

PROFILES

Multi-tasking software

The Magazine for Kaypro Users
August 1986

Hong Kong software—
what kind of deal is it?
DOS batch files

coupon spectacular



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Thoughtline is, without doubt, the best new CP/M program in years - Robert Sawyer, writer

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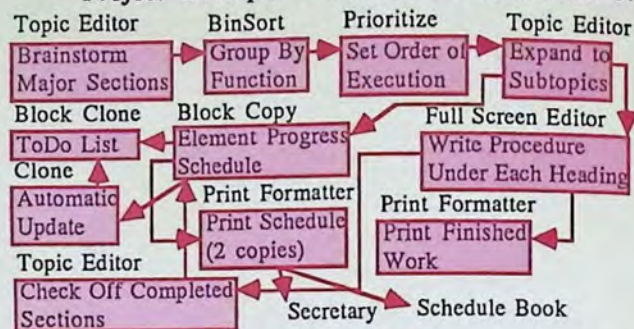
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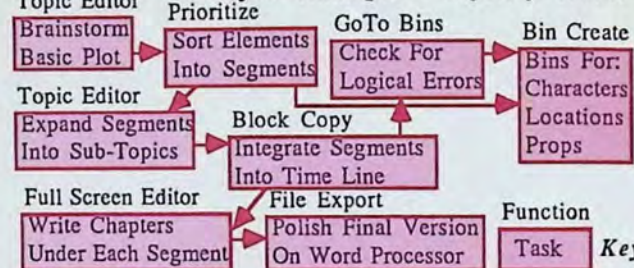
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...by the way, *Thoughtline* is just right - excellent balance in design - Dick Runke

To the basic software I use frequently (WordStar, Supercalc II) I now add without reservation *Thoughtline*, as being equally useful and equally significant - Fred Schultze

...and as for *Thoughtline*, WOW! I bought KAMAS and waded through Adam Trent's obtuse mental gyrations until I was literally dizzy ...I sent for KAMAS's little brother OutThink. Again, another great disappointment. ...then comes *Thoughtline*. Now I can outline my books and articles just as I had hoped to when I bought KAMAS and OutThink. - Dr. Eric Skousen, Writer

All User comments are unsolicited, from letters on file.

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PROFILES

The Magazine for Kaypro Users • Volume 4, Number 2 • August 1986

FEATURES

The \$50,000 18 WordStar

by David Weinberger
Cheap software from
Hong Kong —
what kind of deal is it?



\$50,000 WordStar 18

Idea Processors 26 for DOS

by Ted Silveira
More help for
handling the fragility
of thought



DOS Idea Processors 26

Ghosts in the 34 Machine

by Marshall L. Moseley
A beginner's guide
to batch files



Ghosts 34

Multi-Tasking 38 Software

by Andrew Finnie
Do it all —
at the same time



Multi-Task 38

A Whirlwind 46 Tour of Perfect Filer

by James Spencer
Creating a custom
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On the cover:

The lure of the Orient — spices, silks, software? Artist Ruben De Anda illustrates a boatload of bootlegged software coming from Hong Kong. "The \$50,000 WordStar" explores just what kind of deal you can expect from this overseas source.



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—Chris Meeks, March '86 Profiles

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Editors' Notes

If the lure of the Orient used to be spices and silks, today it is astonishingly inexpensive computer wares from bazaars like Hong Kong's fabled Golden Mall—and shadier sources. Everybody loves a bargain, but, scruples aside, are cheap copies of name-brand software really such a good deal? Writer David Weinberger did a little investigating, and his findings in "The \$50,000 WordStar" may startle you.

Also in this issue:

- Ted Silveira continues his examination of idea processing programs, focusing this time on choices available to MS-DOS users.

- Andrew Finnie looks at multi-tasking products for DOS machines, and Bill Murdick and Keith Hertzog see how MTBASIC can let CP/M programmers accomplish some of the same things.

- Marshall Moseley shows how to make life simpler by using batch files, offering a step-by-step guide to their creation and use on DOS Kaypros.

- James Spencer leads beginners through the labyrinth of Perfect Filer menus, demonstrating how to set up a customized data base.

- Don and Sharyn Conkey explain the whys and wherefores of spreadsheets in "Beginner's Luck."

- Brock Meeks explores developments in the burgeoning field of "telelaw" that may soon affect what you can and can't do on a bulletin board.

And don't forget to check out our special coupon pages this month—discounts of at least 10 percent are being offered by advertisers exclusively for *PROFILES* readers.

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Diane Ingalls

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Letters

Put software on ONKUG

I thoroughly enjoy *PROFILES* and also look forward to ONKUG, the news diskette we receive every two months from the KUG department. I have only one suggestion: Why not coordinate ONKUG and *PROFILES*? Each month we read of excellent public domain software in *PROFILES*, then get disks from ONKUG with completely different software.

Couldn't Ted Silveira and Brock Meeks give ONKUG copies of any public domain software they review? Perhaps your writers are unaware that you have a national distribution net for software with ONKUG. (I am still running up my phone bill scouting out-of-state RCPMs trying to find ENCODE.)

Mel Huey
Eugene, Oregon

Thanks for the excellent suggestions. Beginning with the July issue, we started putting all public domain software mentioned in the magazine on Kaypro Corporation's KUG ROS BBS. There's a special section on it just for *PROFILES*. No membership or fees are required, and the board is online 24 hours a day, seven days a week. The phone number is (619) 259-4437. We have passed along to Jim Durkin, Kaypro Users Group manager and ONKUG news diskette editor, your suggestion that public domain software mentioned in the magazine be included on the news diskette.

Megahertz madness

Glad to see "Megahertz Madness" make it into print. Often the editing knife makes a writer's efforts into so much hash, but I feel that the changes you made added greatly to the readability and content of the article.

I do, however, want to correct two small technical errors that crept into the text. First, regarding the Micro-C ROM, the article states

that it "runs ZCPR1 (in ROM)," which slightly altered my meaning. The ROM for the '83 series machines—at least the two I tested—do not have ZCPR in ROM. I tried ZCPR1 and 2 from the Micro-C public domain disks. Their literature says that ZCPR is now included in the ROM for the '84 series machines, which I did not test.

Second, the article states, in a parenthetical note, that "Advent's decoder board provides its own side-select circuitry, so no jumpers need to be soldered to your board." This isn't quite true, either. The decoder board has dip switches that tell the ROM how many drives are installed and whether they are dual- or quad-density. It can also set the step rate, but has nothing to do with side selection. You may either solder in the side-select circuitry (a simple task) or use Advent's adapter board, which fits under the ROM socket and provides the necessary circuitry. Last time I checked, they were providing it at no extra cost.

Hope this clears things up.

Fred L. Ray
Bryson City, North Carolina

We appreciated having our products (Highland Microkit speed-up kit and side-select board) discussed in the upgrade review published in your June issue. I would like to correct a few points that are out of date or otherwise incorrect.

1. The price of our speed-up kit is \$39.95, not \$59.95. This kit may be installed only on a Kaypro 4'83 or a Kaypro II board that has been upgraded to "4" status. Our II-to-4 upgrade, including the EPROM, costs \$39.95.

2. We do not recommend anyone else's EPROM, except to users who need to be able to read certain foreign disk formats automatically and are willing to spend several times the price of our EPROM to get that feature.

3. It is never necessary to spend a total of over \$100 to make our speed-up work. A few owners of Kaypro 4 circuit boards need Z-80 "B" PIOs (under \$10), in addition to the \$39.95 speed-up kit. This makes their total expenditure under \$50; it is under \$80 for those with Kaypro II boards. In the very rare cases where other parts are needed, we will supply them without charge.

4. While quad-density disks cannot be read by standard double-density drives, quad drives are not incompatible with standard Kaypro disks. All currently available ROM upgrades allow quad drives to format, read and write to standard single-sided, single density and double-sided, double density disks. Exchange of information and software between SSDD/DSDD owners and quad owners is not a serious problem.

Dan Carl
Highland Microkit
Highland, Maryland

Prices mentioned in the article were checked for accuracy at the time the June issue was being produced, but because the magazine is prepared for publication nearly three months ahead of the cover date, *PROFILES* always recommends that readers call for current information, including prices, before they order.

In response to the other corrections, author Fred Ray said that at the time he prepared the article, Highland Microkit's own EPROM was still under development and unavailable.

He also said that his total expenditure to get the kit up and running was about \$100. The change in the kit's price lowers that figure, but Ray said it was accurate at the time he prepared the article.

Your final point is well-taken; Ray's main intent was simply to make it clear that double-sided

drives can't read quad density disks, a problem that has to be taken into account in order for information interchange to take place.

UNIX-style utilities

I read with interest the article by Roland Wobbe, "Sophisticating CP/M," in the May issue. His comments were a fair and unbiased evaluation of two UNIX-style utility collections.

I do take exception with one statement: [The shell] is not really much more than a hopped-up version of SUBMIT... However, with its associated tools, it does add limited control to processes that may benefit from automation."

In actuality, if the shell were only a "hopped-up" version of SUBMIT, the tools themselves would be of little value. For CP/M users, the shell adds the important UNIX capabilities of I/O redirection and pipes (the ability to link the output of one tool to the input of a second).

I hope you will feel this clarification is worth mentioning in a future issue.

Gregg E. Marshall
President, Rocky Mountain
Software Systems
Walnut Creek, California

From ignorance to organization

In 1983 I decided to computerize both the administrative and the service-related functions of this small clinic. I had no prior experience with computers and began with a Kaypro II, Perfect Writer, and dBASE II. I needed a lot of help, but got very little from my dealer, who evidently sold Kaypros only to those people who would not buy an Apple.

Later we added a Kaypro 4, and then, in January of this year, made the decision to go to a Kaypro 10, after much agonizing as to whether or not to make a conversion to an IBM-compatible. But I was still run-

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Letters

ning on the programs I originally wrote on the Kaypro II, and I could not bear the thought of doing it all over again on a "strange" system.

I am telling you all of this to express my thanks for *PROFILES*, which helped lead me from complete ignorance to complete office organization in CP/M. I believe I have read every page of every issue. Of course, many times, as I had particular needs, I turned back to old issues.

Thanks for the years of help you have given me.

Harlan P. Wolfe
Batavia, Ohio

Bliss upon our heads

Ted Silveira's articles are invaluable! They're smart, informative, useful, fun—and his infatuation with computing is nothing short of infectious. His "WordStar Deluxe" article must have single-handedly made your magazine famous.

Few things are so satisfying as opening up a "non user-patchable" area of WordStar with DDT and offing some standard default that's been driving you crazy since the day you began to use the program. This is in addition to giving us the ability to sleekly customize WordStar to the point of having it become virtually unique software, attentively tailored to the individual user.

But may bliss envelop all your heads, and Mr. Silveira's in particular, for the patch tendered in his June "Flea Market," whereby I've been able to eliminate the pesky and innumerable default tab stops and install my own, merely two of them, where I need them. Many, many thanks.

Keep up the good work!

Jim Nisbet
San Francisco, California

Run silent

Durwin Schmitt's article, "Run Silent, Run Fast" (May 1986) pro-

vided this reader with sufficient momentum to order and install one of the RAM disks (not to name names, but the one with the external power supply) mentioned in his article.

When he says the RAM disk is fast, he isn't kidding. Before one can say "fast," the RAM disk is sitting, waiting for something else to work on—and definitely without the extra feature of disk motors buzzing away to slow down either access or write-back time. In place of listening to disk drives throughout each session, as one would without the RAM disk, the disks are needed only to load and write back files, thus extending their "normal" lifetime significantly.

The only slowdown I'm enduring at the moment is the wait for letters to travel back and forth between myself and Plu*Perfect Systems so that I might re-install their version of CP/M to work along with the RAM disk. With both the RAM disk and Plu*Perfect Systems' CP/M in place, who would want to consider looking at Big Blue?

Since Mr. Schmitt was kind enough to provide me with some most useful advice, perhaps I can return the favor. He might well decrease the "load" time for this RAM disk by using one or the other of the wild cards provided by CP/M to transfer his Perfect Writer files. Rather than invoke PIP for each file, he might use PIP A:=B: P?.* for all the Perfect files except MENU.COM, then again run PIP with A:=B:*.SPL to load the DICTNARY and AFFIXTAB files. This would translate to using only three lines in his SUBMIT file, while—I would think—loading the files somewhat more quickly than re-starting PIP with each line, as indicated in his article.

Many thanks, Mr. Schmitt, for an excellent article and exquisite timing.

Bob Wallace
Daly City, California

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Q & A

by Tom Enright

We welcome and read all your letters. Some 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 more advanced topics develop into articles or discussions in the Technical Forum.

Due to the volume of mail we receive, we simply can't respond individually to requests for assistance. If you have a question requiring an immediate reply, contact your dealer. You can call Kaypro Technical Support, but please be aware that they give dealers' calls priority over those from end-users. They can be contacted at (619) 481-3920, or write to Kaypro Software Technical Support, P.O. Box N, Del Mar, CA, 92014. Please include a daytime phone number.

Which mouse?

I own a Kaypro 16 and would like to do graphics using a "mouse." What type of equipment do I need to hook up a mouse?

Patrick Flynn
West Bloomfield, Michigan

Any IBM-compatible mouse will work with your Kaypro 16. There are two types available: mechanical and optical. The mechanical mouse measures the rotation of a ball inside the body of the mouse as you move it over the surface of your desk. An optical mouse uses a reflective pad with grid lines on its surface. By measuring variations in light reflected from the pad, the mouse keeps track of how many grid lines have been passed and in what direction.

Each type of mouse is available with either a serial (RS-232) interface or with its own interface card. Neither interface has any great advantage over the other, and each method has disadvantages with a Kaypro 16. Interface

cards are inconvenient to mount in the Kaypro 16 chassis. On the other hand, your machine came with only one serial port.

Leading brands are Microsoft for mechanical mice and Mouse Systems for the optical variety. Prices are pretty close, so your decision may be made on the basis of availability.

Proportional printwheels

The article in the February 1986 PROFILES by James Hardin, "Text Formatting: Beyond Letter Quality," was interesting and informative. However, it did not answer one question that's causing me problems. Why do proportional printwheels have the letters arranged in a different sequence than normal printwheels?

I have a Silver Reed Exp. 500 printer that does not claim to have proportional printing capability. I naively bought proportional spacing software and a proportional printwheel thinking that using this combination would be no problem. But I got alphabet soup with the proportional printwheel—letters were not in the same place as on a standard printwheel. Why are proportional printwheels that way?

Dwight Jones
South Beach, Oregon

Since characters on a standard printwheel are all the same width, the order of characters on the wheel can be optimized for printing efficiency. Characters on a proportional printwheel have to be arranged with wide characters next to narrow ones. Otherwise all characters wouldn't fit on a wheel of the same diameter. Also, characters of different widths are staggered so the same angle of rotation will always center a character for printing.

When a line of print is sent to a printer, the data stream merely specifies a series of letters. It's up to a program built into the printer

to figure out where each letter is on the printwheel. When you set a printer to proportional spacing mode, it activates a different built-in program (stored in ROM) than is used for normal (monospaced) printing. Less expensive printers usually don't have the extra internal programs to handle proportional spacing.

Slipping paper

When I bought my Kaypro II about a year and a half ago, a Kaypro letter-quality printer seemed like a reasonably safe purchase. Apparently everyone in the world except me knew it was a Juki. I had tracking problems with continuous-feed paper and discovered that I needed a tractor feed (\$160) before I would have a fully-functional printer.

It seems to me that accurate paper tracking would be a necessary prerequisite for a computer printer. Excuse me, but it seems rather ludicrous to design and market a computer printer that can't be used with computer paper. Also, why didn't the computer store salesman point out the need for a tractor feed at the time of purchase? I bought the printer based on the manufacturer's reputation for quality and value in word processing, and now I feel like I was tricked.

Roger Culbertson
Hollywood, California

If you aren't using a tractor feed, continuous-form paper will always slip to the right after a few pages. This is true of any letter-quality printer, not just the Juki.

I don't know of any letter-quality printer that includes a tractor in the price of the basic printer. Many owners prefer single sheets (letterhead or high-quality bond paper) to continuous-form paper and have no use for a tractor feed. They either feed paper by hand or buy a sheet feeder to handle paper feed chores.

Unfortunately, it's common for computer salespeople to know only two things about a product: Where the on/off switch is and how to fill out the sales contract. You weren't tricked, but you were improperly informed about what equipment was needed to meet your requirements.

Multi-lingual word processor

I'm finding it difficult to get information on multi-lingual word processing. My clients are students and professors and my service is processing reports, theses, and dissertations.

I'm familiar with several foreign languages and would like to have the technical capability to do word processing in languages that use both the Latin and Cyrillic alphabets.

Is there software that will enable me to do word processing in foreign languages using my Kaypro II, WordStar, and either a laser or a daisywheel printer?

Economic Insights sells a multi-lingual word processor called World Writer. It appears to have everything I want, except that it only runs on IBM-compatibles.

Howard Stoelting
Selinsgrove, Pennsylvania

Before investing in an IBM-compatible machine you may want to check out the capabilities of PAN-GLOSS from Techware, P.O. Box 10545, Eugene, Oregon 97440. I've never seen their product in action, but their ads in PROFILES suggest that they have the capabilities you require.

Questions for Q & A should include: Kaypro model and series ('83 or '84), any modifications made (speedup, add-on cards, etc.), and ROM version (i.e., CP/M 2.2u, etc.). Also, explain the problem's symptoms as completely as possible. Address the questions—Attn: Q & A.

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MS-DOS





by Brock N. Meeks

Life at 300 Baud

Crime on the BBS network

Child Molesters Use BBS Network." That one headline from a September 12, 1985, United Press International story rocked the online community. Four Los Angeles men were arrested when it was discovered they were using bulletin board systems to deal in child pornography. A statement from a multi-agency investigation said the accused sometimes used BBSs to trade the photos "like baseball cards."

Only three months earlier, during a U.S. Senate hearing, the FBI gave testimony that suggested pedophiles might soon begin to use bulletin boards as a way to distribute their information on how to molest children, where to find them, how to seduce them, and even names and addresses of previously molested children.

Disgusting? Yes. Against the law? No, at least not unless it can be proved that such sharing of information led to the commission of a crime. Should it be illegal? One's first response might well be, "Of course!" But since this question involves the issue of federal regulation of BBSs, the answer may not be quite as simple as it first appears.

Federal regulation of bulletin board systems is just one issue at

the forefront of "telelaw," one of the hottest topics around. Other key areas of concern are the right to electronic privacy and illegal computer access (computer trespass). Federal and state legislation affecting telecommunications is being written, introduced and passed continually. Some of this legislation will change the nature of telecommunications immediately; all of it will, in some way, shape its evolution in the future.

Privacy: it's a right—right?

The right to computer privacy is recognized in some situations, but not in others, as the following examples will show.

A 14-year-old computer vandal cracked the security of a Virginia bulletin board, downloaded all the files, and held them for ransom. The ransom "negotiation" calls, made by the information abductor to the ripped-off sysop, were traced by the phone company. These traced calls led to the teenager's arrest and conviction under the year-old Virginia Computer Crimes Act.

The state of Virginia recognizes and protects the privacy of electronically stored files, at least from invasion by private individuals. But no such law exists at the federal level, and the absence of a federal electronic privacy law could allow

the federal government to obtain files or messages stored on commercial or even non-commercial systems.

This nearly happened in September 1982, when a federal grand jury in Detroit issued a subpoena requesting The Source to hand over private subscriber data files.

A million-dollar cocaine ring allegedly used The Source as its communication base, and the courts wanted to see the suspect's private messages. During the case The Source refused to hand over any personal subscriber files.

The ensuing three-year battle by the grand jury to obtain private subscriber files from The Source raised many serious questions about the right to privacy of electronic communications.

When the suspected cocaine kingpin entered a surprise guilty plea to federal drug trafficking charges, the trial ended. His preemptive guilty plea prevented the court from ruling on the touchy privacy issue.

Nancy Beckman, a spokeswoman for The Source, says the company's legal department is looking into what impacts the case could have on future company policy and telecommunications networks in general. "It's our opinion that our information base cannot be subpoenaed by the govern-

ment," Beckman said. The rationale is that electronic messages belong to users, not to the utility, and are as inviolate as conventional mail.

Eastern Michigan Assistant U.S. Attorney Thomas Violkowski disagrees. Violkowski said The Source routinely makes backup tapes of all subscriber communications, and those tapes then become the property of the company. Violkowski reasons that people who send the communications have no access to the backup tape, and therefore have no reasonable expectation of privacy.

Senator Patrick Leahy (D-Vermont) has introduced a bill (S. 1667) to amend the Communications Act and the Wiretap Act to give data transmission the same privacy protection afforded U.S. mail and telephone communications.

Currently, no such protection exists for electronic communications. Any law enforcement agency can, for example, confiscate a local BBS (given probable cause) and examine all the message traffic, including your private files and private electronic correspondence.

H.R. 293 is federal legislation introduced by Representative Cardiss Collins (D-Illinois) to the House of Representatives that would allow the National Telecommunications and Information Administration to study the effect new communications technologies will have on personal privacy. The bill is needed, it is argued, to make sure legislation keeps pace with technology.

"Neither existing privacy legislation nor the Communications Act of 1934 provides for the periodic assessment and evaluation of personal privacy implications," the bill states.

Collins also introduced H.R. 296, a bill that would amend the Privacy Act of 1974 to "improve the protection of individual information and [also] to reestablish a permanent Privacy Protection Commission as an independent entity in the federal government."

The Privacy Protection Commission, defunct since 1977, would establish guidelines to better protect individual information stored by government agencies. A major responsibility of the commission would be to examine commercial and public data banks to determine standards and procedures for the protection of personal information.

Stop... thief?

Illegal accessing of computer systems—computer trespass—is also making the news.

In July 1985, a group of New Jersey teenagers known as the "Silicon 7" were arrested for allegedly breaking into Pentagon computers, physically moving NASA satellites via illegally accessed computers, and assorted "malicious acts."

In August 1985, the Richmond,

those used by government-insured financial institutions.

Alteration of medical records via illegal computer access could become a federal offense under pending legislation (H.R. 995) introduced by Representative Ron Wyden (D-Oregon).

Representative William Hughes (D-New Jersey), a leader in computer crime legislation, introduced a bill (H.R. 1001) that targets computer fraud. The bill would make unauthorized computer access as a part of a scheme to defraud a felony, and it would make any other unauthorized access a misdemeanor. This bill picks up many measures dropped from the nation's first computer crime bill passed by Congress last year. (Hughes, who introduced last year's computer crime bill, dropped several measures in

Lawmakers answered the electronic underground offensive with a barrage of trespass bills.

Virginia, *Times-Dispatch* reported that it discovered two bulletin boards in its area alleged to contain phone numbers and access codes for breaking into computers at several military installations and research centers. The targets listed on the "cracking files" (which explain how to get into mainframe computers) include NASA's Ames Research Center.

Federal lawmakers have answered this continuing electronic underground offensive by introducing a barrage of computer trespass bills.

At the federal level, the National Computer Systems Protection Act (H.R. 930) of 1985 is one of several bills introduced to address the topic of computer crime. H.R. 930, sponsored by Representative William Nelson (D-Florida), extends the language of the current law to cover computers used in interstate or foreign commerce, as well as

the original to ensure it would not be stalled in the House of Representatives or the Senate.)

"Crime has moved into the computer age, and it is time for federal law to respond," said Senator Paul Trible (R-Virginia) of bill S. 440 (which is similar to Nelson's H.R. 930). Trible's bill would make it a federal crime to use a computer to commit a theft, damage or destroy information stored in a computer, or access a computer without authorization.

The good, the bad, and the ugly

The vast, informal network of computer bulletin boards continues to expand—and not always in desirable directions. The question is whether federal regulation is the best way to deal with the problem of "bad" BBSs, and if so, how the laws should be worded so as not to be

(continued on page 72)

Flea Market



by Ted Silveira

A public domain toolkit for writers

Several months ago, I wrote about the programs I keep in my CP/M toolkit. This month, I'll cover some public domain CP/M programs for writers. Some of these are specifically for WordStar, the program most people use, but others will work with any word processor.

Disaster prevention

Every program is vulnerable to numerous glitches that can cause it to freeze up—power surges, brown-outs, bad disks, accidental resets, and so forth. If you use WordStar, you can protect yourself and your text by getting MAGE31 or SAVESTAR, two programs that can recover text from memory after disk errors, computer lock-ups, or almost any disaster short of a complete power failure.

How can you recover text if you have to hit the reset button and cold boot to get your computer started again? The secret is that when you restart by hitting ^C (warm boot) or the reset button (cold boot), your Kaypro doesn't erase the text that was previously in memory—it just forgets that it's there. MAGE31 and SAVESTAR both recover that text in the same way—they go to the section of memory where the text is

stored and save what they find into a disk file. You can then combine that file with the incomplete text file (filetype \$\$\$) you'll probably find on your disk or with your last saved version. Between the two, you should be able to recover everything.

MAGE31 and SAVESTAR are both very easy to use, but both have to be adapted to the particular version of WordStar you're using (2.26, 3.0, or 3.3). If you find a copy of MAGE31.COM or SAVESTAR.COM that's set up for your WordStar, you're in business. Otherwise, you have to get the assembly language file (MAGE31.ASM, SAVESTAR.ASM), adapt it by changing an address in the file, and reassemble it (the ASM file includes directions). Both files are available through bulletin boards and user groups.

You can also get SAVESTAR another way. This program is the creation of David Weinberger and can be found in his article "Getting Started with Assembly Language" (PROFILES, February 1986). Just follow Weinberger's directions, and you can create SAVESTAR.ASM and SAVESTAR.COM yourself.

Fancy feet

Unlike Perfect Writer and some other word processors, WordStar can't handle footnotes. But before you go out and buy a commercial

footnoting program, you should look at FTNT14 by Eric Meyer. Here's a rundown of its features.

Once you've marked the notes in your file, FTNT14 can extract them and then print them as true footnotes or as endnotes. It will number them for you, format them in different ways, carry long footnotes over to the bottom of the next page, and use separate print commands in the notes.

FTNT14 can handle internal page references for up to 52 locations within your text. You can refer to a chapter, table, or other location from any point in the file and have FTNT14 insert the correct page reference when it finally formats your text.

It also does "figure block" formatting. If you specify a certain number of lines of text (for a table, perhaps) as a figure block, then FTNT14 will print the figure block at the top of the following page. Unlike WordStar's conditional page break (.CP) command, FTNT14 will fill in the rest of the space on the current page with text from after the block. In other words, there won't be a gaping hole at the bottom of the page the figure block came from.

FTNT14 obeys all WordStar control characters and most dot commands. It makes minor changes in the behavior of a few dot commands

(to accommodate the notes) and won't let you use dot commands that affect vertical page format: top and bottom margins, heading and footing margins, line height.

Formatting footnotes, especially in a long file, is a touchy, complex business, but FTNT14 does its job well.

Index your text

WINDEX20, by Eric Gans, is an index program, also for WordStar files only. It can index both words and phrases and correctly handles words divided by soft hyphens. It can index up to 254 keywords, handles files of any length, references up to 9,999 pages, and alphabetizes the resulting index.

WINDEX20 can work two different ways. You can mark all the words and phrases in your text that you want indexed—WINDEX20 will build an index containing only those entries. Or instead, you can enter the keywords and phrases from the keyboard at index time or build a separate file containing the keywords (up to 254 of them) you want indexed—then WINDEX20 will index every occurrence of each word or phrase you give it. The second method makes your job easier, but it also means you can't make WINDEX20 ignore certain occurrences of a word.

WINDEX20 is an easy program to use, but it doesn't put out an index that's really ready to print—you'll want to touch it up.

Checking for pairs

PAIRX, also by Gans, checks WordStar files to make sure that the commands for underlining (^S), boldface (^B), double-strike (^D), strike-out (^X), superscript (^T), and subscript (^V) all come in matched pairs. If it finds any of these characters unmatched (turned on without being turned off), it gives you the page and line number of the isolated character. As it comes, PAIRX expects to find a match within one line, but the documentation explains how to increase this range, if you want to.

If you've ever left a long document printing and then come back to find the last 14 pages all in boldface because you left out a ^B near the beginning, you'll understand the value of PAIRX.

Browsing through files

Suppose you're looking for some information and want to scan several text files without editing them. You can use CP/M's built-in TYPE command, which is fast—but it only allows you to scroll forward, so you can't back up to look at something you've already passed. Or you can use your word processor, which will allow you to scroll both forward and back—but word processors take time to load. Or you can try BISHOW31.

BISHOW31, which was also included in my CP/M toolkit, is a small program (4K) that lets you view text files on your screen. It loads very quickly (3-4 seconds) and lets you scroll forward and backward through a file, either by screen or by line. It can also scroll horizontally, if the text lines are wider than your screen, and can be set for screen widths other than 80 columns.

BISHOW31 is able to scroll forward and backward, unlike CP/M's built-in TYPE command.

Better yet, BISHOW31 lets you scan squeezed text files as well as normal ones, even squeezed files contained in a library file (several files grouped together so that CP/M sees them as one large file with the filetype LBR). Because of these features, I can now squeeze text files I don't need often—program documentation, master copies of articles—to save space and still browse through them whenever I need to.

What's the difference?

If you've ever wasted time trying to trace minor differences between

two text files, you'll want DF. It compares two text files and displays their differences onscreen, line by line.

DF has three features that set it apart from other file comparison programs and make it ideal for text files. First, when it finds a difference between two text files, it displays the appropriate sections from both files on the screen, one above the other, so that you can easily compare them yourself. Second, at the same time, it displays the line numbers of the differing sections so that you know approximately where in your files the differences are.

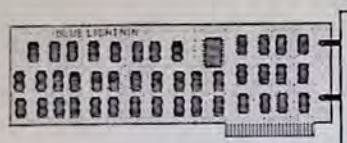
Third, DF can "resynchronize" itself after finding a difference in the two files. Some file comparison programs can only work character by character—that is, the first character of one file must match the first character of the other, the second must match the second, the twelfth must match the twelfth, and so on. If you have even one extra character in one of the files being compared, these simple programs will think the two files are completely different from that point on. DF, however, is smarter

than that. After finding a difference, it resynchronizes the two files, juggling them until it finds a new pair of matching lines, and then continues its comparison.

All the programs I've mentioned are available from CP/M bulletin boards and Kaypro user groups across the country. Arrangements have also been made with Jim Durkin, Kaypro's user group coordinator, to have all these programs available on his KUG ROS bulletin board at (619) 259-4437. If you can't find the programs locally, get together with some friends, down-

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FLEA MARKET

load them from KUG ROS, and split the cost of the long distance phone call.

Also, those of you who don't have access to a modem or a user group and want the utilities I mentioned in last February's "Flea Market" ("Building a CP/M Toolkit") now have another option. Dave McAfee of Sacramento, California, is putting together what he calls the Natomas anthology, the first part of which contains the public domain programs (plus a few extras) I mentioned in that column, complete with documentation. The toolkit covers three disks (single-sided Kaypro 2 format), which he sells for

I recently tested one of these emulators, a \$99.95 package called Accelerate8/16 from Intersecting Concepts. The package includes the NEC V-20 chip, Accel (the emulator), and Media Master (a disk conversion program).

Media Master was covered in last month's article "Multi-Format Programs."

Accel, the CP/M emulator, comes in four versions—one vanilla and three that emulate the Kaypro, Osborne, and Heath/Zenith H-19 terminals, respectively. The terminal emulation is a plus because it means that you don't have to re-install your Kaypro CP/M software.

The new NEC V-20 chip is a cheap hardware boost for software emulators.

\$5 per disk. He's also putting together a set for this month's WordStar utilities. You can get more info from McAfee at P.O. Box 214968, Sacramento, CA 95821.

The MS-DOS corner

This month I want to say a few words about CP/M emulators that let you run CP/M programs on an MS-DOS computer.

Until now, you had to choose between getting a hardware CP/M board (expensive) and using a software-only emulator (very slow). Now the software emulators have gotten a cheap hardware boost from the new NEC V-20 chip, a plug-in replacement for the 8088 chip that's the brain of most MS-DOS computers. The V-20 not only gives an 8 to 20 percent performance increase over the 8088, but also has a special "8080 mode" (the 8080 is the chip that CP/M was originally written for). A CP/M emulator that takes advantage of the V-20 gets a 300 percent boost over a software-only emulator. In other words, you get an emulator that runs programs at a usable, if not breathtaking, speed.

The screen speed isn't fantastic, but it's certainly usable. (Intersecting Concepts is working on improving it.)

There are limits to Accel's CP/M emulation, as there are with similar programs. It can't run CP/M programs that use certain BDOS and BIOS calls (ones that work intimately with the disk). It also can't run programs that use a Z-80 chip's special instructions. The Z-80 chip (the brain of CP/M Kaypros) runs all the instructions that the older 8080 chip does, plus a few unique instructions. A program that uses these Z-80-only instructions won't run with Accel.

Fortunately, most CP/M programs don't use the troublesome BDOS and BIOS calls or the Z-80-only instructions. All the same, if you want to run a particular CP/M program, you'd be wise to check it out first. Such standard CP/M programs as dBASE II and DDT run, for example, but the public domain programs NSW, SD, and DU don't. CP/M WordStar also runs, except for the Kaypro version, which has been modified.

C.P.I. BUSINESS SYSTEMS

Our software saves you money before it's installed

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

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

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

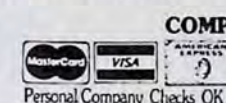
No system is perfect; CPI Business Systems are not exceptions. That's why users are entitled to support when they need it and that's why CPI continues to enhance each system regularly based on user's suggestions.

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

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

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

There are no extra charges for shipping, COD, etc. American Express, Mastercard, VISA card orders welcome. We ship in 48 hours. Please tell us what format you want (11/2X4/10/16), etc. Demo systems in KAYPRO formats only.



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



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

Comprehensive system with most wanted features. Provides accurate and well organized financial information for your business. Programs adapt easily to your unique needs. Create, modify and list charts (3 formats); make new departments automatically. Easy journal entry process to enter, change, delete, list, save, increment reference- #s, duplicate data from prior entry, last 7 entries on display; source/run totals; validate account numbers at entry; prior period adjustments; repeating entries for depreciation, etc. Trial Balance high speed posting option plus trial balance report, worksheet, detail general ledger. Financial Statements (4 formats): current year, current and prior year, current quarterly, cumulative quarterly; report on prior period/s; variable # of current period months, optional disclaimer lines, show ratios with 1 or 2 decimals, optional computation of ratios based on non-income amounts. Budget Reporting (3 formats): remaining or variance (\$ and %); current, YTD, both; rerun prior periods; variable # months in current period. Full year Detail General Ledger. End-Of-Period makes backup file, updates repeating entries for next month, selects month/year end processing automatically; updates prior year's data. Accounting Transfer inputs data from other CPI Business Systems; posts; prints control reports; multiple transfers. Query Account/s to CRT or printer. Multi-client processing functions included for both CP/M and MS-DOS systems.

CAPACITIES: CP/M - 600 Accounts; MS-DOS - 2000 Accounts - 3-5 Digits for Account Numbers - 99 departments with 3.2 structure.

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

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

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

A complete payroll system supplied with current tax routines for every state. Multiple pay rates, multiple overtime rates, multiple other pay rates, eight user deductions (each can be an amount, a rate or %), deductions may be taken before or after taxes. Commissions, tips, tips considered as wages, earned income credit, SUI, SDI, etc. are all included. In short it's a very comprehensive payroll system but one which is very easy to use. Its functions include Employee File Maintenance; Employee Lists in multiple levels of detail; Input Worksheets; Time Card Entry; Regular, Overtime, Other, Commissions, Tips, Misc. Pay. Exception Processing is the rule so you need only enter variable data. Manual checks are processed quickly and easily. Weekly, Bi-Weekly, Semi-Monthly, Monthly pay cycles (run individually or combined); Departmental Payrolls; Checks; Check Registers; Deduction Registers; Earnings Reports; 941's; W-2's; Unemployment Reports; Multi-state; Manual Checks; G/L interface for Federal, FICA, State and Local Taxes, Federal/State Add-Ons, FICA, FUTA, SUI, SDI, EIC, 8 user deductions. CAPACITIES - 600/2000 emp. (CP/M/MS-DOS), 98 Tax File Rcds.

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

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

HARDWARE REQUIREMENTS

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

CURRENT UPDATE

SPECIAL SUMMER PRICING

IT'S CPI'S 20TH ANNIVERSARY! CELEBRATE WITH US BY TAKING 20 % OFF OUR ALREADY LOW PRICES WHEN YOU ORDER BY AUGUST 31, 1986. THANK YOU FOR YOUR CONTINUED ENCOURAGEMENT AND SUPPORT.

The \$50,000 WordStar

Cheap software from Hong Kong – what kind of deal is it?

by David Weinberger

This is the story of how through cleverness, patience, and a lack of scruples I managed both to save several hundred dollars and to owe \$600,000. It's a story about tantalizing deals on name-brand software from the Orient—and the real price of buying it.

It began while I was browsing through the advertisements in a computer magazine, dreamily pretending that the decimal points had floated left a place or two. I thought about the stories I had heard about Hong Kong. There the streets are lined with imitation silicon. You can get a perfect IBM AT clone for what a night at the movies costs here, and for the price of a medium popcorn and a package of Milk Duds, they'll throw in a printer, dBASE II, Lotus 1-2-3, and two plastic packets of soy sauce.

I know it's true because my colleague Richard told me. He was there a couple of years ago and visited the "Golden Mall," where hundreds of vendors hawk computer wares from stalls. For next to nothing he bought an Apple clone, called a Papaya or a Lingonberry or some damn thing, and it works fine, so long as you don't need to type a Q. (All this is true, by the way.) Lately he has been having some problems with it, and he can't get anyone to service it—the local Apple dealer wants to put an Apple main board into it for just under \$1,000—but at the price Richard paid, the computer is practically disposable anyway.

Imagine my surprise, then, when I came across the following amidst the ads for cable TV descramblers and eavesdropping equipment in the classified section of an electronics magazine:

"BUSINESS OPPORTUNITIES

US\$8.00 including disk thousand name brand programs for Apple, IBM-PC. Details, US\$1.00 Reliable, P.O.Box 5555, Sheungwan, Hong Kong (not the company's real name or address)."

Welcome to the Golden Mall

Would I pay a buck (U.S.) for admission to the Golden Mall? You bet.

Within two weeks I received Reliable's catalog, such as it is, consisting of seven 8 x 14-inch sheets, each with two columns of listings, each column containing about 80 titles, for a grand total of more than 1,000 names. It is printed in the condensed mode of a dot-matrix printer and is clear enough, so long as you are not looking for a lot of information. Or any information beyond the price.

And the prices? They range from fantastic to terrible. In fact, the whole catalog is weird. On one hand, you can get dBASE II for \$20 (plus \$15 for the manual). It would cost \$259 from a stateside discounter—a savings of \$224. On the other hand, Hong Kong charges \$23 for the old version of Flight Simulator, which would cost you a mere \$6 more here. Worse yet, Reliable charges \$15 for Ultra-Zap, which is "freeware" in the public domain, \$6 from PC-SIG, or free from a friend.

Also, many of the entries are quite confusing. For example, the listing for Framework (which runs about \$350 in this country) consists of four disks sold separately (\$20 each). Do you need all four? Don't ask me. Likewise for Perfect Writer, which is sold as two disks costing a total of \$35 (and \$15 for the manual). Many of the items are listed more than once, with no indication of what differentiates them. (See box, page 23, for more price comparisons.)

Ordering is simple: send a certified check or money order. There is a two-disk minimum, although there is no minimum if you buy the manual with the disk.

So what's the catch?

There are just a couple of problems. The first is that the software is illegal.

If the prices were not a tip-off the disks are bootlegged, consider the note on the back of the order form:

Copyright © 1986 David Weinberger. All rights reserved.



"EXCHANGE OF PROGRAMS & MANUALS WITH THE CLUB = The club is open to any people interesting in exchanging their disk & manuals which are not on the present list. We shall exchange based on one disk to one disk, and for the manuals we shall credit you \$US0.10 per page for photo copying. We shall credit all your postage for forwarding, so you can use all the credit to exchange our disks or manuals. The exchange will be based on 'first in first serve', as soon as we accept the exchange we shall reserve your right until the expired date. Please send in your listings that you find interesting. Sorry, we don't exchange any public domain programs. There is no entrance collected from the Club."

You could also just use your common sense.

However, for the purposes of this article, it was necessary to make a purchase. The goods arrived within about ten days in a brown paper wrapper, carrying \$65.70 worth of postage stamps, which I can only assume refer to Hong Kong dollars. The return address was different than the one to which I had sent my order, and, mysteriously, instead of "Reliable," the sender listed himself as "Dick Smith." The customs declaration on the back listed the contents as "a gift /d'un cadeau." Should we add customs fraud to the list of offenses here?

Being not only a spy in the dark underworld of software piracy, but also a typical computer user, I tore open the package and threw the disks into the machine in turn. The directories could be read. After making a backup copy of each, I checked them out thoroughly. I had bought a WordStar package (WordStar 3.3, SpellStar, and MailMerge, for \$35) and the Microsoft C Compiler (\$20 plus \$15 for the manual); each can be bought from legitimate discount houses for something under \$200.

Both worked... sort of... as far as I could tell. And that's the second catch.

The C manual, photocopied on both sides of the paper, had pages irretrievably out of order and upside down. The WordStar disk seemed to be nothing but a copy of a regular disk containing regular WordStar. I'm an old hand at WordStar, and the Hong Kong version works as advertised. SpellStar (in my opinion the worst spelling checker ever made) does the little that it is supposed to. The disk is perfect if you love WordStar just the way it is, for you will have to keep it the way it arrives: WINSTALL (the installation program) is not included. My Hong Kong source does not sell it separately, so it is not an attempt at highway robbery; rather, Reliable apparently supplies the disks to you just as they are supplied to Reliable by its minions. With a thousand titles on hand, you can't expect them to examine each. Or any.

I bought the WordStar because, since I already own it (I am a Kaypro'er, after all) I could not be accused of being out for personal gain. True, I did not own SpellStar, but I had heard enough about it to know that no

one would think me out for personal gain if I bought a hot copy. Why, then, did I buy a copy of Microsoft C Compiler? For personal gain. I am just learning how to program in C, using the Mix C compiler (a cheapie), and I wanted to see how it stacks up against the Big Kid. Unfortunately, I'll never know. Since I am far from proficient in C, I cannot tell if the problems I have had are mine (very likely), Microsoft's (unlikely), or the result of a byte mislaid in Hong Kong (possible). So, it's back to Mix C. My \$35 bought me only aggravation and wasted time.

You'd have to have been born yesterday to think old Reliable is selling legitimate copies.

A delicate question

You would have to have been born yesterday to think that old Reliable is selling legitimate copies. What does Reliable think it's doing, then? It depends on how you ask. In my order, I included a brief letter asking for more information about the "club" described on the back of the order form. I received the following note:

"Dear Friend: Thanks very much for your order, please note that this is a International computer club for IBM PC & Apple, originally is a group of people introducing Computer to Hong Kong & they form a user group, peoples usually are Americans working in Hong Kong. Later many of them return to State, and they want the service to spread to State, so we maintain the international Service. The club will not charge for anything, you have have no obligation, but after you have placed a order in the club, your name will put on the regular mailing list, which will informing you any updated softwares available for the member. The club presently has over 5,000 members around the world, we shall send the listings around 40-60 days eachg time, and there is no fee to charge, the club need members support to maintain this service, thanks again for your supporting. With our best wishes.

Yours faithfully,
Marcellus"

If Marcellus, A.K.A. Dick Smith, does not think what he is doing is against some law somewhere, why did he duplicate every page of the Microsoft C manual except the page with the copyright notice on it?

What the publishers say

Not wanting to make irresponsible charges, I decided to check with the legal staff at MicroPro, the manufacturer of WordStar. I reached E. Ric Giardina, the com-

(continued on second column of page 22)

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

- 2X to 4X speed on all disk writes (both hard and floppy)
- Faster disk reads (with Advent format)
- Supports 48 and 96 TPI drives
- Supports fast seek (3ms) for 96 tpi floppys that's easily installed
- Up to 4 floppy drives in any mix of SS, DS, 48TPI and 96TPI drives
- 256 directory entries using Advent floppy format
- Up to 10 built in disk formats including K2, K4, Osborne, QX-10, Xerox, Micro C
- Super-speed disk copying with Turbocopy program
- Allows redefining of logical drive assignments
- Up to 2 Mbytes more storage on K10 hard disks
- Add a second or larger hard disk to K10s
- Up to 3.25K more program area on K10s
- Built-in screen dump
- Programmable cursor-block, line, flashing, non-flashing
- Video screen blanking after 10 minutes of nonuse (optional on '83s)
- Improved video performance on '84 computers
- Time displayed on 25th line of '84 computers (Real Time Clock required)
- Hard disk support built in (up to 112Mb)
- Ram disk support built in (up to 2048K)
- 32 character type-ahead keyboard buffer
- ZCPRI included
- Advanced features list includes fine tuning floppy and hard disk performance
- Full set of utility software provided
- Compatible with all Plu*Perfect CP/M enhancements
- Compatible with Uniform, Media Master, Fast Back, etc.
- No modifications required to your computer to use the TurboROM

TurboROM (Specify Kaypro model when ordering) \$79.95

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

- Fastest RAM disk available for Kaypro computers
- 10 to 30 times faster than floppy drive
- More directory entries than floppy drive
- Low power consumption (no fan required)
- Easy expansion up to 2048K
- Software driver loads FAST! (driver not required with TurboROM)
- Software driver may be loaded above the system to conserve memory
- No software driver required if computer is equipped with TurboROM
- Can be assigned to any drive name (A: thru P:)
- Auto loads the system if assigned as drive A:
- Mounts inside the Kaypro
- Works on all CP/M Kaypro computers - Nothing extra to buy
- Expandable to include Real Time Clock/Calendar
- Expandable to include hard disks
- High reliability - Built to our proven high standards

Speed Comparison at 4 MHz - Times measured in seconds.

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

Prices start at:	
256K RAM Disk	\$249.01
512K RAM Disk	\$354.01
768K RAM Disk	\$414.01
1024K RAM Disk	\$474.01
Expansion Board	\$294.01
256K Expansion Ram...	\$39.95
Real Time Clock	\$30.00

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

Clock/Calendar Interface \$99.95

Accelerator 8/16: Speed up your MS-DOS computer up to 15% plus be able to run CP/M programs directly. Just change the CPU chip with the one provided and load the software driver to upgrade your IBM or compatible. Media Master is provided to read and write 75 CP/M format. A \$140.00 value.

Accelerator 8/16 \$99.95

All items are warranted for 90 days. 30 day money back guarantee if not completely satisfied. Money back guarantee for software applies only if diskette seal is intact. VISA and MasterCard are welcome. Please add \$2.50 freight per total order (additional freight and insurance on hard disk products) and \$2.50 for COD orders. California residents please add 6% sales tax. Prices, availability and specifications subject to change without notice.

Trademarks: Kaypro - Kaypro Corp., CPM - DRI, MS-DOS - Microsoft, dBASE II - Ashton Tate

Hard Disk Systems: Now you can add hard disks to any CP/M Kaypro computer. Yet another reason not to sell your old workhorse to get the extra performance you now require. Add an additional 11, 22 or 34 Mb drive inside your Kaypro 10, or install a single 44 or 56 Mb drive. If complete systems are not what you need, then order just the parts you want. Call for more information. TurboROM included.

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

Floppy Disk Kaypro Systems (Internal): Add a single 11, 22 or 34Mb drive to any Kaypro II, 4, 2X, 1 etc.

System, less drive ...	\$576.67	22 Mb System	\$1196.67
11 Mb System	\$1090.62	34 Mb System	\$1401.67

Kaypro 10 System (Internal): Add 11, 22, or 34Mb drive to the existing hard disk. The 44 and 56Mb drives replace the existing 10Mb drive.

System, less drive	\$183.03	34 Mb System	\$1008.03
11 Mb System	\$696.98	44 Mb System	\$1600.98
22 Mb System	\$803.03	56 Mb System	\$2628.98

External Hard Disk System: Add from 11 to 112Mb plus up to 2048K of RAM Disk to all Kaypros except K10s. Allows for the hard disk to be shared between different computers. Systems start at \$798.00.

Floppy Disk Add-On: Convert any Kaypro with single sided (192K) drives to double sided (394K) drives. Or add 96 tpi (780K) drives to any Kaypro CP/M computer including the K10. Add 3 or 4 drives in '83 computers. No modifications or soldering is required. Includes TurboROM. Kits start at \$119.90 less drives. Call for further information and pricing.

5 MHz TurboBoard: Our tried and true 5 MHz speed enhancement for the earlier Kaypro models.

5 MHz TurboBoard for Kaypro II & 4 \$74.95

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

Utilities			
DateStamper	\$39.00	Sidekick	\$54.95
General DateStamper...	\$49.00	Smartkey II	\$49.95
Media Master	\$39.95	Smartprint	\$29.95
Media Master Plus	\$59.95	Uniform	\$69.96
MultiCopy	\$49.95		

Programming Languages			
C/80 Ver 3.1	\$49.95	Turbo Pascal	\$69.96
C/80 MathPak	\$29.95	Turbo Toolbox	\$54.95
Toolworks C	\$49.95	Turbo Tutor	\$34.95

Accounting		Graphics	
Basic Business	\$89.95	Rembrandt	\$79.95
Checks & Balances	\$74.95	Rembrandt '83	\$89.95

Games		Health & Diet	
Adventure	\$19.95	MyDiet	\$49.95
Airport	\$19.95	Computer Chef	\$29.95
Eliza	\$24.95	What's For Dinner	\$19.95
MyChess	\$34.95	Best of Wok Talk	\$29.95
Word Wiggle	\$29.95		

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Fighting Back

In response to the flood of copyright and trademark violations in recent years, a number of associations have sprung up to fight for the interests of U.S. firms, and software companies have joined the fray.

One such organization is the Anti-Software Piracy Association (ASPA), founded by Jody Rich of Imaginering Micro Distributors. This group, formed two years ago, includes among its members MicroPro, Microsoft, Lotus, Ashton-Tate, and AST Research. Administered by the Hong Kong branch of the British law firm Simmons and Simmons, this group concentrates on local copyright violators, not on exporters. Hong Kong has strong trademark and copy protection laws, says Dean Scott, MicroPro's international sales manager—the problem is getting people to obey them. Toward this end, ASPA has initiated such actions as raids through customs in Hong Kong.

MicroPro is also a member of the International Anti-Counterfeiting Coalition. The purpose of this organization, which was started in 1978 with 15 members, is to combat counterfeiting of commercial, industrial and consumer products. The coalition now has 300 members, including companies such as Levi-Strauss, Monsanto, Walt Disney Productions, and the Ford Motor Company, and organizations such as the U.S. Olympic Committee and the Federation of Swiss Watchmakers, and has formed a Computer Task Force to address the particular concerns of the industry.

Still another organization is the Software Protection Fund, formed under the auspices of the Association of Data Processing Service Organizations (ADAPSO). Major manufacturers, including Lotus, Ashton-Tate and Microsoft, have contributed thousands of dollars to the fund, and the SPF has issued a report that quantifies the losses firms have sustained through software piracy, examining the problem in ten nations from Egypt to Indonesia.

The International Intellectual Property Alliance, which includes such groups as the American Film Marketing Association and the Motion Picture Association, as well as software companies, has tried various methods to quash software piracy. Reportedly it once arranged for a raid on the Golden Mall, but that only succeeded in shutting the mall down for a day—it was right back in business almost immediately. The IIPA has found that a more successful tactic is to work with trade representatives, informing them of problems and urging them to make sure, through trade negotiations, that Third World nations uphold copyright laws in order to attain or keep preferred-nation status.

The Software Publishers Association in Washington, D.C., headed by attorney Ken Wasch, has been mainly interested in domestic piracy, but recently it has begun to take action in the international arena. Like the International Intellectual Property Alliance,

the SPA works with trade representatives and the U.S. State Department to persuade offending countries to honor copyright laws.

What complicates matters, says MicroPro general counsel E. Ric Giardina, is that "a lot of these countries don't even have copyright laws." But we do, although Giardina says our enforcement of those laws sometimes leaves much to be desired. For example, he says that at one point U.S. Customs had accumulated millions of dollars worth of counterfeits confiscated at the border, and did not know what to do with them. Their solution: Have a sale.

A new trade bill now before Congress may help protect software publishers by increasing recognition of "intellectual property" as an important trade item. "Since the trade act of 1984, Congress and the executive branch have been increasingly responsive to the concept of intellectual property as a trade item and to the need for increased protection," says Washington, D.C., attorney David Fiske.

There is an intellectual property section (Chapter 3) of HR 4800, an omnibus trade bill now before Congress, Fiske said. "There is a recognition that intellectual property protection should be increased and there should be benefits for developing nations if they provide protection for U.S. products."

\$50,000 WORDSTAR

pany's general counsel.

"I bought a copy of WordStar, with SpellStar and MailMerge, from a Hong Kong company for \$35," I explained.

"Are you turning yourself in?"

Trying to laugh nonchalantly, and knowing the answer full well, I asked, "What are the chances it's a legitimate copy?"

"None."

"How do you know?"

"We don't sell WordStar for \$35. Does it say MicroPro anywhere on the disk?"

"No. It has a typed label saying it's disk number W 001. What penalties do I face?"

"\$50,000 each time you use the disk."

"Well, I made a backup disk. So that's \$100,000 already."

"No, it's \$50,000 for each use, not each copy."

I gulped. "Why each use?"

Giardina explained that it is forbidden to make unauthorized copies, and every time you load a program, you are making a copy in the computer's memory, even if you do not then write the copy to a new disk. I had already loaded it at least four times to check it out, and I had loaded the C compiler maybe another six times. In addition, there were the backup copies I had made of each, for a total of at least 12 counts of copyright violation, which comes to \$600,000, not counting legal fees.

Giardina let me off the hook. MicroPro isn't prosecut-

Here are some comparisons of prices from Hong Kong, list prices (which no one ever pays), and typical discount prices from a U.S. mail-order house.

SOFTWARE (With manual)	HONG KONG	LIST	DISCOUNT (approx.)
Suspended (Infocom)	8.00	49.95	30.00
Turbo Pascal (Borland)	25.00	49.95	28.00
Norton Utilities (3.0) (Peter Norton)	16.00	99.00	59.00
Word Plus 2.1 (Oasis)	20.00	150.00	98.00
Reflex (Borland)	45.00	99.95	59.00
Keyworks (Alpha)	15.00	89.95	55.00
Word 2.0 (Microsoft)	30.00	375.00	210.00
CorrectStar (MicroPro)	40.00	195.00	115.00

ing individual users. "A large company would run the risk of looking like a football player tackling a two-year-old," he says.

Instead, Giardina points out all the practical reasons not to deal in counterfeits, besides the \$50,000 disincentive. If you were to buy a legitimate copy of WordStar, you would get updates, protection if the shipped

diskette happened to be defective, and telephone support. Further, "MicroPro has legitimate costs. We have 90 people in research and development." That's where the new programs will come from, the very ones that cause software pirates to slobber. Furthermore, one might add, it is morally wrong to steal.

MicroPro may not be going after the little guy, but that doesn't mean other companies won't, and it doesn't mean any of them are just sitting around hoping that bootleggers will reform. Major software publishers and other businesses have formed several associations to do battle on both domestic and international piracy, and they're deadly serious about protecting their interests (see article on opposite page).

In from the cold

So, I come in from the cold, my mission complete. I am physically unharmed but morally sullied. Fortunately, a good hot shower will cleanse me of my sins... but only because I am taking the masters and backups of my bootlegged copies in with me.

David Weinberger has a Ph.D. in philosophy and has taught philosophy, logic, and computer science. He is now a staff writer for Interleaf, a Cambridge, Massachusetts, electronic publishing system.

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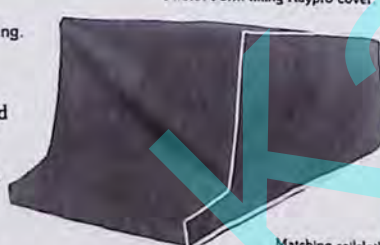


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Idea Processors for DOS

More help for handling the fragility of thought

by Ted Silveira

Though the idea processor first sprouted elsewhere, it found fertile ground in the MS-DOS world. There are now seven idea processors available for MS-DOS, perhaps more by the time you read this.

All seven programs have the basic features I mentioned last month, with a few exceptions I'll note as I go. So unless I say otherwise, assume that with any of these programs, you can enter a heading, attach a text block to it, edit the heading or text block, move (or copy or delete) headings either singly or in groups, show or hide headings or text blocks, read and write disk files, and send your outline to the printer.

In short, with any of these programs, you can build a basic outline. It's what you get (or don't get) beyond the basics that counts.

Eazy

Eazy (version 2.0) is a shareware program. You can get it free from user groups and bulletin boards (or get the trial version for \$10 from the publisher) and try it out. If you like it, you pay \$49.95 to become a registered user, entitling you to the latest version, a printed manual, and telephone support.

Strengths. Eazy is a fairly "freeform" program. It makes little distinction between headings and text blocks—if you type beyond the end of a line when entering a heading, Eazy wraps the line into the text block and lets you keep typing. And you can move around the outline and edit a heading or a text block without changing modes.

Eazy can scroll its screen to position an outline for the best view, find or find/replace a word, and sort or randomize a list. And it lets you temporarily isolate part of an outline on the screen while you develop it and then zoom back to the whole outline.

Eazy has several special features. First, it can mark a "broken" list (a series of headings scattered all over the outline)—something many idea processors can't do. Second, it has a "drag" mode that lets you reposi-

tion headings by dragging them with the cursor keys. The drag mode can also pull a broken list into a single block (an operation called "mark and gather").

Third, Eazy can divide the screen into windows (up to six), work with a different file in each one, and cut and paste between them. And fourth, Eazy lets you completely reconfigure the keyboard, reassigning commands to whatever keys suit you best.

Weaknesses. Though Eazy has been markedly improved over its original version, it still feels a bit more awkward to use than some other programs. For one thing, though it's basically a freeform program, it does have several "modes" that you must remember to switch on and off.

Eazy is also still under development. The isolate command, for example, works, but not exactly as described. And while an update sheet notes that Eazy's memory-resident options and import/export feature have been removed and points out what pages of the manual to ignore, the import option was still "live" (but useless) in my copy of the program.

And Eazy suffers from bugs, as you might expect from a program in transition. The publisher, to its credit, warns against two major bugs that can hang up your computer, causing you to lose work, and promises a fix soon. But there are others. Some commands (like some of the window movement commands) don't work at all or don't work as advertised, and some have minor but inconvenient (or temporarily confusing) flaws. Once or twice, Eazy went out to lunch and didn't come back until I reset the computer.

Eazy's manual and tutorial need work. Both have typographical errors, and neither is as well-organized as it should be for beginners.

MaxThink

MaxThink (version 3.3) by MaxThink, Inc., sells for \$89.

Strengths. MaxThink does more things than any other idea processor. Fortunately, its basic command

mode has menus and prompts for every step and a good help system, while experienced users can take single-key shortcuts and move on to a rapid entry mode. Compared to freeform programs like Eazy, MaxThink is a "modal" program—you switch into one mode to edit, for example, and into a different one to move around the outline (with some exceptions).

Beyond basics, MaxThink lets you undo changes, jump directly to any point in the outline, find (or find/replace) words, drag a block of headings, and automatically include a time/date stamp (as well as increase or decrease the date stamp of marked headings by a specified offset). It also has utilities to make a wall chart, create an outline of directories and files, and convert an outline into C compiler format. And it works comfortably with multiple disks and directories—you can even set it to automatically log into a certain directory or to call up the last file you worked on.

MaxThink has many special features. It can prioritize, fence (set up boundaries), categorize (turn fenced items into subheadings), levelize (flatten), divide or join, sort or randomize, and binsort (my favorite). With binsort, you set up several headings as categories (bins) and then sort through a list, tossing entries into the bins, where they become subheadings.

MaxThink can save a series of keystrokes in a keystroke log file and then play them back (with timing delays if you want), so you can create useful macros or even automated demos or slide shows. MaxThink can also quickly build an alphabetized word frequency list

ILLUSTRATION BY KEVIN ANDERSON

from your outline. You can then browse the list and jump directly to each occurrence of a particular word, making your file into a simple text data base.

And yet one more feature—if you use a file name as a heading (either a text file or a PC-Paint file), you can display that file with a single keystroke.

MaxThink's manual includes a simple tutorial, a reference section, and an index, as well as sections on styles of thinking and how to incorporate an idea processor into your work.

Weaknesses. MaxThink takes longer to learn because it has so many commands, some of which aren't "intuitive," and because the commands aren't laid out as logically as they could be. But it's relatively easy to use once you learn it.

The two things I grumble about most in Maxthink are things it does by design. First, to reduce distractions, MaxThink lets you view up to 10 levels of your outline, but automatically reverts to two levels after most commands and shows text blocks only on the current level. Second, to keep you from getting lost in a complex outline, MaxThink remembers which sub-heading of a list you're working on. If you move up a level and then back down again to the same list, it returns you to the subheading you were previously working on instead of to the top of the list.

Both these features are useful, but both also get in my way sometimes. I should be able to turn them off so I can work my way instead of having to fight against MaxThink's idea of how I should work.

MaxThink's manual also has weak spots, though an updated version should be out by now. The manual I received has a number of typos and isn't well organized for a beginner, and its tutorial is too brief and a bit muddy.

MDS-Outline

MDS-Outline (version 1.01) is a no-frills program with roots in the business world. It is available through Management Data Services, Inc., for \$49.95.

Strengths. MDS-Outline is a modal program rather than a freeform one and uses Lotus-style slash (/) commands from a menu bar. It also has an excellent online help file.

In addition to the basic outlining jobs, MDS-Outline can cut and paste (even between files), find (but not replace) words, sort a list, and drag a single heading. It can also make an outline of a disk's directories and files and can convert headings into text blocks and vice-versa.

MDS-Outline's standout feature is that it can write an outline to disk as either a Lotus 1-2-3 file or a revisable Document Content Architecture (DCA) file.

Weaknesses. Though MDS-Outline can build a basic outline, it's missing things I expect in an idea processor. It gives no onscreen indication that a heading has a hidden text block attached. It can't mark items. It has no delete-word command and no block

text moves when editing a paragraph. And it doesn't automatically wrap from a heading into a text block—you enter the heading and the text block separately.

Also, MDS-Outline doesn't have enough shortcuts for experienced users. For example, to save a file, you need six keystrokes—under the best circumstances—for an operation that takes one or two in other programs.

Finally, MDS-Outline has no manual whatsoever—no tutorial, no reference section, nothing except the online help and a minuscule README file. No matter how good the online help is, that's not acceptable.

PC-Outline

PC-Outline (version 1.07) is another shareware product, a polished program with a truckload of features. It's available from SoftWorks Development for \$49.95.

Strengths. PC-Outline is a freeform program (even more so than Eazy) that accepts commands through drop-down menus or through single keystrokes. It can find (or find/replace) a word, sort, mark a broken list, do a mark-and-gather, and drag a single heading. It can also do automatic file saves, insert a time/date stamp (including a live stamp that's always current), and read structured ThinkTank files as well as the usual ASCII and WordStar ones. PC-Outline also has a great many printing and display options.

PC-Outline runs well on multiple drives or a hard disk, and the directories for the outline files and for the program files can each be specified at startup or in a configuration file.

PC-Outline can have up to nine windows open at once, each with a different outline.

PC-Outline has four special features. First, it can run as a stand-alone program or as a memory-resident SideKick-type program. Second, PC-Outline can have up to nine windows open at once, each with a different outline. Third, while in its memory-resident mode, PC-Outline can import text from or export it to whatever program is running at the same time. And fourth, PC-Outline has a built-in macro function that can handle many keys.

The manual I received with PC-Outline had a good reference section and a detailed table of contents but no tutorial, though I was told that a new manual with an extensive tutorial should be available now.

Weaknesses. I found a small bug in the version of PC-Outline I tested. The delete-word-right function won't delete the last character of an outline entry, though otherwise it works fine.

Much more important, PC-Outline's keyboard layout

needs improvement. For example, it puts the delete-heading (AD) command right next to the save-outline (AS) command, and it uses CTRL-LEFT ARROW and CTRL-RIGHT ARROW for deleting words (many other programs use these for moving the cursor by word). I was told that the keyboard layout is being redesigned for future versions.

PC-Outline is also missing a few things I'd like. It doesn't have brainstorming commands like binsort, prioritize, or randomize, and it can't scroll the screen line-by-line. And the manual definitely needs a tutorial.

Ready!

Ready! (version 1.00c) is another memory-resident idea processor, but unlike PC-Outline, Ready! only runs memory resident. It sells for \$99.95.

Strengths. Ready! is a modal program whose strength is its simplicity. It's the easiest program to learn because it has fewer commands and because those it has work logically. It accepts commands either through its menus or directly from the keyboard, and it has most of the basics, including find and find/replace commands. It can also sort headings, read and write files (including ThinkTank files), scroll the screen vertically and horizontally, drag a single heading, undo the last deletion, and dial the telephone (through a Hayes-compatible modem).

Overall, Ready! feels smooth and accessible. It also works well with multiple disks or a hard disk—it can switch directories easily, show a list of files and sub-directories, and open either with a simple carriage return.

Ready! has several special features. First, it's memory resident, so it's always available. Second, it has a hoist/dehoist feature that isolates an outline branch on the screen while you develop it and then returns to the full outline when you're done. Third, Ready! can export an outline to whatever other program is running at the time. Fourth, Ready! can run with a mouse.

Ready!'s manual has a good short tutorial and clear explanations of all commands with plenty of examples, a color-coded quick reference card, and a good index. It should serve as a model for other programs.

Weaknesses. Ready! was created not as a full-featured idea processor but as an always-available notetaker and organizer. Consequently, it has limits.

Ready! works only with headings of up to 77 characters each—you can't add text blocks. It does have a "wrap" feature so that if you run over the 77-character

CP/M Update

Thoughtline, one of the CP/M idea processors reviewed last issue, has now been released in a new version, 2.1, which is identical to the MS-DOS Thoughtline 2.1 reviewed this issue. This version corrects two weaknesses of the earlier version and also adds some new features. See this issue's review of the MS-DOS Thoughtline for information on the changes.

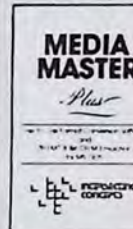
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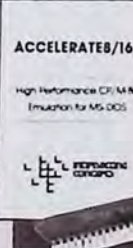
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limit while entering a heading, Ready! will open a new heading for you. The result is okay for notes and lists, but not for developing documents. And when you're editing headings with Ready!, the end-of-line wrap doesn't work, so you can only add words to an existing heading up to the 77-character limit.

Ready! also has no block functions—it can move, copy, or delete only one heading (and its subheadings) at a time.

When loaded, Ready! takes about 128K of memory while allowing a 32K outline. PC-Outline requires about 130K when memory-resident but allows a 64K outline, so Ready! seems a bit fat.

Finally, Ready! steals the keyboard from other memory-resident programs. I can call Ready! from inside my pop-up desk organizer, for example, but not vice-versa. And none of my screensavers (programs that blank the screen after a certain time) work as long as Ready! is on the screen.

ThinkTank

ThinkTank (version 2.1) is a stand-alone (not memory-resident) idea processor from Living Videotext, the makers of Ready!. It is offered at \$195.

Strengths. Like Ready!, ThinkTank is a modal program that's smooth and relatively easy to learn, and it shares, for the most part, Ready!'s consistent com-

mand structure. Like Ready!, ThinkTank can scroll the screen, do a find or find/replace, sort a list of headings, insert a time/date stamp, drag a single heading (with its subheadings), and so forth.

Unlike Ready!, ThinkTank can attach text blocks (which it calls documents) to any heading and has a good set of text editing commands, including block text marking for copy, delete, and move operations.

ThinkTank also has a number of special features. It has hoist and dehoist commands. It can mark a broken

Ready! was created as an always-available note-taker and organizer.

list and do a mark-and-gather operation. And it can combine its marking command with a keyword search to mark all headings that contain a certain keyword or phrase.

ThinkTank also has a clone command. When you clone an entry, you get an identical second entry—heading, subheadings, attached text. From that point on, any change you make to one clone is automatically made to the other.

ThinkTank has a good manual—good tutorial, excellent reference section, and index. It's not quite as good as Ready!'s, but it's clear and non-threatening.

Weaknesses. ThinkTank is copy-protected using a "key disk" scheme—you can make copies, but the program won't run unless the original master disk is in drive A at startup (once started, you can remove the master). And the manual could easily lead people to write to the master disk in order to install or modify ThinkTank or to use the cut-and-paste feature—there's no adequate warning of the possible dangers. I've seen too many disks crash to be comfortable with this.

Once you register your copy of ThinkTank, you do get a free backup master disk (also copy-protected). You can also send in an extra \$40 to get a non-copy-protected master disk, but that puts ThinkTank's already high retail price far above the other programs.

ThinkTank has other weaknesses, too. It treats headings and text blocks as separate entities and forces you to use different editors for headings and text blocks. And its commands are a bit limited compared to some other idea processors. For example, it has no simple way to move a list of subheadings without their heading. You must use the mark-and-gather command, which requires two or three extra steps to get things where you want them.

ThinkTank also makes it awkward to read one outline file into another. You must write the first file to disk in a special structured format (not the normal format), open the second file, and read in the structured version of the first file.

Thoughtline

Thoughtline (version 2.1) is the only idea processor currently available for both MS-DOS and CP/M (reviewed last month). The two products are almost identical (except that the MS-DOS Thoughtline can handle much larger outlines). The major difference is that version 2.1, reviewed here, contains several improvements over the version reviewed last issue.

Strengths. Thoughtline uses WordStar commands almost entirely. It's a very freeform program that automatically wraps from a heading into the text block, makes no distinction between the moving-around mode and the editing mode, and has useful block commands at the outline level. Version 2.1 corrects some previous problems by adding logical (as well as physical) cursor movement, a delete key that works as it should, and an "un-hide all" command to quickly expand an outline.

As in version 2.05, Thoughtline has three special features—a binsort command (not quite as sophisticated as MaxThink's), a prioritize command, and a clone command (like ThinkTank's). In addition, registered users of Thoughtline receive the next two program updates free (I'm told a future version of Thoughtline will be able to run memory-resident).

In addition, it can now create an outline from a standard WordStar file, using the first line of every paragraph as a heading and the rest as an attached text block. It can also write or read a text file that contains outline formatting information in the form of dot commands. In other words, you can turn your outline into a WordStar file, edit it with WordStar, and then turn it back into a Thoughtline file without losing the outline structure.

Weaknesses. Thoughtline shares the weaknesses of its CP/M sibling, as well as the strengths. To recap the major points briefly:

Thoughtline has no internal menus or online help. It needs a lot of disk space (because it makes both BAK files and buffer files on disk) and can lose new text if you run out of disk space (a possible problem for floppy disk users). Thoughtline also has no search commands of any kind and no block commands when working in the text blocks, though it does for headings. I'm told that both search commands and block text commands are scheduled for the next version, 2.2.

The MS-DOS Thoughtline manual is identical to the CP/M Thoughtline manual, so it shares the problems I mentioned last month and needs improvement.

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IDEA PROCESSORS

The moment of truth

MaxThink and PC-Outline stand out from the rest. MaxThink does more things in more different ways than any program in the group. It has a strong personality, which some people may not like, but it goes the farthest toward helping you work with ideas rather than just with words on a screen.

PC-Outline doesn't have MaxThink's powerful brainstorming commands or other extras, but it can have up to nine windows and outlines open at once and can run memory-resident so that it's always available. Also, it's shareware, so you can try before you buy.

In short, if you want the program that will do the most with your ideas, get MaxThink. If you need to work with several outlines at once or to have a memory-resident idea processor, get PC-Outline.

ThinkTank and Ready! are probably the easiest programs to learn and certainly have the best manuals. But ThinkTank doesn't have the features to justify its high price, particularly if you add the extra \$40 for the non-copy-protected version (I wouldn't consider it any other way). And Ready! can't match PC-Outline, especially since it's limited to one-line headings only. (I hear rumors, though, that the maker of ThinkTank and Ready! is working on something new.)

Thoughtline and Eazy both have excellent features and are improving rapidly, but both also have holes. Thoughtline runs on both MS-DOS and CP/M and is practically transparent in use (if you know WordStar). And though it doesn't have the variety MaxThink does, its brainstorming commands are well-chosen. But it badly needs a search command, block text commands, some online menus or help, and a reworked manual. When it gets them, it'll be a major contender. And if it goes memory resident, look out.

Eazy can do windows and multiple outlines and lets you reconfigure the entire keyboard to suit your own tastes. And it has some very good design in other places (its drag command, for example). But it needs brainstorming commands, a reworked manual, and some polishing. And it definitely needs its bugs stamped out.

If you're not determined to buy immediately, keep your eye on Thoughtline and Eazy.

MDS-Outline is a decent program, but unless you desperately need to export Lotus 1-2-3 or DCA files, it just doesn't have the muscle to compete.

Because I've had space for only the briefest of reviews, I've skipped over many things—printing and formatting, in particular. If you need some feature I haven't mentioned, check carefully before you assume the program doesn't have it.

Ted Silveira is a free-lance author and has taught writing at San Francisco State University. He's also a contributing editor for PROFILES.

IDEA PROCESSORS

Quick Reference Summary

Product: Eazy, ver. 2.0
Manufacturer: Computer Personalities
915 Shorepoint Ct., Suite E124
Alameda, CA 94501
Phone: (415) 568-4821
Sugg. List: \$49.95

Product: MaxThink, ver. 3.3
Manufacturer: MaxThink, Inc.
230 Crocker Ave.
Piedmont, CA 94610
Phone: (800) 227-1590; (800) 642-2406 in CA
Sugg. List: \$89.

Product: MDS-Outline, ver. 1.01
Manufacturer: Management Data Services, Inc.
160 Fox St.
P.O. Box 1237
Portland, ME 04101
Phone: (207) 772-5436
Sugg. List: \$49.95

Product: PC-Outline, ver. 1.07
Manufacturer: SoftWorks Development
750 Stierlin Rd., Suite 142
Mountain View, CA 94043
Phone: (800) 446-2263; (206) 883-3212 in WA
Sugg. List: \$49.95

Product: Ready!, ver. 1.00c; ThinkTank, ver. 2.1
Manufacturer: Living Videotext, Inc.
2432 Charleston Rd.
Mountain View, CA 94043
Phone: (800) 822-3700; (800) 443-4310 in CA
Sugg. List: Ready! \$99.95; ThinkTank \$195.

Product: Thoughtline, ver. 2.1
Manufacturer: Spite Software
4875 Southwest Nineteenth Dr.
Portland, OR 97201
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Sugg. List: \$69.95

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Ghosts in the Machine

A beginner's guide to batch files

by Marshall L. Moseley

There are ghosts in your machine. Friendly ghosts, mind you. Phantoms that can run your software for you. Wraiths that can simplify complex, convoluted commands and send you flying through directories. Helpers hidden in MS-DOS, anxious to make you and your computer more productive.

These benign entities are called "batch files." Your computer is probably already saving you time and money, but by creating and using batch files you can do even more.

In this article I'll assume you have a working knowledge of WordStar and MS-DOS, including the difference between internal and external commands, and directory structures and paths.

What is a batch file?

A batch file contains a list of MS-DOS commands and has the file name extension BAT, short for "batch." It is an ASCII text file. MS-DOS reads a batch file and executes the commands listed, one after the other, in sequence. By using a batch file you can execute a chain of commands with a single command. It can aid you in just about any repetitive task involving the operating system—you figure out how to do what you want once, record the information, and from then on let the computer do the work.

A batch file is run just like a program. For example, although MITE.EXE is the full name of the program file for the communications software that came with your computer, to run the program you type only the first part of the file name, MITE. Similarly, if you have a batch file named DISPLAY.BAT, you run it by typing only the first part of its name, DISPLAY.



ILLUSTRATION BY GREG MARTIN

The automatically executed batch file

When the MS-DOS operating system starts up, it looks for a batch file with the name AUTOEXEC.BAT. If it does not find such a file, MS-DOS asks you to enter the time and date, and then it displays the system prompt. If MS-DOS does find AUTOEXEC.BAT, it reads it and executes the chain of commands contained within. The automatic execution of AUTOEXEC.BAT enables you to set up your work session in whatever manner you desire; AUTOEXEC.BAT can execute any command, or run any program for you. It can take you directly into WordStar or Mite, for example. It can sort or copy files. Everything you do to set up your daily work session can be done by AUTOEXEC.BAT. A typical AUTOEXEC.BAT file looks like this:

```
TIME
DATE
PROMPT $P
```

MS-DOS looks at the batch file and first runs the internal command TIME, and you key in the system time. Next it runs DATE, and you enter the system date. Then AUTOEXEC.BAT issues the PROMPT command. PROMPT is used to change the system prompt, and in this example it is used with the characters \$P, which causes the system prompt to display the current directory. If you have disk drives only, it displays "A:\"; if you have a hard drive, it displays "C:\."

Your working disks (or hard disk) may already have an AUTOEXEC file on them. They do if they were created by the Kaypro Master Diskette Autocopy program. Creating your own AUTOEXEC file may overwrite the one currently on your disk, so before experimenting with your own file, rename the one on your disk. Type REN AUTOEXEC.BAT SAFETY.TXT. Once you're done experimenting, you can change SAFETY.TXT back to AUTOEXEC.BAT.

AUTOEXEC.BAT is invaluable if you have a hard disk. I use my computer mostly for writing, and I'm addicted to RAM-resident software. I use SideKick and Turbo Lightning in conjunction with WordStar. All of this software is stored in different directories on my hard disk, and if I didn't have a batch file, I'd begin my day with a lot of tedious typing. Instead, I turn on my computer and let it execute this AUTOEXEC.BAT file:

```
CD SPELL
LIGHT
CD \KICK
SK
CD ..
PROMPT $P
PATH \; \UTILITY
CD \MAIN\WRITE
WS
```

The command CD SPELL changes the current direc-

tory (the root directory) to the SPELL directory. LIGHT runs the spelling checker Turbo Lightning. CD \KICK changes the directory first back to the root directory (denoted by a backslash), then to the KICK directory, where I have the desktop software SideKick. The command SK implements SideKick. CD .. (the letters CD followed by a space and two periods) tells MS-DOS to move to the parent directory of the current directory—in this case, it's moved back to the root directory. Next the PROMPT command puts the current directory in the system prompt.

Another internal command, PATH \; \UTILITY, tells MS-DOS that if it can't find a program in the current directory, it should look in the root directory and then the UTILITY directory. AUTOEXEC.BAT then travels down the directory tree, makes WRITE the current directory, and runs WordStar.

The whole point of having batch files is that they're created by you to suit your needs.

Of course, this is my set-up, and your needs will be different. The whole point of having batch files is that they're customized—they're created by you to suit to your needs.

Real-time clocks and RAM disk programs

The Kaypro PC models and the Kaypro 2000 all have real-time clocks built into their main circuit boards, and their software packages include RAM (random access memory) disk programs. A RAM disk program blocks out a section of your computer's memory and causes it to behave like another disk drive. A RAM disk functions just like an additional disk drive. It has a drive name and you can copy files to it, read from it or write to it. It only exists electronically, though, and will disappear when you turn off your computer.

You can write an AUTOEXEC.BAT file that reads the time from the clock on the main board and inserts the correct time and date into MS-DOS. Your batch file can also copy your working software to a RAM disk. Here is an example of an AUTOEXEC.BAT for a Kaypro PC-10 with a RAM disk named drive D:

```
SETDOS
PROMPT $P
COPY C:\MAIN\WRITE\WS.COM D:\V
COPY C:\MAIN\WRITE\WS*.OVR D:\V
CD MAIN\WRITE
D:WS
```

SETDOS is the Kaypro utility program that reads the real-time clock and sets the DOS clock to match it

(in Kaypro 2000 software packages, this program is called KBOOT.COM). Then PROMPT sets the system prompt. The two copy commands transfer your WordStar program files to the RAM disk, and then the CD command makes WRITE the current directory. The command D:WS runs the copy of WordStar that's on the RAM disk and instructs WordStar to look to the C drive for its text files.

Creating your first batch file

Most Kaypro computers are bundled with WordStar. To create a batch file using WordStar, start from the opening menu and choose "N Open a non-document file." This option enables you to create an ASCII text file.

After pressing N, type MAKEDISK.BAT. Let's assume that your computer has a hard disk and one disk drive, like the Kaypro PC-10 or the Kaypro 16. This batch file will format a disk in the A drive, then check it for errors. At the end of each line press ENTER. Once you are editing the file, type the following:

```
FORMAT A:
CHKDSK A:
```

Save MAKEDISK.BAT and copy it to the utility direc-

tory. (If you have a computer with two disk drives, change the first line to FORMAT B:, save the file, and copy MAKEDISK.BAT to the working copy of your MS-DOS disk. Then place the disk in the A drive.) Either way, place a blank, unformatted disk in the empty disk drive. To execute the file, type MAKEDISK, then press ENTER. MS-DOS will read the first command in the file, FORMAT A:, and execute it. You should see this prompt:

```
"Insert new disk for drive A:
and strike any key when ready —"
```

Press a key and MS-DOS will format the disk. At the end of the format process you will see:

```
"Format complete. Format another? (y/n)"
```

Press N. This completes the formatting part of the batch file. MS-DOS now reads the second command, CHKDSK A:, and executes it. CHKDSK checks a disk to see if it has any flaws—bad areas that could cause problems if you place data on them. It also checks on how much RAM you have available. You should see a report like this:

(continued on page 50)

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Multi-Tasking Software

Do it all—at the same time

by Andrew Finnie

Have you ever wished you could use your Kaypro to do several things at once? I know I have, especially when my remote bulletin board system is online and I have to do some word processing at the same time. Until recently, MS-DOS computers weren't capable of running more than one program at a time. Within the past 18 months, however, several companies have produced programs that can turn an ordinary computer into a multi-tasking machine, able to divide its memory and processor time to give the appearance of working on several things at once.

The basics

This genre of programs is referred to as multi-tasking software. Briefly, this software enables you to have one program running onscreen while other (unseen) programs are operating at the same time. Two steps are normally used to accomplish this feat.

The first step, called "time-slicing," involves switching the 8088 CPU from one task to another approximately 18 times a second. Processor time is divided between a single foreground task and several background tasks.

The next step, called "memory partitioning," divides your computer's RAM into smaller segments. Each task then runs in a separate section of memory. The rapid switching from one task to another gives the illusion that the computer is working on several things at once.

A few common threads run through all multi-tasking software. The first is certain buzzwords. "Foreground" programs are seen onscreen—only one can be run at a time. "Background" applications operate in memory, unseen—more than one can run concurrently. In order to access an application running in the background, it must first be brought to the foreground.

Second, all multi-tasking software has an installa-



tion procedure to tell it what programs it's going to be running. There is a list of programs already recognized by the software and a way of adding other programs to that list.

Third, all multi-tasking software has some way to show what's operating inside the system. Some of these programs use windows, which often can be changed in size or even split into two or more.

One other common factor is that the performance of programs being run under the multi-tasking software is decreased to some degree. All programs run more slowly in a multi-task environment than in a single-task environment.

Previewing the players

I tested four of the most popular multi-tasking programs to see which was the most effective. None was

perfect; each had its virtues and shortcomings. The most interesting thing I discovered was how well these programs were able to make a multi-task workhorse of a single-task computer like the Kaypro PC.

The specific programs discussed in this article were chosen because they represent the major approaches used in multi-tasking software. The programs I tested were TopView by IBM, Desqview by Quarterdeck Office Systems, Windows by Microsoft, and also MultiLink Advanced by The Software Link.

My considerations in evaluating these programs were ease of installation, ease of use, what the hardware/memory requirements were and whether they could be expanded, how well the multi-tasking worked, and whether the programs offered any features beyond multi-tasking.

ILLUSTRATION BY JENNIFER HEWITSON

TopView

When IBM's TopView was introduced in November 1984, IBM had big hopes for it, but the program has never really captured a large share of the market. Competition from other programs and its own limitations have combined to prevent it from becoming the de facto standard for multi-taskers.

TopView requires a minimum of 256K of memory, but actually demands 640K if you plan to work with any programs larger than 128K. Version 1.01, which was tested for this article, can't use more than the MS-DOS limit of 640K. (In other words, it does not support the Lotus/Intel/Microsoft Expanded Memory Specification, which makes it possible to exceed that limit.) However, version 1.10, announced in April, can use expanded memory.

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MULTI-TASK

Despite its complexity, TopView is a relatively easy program to install and run. It's not copy-protected, so it can be transferred to a hard disk or copied onto a backup floppy. To install TopView, you run a setup program that lets it know if your computer has a mouse and whether it has a color or monochrome monitor.

When TopView starts, it displays a program menu in the upper left corner of the screen. The menu lists all of the programs TopView recognizes, as well as options for adding, changing and deleting programs. Any program you want TopView to use must be added with the “Add a Program” option. About 35 IBM programs can be installed automatically from within the “Add a Program” menu.

Other programs may be added using the “Other” option of “Add a Program” in one of two ways. Some publishers include a program information file (or PIF) along with their programs. If TopView senses a PIF file, it automatically adds the information to its active list. If there is no PIF file, the program must be installed manually. As a bare minimum, you must give TopView the program's title, executable file name, and the minimum amount of memory the program needs to run.

TopView also needs to know what path to search in order to find the executable file, the maximum memory to be allocated to the program, the display mode (monochrome text, color text, monochrome graphics, color graphics), the window size (full or partial screen), whether the program writes directly to the screen and/or accesses the keyboard buffer, whether it will run only in the foreground, and whether it uses an 8087 or 80287 math co-processor chip and the range of DOS interrupts the program takes over.

These last few parameters don't need to be supplied by the user, since TopView includes a standard set of defaults for these questions. However, if a program's operation is clearly degraded, you'll need to make changes in the defaults. Most of the information you'll need can be found in the program's reference manual. Another source of information is IBM's *TopView Application Guide*, which is included with the TopView package. This is a reference volume that lists the required parameters for many popular non-IBM programs. If your program isn't in the guide (and that includes WordStar and other MicroPro products), you'll need to get in touch with the technical support department of the company that published your program and ask them to answer some of the more technical questions.

Once the program menu is complete, you use a mouse or the keyboard to open programs. A special TopView menu, activated with the ALT key, can be used to size or move a program window on your screen, switch from one program to another, or start a new program. Depending on what type of programs are running, TopView will also allow you to cut and paste text from one program to another. It allows access to some but not all of the MS-DOS commands. You can use

the directory function to see what files are on a disk, and you can also copy, print, type, rename and erase files from the DOS Services Menu. Using the OTHER option, you can gain access to 12 other commands. Unfortunately, the FORMAT command is not supported, and TopView won't recognize any DOS command if you're using MS-DOS version 3.0 or 3.1.

How a program is displayed under TopView greatly depends on whether it is “well-behaved” or “ill-behaved.” IBM defines a well-behaved program as one that uses MS-DOS and the computer's BIOS system to write to the screen and read information from the keyboard. This makes the program more compatible with different MS-DOS computers, but also makes the program run more slowly. These programs can run in a TopView window and can also use all of TopView's resources, including the cut-and-paste option. Well-

*Desqview can use a
hard disk to swap
programs in and out
of memory.*

behaved programs can also be run as background tasks. Ill-behaved programs write to video memory or use the keyboard buffer directly. This lets the program run much faster at the price of being compatible only with the environment it was written to run under. Since the TopView environment is different from MS-DOS, ill-behaved programs must run full-screen and can only take advantage of the basic foreground TopView functions.

TopView adequately fulfills its promise to allow more than one program to execute at a time. However, it is memory hungry. The older version can't use more than 640K, which effectively limits you to two or three applications. And although the new version can use more than 640K, TopView still remains a memory glutton. Another problem is a noticeable decrease in the performance of the programs being run. WordStar, for example, slows down to the point where it can become objectionable. Using WordStar's print function under TopView is all but impossible. This also tends to affect any background task by slowing it down further than if it ran alone under TopView.

TopView is a viable program that needs more work. It should be more efficient in handling memory, which would allow programs to perform more effectively. On the positive side, TopView is easy to set up, and its menu system is well organized. It also comes with a tutorial disk.

TopView could become a standard in multi-tasking, but only if IBM can address the program's shortcomings.

(continued on page 44)

Multi-Tasking on CP/M Machines

The capabilities of MTBASIC

by Keith Hertzog and William Murdick

Owners of CP/M Kaypros interested in multi-tasking can transform their single-task machines with MTBASIC by Softaid, Inc. MTBASIC is a BASIC compiler that supports windows and a system of multi-tasking. We tested the CP/M version, though a version for DOS is also available. MTBASIC is the only programming language we know of that provides multi-tasking for CP/M Kaypros.

Though we had some initial difficulty with the multi-tasking aspect, mainly because of certain omissions and deficiencies in the documentation, we can recommend this language. For beginners, MTBASIC is a good, inexpensive compiler, much less expensive than any other. Experienced programmers can ferret out the quirks of multi-tasking and put them to good use. The beginner can use MTBASIC to turn his BASIC programs into COM files—programs that have been converted into machine language and can be run from an A> prompt. No more having to load BASIC before running a program. And, of course, a COM file will run much faster than a plain BASIC program.

Features

The compiling process is simple. First, write a program using MTBASIC, whose syntax is similar to that of MBASIC, and save it. Then, at the MTBASIC prompt, type DISK COMPILE PROGNAME, where "progname" is whatever name the program file has been given. A RETURN initiates the very fast compiling process.

Another nice feature of MTBASIC for the beginner is the built-in error checking system, which interrupts the user with an error message—written in comprehensible English—whenever a syntax mistake is made.

The multi-tasking feature is not for beginners (who can simply ignore it until they become more experienced). MTBASIC allows up to ten windows on the screen at a time, each one performing a different task, sharing the compiler through a scheduling system (so many "tics" per task) controlled by the programmer. Though we found the windows tedious to construct, the multi-tasking does work, and if the need is there, the effort will be worth it. The multi-tasking, however, is not something one would bother to build into a program if it were possible to accomplish the same thing without it.

Applications for multi-tasking

MTBASIC would be an excellent language for real-time I/O control of household devices, such as burglar alarms or furnaces. This language is even being used for discrete and proportional controls in industry, according to a Softaid representative. A chemical com-

pany, for example, uses MTBASIC to control temperature and pressure in chemical vats. And if you ever get caught in a traffic jam in Chicago, you can blame it on MTBASIC, which is being used to control that city's traffic lights.

Concerns to consider

If you're an expert programmer, the main drawback to MTBASIC is that you're working with a BASIC language, not a clean, good-feeling one like Turbo Pascal. And MTBASIC can be awkward in the way it handles things. When building windows, for example, you create a frame as well as a window. It turns out that the frame has to be larger than the window, or the windowed text will be overwritten by the frame. So if you put frame coordinates like 10,10,20,20 into a statement, you must make your window 11,11,19,19—as we learned the hard way. Frame generation strikes us as the kind of thing that ought to be automatic.

We mentioned control of scheduling. Unfortunately, as far as we can tell, figuring delay times for interrupts is pretty much a matter of trial and error.

You may find things about this language you don't like. We have a number of complaints, none too serious. Though the compiled file executes fast, the code generated is rather large. A 1K BAS file balloons into a 14K COM file. Line renumbering is done with a separate program, which is tough to figure out; however, the source code is included, so you can rewrite the renumbering program to suit yourself.

Probably the worst thing that can be said about MTBASIC is that its documentation is too sketchy—for example, nothing is mentioned about line renumbering. Also, the program samples for multi-tasking are very short and have no real-world application. But for \$50, you get your money's worth, beginner or expert.

William Murdick is an English professor at the California University of Pennsylvania and runs a Kaypro word processing lab on campus. Keith Hertzog builds computers and digital electronic equipment, is a professional programmer, and has taught computer science.

Product: MTBASIC

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MULTI-TASK
(continued from page 41)

Desqview

Desqview is very close to TopView in its design and operation and yet outperforms TopView in a number of key areas. Unlike TopView, Desqview can use more than the DOS limit of 640K by using an enhanced version of the Lotus/Intel/Microsoft Expanded Memory Specification. When teamed with an expanded memory board, such as the AST Rampage!, Desqview can run a maximum of nine programs concurrently. If you don't have a special memory board installed, Desqview can use a hard disk to swap programs in and out of memory using a technique called "virtual memory management."

Applications running under Desqview don't suffer as much performance slowdown as they do under TopView. Screen rewrites and processing were about 90 percent as fast as they would be if they were not run with Desqview.

Like TopView, Desqview is not copy-protected and is very easy to install and use. It requires a minimum of 256K with MS-DOS 2.11 and 320K with MS-DOS 3.0/3.1. Setting up Desqview is automatic, and if you have a hard disk, Desqview will install any application it recognizes onto its program menu. This list is much better than TopView's (including Lotus 1-2-3, WordStar and many popular programs that TopView lacks). Other programs can be manually installed using a

Desqview DVP file, which is technically the same as the TopView PIF file, or the "Add a Program" option from the main menu. Desqview requires the same type of information as TopView if you manually install a program.

Desqview works with either a keyboard or a mouse. To start a program, either select it from the program menu with a mouse or type a two-letter abbreviation that's listed next to the program's title. Well-behaved programs (those that use MS-DOS rules) run in a window that can be zoomed from a small box to a full screen. Other programs that don't follow DOS rules must run full-screen. Desqview does, however, include some special load files that will allow a small group of the ill-behaved applications, including WordStar, to be run in a window. The load files allow these applications to take advantage of Desqview's system resources. Load files can be installed automatically during the initial setup or manually from the program menu.

Besides multi-tasking, Desqview offers a facility that can create custom macros called "scripts" for each program listed in the main menu. Each script can be tailored to the program it works with and is automatically loaded when you select that program. You can also cut and paste text between applications that are currently in RAM. Unlike TopView, Desqview has a complete set of MS-DOS functions that can recognize

version 3.x's utility programs.

Desqview offers everything a computer user who needs multi-tasking could want. Though still text-oriented, it works better with graphics applications than TopView and is more efficient while remaining faithful to the TopView standard. How long Quarterdeck can stay one step ahead of IBM remains to be seen, but right now Desqview has a distinct edge.

Windows

Microsoft's Windows is being touted as the operating system of the future. In addition to performing multi-tasking, the program functions as a shell insulating the user from the infamous MS-DOS prompt. Because Windows was designed by the company that sells MS-DOS, some believe that a future version of MS-DOS will contain the Windows environment.

Unlike either TopView or Desqview, Windows is graphics-oriented and can take advantage of the new Enhanced Graphics Adapter (EGA) standard to display color in high-resolution mode. Windows is not copy-protected and requires a minimum of 256K to run. However, as with most multi-tasking software, 640K is

recommended. Windows can also be configured to use either the Kaypro 286i's extended memory or a Kaypro PC memory card that supports the Lotus/Intel/Microsoft Expanded Memory standard. Installation involves running a setup program that automatically installs and configures Windows for your hardware.

Windows is different from either TopView or Desqview because it uses Macintosh-like graphics. The Windows interface is called the MS-DOS Executive and is very similar to the Macintosh's user interface, with a menu bar across the top of the screen, a text window in the center, and an icon window along the bottom.

The menu bar is where you tell Windows what operations to perform. Using either a mouse or the keyboard, you pull down menus that list tasks for Windows to run. The text area is where programs, the MS-DOS Executive, and applications windows appear. The icon window contains a visual representation of what the applications window is running. Programs that are specially designed to work with Windows are assigned unique icons, while other programs are given generic icons. Icons appear only when programs have

(continued on page 58)

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A Whirlwind Tour of Perfect Filer

Creating a custom data base

by James Spencer

If the Civil War generals in my data base had had one of their own to use, the outcome of that war might have been very different. A data base can keep track of more information than a busy general's staff. Not everyone needs a data base, but mine has enabled me to sort heaps of biographical information into useful lists, resulting in a number of magazine articles and a history reference book on the subject. The data base software I use? Perfect Filer.

This article could be described as a brisk tour of Filer. I'll show you how to create a data base, sort information within it, and print the sort's results. I won't be covering all the options, but after going through the paces, you'll know enough to experiment on your own.

First things first

Before we get into the step-by-step instructions, here's a brief lesson in terminology. Data bases have three main components—fields, records, and files. The smallest unit, a data field, is one unit of information. For example, "First Name" is a field. A data record contains all the fields for one member of the data base. Figure 1, below, is a data record. Finally, a data file contains all the records for a particular subject. My entire data base on Civil War generals is really just one data file. Filer allows only one data file per disk.

FIGURE 1: Civil War Generals Data Record

First Name: _____ Middle: _____ Last: _____
 Title: _____ Salutation: (Dear) _____ Title2: _____
 DOB: _____ / _____ / _____ Hometown: _____
 Rank: _____ Died: _____ / _____ / _____

I have set up a very short data record (Figure 1) just for the purposes of this article. Using it, and following my instructions, you will be able to see just how to navigate through Filer's menus. Later, you can create an individualized data record.

Setting up the data record

Begin by placing a working copy of Filer in drive A and a blank, formatted disk in drive B. At the A> prompt, type CREATE and press the RETURN key. When you're asked which disk the data base is on, type B, followed by another RETURN.

Now you'll design the form and content of a record in your data base. On the next menu select the first choice, "Create New Data Base," by striking the X key. (To move the X down on any menu, use the RETURN key. To move it back up, use the BACKSPACE key. When the X is in front of the choice you want, depress the letter X on the keyboard. You may return to the previous menu at any time by using the ESCape key.)

At the next prompt, you will be asked to name your data base. For this first run-through, enter **Generals**, and hit RETURN. On the following screen you will see another menu with the title of your data base displayed at the top left.

The Filer manual (written for version 1.0) instructs you to choose "Create Data Record" on this menu. But my version of Filer has "Define Data Display Screen" as the top option. It's the same thing. Hit the X in front of that choice.

You will now be faced with a blank screen. This is your clean slate, ready to be filled with the data fields you select. Begin by typing ^T for Template. A menu of templates is presented for you to choose from. (For ease of reference, the template menu and other menus referred to in this article are grouped on page 48.) In most data bases dealing with people—customers, membership lists, etc.—you would want a name listed first, so move the X down the list of templates and choose "name."

Now you will be asked to furnish a field tag. A tag is a field's label, reminding you what information is there. It's wise to keep things as simple as possible, so type in name, using lower-case letters only. You can use a tag only once in each data record, so if you need to use a template twice, think of two different tags. (In mine, for

example, I used the date template twice, once for the date of birth and again for the date of death. My tags were "dob" and "died.") If you make a typographical error when entering a tag, you can use the DELete key to correct it. (This method of correction will not work later on, as I'll explain.)

Now press RETURN and you will see the name template displayed on the screen. It's two lines of information, with first, middle, and last name fields, plus two title fields and a salutation field.

Using the arrows on the keyboard, move the cursor to where you want your next data field to begin. Our next field will be date of birth. Type in DOB: as a descriptive note to yourself, and since it is a date, use ^T again, select the date template, and give it a field tag of dob. (Notice that the date template, unlike the name template, just gives you the spaces; you have to note what the date means.)

Templates are convenient, but not really necessary. If you want a field for which there is no template, simply type in the title of the field where you want it to appear. The next field in the sample is place of birth. Put the cursor where you want the title of this field to start, type Hometown: and then ^I (for Insert). You'll see a menu of field types next. Before you can make a choice here, you must know what will be entered in this field. If only letters are going to be used, choose "Alphabetic"; if there will be only numbers, select "Numeric." Once you've made a choice, that particular field will accept only what you have chosen. If you are not certain what to put down, pick "Alphanumeric," which allows both letters and numbers. In this case, choose "Alphabetic."

The next direction is "Enter field tag:." This tag is hometown. Type it in small letters and hit RETURN. On the same screen, the next prompt is "Enter field length:." I figured the maximum number of spaces needed was 20, so the reply here is 20 (in numbers) and RETURN. The field is then displayed exactly as typed. Notice that the number of dashes following "Hometown:." on your data record equals the number you put down for field length—in this case, 20.

In our example, the next field is "Rank." Put the cursor where you want it to appear. After typing Rank:, hit ^I (for Insert). Its field type is also "Alphabetic" and its tag is rank. Twelve spaces should be enough for field length.

The last field in our example is date of death. Again, move the cursor to where you want this field to be, type in DIED: as a descriptor, hit ^T, select the date template again, and make its field tag died.

If you wish, you may continue placing other fields of information in the data record, but for the purposes of this article, the record is complete. When designing your own record, remember to use the templates whenever possible, but if the information you desire is not covered in the template choices, simply type in a descriptor, followed by ^I.

When you have finished listing all the fields in the

record, push the ESCape key. You will be shown another menu. Select the last choice, "Save data base." Don't worry about the dire warning that data is being erased—you have no data yet. That message is there to remind you that Filer only allows one data file per disk. Filer then displays the specifications of your data base and writes all the necessary files to disk. Your data record is now completed and saved. Hit ESCape twice to get back to the A> prompt.

Filling in the form—data entry

To enter information in your data record, start with the A> prompt and type in Filer. Once again you will be asked which disk the data base is on, and the answer is still B. Now Filer asks you if the date displayed is correct. Unless you have corrected it today, it won't be. Use RETURN to move the X down to "Correct Date." Fill in the current date, using numbers only, and press the X for "Date is correct." You are now at the Main Menu.

If the information you desire is not a template choice, type in a descriptor followed by ^I.

Select the first choice, "Access Individual Members," and you'll be shown another menu. On that menu, again select the first choice, "Add a New Member." You will be presented with an empty copy of the data record you have just created. You can see there are no dotted lines in each data field, as there were when you were in the process of creating the data record.

To move from one data field to another, use the up and down arrows and the RETURN key. You will not be able to use the DELete key to correct typing errors. Instead, back the cursor up with the left arrow and type over your mistake. To wipe out unwanted information, erase by moving over it with the space bar.

Fill in the record with whatever data you want. When you have finished entering information on a member, type ^E (for Enter), and the record will be saved into your data base. You will then be shown another blank data record for your next member entry. When you're done filling in all the records, press ESCape twice to get back to the Main Menu.

If you want to change or add information to a completed data record, pick "Access Individual Members" from the Main Menu. On the next menu, select "Review/Update Existing Member," the second choice. You will then be directed to enter the first initial and first three letters of the last name (called a Member ID), then press RETURN. Don't bother with spaces or periods—only four characters will be accepted. The computer will quickly locate this member and put the record onscreen for editing. If there is more than one record

Choose a template:	☐ date ☐ time ☐ address ☐ phone ☐ name ☐ social security number ☐ money
TEMPLATE A	
CIVIL WAR GENERALS	
	☒ Access Individual Members Generate List/Report Generate Mail Define Subset Define List Format Define Printer Form
MAIN MENU	
Alphabetical	
	☒ Display List Format Define List Heading Format Block Define Page Format Define List Member Format Block Define Sort Keys Save List Format Definition
MENU A	
Field #1, List Member Format Block	☒ Specify Field Contents Specify Field Characteristics
MENU B	
Select Field Type for Field #1, List Member Format Block	☒ String Logical Field Template Date of Report Subset Name Page Number
MENU C	

with the same Member ID, and you're given the wrong one, hit ^O (for Other). You'll be shown the next record with the same Member ID. After editing, hit ^E to save the new data.

Sorting it all out

You've got records with data in them. Now comes the interesting part—sorting. To set up your sorting routine, begin at the Main Menu and select the fifth option, "Define List Format." Then choose the first option, "Add a List Format," from the next menu.

At the prompt, "Enter format description:," put down a term describing how you wish to sort your data base. For this example, type in Alphabetical.

Since the way it looks onscreen is the way it will print out, this is a good time to rough out with pen and paper just how you want this list to look. For our example it's name—30 spaces, date of birth—20 spaces, and hometown—20 spaces.

One thing you need to know about sorting in Filer is that you can't include more than two or three fields in a single sort. The limitation is the number of spaces each field takes up. For example, you couldn't sort by name (30 spaces), rank (12 spaces), hometown (20 spaces), and date of birth (20 spaces) all in the same sort. Although there are 80 spaces across the screen, you actually only have 79 to work with, because the last space is needed to insert a RETURN to begin a new line. If you don't enter a RETURN as the last character, when you perform the sort all items will be adjacent to each other instead of on separate lines.

After you hit RETURN, another menu appears (Menu A). Select the fourth choice, "Define List Member Format Block."

From the next menu, select the first option, "Add a List Format Field." You will now see a two-item menu (Menu B); choose the top item, "Specify Field Contents," and you will be presented with Menu C. Filer wants to know how we entered this field into the record. We are sorting this list alphabetically by names, so select "Template," because that is how the names were placed on the data record.

The tag of this template is "name." Type that in where requested, using lower-case letters. After hitting RETURN, you will be returned to Menu B.

This time choose the other option, "Specify Field Characteristics." On the next menu select the second choice, "Set Field Length—>OFF." In answer to "Enter field length," type in a number that is sufficient to accommodate your largest entry. In this field you must allow for your longest name. Thirty spaces should be enough, so type in the number 30 and hit a RETURN.

You are now offered three positions for your column of names. You may experiment later, but for now pick "Left Justified." This option evenly lines up all the names from the field's left margin. Now you're returned to the previous menu. Note that the switch after "Set Field Length" now says ON. Hit ESCAPE three times to return to Menu A.

We have completed the first field, and if you want to see how it looks, select the first choice in this menu, "Display List Format." Then choose "No-Print on Screen Only" in answer to the next question. It should look like this:

Alphabetical:

I. LIST HEADING
 II. PAGE FORMAT
 III. MEMBER FORMAT
 Field Number 1: <Template> name
 Field Length = 30; Position = Left Justified
 IV. SORT KEYS

Now go on to the next field. Once again, choose "Define List Member Format Block" from Menu A, then again choose "Add a List Format Field" and then "Specify Field Contents."

After names come dates of birth. This is also a template, so choose that selection from Menu C. Type in the tag, which in this field is dob. After hitting RETURN, choose "Specify Field Characteristics" from Menu B. Remember that even though you enter dates as numbers on a data record—for example, 9/29/85—Filer prints them out in whole words: "September 29, 1985." So whenever you sort out a date, allow at least 20 spaces for that field. At the next menu, pick "Set Field Length," enter 20, and pick "Left Justified" for the position. Press ESCAPE three times to get to Menu A.

Repeat the entire above procedure for the third field, "Hometown." This is not a template, so choose "Logical Field" at the "Specify Field Contents" menu; the tag is hometown. At "Select Field Characteristics," select "Set Field Length," which is 20, and the position is "Left Justified."

The last field, Field #4, is one of the most important. It affects the readability of your sort. Go through the same list: "Define List Member Format Block," "Add a List Format Field" and "Specify Field Contents"—make the same choices as you did for the third field. However, on Menu C select "String." On the next screen hit RETURN, then ESCAPE, and the list format is done.

ESCAPE back to Menu A and select the fifth listing, "Define Sort Keys." From the following lists, choose "Add a Sort Key" and then "Specify Sort Key." Now you have a choice between "Logical Field" or "Template." Since we are sorting this list by name, which is a template, choose "Template." When you're asked for the "Tag of template to sort by:" enter name and a RETURN.

Tap ESCAPE and you go back to "Add a Sort Key." Right now we only want to sort by names, so press ESCAPE again and return to Menu A, where you will select the last choice, "Save List Format Definition."

After saving the list definition, press ESCAPE twice and you will be at the Main Menu. If you are ready to see what your list looks like, choose the second option, "Generate List/Report." From the next menu you will have two choices: "Standard List" or "Alphabetical." (The option of "Standard List" is found in Filer version 1.2; if you have version 1.0, it's not available. For those who have 1.2, "Standard List" simply prints out the data in the same order it was entered.) Select "Alphabetical," then choose "All Members" from the next screen. From the Select List Targets menu, hit ESCAPE to print your list on the screen.

Getting particular—subsets

Let's assume that you decide to list only those members of your data base born in the month of January. From the Main Menu select the fourth listing, "Define Subset." On the next menu choose the top selection, "Add a Subset." Type in a brief description, such as "Month of January," and press RETURN. Choose the second selection from the following menu, "Define Primary Selection Criteria," and a blank data record

will be presented. Move to the "dob" field and enter 01 in the month field. ESCAPE to the previous menu and take the last choice, "Save Subset." Press ESCAPE twice to go to Menu A.

Now when you repeat the steps to "Generate List/Report" option, as outlined above, and select your new subset, "Month of January" (added automatically to the list), only members born in January will be listed.

Let's say you want to list just those members whose last names start with "T." Go to the Subset Menu. After giving a description and arriving at the blank data record, type T* in the last name field. The asterisk after a letter tells the computer to take any name starting with the letter you have chosen.

You may also have both choices on the same subset, if you desire. Under those circumstances, you could list only members whose last names start with a letter T and who were born in January. Just put 01 in the dob field and T* in the last name field on the same empty record. Of course, these are only examples, but the theory is applicable to any fields in your data record.

The painted picture—printing a sorted list

Now that the information is entered, organized, and looking good on the CRT, you'll want to have a printed version—hardcopy. There are provisions within Filer for direct printing, including "Defining List Headings" and designing "Page Formats." These are sometimes a little frustrating and take time to master. I have another procedure that I find easier.

After selecting "Generate List/Report" from the Main Menu and choosing the List Format and Subset, you're at Select List Targets. Check the third choice, "File->OFF," and you'll be asked to enter an output file name. Fill in a name, then hit a RETURN. When you are returned to the Select List Targets Menu, the third choice now says "File->ON." Hit ESCAPE.

The computer will sort the data base, and after it has sorted, without pausing it will print the list on your CRT. At the same time, however, it is saving this list on disk to the file you just named. You can verify that it's there with DIR and even look at it with TYPE.

You may now switch to Perfect Writer, call up this file, add column headings or otherwise edit, and print it out.

There you have it. It's not really difficult at all. Now that you've taken a hands-on tour, you can design a data base tailored to your own needs. Filer is certainly not perfect, but it is a powerful program that can meet many users' data base requirements. 1

James Spencer is a retired New York State Police sergeant. His data base of the 961 Civil War generals has been turned into a history reference book entitled, Civil War Generals—Categorical Listings and Biographical Directory.

"362496 bytes total disk space
362496 bytes available on disk"

655360 bytes total memory
352256 bytes free"

By using this batch file, you cause the computer to perform two functions with a single command. For that reason the file MAKEDISK.BAT can be viewed as an *enhanced* MS-DOS command—enhanced because the file's component parts are MS-DOS commands, and the effect of the file is the execution of those commands to accomplish a specific task. This is the beauty of batch files: you save time and effort by typing one command instead of two or three—or 20.

Batch files and I/O redirection

Batch files that are used as enhanced commands get a great deal of power from MS-DOS's input/output redirection facility. What, you ask, is input/output (I/O) redirection?

MS-DOS expects to receive input from the keyboard and to send output to the video display, but you can change that. Using I/O redirection commands, you can send output (what you would normally see on the screen) to a text file. You can also direct DOS to accept input from a file.

If, for example, you wish to store your directory listing in a text file, type `DIR > FILES.TXT`. This generates a text file containing a list of the files on your disk. The output—the characters that would normally go to the screen—is redirected to a file. The output redirection command is the greater-than symbol (>).

Input redirection can be even more powerful. MAKEDISK.BAT, for example, formats a disk and checks the disk for errors, but it doesn't really save much time. The FORMAT command stops in its execution twice—once to have you insert a disk and press a key to begin the formatting process, and again to ask you if you wish to format another disk. Using input redirection, you can automate the process entirely and get the computer to answer its own questions.

First you must create an input file. The computer will look to this file, rather than the keyboard, for input. Use WordStar's non-document mode to create a file with two characters in it: a carriage return and the letter N. Create a file named `REPLY.TXT`, press ENTER (the carriage return) once, press N, press ENTER again, then save the file. Next, modify MAKEDISK.BAT to look like this.

```
FORMAT A: < REPLY.TXT
CHKDSK A:
```

After you have created `REPLY.TXT` and modified MAKEDISK.BAT, return to the system prompt and run MAKEDISK by typing MAKEDISK. Then press ENTER. The file begins by running the FORMAT com-

mand, which then waits for a reply to the the prompt "strike any key when ready —." The less-than symbol tells the computer to get the input for this prompt from the file `REPLY.TXT`. MS-DOS opens the input file, and the first character in the file—the carriage return—is used exactly as if you had pressed ENTER at the keyboard. Once the disk is formatted, `FORMAT.COM` wants a reply to the question "Format another? (y/n)." Now the second character in `REPLY.TXT`, the letter N, is used exactly as if it had been typed from the keyboard.

MAKEDISK is now becoming a powerful utility. After you typed the initial command, you did not touch your computer once—the batch file did all the work for you. And with the use of additional batch file commands, MAKEDISK can do even more.

Batch file commands

There are several special commands that can be used only in batch files. Some have special programming-like features. The three I'll cover are ECHO, REM and PAUSE.

ECHO

As MS-DOS executes a batch file, the commands in the file are echoed to the screen; you see them appear just as if you had typed them. The ECHO command toggles this feature on and off. ECHO ON tells MS-DOS to display the batch file commands onscreen, while ECHO OFF hides the commands.

ECHO can also be used to send messages to the screen. These messages will appear onscreen as the batch file executes. If ECHO is set ON, the batch file commands together with the messages will be displayed. If ECHO is set OFF, only the messages will appear. You can use this ability to display messages onscreen to tell the computer user what's happening—what the batch file is doing. Here is an example of MAKEDISK.BAT, modified to demonstrate the ECHO command.

```
ECHO OFF
CLS
ECHO This file formats the disk in the A drive
ECHO and checks it for errors.
FORMAT A: < REPLY.TXT
CHKDSK A:
```

Note the use of the CLS command. It clears the screen so that the messages displayed with ECHO can be read clearly. You can also use ECHO to place a blank line on the screen. Just type ECHO and three or four blank spaces, and then press the ENTER key.

REM

The REM command is similar to the ECHO command, but less powerful. REM allows you to place remarks in a batch file. These remarks should be notes that you

(continued on page 56)

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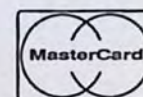
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(continued from page 50)

leave for yourself to remind you of what the batch file does and how it does it. Unlike ECHO, any text following a REM command is *not* displayed onscreen during the file's execution. The syntax for REM is exactly like that for ECHO:

```
ECHO OFF
REM MAKEDISK.BAT requires the input file
REM REPLY.TXT, which should contain one
REM carriage return and the letter N.
CLS
ECHO This file formats the diskette in the A drive
ECHO and checks it for errors.
FORMAT A: < REPLY.TXT
CHKDSK A:
```

In this example, the text that follows the REM commands is not used by the batch file in any way. It is there so that anyone looking at the MAKEDISK.BAT file knows that an input file is needed to use this batch file.

The REM command, or something like it, exists in most programming languages. GW-BASIC uses REM, while Pascal uses enclosed brackets and dBASE III uses an asterisk. Placing comments in your own batch file may seem useless because the file is your own creation. But one of the most surprising things about

programming (and creating batch files is programming) is how quickly a program can become complex. One day you may be flipping through old disks and come across a large batch file you wrote three months ago, and you'll realize that you have no idea what it does. In this case, notes placed after REM commands become invaluable—they can lead you through the pathways of logic a complex batch file follows.

PAUSE

The PAUSE command stops a batch file's execution and displays the message "Strike a key when ready . . ." When you do strike a key, the batch file continues running. This comes in handy when you want the computer user to do something (insert a disk in the drive, turn on a printer, etc.) before the batch file executes.

If someone used the file MAKEDISK.BAT and there was no disk in the A drive, MS-DOS would display an error message and the batch file would be aborted. The FORMAT command has a pause built into it that allows the computer user to insert a disk in the drive. However, the phrase "Insert new disk for drive A" is rather cryptic. It would be nice if the instruction were more complete. Using the PAUSE and ECHO commands, you can cause MAKEDISK.BAT to stop and display your

instructions.

```
ECHO OFF
REM MAKEDISK.BAT requires the input file
REM REPLY.TXT, which should contain one
REM carriage return and the letter N.
CLS
ECHO This file formats the disk in the A drive
ECHO and checks it for errors.
ECHO
ECHO Please place a blank disk in the A drive.
PAUSE
FORMAT A: < REPLY.TXT
CHKDSK A:
```

Now MAKEDISK is very powerful; it displays a message stating *what it is about to do*. It clearly requests the computer user to *insert a blank, unformatted disk*, then *formats the disk* and checks it for errors—all in all, a nice little utility batch file.

When should you use batch files?

Use batch files whenever ever you can. Try to remember the main purpose of batch files: to free you from drudgery involving the MS-DOS operating system. If you find yourself typing the same series of commands twice in a work session, ask yourself, "Can I make this easier with a batch file?" The chances are that you can.

The ghosts in your machine are there to help you. Just take a little time to learn how to speak to them. Soon your computer will run programs by itself, answer its own questions, and generally behave like a thing possessed.

Marshall L. Moseley is a technical writer in the Publications Department at Kaypro Corporation.



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MULTI-TASKING

(continued from page 45)

been suspended or are running in the background. Like TopView, Windows uses a PIF file to learn the location and memory requirements of each program it will be running.

Windows uses two different approaches to run applications. Programs that use the standard MS-DOS rules and those written specifically for Windows can

*Microsoft's Windows
is being touted as
the operating
system of the future.*

run in a program window. These windows can be sized and moved around the text area. You can also split the text area so that two or more windows appear at the same time. A windowed program can run in the background while another application runs in a foreground window. Programs that don't follow MS-DOS rules can't run in a window and must be run full-screen. These full-screen programs can't run in background mode, and they prevent other windowed programs from running in the background.

Although it has a few rough edges, Windows shows a

great deal of promise. Its graphics environment gives Windows flexibility and makes it easy to use. Its one failing is that windowed programs and full-screen applications can't run concurrently. Microsoft's answer has been to request that outside programmers rewrite their software to follow Windows' rules. However, since both TopView and Desqview allow concurrent processing with almost any software, Windows should be able to do the same. Despite this setback, Microsoft deserves a round of applause for creating a multi-tasking program that doubles as a DOS supplement.

MultiLink Advanced

The most complex program I tested is MultiLink Advanced from The Software Link. This is much more than a multi-tasking program. It also offers the ability to link eight CRT terminals to a central PC through the system's serial ports. In this way, up to nine people can use the PC at once.

MultiLink's approach to multi-tasking is different from those of the other three programs mentioned. Rather than using a menu system or a graphics interface, MultiLink is command driven. Also, its memory partitioning is different—under MultiLink, each partition works like a separate computer. It's effectively a "many copies of DOS" approach, which is why several users can use the system at the same time.

When you first enter a partition, you'll see the familiar MS-DOS prompt. To run a program, just type in its name or include it in a special AUTOEXEC.BAT file (the "x" indicates the partition number). Switching between partitions is as easy as using the ALT key together with a function key.

MultiLink can make use of up to 4.3 megabytes of RAM (with a Tall Tree JRAM board, which uses an enhanced memory specification that is not compatible with the Lotus/Intel/Microsoft standard). Without an expanded memory board, the program requires a minimum of 128K and can use up to 640K.

Using MultiLink Advanced is not very difficult, although it requires more user involvement than the other programs reviewed. Installation includes preparing the MultiLink disk by copying MS-DOS onto it and adding a CONFIG.SYS file. Unfortunately, the MultiLink disk is copy-protected, so you can't install it on a hard disk. The package doesn't include a backup disk, although you can obtain one free directly from The Software Link.

To start MultiLink, you first run the MLSLICE program that turns on MultiLink's time-slicing feature. This makes sure all partitions receive equal amounts of the processor's time. Then you run the MLINK program to set up and allocate memory to your background partitions. MLINK will automatically create the foreground partition with any memory left over.

MultiLink Advanced includes several utility programs. Two, MLVIDRAM and MLVIDFIX, are designed to help overcome ill-behaved programs that try to take control of your system's video output. For any problem programs that won't run with MLVIDRAM and MLVIDFIX, MultiLink provides a program called MLS (Sentry) that allows many more programs to run properly. Another utility, called MLUTIL, provides several house-keeping functions, including a feature to lock and unlock files in a multi-user environment. Finally, MultiLink includes a printing program with a spooler to let you print a document while working on something else.

MultiLink Advanced is definitely not for the novice. It is a powerful program that takes more effort to set up and run than does TopView, Desqview, or Windows. However, MultiLink also gives you more control over your system. The only real drawbacks are its copy-protection scheme, which prevents it from running on a hard disk, and its price. MultiLink Advanced is significantly more expensive than the other three packages.

There are many more multi-tasking programs available than I could test. However, these four typify the different ways you can get your Kaypro to do several things at once.

Andrew Finnie is a free-lance author of computer articles and a support technician at XyQuest, Inc., in Bedford, MA. He is also co-SYOP of the Black Bears Den RBBS. He can be contacted via the RBBS at (603) 645-4917 between 7 p.m. and 7 a.m. ET.

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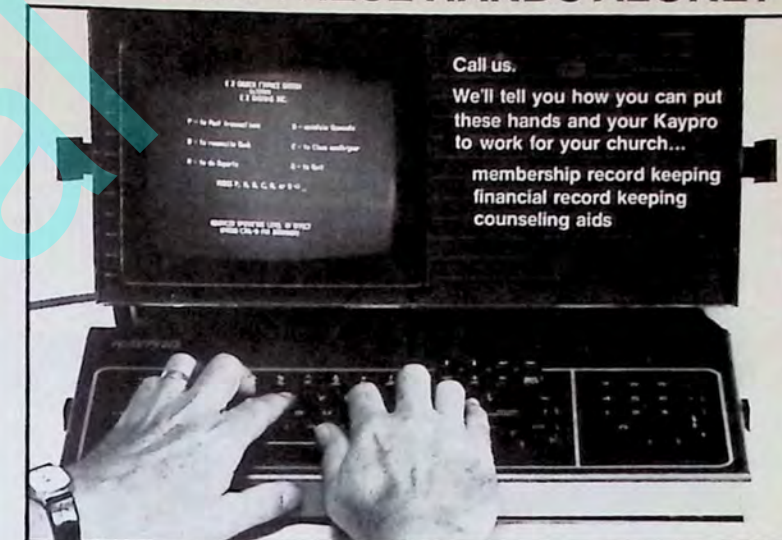
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Beginner's Luck

by Don and Sharyn Conkey

Introduction to spreadsheets

It's been called the software that took the microcomputer out of the hobbyist's garage and put it on the executive's desk. It's the largest single use of the PC, according to one survey, and some contend that it's needed by practically everyone who buys a computer.

This wonder of the computer world is the electronic spreadsheet, the high-tech equivalent of a paper, pencil, and calculator. What's the big deal? Do you need one? What does it take to learn and use electronic spreadsheets, and is it worth the effort?

What is a spreadsheet?

A spreadsheet is a piece of paper containing information, usually numbers, arranged in rows and columns. If you've ever balanced your checkbook or done your taxes, you've used a spreadsheet. If you've ever studied a simple income statement or analyzed a stock portfolio, you've used a spreadsheet.

Manual spreadsheets have been around as long as accountants, and financial people were some of the first to recognize the benefits of electronic spreadsheets. Before the popularization of microcomputers, however, people relied on mainframes and minicomputers, and that usually meant programming. It wasn't until 1978 that spreadsheets moved out of the realm of the specialists and onto the desks of marketing analysts, manufacturing managers, and secretaries. Today, many studies indicate that spreadsheets are the largest single use of PCs in business, and many home users find them helpful too.

What are the benefits?

Why are electronic spreadsheets so popular? Computers do repetitive tasks faster and more accurately than humans, so results are more timely. Electronic spreadsheets are flexible. You can design a report—then improve it by adding, deleting, or moving information around. Electronic spreadsheets are power-

ful. Because they can do more, faster, they free you to do more. You have time to ask, "What if?" What if a number changes? What if an assumption is wrong? What if I modify a formula? The computer quickly makes the changes, recalculates, and displays or prints a report.

Terminology and input

Figure 1, on this page, illustrates the basic concepts of spreadsheets.

FIGURE 1: Household Cash Budget (Values)

	A	B	C	D	...	N
1.	JAN	FEB	MAR	...	TOTAL	
2. Salary, John	\$ 1,300	\$ 1,300	\$ 1,300		\$15,600	
3. Salary, Mary	1,400	1,400	1,400		16,800	
4. Dividends	0	100	0		400	
5. Total Income	\$ 2,700	\$ 2,800	\$ 2,700		\$32,800	
6.						
7. Savings	\$ 135	\$ 140	\$ 135		\$ 1,640	
8. House Payment	1,000	1,000	1,000		12,000	
9. Car Ins./Main.	500	0	50		1,200	
10. Food	400	400	400		4,800	
11. Transportation	100	100	100		1,200	
12. Medical	500	100	100		1,400	
.	.	.	.	.	.	
.	.	.	.	.	.	
20. Total Expenses	\$ 3,270	\$ 2,380	\$2,570	...	\$31,240	
21.						
22. Cash left over	(\$ 570)	\$ 420	\$ 130	...	\$ 1,560	

When you picture a spreadsheet, think in terms of rows and columns. The size of a spreadsheet matrix varies according to the particular program, but expect more than 50 columns and 250 rows. Columns are usually designated by letters, rows by numbers. The intersection of a row and column is

called a *cell*. In Figure 1, cell B2 holds the number 1300; cell A8 holds the words "House Payment."

Cells can contain values (i.e., numbers), text, or formulas. The monthly salary figures in rows 2 and 3 are all values. The row labels and monthly headings are text. We input only the necessary numbers; the computer calculated the savings (row 7), total income and expenses (rows 5 and 20, respectively), and the cash left over (row

22). We specified the calculations we wanted by creating a *financial model*, which is just a fancy way of saying, "We stored formulas in the cells."

Figure 2, on this page, illustrates the formulas. The total cash income is the sum of the salaries and dividends we put in rows 2 through

FIGURE 2: Household Cash Budget (Template)

	A	B	C	D	...	N
		JAN	FEB	MAR	...	TOTAL
1.						
2. Salary, John						
3. Salary, Mary						
4. Dividends						
5. Total Income		SUM(B2:B4)	SUM(C2:C4)	SUM(D2:D4)	...	SUM(N2:N4)
6.						
7. Savings		B5*.05	C5*.05	D5*.05	...	N5*.05
8. House Payment						
9. Car Ins./Main.						
10. Food						
11. Transportation						
12. Medical						
...						
20. Total Expenses		SUM(B7:B19)	SUM(C7:C19)	SUM(D7:D19)	...	SUM(N7:N19)
21.						
22. Cash left over		B5-B20	C5-C20	D5-D20	...	N5-N20

4. Similarly, total expenses are the sum of the values in rows 7 through 19. Savings are 5 percent of total cash income. Cash left over is total income minus total expenses.

Once you develop and test a spreadsheet, it's good practice to store the headings and formulas without any data. This is called a *template*; it can now be used for another year's data or by a person with a different set of figures.

We've got a working spreadsheet model. Now we can ask "What if?" What if John received a 5 percent salary increase in March? How would that change the total income, savings, expenses, and cash left over rows? What if his raise were 7 percent? What if John and Mary bought a new car? How would that affect their budget? What if they gave up the vacation they had budgeted late in the year? What would that do to cash left over? If you had to answer all these questions by recalculating manually, you might not have enough time. Spreadsheet software recalculates automatically in seconds.

Any information represented by rows and columns of numbers is a good candidate for a spreadsheet model. Most likely, someone uses spreadsheets at your company for financial reporting. A model for an income statement or balance sheet, for example, typically includes current and previous year's figures and calculates comparisons. Analysts often save formulas to project figures for future years. It's a simple matter to change assumptions by asking, "What if?"

Electronic spreadsheets are analytical, as well as reporting, tools. You can track an investment portfolio, for example, by building a template that includes cells for dividends, purchase and sales prices, and other raw data, then use simple formulas to calculate the return on each investment and on the total portfolio.

You can use spreadsheets to analyze inventory, track inventory lev-

els, compare them to sales, and project your requirements; the projections could even feed a model that analyzes cash requirements. Real estate professionals use spreadsheets to compare loan options and closing costs. Many contractors use spreadsheet software to prepare bids. You can use spreadsheets to track project costs, plan for manpower requirements,

and track accounts receivables. Almost any problem, be it reporting, auditing, planning, or analysis, that can be solved with a pad, pencil, and calculator can be solved with an electronic spreadsheet.

What are the capabilities?

You can create formulas using all the arithmetic operations a computer can do, including adding,

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subtracting, multiplying, and dividing. We've seen this in rows 7 and 22 of our budget model. However, spreadsheet programs make some procedures automatic via operations called *functions*. The summation formulas in rows 5 and 20 are spreadsheet functions. Although spreadsheet programs vary in capabilities, most packages include standard mathematical functions; (rounding, square roots, logarithms, etc.), statistical functions (e.g., finding the maximum, minimum, or average of a set of numbers); and trigonometric functions (sine, cosine, tangent, etc.).

Logical functions let you compare relationships, then take some action based on the results of the comparison. For example, suppose we wanted to increase the savings in our budget model by \$50 whenever we received dividends. We could have the model effectively say, "If dividends this month are greater than 0, then add \$50 to the savings cell."

Some programs offer date arithmetic, where you can not only pull the current date into your spreadsheet by saying "Today," but you can calculate the passage of time. Suppose you have an accounts receivable report that includes, for each customer, an amount and billing date. With date arithmetic, the software calculates the age of each of the debts.

Analysts and money managers find the financial functions particularly useful. The net present value function, for example, calculates the value in today's dollars of a stream of future cash returns. Some software also does future value; some will calculate the internal rate of return based on an initial investment and range of cash flows. Some software has a payment function, and you don't have to be a financial wizard to appreciate it. You specify the principal, interest rate, and term; the software calculates your payment. This is very handy for comparing

financing alternatives.

Other capabilities can include: *Linking*. Data from one spreadsheet feeds another. Example: Use the dividend values from our budget model in a separate portfolio analysis model.

Consolidation. Combine similarly-formatted spreadsheets into one report. Example: A company develops budgets for each department separately, then adds them to form a total company budget.

What comes out with the help of a spreadsheet is only going to be as good as what goes in.

Macros. An abbreviation for a series of commands and/or data. You define a macro once, then specify its use with a keystroke or a simple command. Using macros is similar to using a key redefinition program. For repetitive, complex, or lengthy operations, you will save time and minimize errors. Example: Define a macro to run and print a consolidated report.

Tips and tricks

Is it hard to learn spreadsheet software? It will take a few hours to get comfortable with your particular program, but you already know the two main concepts. First, think in terms of rows and columns and cells. Picture your data in that format. Second, grasp the idea that a cell can contain a formula that determines the value of that cell. No matter how simple or complex your formulas, no matter how short or long the resulting report, no matter how straightforward or complex the analysis, once that symbolism becomes second nature to you, spreadsheets become simple.

The hardest part of using spreadsheets is complacency. Because spreadsheet software does so much of the "grunt" work for

you, it's tempting to take its accuracy for granted. As with any other computer application, what comes out is only as good as what goes in. Some tips for efficient, error-free operation:

- Create a totally separate area for assumptions, starting figures, etc. This will make it easy for you—or someone else—to recall the basis of the model.
- Minimize blank spaces between cells to save memory.

- Check some calculations manually to avoid formula errors.
- Cross-check important figures by doing the calculations two ways. In our budget model, for example, cross-check the total income calculated in cell N5 by summing row 5 [SUM(B5:M5)] into an unused cell. Have the software compare the two values and print a message if they are not equal.

- Check your assumptions and calculations for reasonableness. Ask yourself, "Does this make sense?"
- Use templates so that you don't have to recreate models.

If you frequently work with numbers, spreadsheets are probably your high-tech cup of tea. By doing the tedious arithmetic for you, they make you more efficient and productive. They free up time so that you can concentrate on the analysis of the problem, versus the mechanics of the solution. With a little practice, you'll wonder how you ever lived without them.

Don and Sharyn Conkey write training packages for microcomputer users. They have also published articles in PC World and Computer Merchandising, plus other national publications.

Technical Forum

by Tom Enright

Kaypro PC—better than compatible

What is IBM compatibility? It is the ability of a computer to pretend to be an IBM PC—for better or worse the industry standard. An IBM-compatible computer will run the same software that runs on an IBM PC, and the same expansion cards will work with it.

IBM-compatible software is designed to run under IBM's proprietary PC-DOS operating system. IBM-compatible expansion cards add some features not found on IBM's main board. IBM-compatible computers—clones—duplicate the system resources of the IBM PC, run IBM software, and accept IBM expansion cards.

This discussion will be a quick overview of the system resources needed to provide IBM PC-compatibility, including hardware, firmware (the ROM), and the ability to accept IBM expansion cards. I'll cover each area separately and show you how Kaypro outdoes IBM in expandability and available memory.

Hardware compatibility

Producing an IBM PC-compatible computer locks the manufacturer into a narrow hardware path. The computer must use an 8088 (or NEC V-20) CPU, the system clock must run at 4.77 MHz, and the video controller chip must work precisely like a Motorola 6845. Those are just a few of the restrictions—the list goes on for quite a while.

The point is that there's not much room for flexibility in producing an IBM-compatible. That would be fine if the IBM design were fast and efficient—but it's neither. The choice of CPU is a prime example of how hardware limits system performance. IBM announced to the world that it was bringing out a 16-bit personal computer based on the Intel 8088. Everyone else considered the 8088 an eight-bit CPU. All data lines serving the 8088 are eight bits wide, just as they are

with a Z-80. Only inside the chip does the basic word size go to 16 bits.

The 4.77 MHz system clock is another major constraint in IBM's design. (The system clock determines how fast operations are performed and has nothing to do with the time of day.) Speeding up the PC with a faster clock speed doesn't work out very well. Higher speed (more expensive) components would have to be used throughout the machine. IBM's expansion bus is hypersensitive to timing variations, and a faster clock speed plays havoc with it. Also, because the IBM was designed for a 4.77 MHz clock, expansion boards are designed for the same speed, and many (especially disk controllers) don't work well at higher speeds.

Firmware compatibility

The next step toward IBM PC compatibility is to duplicate the functions of IBM's ROM. Actually, the IBM uses three ROMs: a monitor ROM, a BASIC ROM, and one ROM to hold the character set that you see on the screen. The character ROM presents no manufacturing or

one in IBM's ROM. Kaypro licenses the code for an IBM-equivalent ROM from Phoenix Software Associates, which provides its ROM code to a number of manufacturers. Kaypro modifies the basic ROM code to work more efficiently in Kaypro machines and fixes compatibility problems as they are discovered.

The system resources provided by the operating system (PC-DOS or MS-DOS) and the ROM are what make the IBM PC and its clones so commercially successful. (Since IBM owns the copyright to PC-DOS, all IBM clones run MS-DOS. MS-DOS was written by Microsoft, the same people who created PC-DOS for IBM.)

You've probably heard that the 8088 can address one megabyte of memory, while DOS can only use 640K. That 640K is for programs; the other 384K (one megabyte minus 640K) is memory reserved for use by the operating system. The reservation of 384K for system resources allows for a very flexible operating system.

The 384K systems area is divided into specific areas. The I/O

For compatibility the Kaypro PC's ROM has to duplicate the functions of the IBM PC's ROM.

copyright problems. The BASIC ROM isn't used on compatibles (GW-BASIC is substituted for IBM's BASICA). The monitor ROM, which holds the machine-specific part of the operating system (BIOS), is the one that we are concerned about.

Since the code in IBM's monitor ROM is copyrighted, clone makers cannot duplicate the exact instructions found in it. They have to come up with a way to perform the same functions with a different sequence of instructions that is the same length as—or shorter than—the

code for each operation supported by DOS has to begin at a specific address. For example, the 192K block of memory from A0000h to BFFFFh is reserved for video (screen) output. Which parts of that reserved area are used and how they are used depends on the video card you have. Other memory sections are reserved for other I/O modules or status information, such as what type of video card you have, how many serial and parallel ports are available, and how many disk drives are installed. The basic

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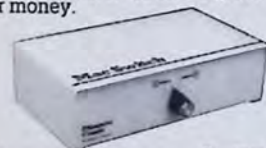
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Technical Forum

design also leaves several open sections for future expansion or user-supplied I/O routines.

IBM's hardware design puts severe performance limitations on the PC. However, the flexibility of the systems resources (pipes, I/O redirection, resident software) almost makes up for the crippling hardware limitations. Once third-party software started taking full advantage of available resources, the IBM PC design dominated the personal computer market. They were able to do this because DOS allows much more flexibility than other microcomputer operating systems.

(LPT1:). Just about all expansion cards will also have one or more of these ports. Which port assignments the expansion card uses is set up when you install the card in your computer.

Port assignments are normally set with dip switches or by putting a shorting block over two pins on the card. By putting shorting blocks over the correct pins, or closing the right switches on the card, you can assign the port to one of the available addresses. The only thing you must remember is that two ports cannot use the same I/O assignment. If the I/O port assignments on different cards conflict,

*Kaypro's PC has nine
slots for expansion
compared to IBM's five.*

Expansion compatibility

The last factor in compatibility is the ability to accept expansion cards made to fit the IBM PC. IBM specifications are precise about what each of the 62 signal lines (the I/O channel) will be used for and what kind of connector will be used. (The original IBM PC had five expansion slots, three of which were needed to create a functioning system. The Kaypro PC has nine slots; three of them are used in a standard system.) Any expansion cards you buy will plug into a connector attached to this I/O channel.

It's when you plug a card into the I/O channel that you can encounter problems. Since the system allows so much flexibility, each expansion card has to be set up for your specific system. IBM's design allows for two serial ports and three parallel ports. Serial ports are addressed as COM1: and COM2:, while the parallel ports are LPT1:, LPT2:, and LPT3:. The standard Kaypro PC or 16 comes with one serial port (COM1:) and one parallel port

neither card will work.

Most popular expansion cards also have a certain amount of RAM on them. This stems from the fact that IBM's main board only has 256K of RAM using 64K chips. So most expansion cards have 384K to bring the system up to 640K. Kaypro's design comes with room for 748K of RAM by simply plugging in RAM chips (150 nanosecond 256K DRAMs). So, the RAM provided with most expansion cards is unnecessary in a Kaypro DOS machine. However, you can always use the extra RAM as a RAM disk. Most cards that have RAM also come with RAM disk software.

One problem users should be aware of is the potential for conflict between third-party expansion cards. During the discussion of firmware, I mentioned that IBM reserved parts of the system area for future expansion or for I/O routines supplied by the user. Occasionally, two expansion cards with different purposes try to use the same I/O space. Both cards are still

compatible with a standard IBM system, but they are not compatible with one another. Detecting this conflict before installation is well-nigh impossible, so insist on being able to return a card if it will not work in your system.

Caveat emptor

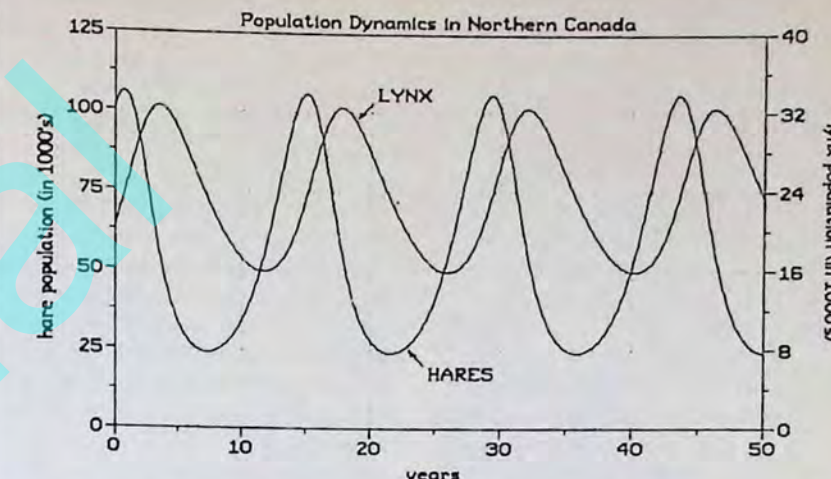
Whether you like it or not, you have to exercise caution when buying expansion products for your computer. There's no shortage of shoddy merchandise masquerading as the answer to your expansion problems. Within the last year, cheaply made and priced expansion boards from Taiwan have flooded the market. Some of these boards are of good quality, but many are not. If the deal sounds too good to be true, beware! Always insist on seeing the item demonstrated before buying it. Avoid mail order unless you are confident about product quality. And insist on return privileges if the product will not work in your system.



"Mom, dad—I think I just blew the I.R.S. off the map."

GRAPHICS

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CP/M-80: Requires 64k (54k TPA) \$49⁹⁵

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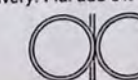
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The key to the Mini-Winnie system is the INSTALL program, which links your drive and your computer, the way YOU want it. Extensive menu options allow selection of any ST-506 compatible drive, as 1 to 4 logical drives within CP/M at any drive letter. Diagnostic and format capability provided to match the installation. Distributed in SOURCE form.

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First Impressions

by Tom Enright

A DOS utility and CP/M emulators

This month we'll take a look at a DOS disk utility and two CP/M emulators that use the NEC V-20 CPU. The first item is Disk Optimizer from SoftLogic Solutions. Disk Optimizer speeds up your DOS hard disk by rearranging your files for more efficient I/O. The second item is RUN/CPM from Micro Interfaces Corporation. RUN/CPM uses a NEC V-20 CPU along with its special software to let you run most CP/M programs on your DOS computer. Finally, we'll look at Accelerate 8/16 from Intersecting Concepts. While Accelerate 8/16 does basically the same thing as RUN/CPM, it presents an entirely different personality.

Disk Optimizer

SoftLogic Solutions (530 Chestnut St., Manchester, NH 03101; 800/272-9900) sells the standard, copy-protected version of Disk Optimizer (DOS only) for \$49.95, plus \$5 for postage and handling. You can get a non-protected version by filling out a license agreement included with the standard version and sending an additional \$25.

When DOS writes a file to disk, it writes to the first available clusters, regardless of where they are located. (A cluster is DOS's smallest increment of disk storage.) When a file is written to disk, it may have one cluster on track nine, three on track 50, and the rest on track 200.

As files are edited, erased, and added to the disk, more clusters are released for use or assigned to files. Over a period of time, parts of files end up scattered all over the disk. DOS keeps track of which clusters belong to what file, so you normally don't have to worry about all of this.

What you may notice, however, is that it seems to take longer to read data files or load a program. That's because the read/write head has to "seek" all over the disk to find different parts of your file. If the read/write head only moved to the next track, instead of halfway across the

disk, the delay would be imperceptible. That's precisely what Disk Optimizer does for you.

Disk Optimizer works by rearranging all files so that the clusters of each file, and files of each directory, are contiguous. All you do is run the program occasionally to clean up the disk (hard or floppy) and restore performance. This program is a menu-driven utility and is as bullet-proof as any piece of software I've ever seen.

You can interrupt Disk Optimizer at any time without causing any damage. For a program that moves files around on your disk, that is an impressive claim. (Yes, I tested the claim, and it's true.) I also ran the program on a disk that

versions of your favorite programs. They may well be more powerful than their CP/M counterparts.)

On that basis we'll take a look at two CP/M emulators. Both of these products replace your 8088 CPU with a NEC V-20 CPU. The NEC CPU has the ability to execute 8080 instructions (CP/M was originally designed for the 8080), but programs written in Z-80 code will not run. Also, programs that use direct BIOS calls or manipulate the hardware in some special way will not run properly. Examples are modem programs, disk formatting programs, and most system utilities.

RUN/CPM

RUN/CPM (\$99.95, from Micro

CP/M emulators let you run some CP/M programs under MS-DOS.

held several other copy-protected programs. They all ran correctly afterward.

Disk Optimizer comes with a series of other utility programs. Chief among them is a program called ANALYZE, which tells you how fragmented (scattered) your disk files are. Other utilities encrypt or decrypt files and let you dump files to the screen in ASCII, hex, or octal formats. SoftLogic even operates a BBS as a support tool for its customers.

The only negative feature of Disk Optimizer is its copy protection. It makes backing up your files a real pain. Otherwise, Disk Optimizer is a superior and very useful product.

CP/M emulators

CP/M emulation is attractive if you're just making the shift from CP/M to DOS because it lets you keep using some of the software you already have. That way, new software can be purchased a little at a time instead of all at once.

(You would still want to buy DOS

Interfaces Corporation, 6824 N.W. 169th St., Miami, FL 33015; 305/823-8088) lets CP/M software run under DOS on IBM PC compatibles. CP/M programs run almost as fast (except for screen I/O) under RUN/CPM as they would on a Kaypro 2X or 10. RUN/CPM also allows you to read CP/M disks from inside the system.

Installing RUN/CPM is a little more complex than just replacing your 8088 chip with the NEC V-20. You must modify your AUTO-EXEC.BAT and CONFIG.SYS files, write down some information when you reboot the system, and then run the INSTALL program. During the installation process you'll be asked to enter the information you wrote down earlier. It isn't hard, but you must follow the instructions precisely.

You enter CP/M mode by typing RUNCPM and pressing RETURN. You're then presented with a menu, allowing you to assign logical CP/M drives, reconfigure the system, or enter CP/M emulation. When you

are in emulation mode the system prompt is in reverse video and always appears on line 24 of your screen. You can return to the menu at any time by simply pressing RETURN on a blank command line.



If you type the name of a CP/M program whose filetype has been changed from COM to CPM, the program will attempt to execute. If no CP/M program by that name exists, the interface assumes you want to run a DOS program. (All your DOS programs and search paths function during CP/M emulation.)

RUN/CPM doesn't give you a true CP/M system. First of all, as I've mentioned, only 8080 programs will execute under this system. Second, all functions such as file copying, telecommunications, and systems utility chores are performed by DOS programs, not by their CP/M counterparts. What you do get is a DOS system that can run some CP/M software.

The RUN/CPM manual devotes nearly all its space to explaining installation procedures and menu selections. Very little mention is made of RUN/CPM's limitations, and no programming information is given. The documentation still needs work to appeal to a wider audience—experienced as well as new users.

Accelerate 8/16

Accelerate 8/16 (\$99.95, Intersecting Concepts, 4573 Heatherglenn Court, Moorpark, CA 93021;

805/529-5073) also replaces your 8088 with a NEC V-20.

Installation of Accelerate 8/16 couldn't be simpler—there isn't any. The distribution disk comes with four versions of the program. The four versions have terminal emulation built into them. You get one with no emulation, and one version each for Kaypro, Osborne, and Zenith H-19. That's it—you just run the one that matches the software you are using.

Accelerate 8/16 completely isolates you from DOS and gives you a modified ZCPR system. CP/M programs must have their filetypes changed from COM to CPM. Z-80 and most CP/M utility programs will not run under this interface. (It will take some experimenting to see just what will and will not run. My favorite CP/M directory program would not run.) To copy files you must exit Accelerate 8/16, perform the copy operation, and then re-enter Accelerate 8/16.

This system works best if you enter the CP/M program name as an option to the ACCEL command. You can think of it as an interpreter for CP/M programs, much like the GW-BASIC interpreter. If, for example, you wanted to run the CP/M LADDER game, you would type ACCELKAY LADDER and press RETURN. When the game finished you would be returned directly to DOS, not Accelerate 8/16.

Instead of letting you read CP/M disks from inside Accelerate 8/16, Media Master, a format conversion program, is included in the purchase price.

Accelerate 8/16 documentation is complete and professionally done. It is clear about what will and will not run under the system. Information on programming, limitations, and extensions to CP/M are spelled out concisely. In addition, a "customization kit" is available so experienced programmers can create other terminal emulations and implement some Z-80 I/O instructions.

Product Updates

A new Management Option has been released for the **Property Management Plus** system, designed for professionals who manage real estate for others. Realty Software Company, Redondo Beach, CA **General Ledger** has been updated. The new version lets you produce special reports, provides better analysis by profit center, and operates faster and more simply. Red Wing Business Systems, Inc., Red Wing, MN **Palantir Word Processor** now includes its Palantir Speller and MailOut in version 3.0. New features include column manipulation and built-in DOS commands. Palantir Software, Houston, TX ... **EasyNet** service, a gateway to commercial data bases, has made its popular EasyNet II files field searchable. Division of Telebase Systems, Inc., Narberth, PA **ProMail** is now available in version 4.0 for CP/M and MS-DOS. This version includes a duplicate removal function and allows for unlimited data files. Hurd Computer Systems, Cypress, CA **ProWriter C-310**, now called the C-310 XP, has been upgraded to allow you to choose between Epson FX-85 and IBM ProPrinter emulation via a button on the front control panel. C. Itoh Digital Products, Inc., Torrance, CA **PC/PILOT**, a language designed for the creation of simulations and tutorials, has been updated to version 2.1. It now includes animated graphics and 16 colors available in high-resolution mode. Sperry Corporation, Blue Bell, PA **TechWriter 2.2**, a scientific word processing system, has been upgraded to include automatic construction of chemical structures, faster response, and support of IBM's EGA standard. CMI Software, Waltham, MA. ■

Product Updates provides information about revisions of existing products. Information for this column must be received at least eight weeks ahead of the publication date. Users should contact vendors for more complete information and current prices.

New Products

The following new product listings are not reviews and should not be considered endorsements of tested products. To be considered for publication in *New Products*, press releases should be sent to New Products Editor, PROFILES Magazine, 533 Stevens Ave., Solana Beach, CA 92075. Releases must state prices and on which Kaypro models products run. Include black and white photos if available.

Be C.E.O. for a day

"American Dream: The Business Management Simulation" is a business game in which you assume the role of C.E.O. and must evaluate a steady stream of information provided by various department heads in order to coordinate the day-to-day operations of a company.

The game was designed to develop managerial instincts by helping you understand the operational and financial consequences of vital decisions. It is a fast-paced simulation that requires quick and alert decisions, but it allows you to go at your own pace, and you can personalize it by putting in product names and names of staff members.

\$124.95. Kaypro DOS computers. Blue Chip Software, 6744 Eton Ave., Canoga Park, CA 91303; (818) 346-0730.

Doctor's office manager

The MEDWARE Medical Office Management System is a menu-driven program for the medical profession. The basic package contains billing, office management reports, word processing, communications, and patient information features. An expanded package, due out this fall, also includes a general ledger system, a check writing system, and a graphics system.

The patient information system allows entry of a wide range of medical information, including vital signs, diagnoses, procedures, drugs, and notes on patient pro-

gress. It also allows the user to define clinical categories and codes.

The billing system is capable of handling all the complexities of billing patients and insurance companies, receiving partial payments, and transferring responsibility for the balance to a second insurance company or the patient.

MEDWARE has password protection, and the installation process allows you to tailor the system to your practice.

\$3,500 for single-user version; \$4,900 for multi-user version. Kaypro 16, PC and 286i with 512K RAM and hard disk. Modular Software Design, Inc., 5152 Main St., Williamsville, NY 14221; (716) 632-1045.

Language translator

METAMORPHOSIS is a utility program that claims to transform any source code from one language to another—for example, FORTRAN to ADA, or any language to C. It functions as a custom compiler, assembler, macro processor and more.

METAMORPHOSIS facilitates reformatting of data base files and analysis of natural language, grammar, sequential and parallel procedures, and computational signatures.

The program includes a comprehensive FORTRAN to BASIC translation example.

\$387. Kaypro DOS computers with 384K RAM, monochrome monitor and 360K floppy drives. J.H. Shannon Associates, Inc., P.O. Box 597, Chapel Hill, NC 27514; (919) 929-6863.

Increase sales

SalesBASE/pc is a sales/contact management system for sales managers and salespeople who want higher levels of performance and productivity. The program allows you to schedule and control follow-up actions, maintain a data base of contacts, forecast sales, structure a

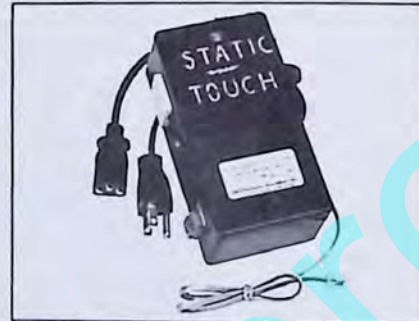
selling process, and create mass mailings.

A broad spectrum of criteria can be used to selectively query the data base online or produce hard-copy reports with specific information.

\$295. Kaypro DOS computers. Business Systems International, Inc., 20942 Osborne St., Canoga Park, CA 91304; (818) 998-7227.

Computer protection

The Modem/Power/Static Pac is a protection package for portable computers. The package includes broadband AC power filtering, extended range spike suppression, modem RF filtering, modem spike suppression, and a static discharge plate.



Power is available from a three-prong outlet and a CEE-22 universal portable computer power connector; a six-foot power cord is provided.

\$184.95. All portable Kaypro computers. Electronic Specialists, Inc., 171 S. Main St., Natick, MA 01760; (617) 655-1532.

Dot-matrix duo

The Microline 292 and the wide-carriage Microline 293 are the newest dot-matrix printers in the Okidata 290 series. Both have dual nine-pin printheads that permit high quality, single-pass printing for fast near-letter-quality (NLQ) performance.

Rated speeds are 100 cps in NLQ mode and 200 cps in utility mode.

The 290 series printers accept a broad range of paper, from single-sheet, hand-fed company let-

terhead to four-part continuous forms up to .014 inches thick.

\$699. Okidata, 532 Fellowship Rd., Mt. Laurel, NJ 08054; (609) 235-2600.

Business graphs

SuperGraphs is an MS-DOS program for creating graphs, charts, and plots. It allows you to generate, save, edit, retrieve, display, and print graphs.

SuperGraphs can create graphs from user input, spreadsheet print files (MultiPlan or SuperCalc formats), or ASCII data files (generated by any BASIC, FORTRAN, or Pascal program).

The program assists you with icon menus and a high degree of interaction, and it offers a wide choice of graphs, including line graphs, bar charts, pie charts, symbol plots, and stick plots. The program offers any combination of linear/logarithmic or horizontal/vertical scaling and allows graphs and plots to be overlaid for a desired image.

\$99.50. Kaypro DOS computers. SourceView Software International, 835 Castro St., Martinez, CA 94553; (415) 228-6220. Outside CA: (800) 682-2860.

More than telecommunications

MasterCom Telecommunications Utility is a smart terminal and file transfer utility. It can turn your computer terminal into a host time-sharing system and can send files to almost any type of computer and transfer files using error correction protocol.

Features include auto dial, auto answer, directory display, batch transfers, online selection and revision of communications parameters, and more.

\$49. All Kaypro computers. The Software Store, 706 Chippewa Square, Marquette, MI 49855; (906) 228-7622.

Word processor

MyWrite is an easy-to-use integrated word processor whose features include cut-and-paste, page headers and footers, underlining and boldface, and paragraph justification.

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overly restrictive.

Another bill recently introduced by Tribble, the Computer Pornography and Child Exploitation Prevention Act (S. 1305), could push bulletin boards into the bureaucratic realm of federal regulation.

Tribble's bill is designed to deter and punish two "insidious uses" of computers. The first is the use of computers by pedophiles to communicate with one another and to catalog information about their victims. The second is the offering of so-called "sex talk" computer services similar to dial-a-porn programs.

Jack Smith, general counsel for the FCC, has said that much of the information passed by pedophiles "is not itself obscene or indecent—such as the names and addresses of child victims." Since the material, however, is sent over the phone lines, Smith comments that it would be "an appropriate subject" for federal regulation.

Modem Minutemen

You can take an active part in the evolution of the online community; many have already. When Tribble's S.1305 was first introduced, it created an uproar in the online community because, even if well-intentioned, its language was perceived as being indiscriminately restrictive and too ambiguous. Tribble agreed to rewrite the language of the bill that dealt with computers.

As this article goes to press, Darren Trigonopolos, a legislative aide to Tribble, says that S. 1305 may never come up for a vote. Instead, according to Trigonopolos, Senator William Roth (R-Delaware) "has come up with language in a bill that will address our concerns—and in a manner that is apparently fine with the ACLU [American Civil Liberties Union] and computer folks as well."

Being involved with telecommunications, you already know the potential of this medium. If you want to protect it, use it—and stay informed on the issues.

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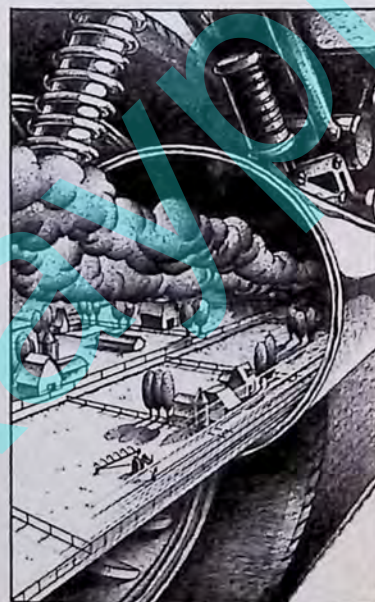


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Prestige Elite 12	The Quick Brown Fox Jumps Right Over The Lazy Dog. [\]^_{} ~
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