued on page 85)



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New Products

by Susan Hyman

The following new product listings are not reviews and should not be considered endorsements of tested products. We may 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, all press releases and product information should be sent to: New Products Editor, c/o PROFILES *Magazine, Kaypro Corporation, P.O. Box N, Del Mar, CA 92014. Releases must state the products' prices and on which Kaypro models they run. Include black-and-white photos if available.*

Modular programming language

Modula-2 is a language that supports the modular approach to programming. Using improved syntax and several new concepts, it is described by its authors as the successor of Pascal and MODULA.

The Modula-2 System consists of compiler, linker, utility programs and a library of utility modules with source code. The 250-page documentation covers topics such as startup procedures, an introduction to the language, and a system description. Modula-2 supports chaining and sharing data among several programs. Its library modules provide a standard interface among most Modula-2 implementations, as well as operating system access, transfers, disk input/output, and more.

$150. Kaypro 2, 4 and 10. Hochstrasser Computing AG, Leonhardshalde 21, CH-8001 Zurich, Switzerland.

Educational test-writing software

Auto Test Authoring (ATA) is a test creation package that allows teachers to write original tests and drills.

It provides the teacher with four test formats: multiple choice, fill-in-the-blanks, true/false and essay. ATA can be used equally well to develop math or language quizzes, as the program is not specific to one subject. The program guides the user through its edit and create programs, displaying instructions throughout the process.

Other features of ATA include the capability for printing tests and homework assignments as well as a built-in security code to prevent unauthorized access. The ATA program will also automatically pretest the student, do grades, and randomize the questions. The package consists of two disks and a 30-page manual packaged in a binder.

$89.95. Resource Software International Inc., 330 New Brunswick Ave., Fords, NJ 08863 (201) 738-8500.

Low-cost modem

Black Box Modem 1200 has a built-in memory that stores up to 20 telephone numbers of up to 55 characters each. The auto-dial modem can also assign names like "lab" or "office" to the stored numbers. With this modem, users can mix pulse and tone dialing within one number, which is helpful when using long-distance services like Sprint and MCI.

The auto-dial Modem 1200 does not require any complicated command sequences—most are a single keystroke, and like most U.S. made modems, it's Bell 103/212A compatible.

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BLACK BOX
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$279. Black Box Corporation, P.O. Box 12800, Pittsburgh, PA 15241 (412) 746-5500.

Database manager

The MAG/base family of database management systems are offered in three levels, each providing additional capabilities.

The three levels are MAG/base-1 Personal Filing System, MAG/base-2 multi-file Information Management System and MAG/base-3, an advanced Application Development System.

$295, $495 and $795. Kaypro 2, 4, 10 and 16. Rocky Mountain Software Systems, 1280C Newell Ave., Suite 1488, Walnut Creek, CA 94596 (800) 832-2244, or in California: (800) 732-2311.

VDT guide

A reference for software developers, *A Programmer's Guide to Video Display Terminals* lists control codes used in over 150 video display terminals and micros.

Clear screen, cursor positioning, screen format, video attributes and program function keys are just a few of the control codes presented in the 145 data sheets in the manual. There is also a chapter of hints and instruction in VDT programming. The information in this 335-page book will help programmers write software that will work on a large number of VDTs.

$30. Atlantis Publishing Corporation, P.O. Box 59467, Dallas, TX 75229.

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New Products

Hard disk upgrades

Systems Peripherals Consultants has expanded their hard disk upgrade systems for Kaypro computers to include internal Winchester drives of 10.8, 22.1, or 34.3 megabytes.

Installation is easy—no soldering required. All power supply connections, data cable connections, and software are included. All you need to do is plug it in and use it. All upgrades include a one-year warranty on parts and labor.

$1,295, $1,695, and $2,095 for the internal upgrades. External models are available for all Kaypro computers, including the 16. Systems Peripheral Consultants, 9747 Business Park Ave., San Diego, CA 92131 (619) 693-8611.

Quality assurance software

Microcomputer Assisted Quality Assurance is a package of 25 quality assurance and operational programs written in BASIC and designed for laboratory and control operations use.

The book and disk include programs for feed rates, detention times, internal standard, control charts, anion-cation balance, Langelier index, correlation, percent recovery, curve fitting and many more. Each program comes with detailed example runs, documentation and listing.

$81. Kaypro 2, 4 and 10. Lotic Enterprises, 5301-1 Dunsmuir Rd., Bakersfield, CA 93309 (805) 325-7348. ☐

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Technical Forum

(continued from page 81)

you are changing values. Just remember, if your copy isn't exactly what I'll be describing, back off and don't change anything.

Now, with that out of the way, let's get down to patching the little bugger. I'm making the assumption that you have DDT on the same disk as WordStar. The easiest thing to do is transfer WordStar and DDT to a temporary patching disk and work with that disk in drive A. Also remember the prime rule in patching: "Never patch your master or your working disk." Always patch a copy so a mistake won't leave you without a program to use. Only after you have thoroughly tested the patched copy should you transfer it to your working disk. Enter the parts in boldface.

```
A0>DDT WS.COM
DDT VERS 2.2
NEXT PC
4600 0100
-S3CF4
 3CF4 CD 00
3CF5 2A 00
3CF6 1B 00
3CF7 CD . (Yes, a period.)
-G0

Warm Boot

A0>SAVE 69 WS.COM
```

As soon as the A0> prompt comes back on the screen, you're done. Try it out and see if that isn't more to your liking.

This patch can be combined with any others you may want to do, or have already done. □

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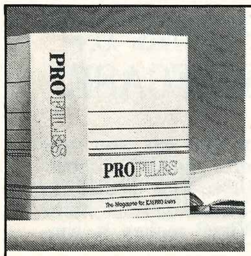

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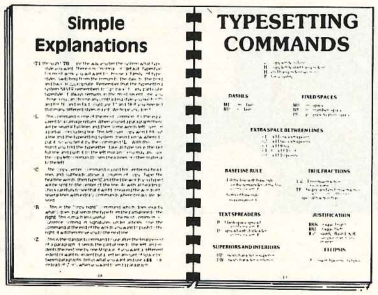

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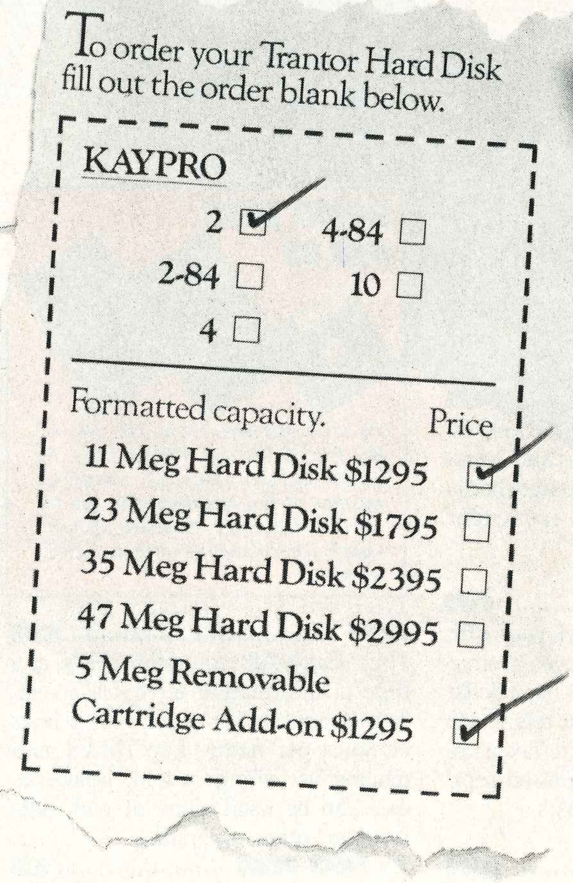

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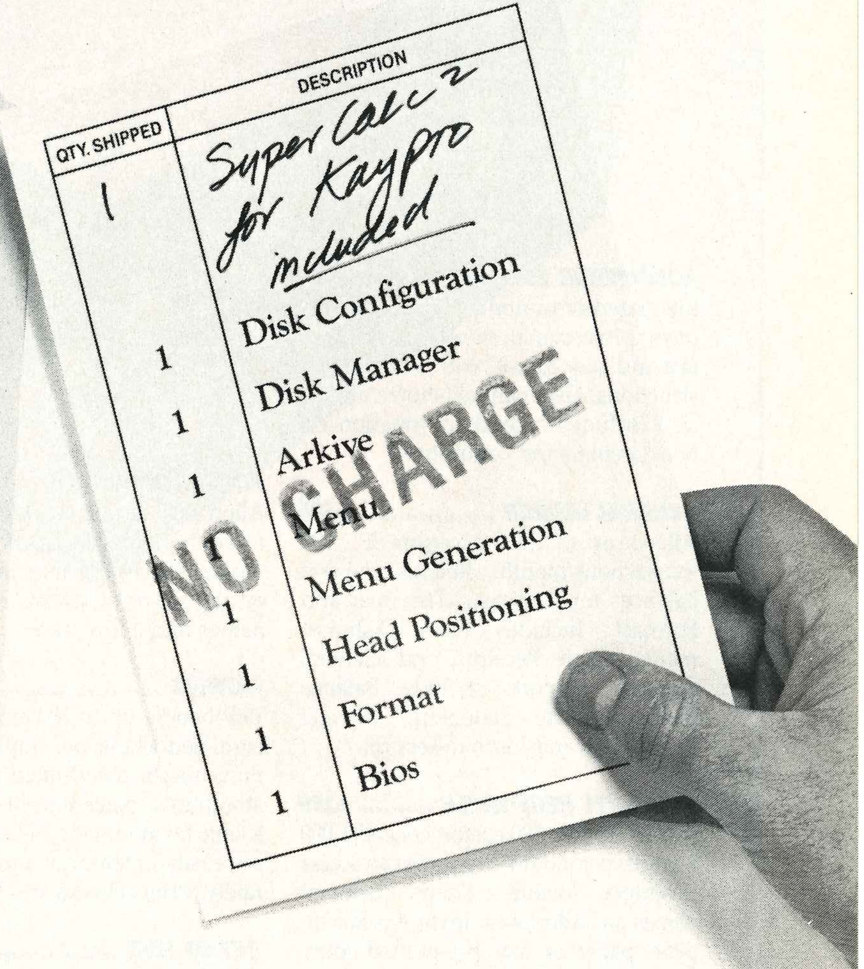

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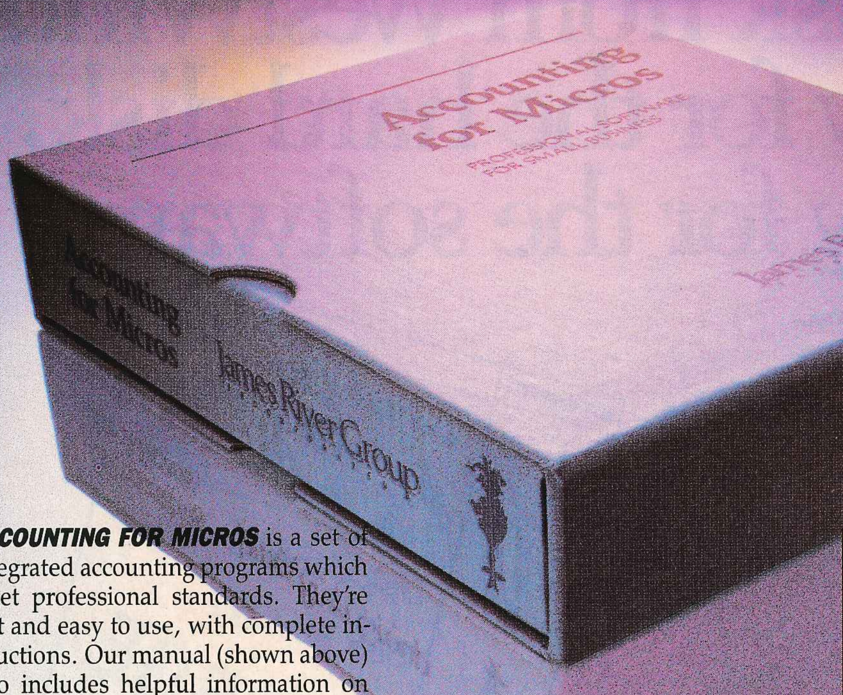
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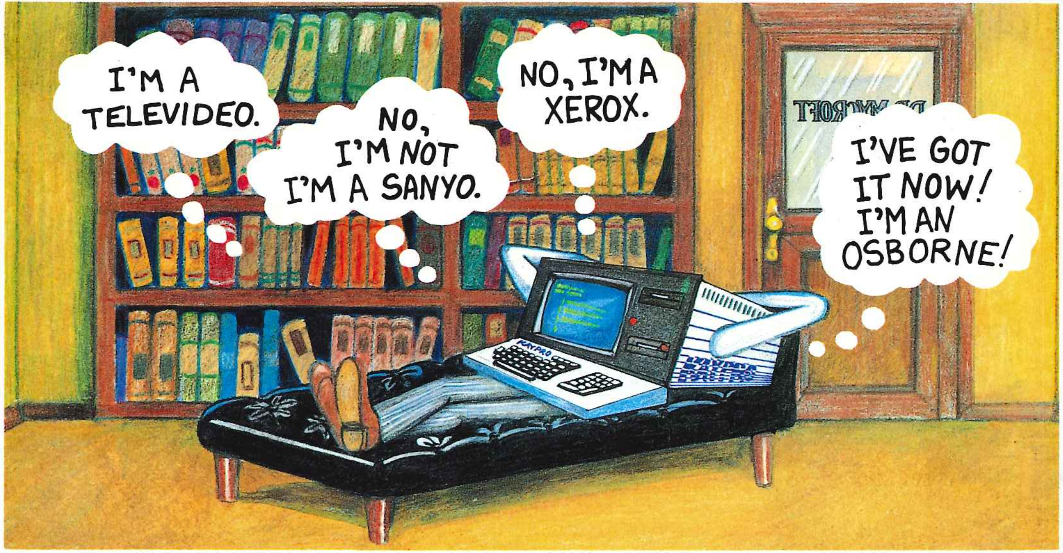
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