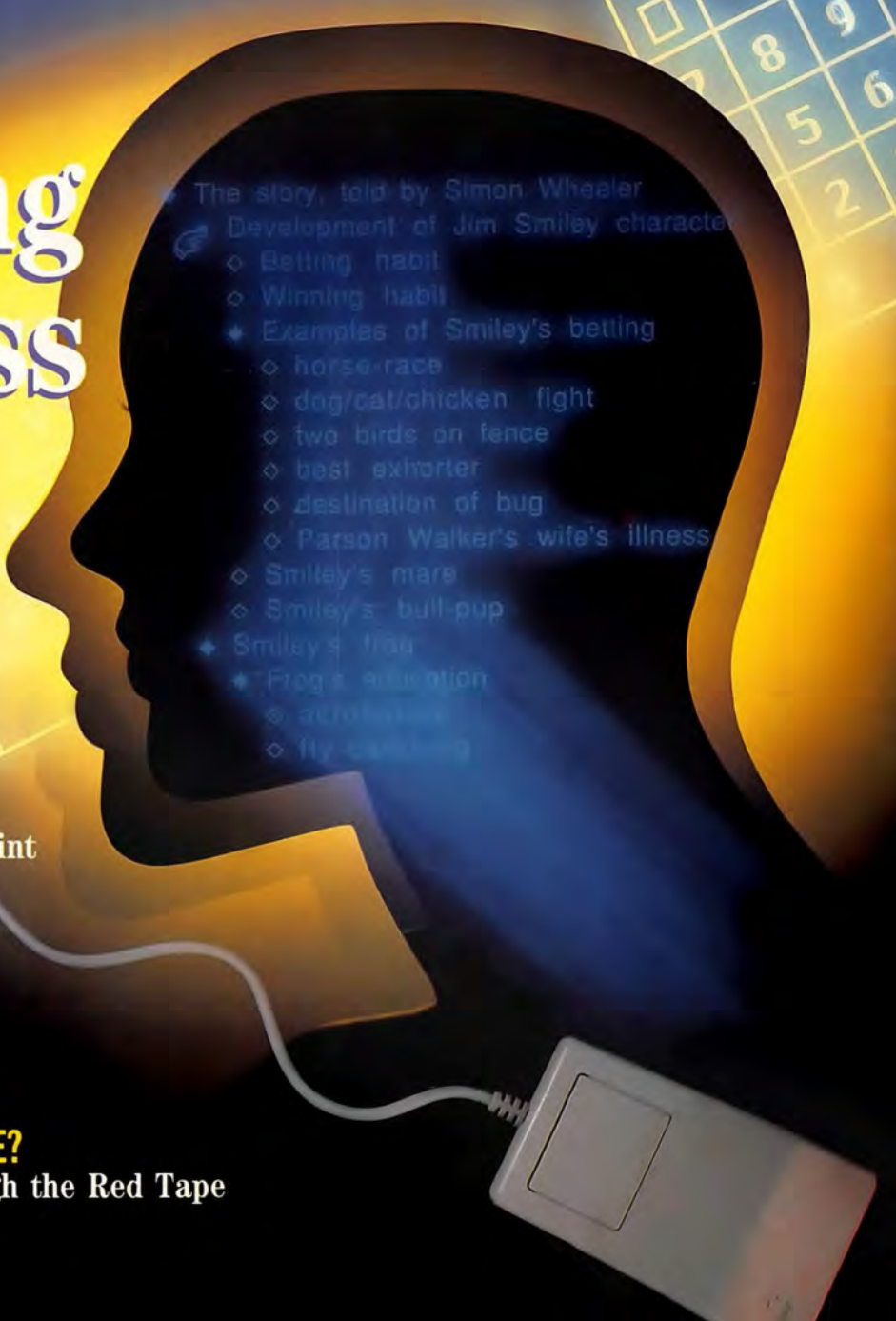


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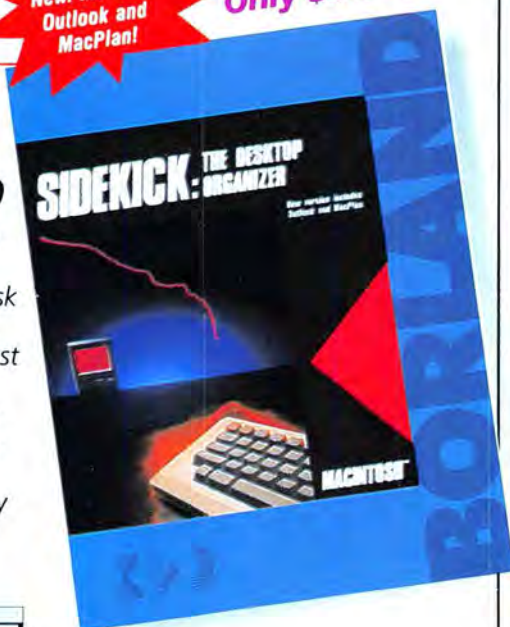
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Founding Publisher's Thought of the Month:

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MacUser (ISSN 0884-0997) is published monthly by Ziff-Davis Publishing Co., a division of Ziff Communications Co., One Park Ave., New York, NY 10016. Editorial Offices: 25 West 39th Street, New York, NY 10018. Telephone: (212) 302-2626. West Coast Offices: 11 Davis Drive, Belmont, CA 94002. Telephone: (415) 598-2323. Midwest Offices: 1150 Wilmette Avenue, Wilmette, IL 60091. Telephone: (312) 251-2541. U.S. subscription rates are \$27 for 12 issues, \$45 for 24 issues and \$62 for 36 issues. For Canada and Mexico, subscription rates in U.S. funds are \$29 for 12 issues, \$49 for 24 issues and \$68 for 36 issues. For other countries add \$50 per year to the U.S. rates for airmail. Add \$12 per year to the U.S. rates for surface mail. Single copy price is \$3.95 (Canada \$4.95). POSTMASTER: Send address changes to MacUser, P.O. Box 56986, Boulder, CO 80321-6986. Entire contents Copyright © 1987 Ziff Communications Company. All rights reserved; reproduction in whole or in part without permission is prohibited. PERMISSIONS: Material in this publication may not be reproduced in any form without permission. Requests for permission should be directed to the Licensing Manager, Jean Lamensdorf, Ziff-Davis Publishing Company, One Park Ave., New York, NY 10016. For back issues (subject to availability), send \$6 per issue, Canada foreign \$7 per issue to: Ziff-Davis, One Park Avenue, 4th floor, New York, New York 10016, Attn: K. Armstrong. Second class postage paid at New York, NY 10016 and at additional mailing offices.



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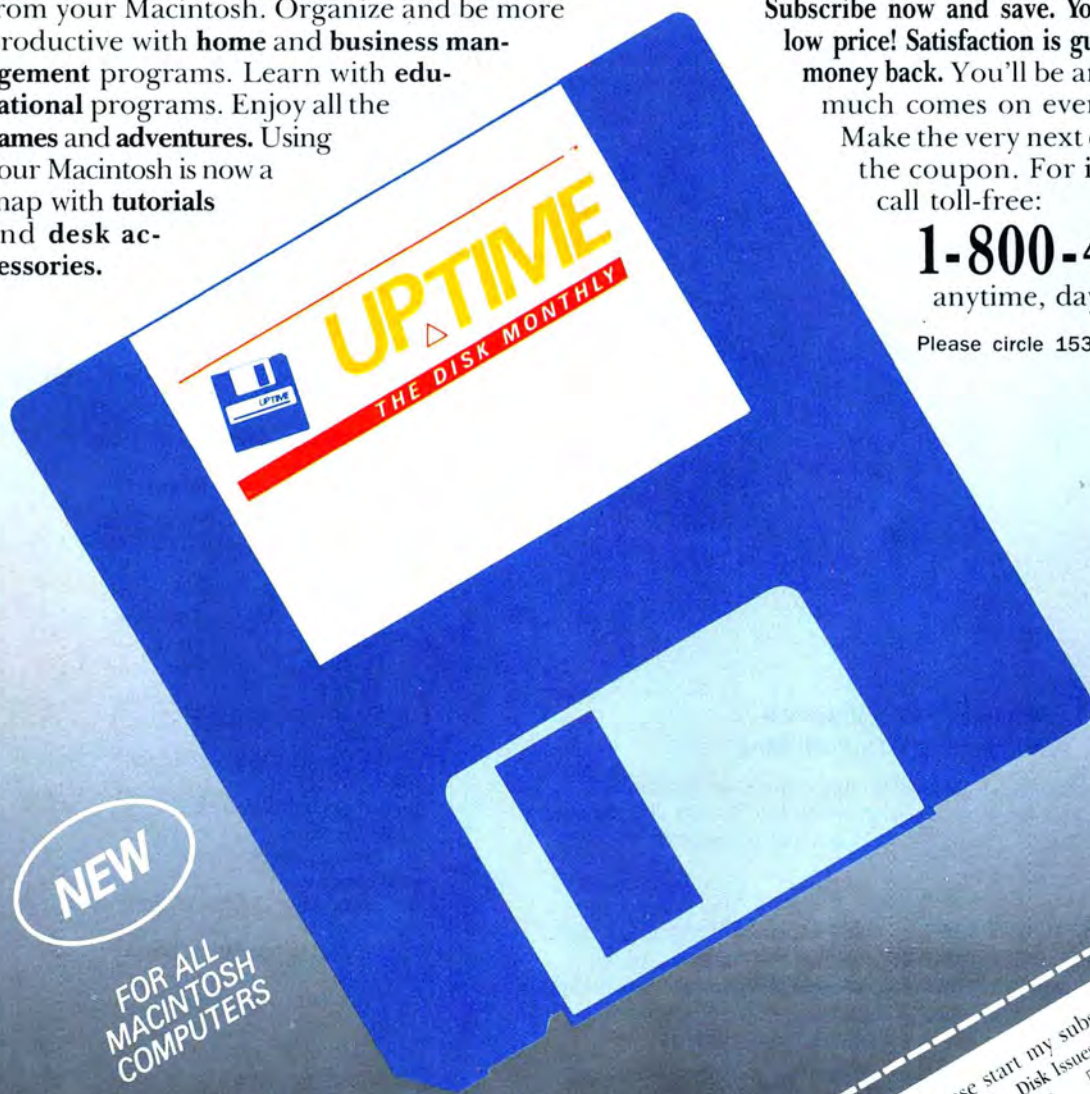
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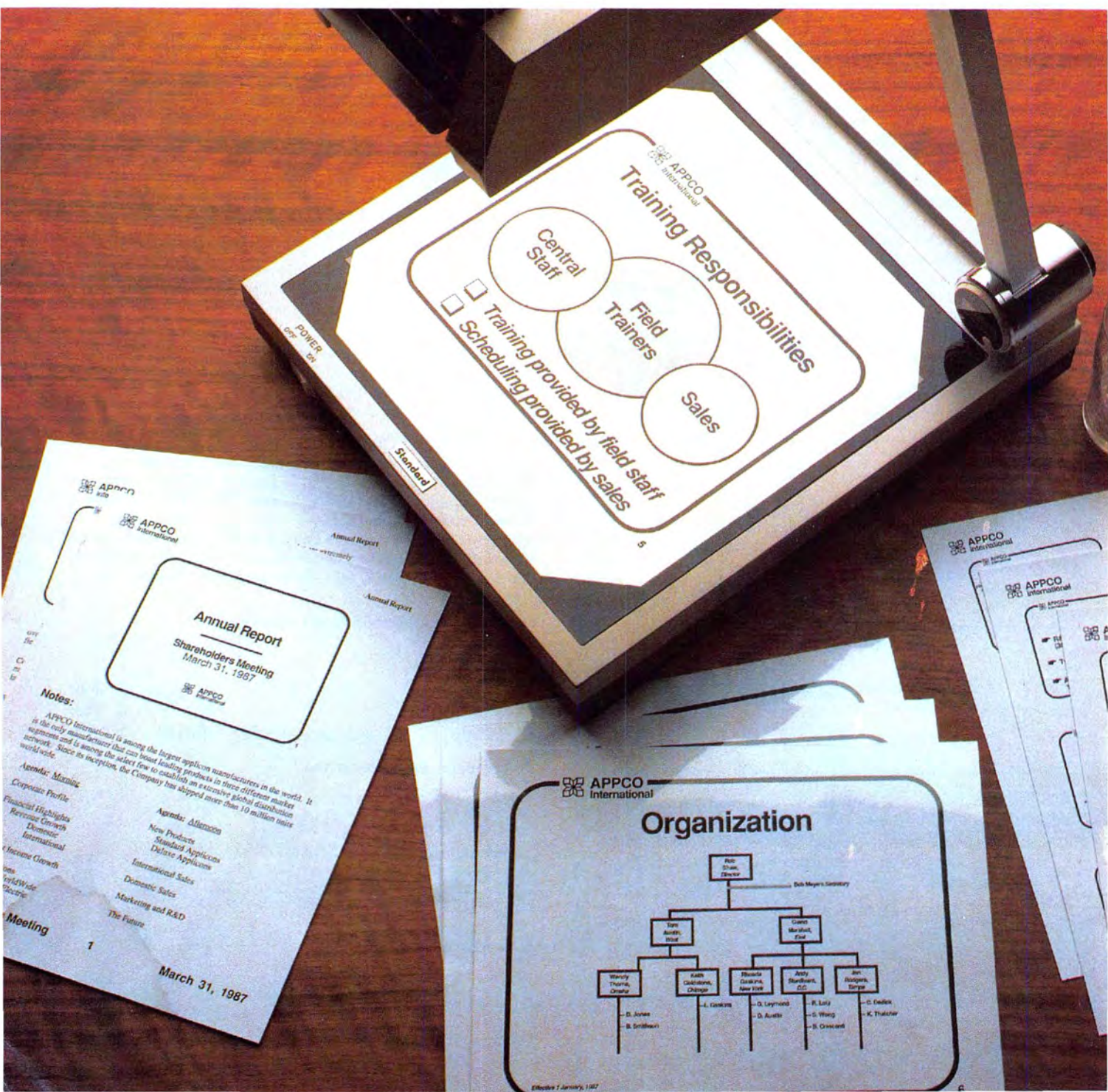
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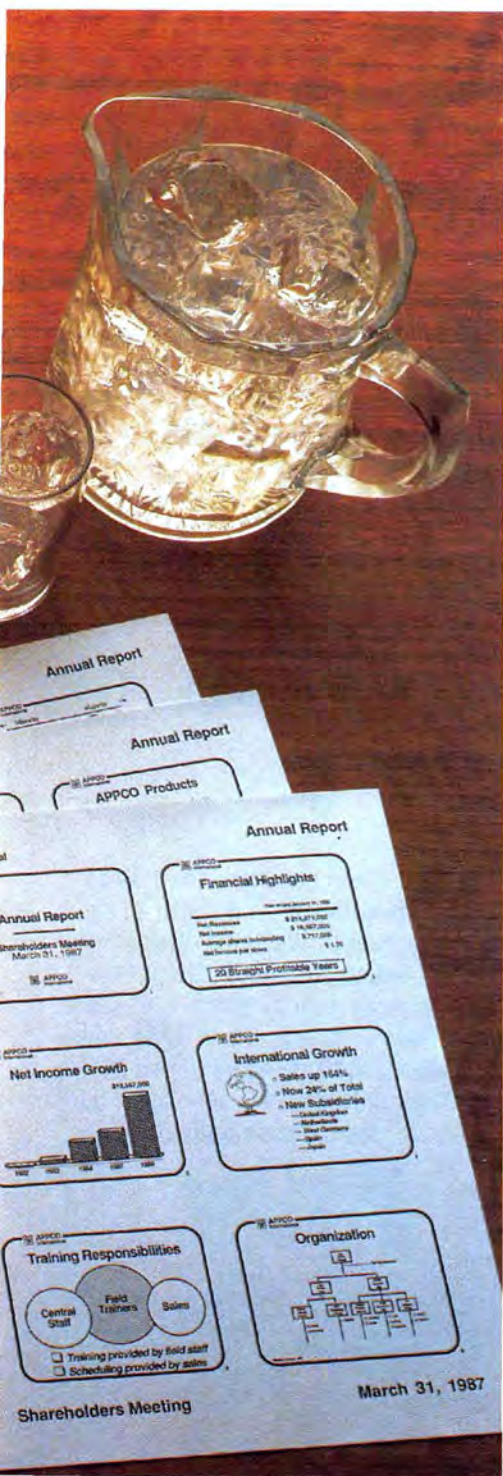
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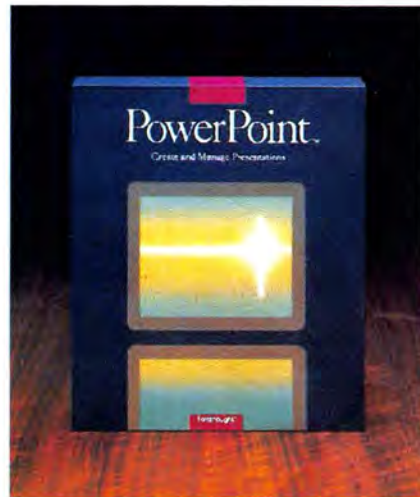
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By the time I got back to the office, I found Elliot's final attempt in the trash, along with the scanner. The flyer was a fiasco, but our partnership was saved. Elliot was ready to try the AST TurboScan.

To keep your partnership in one piece, ask for AST TurboScan. Call AST today to find your nearest AST-authorized Apple dealer: **(714) 553-0340**. BBS: (714) 660-9175. FAX: (714) 660-8063.



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Purchase Requisition

QUANTITY	DESCRIPTION
1	MACINTOSH II
1	IBM PC AT

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Warren!
Choose one or
the other—
S.

*The obvious solution
was unrealistic.*

“I would have
given up anything to
use a Macintosh, except
my PC software.”

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People say, "Where there's a will, there's a way." Which means I don't settle for words like No. Impossible. Can't be done. No way.

So when I decided I wanted a Macintosh, but didn't want to give up Lotus 1-2-3® or dBASE® III, I naturally set about looking for a way to have it all.

The fastest fix was to buy both an IBM® PC and a Macintosh. "Not possible," said the DP/MIS manager. "Pick one. Any one you want, as long as it's MS-DOS® compatible." Witty guy.

Then I searched everywhere for someone willing to loan me a PC in exchange for executive privileges. I was willing to give up anything, but I kept hearing No. Not interested.

Without another alternative in sight, I decided to surrender and settle for a PC. Then, I discovered an article on AST's newest products—

What I like best about AST's Mac86 and Mac286:

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- I have full access to DOS programs and data through 5.25" MS-DOS floppy drives
- I can cut and paste text from both MS-DOS and Macintosh environments
- My MS-DOS files share Macintosh hard disk volumes

MS-DOS co-processors for the Macintosh II and Macintosh SE. The cavalry had arrived.

The article said AST's Mac86™ and Mac286™ allow you to actually run MS-DOS application programs on your Macintosh. Just plug the DOS

processor into your Macintosh II—Mac86 into an SE—and load your favorite MS-DOS application software onto the Mac's hard disk. I was sold.

MS-DOS on my Mac looked and felt just like all my other Mac applications—great. I just pointed and clicked. The MS-DOS prompt I know and love appeared in a window on my screen. From there on, I used MS-DOS programs and commands

as if I were working on a PC.

I even moved Macintosh files into MS-DOS, sometimes cutting and pasting parts from one environment to the other. And when I was finished with my PC and Macintosh files, I stored them both on the same Macintosh hard disk without any clumsy file transfer procedures to slow me down.

Back in the Macintosh environment, I still had immediate access to all of my PC files.

Using Macintosh software, I reopened a PC file, enhanced it, then merged it with a Mac file. And when I was finished, I printed it on the LaserWriter®.

I guess the moral of this story is: You CAN have your Macintosh and PC too. Call AST today to find where you can buy Mac86 or Mac286. (714)

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by Neil L. Shapiro

Free and Responsible

I understand about freedom of the press.

It was a few months after Kent State, during the height of the Vietnam War controversy. The country was as fragmented and as torn apart, ideologically, as any of the jungle battlefields physically were a half world away.

Click.

The handcuffs closed on my wrists. I was led across the main street of Rochester, NY, cuffed in a line of four and surrounded by armed guards. On the walk from the jail to the Federal court building people stopped to stare.

It was obvious we, the handcuffed, were college students. Some in the crowd raised the old "power" salute to us; those were the younger people. Most of the older people simply stared. Ten or twelve swore at us. One spat.

Had we burned down the ROTC building? Had we bombed a defense plant? No.

OF FLOWERS PAST

I was one of the editors of the Rochester Institute of Technology's campus news magazine, *The RIT Reporter*. The other people handcuffed to me were the editor-in-chief and two models who had appeared in a photo-essay that had been published in that magazine.

Looking back on it, I can now see the photo-essay was sophomoric in at least two meanings of the word. Basically, the contents of the essay (which had been titled "Wonder Woman Meets G.I. Joe") had been designed to make the point that war is harmful to the people who fight it as well as to civilians.

But the photographer (who was also in court, brought over separately) had dressed the Wonder Woman-style character in a flag. And, in one photo, the flag had slipped a little. No more than you can see today—or could have seen then—in numerous posters and such.

But three people claiming to be Vietnam War vets had complained to a local Justice of the Peace that the school publication was guilty of flag desecration. The local JP was a member of the

VFW post of which one of the complainants was a member, and so was the arresting officer. Later, it would turn out that none of the people who had complained had been in Vietnam, and some not even in the armed services.

Before the JP could find us guilty we were moved to Federal jurisdiction. And handcuffed. And briefly tossed in jail.

Over the next 5 years, thanks to the almost uncompensated efforts of Rochester attorney Julie Michaels, we appealed the case into various courts and venues. Finally, the New York State Supreme Court overruled all lower courts in the case and ordered the complete dismissal of all charges and the destruction of records. The state Supreme Court applied the guarantees of freedom of the press, for the first time, to

I want to talk about an issue involving the Macintosh, telecommunications, and what some people misunderstand as freedom of the press.

the pictorial content of an article as well as to the textual matter.

So, I do know about freedom of the press.

BACK TO THE MAC

The above is offered in the way of credentials for me to move on now and talk about an issue involving the Macintosh computer, telecommunications and what some people misunderstand freedom of the press to mean. It's important that this new issue be discussed, as it has a number of ramifications for the future of all media. First some (more recent) background.

I am the Chief Sysop or Manager of an on-line Apple users group by the name of MAUG which meets electronically on the CompuServe Information Services network. Because of this I have a pretty good handle on what's happening in the world of telecommunications.

There is a new and, I think, exciting movement going on toward self-publication of electronic publications. Much of this is made possible by a program called

Microfilm Reader from Buck, Wheat and Associates. With the *Reader* these new publications may be downloaded (sent from a network or BBS computer system to a user's own Mac) and read like a magazine onscreen complete with pictures as well as text. Buck, Wheat and Associates gives away (but retains all rights to) copies of *Reader* and sells a "publishing kit" so that people can make their own publications.

Think what this means for a moment. Anyone can start an on-line magazine. You can do it, your friends can do it. There are almost no startup costs if you already own a Mac, just buy the publishers' kit. (And, if you are interested in this, contact Buck, Wheat and Associates for more information at 1601 Weatherstone Dr., Blue Springs, MO 64015; (816) 229-5632).

The first three of the on-line magazines using this new system began to publish by uploading themselves to various BBS systems and networks. But, there was a problem. Two of the publications contained paid advertisements because, like any other magazine, they could make most of their money from ads regardless of their "cover price" which was a shareware fee or waived depending on the publication.

Problem. CompuServe, at that time, did not allow advertising on their "Forums." So, we could not accept these publications. The idea was that people who pay to download items would be upset if they also had to pay to download advertising.

And, there was another problem. I have been in magazine journalism for a long time now. I started as a technical



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THE EDITOR'S DESKTOP

editor for Davis Publications (anyone remember *CB Buyers' Guide*?), moved to the Hearst Corporation as electronics editor of *Popular Mechanics* for some years and later as a director of their Electronic Publishing Division, and then left that company to join *MacUser* as this magazine's founding editor.

My experience led me to believe that one of the on-line publications in question had published what I would consider to be verging on libel at least once. Or, if not libel, at least contents which did not come near to meeting the standards of fairness and accuracy I have always believed in.

I decided to ask CompuServe to try the publications on an experimental basis with the idea that they would carry disclaimers and an indication as to who was publishing what and who stood behind them. I would also ask that they be labeled with the amount of advertis-

There is a new
and, I think,
exciting move-
ment going on toward
self-publication of elec-
tronic publications.

ing so that no one would be surprised at the ads they contained. CompuServe agreed to the experiment—which is happening as I write these words. I don't, for a fact, know what the results of the experiment will be. I suspect the new on-line publications will continue to appear.

But while I was setting this up, some of the various publications went on record as saying that by denying them access to the conduit of the network, they were being censored and denied their rights as a free press.

An interesting point. But not, I think, supportable. Is the newsstand owner who does not carry *MacUser* magazine censoring me? No, he has made a terrible business decision if he has an audience of Mac owners nearby, but he is not censoring me as I understand that term. He simply does not want me on his newsstand. He owns his newsstand. Censorship, on the other hand, might be if the government told all newsstands not to carry *MacUser* even if they wanted to.

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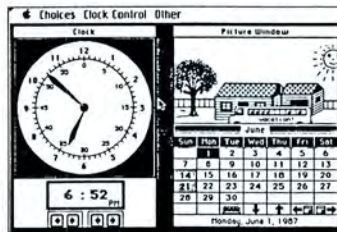
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like a newsstand in some respects, although quite different in others. Unlike a newsstand, they do publish some of their own publications. Like a newsstand they also offer many publications they do not have a hand in putting together.


As the Information Age continues to grow, I think that one thing is going to become clearer. The freedom of information is going to have to be coupled to the responsibility of information.

Part of this responsibility will fall onto the publishers, editors and writers of these new forms of publications. Many of them will not be trained journalists. For some the concepts of checking sources, avoiding allegations and fairplay will seem needless stumbling blocks. They will confuse sensationalism with readability, muckraking with investigative reporting. Some may be hauled into

**The freedom of
information is
going to have
to be coupled indisputably
to the responsibility
of information.**

court and learn the difference between freedom of the press and libel. Others may rise to the challenge and produce publications every bit as professional and fair as, I hope, *MacUser* has established itself as being.

I think that the future of self-publishing for Macintosh users can be a very bright one. Not only on the networks, but through such "carrying media" as CD-ROM and many other devices it is becoming more and more apparent that tomorrow's computer users will have access to a wide variety of viewpoints and opinions.

But freedom of the press must never be used as a mere empty catchphrase. A true member of the free press is not only willing to go to jail or court to see that the press remains free, he or she is also cognizant of the awesome responsibilities that are a part of accepting the public trust and, because of that, is sure to win in court. Without such an understanding, it will become easier for those who would wish to derail all of our freedoms. The public trust and the free press. Neither should be violated. 

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Given its heritage, it should come as no surprise that HyperDrive FI/40 is extremely fast. Once installed, an FI/40 will speed power-up time by 57%. Load Microsoft's Excel two times faster. And Aldus' PageMaker three times faster.

These and other reductions in work time are matched by a correspondingly vast increase in the capacity for work. An FI/40 will enable the Mac to store the data that would otherwise occupy an astonishing 14,000 pages.

But all this isn't to say that HyperDrive's elevated performance is denied those who prefer an external hard disk.

HyperDrive FX/20 and FX/40 provide the same speed and capacity to any Macintosh with an SCSI port. And like all internal HyperDrives—which is to say unlike any other hard disk—the FX drives come with a complete array of software.

Including a back-up program that lets you make quick back-up copies of your data onto diskettes. LaserWriter and ImageWriter print spoolers that queue up documents for your printer, so you can go on to other jobs while your printer is printing. And a security program that protects your files from unauthorized entry.

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Macintosh Plus,
HyperDrive FX/20



Macintosh SE,
HyperCharger 020



HyperDrive. It works with any Macintosh and any hard disk made for the Macintosh. Not to mention all the software compatible with AppleTalk.

Which means you can take full advantage of multi-user programs for electronic mail such as Think Technologies' InBox. Or powerful database managers such as Blyth's Omnis 3.

The resulting network provides a flexible and fully compatible complement for people who use AppleShare. And for people who don't, HyperNet provides an extremely fast, easy-to-use network on its own.

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If you bought the Macintosh because it delivers "the power to be your best," then more power should make you even better.

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Macintosh Plus,
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Steven Bobker

We're always happy to hear from our readers, so keep sending your comments to Letters to the Editor, MacUser, 25 West 39th Street, New York, NY 10018. All letters become the property of MacUser and we reserve the right to edit any letters that we print.

CONSTRUCTIVE CRITICISM

When the abbreviation "PC" was still but a gleam in IBM's big brotherly eye, I met a lawyer who was fond of marking up draft documents with it. He explained that it stood for "pious crap"—uninformative, redundant dues-paying sycophancy that could just as well be done without. This is the kind of stuff we depend on John Dvorak to attack. Let me join Dvorak's defense. His column will not shut down the Fremont Macintosh factory, but it may strengthen the critical thinking of his readers a bit. There are plenty of orthodoxies out there that discourage criticism and humor, like my day job and another Mac magazine I could mention (in spite of its having a graphics budget that could feed any three third world countries).

Trivia: Louise Kohl's "nondenumerable" (April issue, p. 78)—wouldn't innumerable work as well and be English? Or Michael Wesley's "compatibility" (p. 53)? Last time I checked there was room for only one "a" in there. Where are the spelling and style checkers we see occasional reviews of?

JACOB J.L. DICKINSON
LONG BEACH, CA

Trivial reply: "Nondenumerable" is a leftover from my days as a graduate student studying set theory. As I recall it means something like "so many they can't even be counted (although finite)"; "Innumerable" just means "a lot." I went for the hyperbole. As for spelling checkers, I haven't trusted mine since it suggested I replace my initials with either "ilk" or "elk."—LK

CASTLED

I am writing in reference to "To Topple the Throne" (*Dark Castle*) written by Linda Joan Kaplan (April, '87). *Dark Castle* has five levels, not four as she claimed. The difference between the fourth and fifth levels is very obvious in the Black Knight 3 scene. The beer steins he throws bounce more. Once the fourth level has been completed, there will be no more extra lives on the fifth level.

When you've completed the fifth level, you keep repeating it until you run out of lives.

I have also noticed a flaw in the program. During the fifth level, the score is represented with squares; for example, 2,305,□9□. On the "Scores of Merit," the score looks like this: 2,305,=9. Also there is inadequate space for the full score to be shown when you pass 9,999,999.

By the way, I really enjoy reading *MacUser*. It is a great magazine.

ITTINAN INTARANAN
BOSTON, MA

Thanks for the information. By the way, just how long have you been playing Dark Castle, anyway?—LK

DO YOU REALLY NEED AN SE?

Louise Kohl in "... For the Rest Of Us" (April 1987) suggests that loyal Mac Plus owners should be given a price break by Apple Computer on trading up to a Mac SE.

As the owner of a Mac Plus, I do not presently feel disadvantaged by the new



BELINDA 37

SE offering, or even slighted as a "loyal customer" by the absence of an upgrade path from the Mac Plus to the SE. There are two reasons for this.

First, the SE with its 68000 processor strikes me as a re-engineered Mac Plus, with the technical specs offering no significant operating advantages running existing software. My guess is that by year's end, production of the Plus/512E will be discontinued—if it has not been already—and the SE will become the entry level Mac. The SE is definitely not the next generation Mac Plus and accordingly provides no reason to upgrade.

Second, the present Mac Plus performs well and RAM upgrades to four megabytes are readily available, along

with 68020 processor upgrades from third parties. For this reason, Mac Plus owners can hardly feel slighted or abandoned as were Lisa owners several years ago. With third party upgrades, the Mac Plus can still remain competitive for two more years, and still useful beyond that.

The time to retire our Mac Plus will be when an authentic next-generation Mac Plus debuts with four-megabyte RAM standard, a 68030 processor, 68882 floating point coprocessor, color screen with double the present resolution, and the availability of a mountain of high-performance software written for the Mac II and its derivatives. Of course, all this would be housed in a Mac Plus-size case.

Such a machine could debut in 1989. It is at that time that we should remind Apple of our "loyalty," whine and complain and ask for a compensatory free computer for our long term suffering. Or at least a 40 percent discount!

JOHN MCEACHERN
BRITISH COLUMBIA, CANADA

FIG-URE IT OUT

The cover of your May 1987 issue brings considerable cultural and artistic content to *MacUser*. Congrats. But the religious theme makes me sufficiently inspired to point out a serious flaw.

The painting portrays the temptation of Adam by his helpmate. Eve is offering the apple to her significant other, but presumably the big schlemiel has not yet tasted of that fateful fruit. Why, then, are the Mother and Father of us all already natively sporting fig leaves?

In the future, please respect biblical authority. In other words: Off with their fig leaves! Not even the most diehard prude could quarrel with the desire to remain true to Scripture. Readers, prudes and your artistic staff are respectfully directed to Genesis 3:1-7.

GREGORY WASSON
FELTON, CA

In the artist's defense, I will point out that there's always the chance that Adam bit the other side of the apple, and turned it around for aesthetic reasons. If you won't buy that, how about we tried to check it with Jerry Falwell, but his phone was off the hook.—LK

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readers who are still trying to find a legitimate use for this un-needed hardware accessory. Please no more programs that require BASIC or some other program to make it work. It takes too long to read the strips. My preferences for strips to be run is for standalone applications.

Thanks for letting me blow off some steam. I like your magazine very much.

DAVID J. DEUEL

BAY CITY, MI

We apologize for the inconveniences that the defective Softstrips in our March 1987 issue may have caused. Instead of rerunning the same SoftStrip and falling behind a month with our strips, we are offering our readers a chance to get StuntCopter by mail. Just send a blank, single-sided diskette in a self-addressed stamped envelope to StuntCopter SoftStrip, c/o MacUser Magazine, 25 W. 39th St., NY, NY 10018 and you'll get the diskette back with StuntCopter intact.— DS

TAKING A RIBBING

I could not believe it! There were Adam and Eve on the cover of your fine magazine, with the artist obviously blowing it, in front of God and everybody!

Can you believe Eve with a belly button?

Maybe you could have shown a scar on Adam's chest where a rib had been purloined, but belly buttons? Wow.

Well, it was a good try, anyway.

ROBERT T. SEELYE

WHITTIER, CA

We are impressed (really!) at the admirable depth of scriptural knowledge our readers are displaying at our expense. However, you will surely agree that the scar would have to have been on Adam's side to be consistent with the account in Genesis. — LK

ETHICAL CONSIDERATIONS

Neil Shapiro makes a good point about the lack of ethics training in schools (*MacUser*, May 1987). Given the problems most school systems are facing today, it is unlikely that software piracy is likely to be at the top of the priority list. Sad, but true.

There is something that is high on the priority list of any school system. That is jobs (lower case "j", not Steve). As a business manager and employer, I know it is a simple basic tenet of good business to adhere to the West Point code of ethics: "I will not lie, cheat or steal." Hence a liar, cheater or thief will not last

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But don't take our word for it. Software Digest, a leading consumer organization, rated Back to Basics number one in overall usability when compared to products costing as much as \$995 and, for the past two years, Back to Basics has won the *A+ Magazine Software of the Year Award* for Macintosh business accounting systems thanks to the votes of over 20,000 Apple users.

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Back to Basics Accounting System became a best seller priced at \$525. Now, as a result of reduced expenses, we are able to offer all three modules — General Ledger, Accounts Receivable and Accounts Payable — in a complete set for just \$199.

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Peachtree has long been the first name in accounting software and the powerful features we've included in Back to Basics prove we understand what you're looking for.

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Back to Basics was written specifically for the Apple Macintosh, not simply converted from another computer version. It uses the Macintosh interface (mouse and visual icons) for system operation and groups functions into on-screen "file drawers" for organization and ease of use.

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Money Back Guarantee

When you purchase Back to Basics directly from Peachtree Software you're protected with a 30-day, money back guarantee (an option even the most expensive accounting products don't offer).

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purchase price will be promptly refunded. For full details, call the toll-free telephone number below.

Invoicing Coming Soon

Back to Basics Invoicing will soon be available for the Apple Macintosh at an introductory price of \$95.

Hardware Specifications

- IBM Personal Computer, PC/XT, PC/AT with two floppy disk drives or one floppy disk drive and a hard disk.
- Apple II+, IIe, IIc, IIGs with 128K and two disk drives or hard disk.
- Apple Macintosh 512K or Plus with two disk drives or hard disk.

Features That Made Back to Basics A Best Seller

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- On-line help displays Chart of Accounts.
- MTD and YTD show on income statements.
- Allows automatic journal entries.
- Check processing and printing capability through Cash Disbursements.
- Optional cost of sales ranges.
- User modifiable Chart of Accounts included.
- Allows up to 3 checking accounts.
- Up to 10 departments with separate income statements.

ACCOUNTS RECEIVABLE

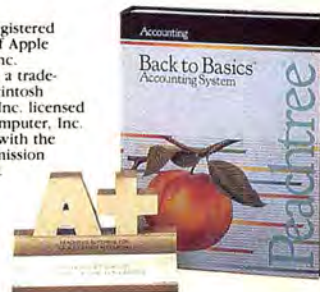
- Calculates receivables on balance forward basis.
- Prints statements and mailing labels.
- Allows automatic posting to General Ledger.
- Accepts partial payments.
- Calculates finance charges.

- Up-to-date customer information can be scrolled for review at any time.
- Customer ID's can be alpha or numeric.
- Verifies customer credit limit.
- Calculates up to 3 sales taxes per entry.

ACCOUNTS PAYABLE

- Up to 10 vendor payment terms.
- Calculates cash discounts.
- Accepts partial payments.
- Automatic posting to General Ledger.
- Prints vendor mailing labels.
- Up-to-date vendor information can be scrolled for review at any time.
- Customer ID's can be alpha or numeric.
- Prints computer checks or processes hand-written checks.
- Invoices automatically or manually selected for payment.

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Sorry, a system error occurred and you have lost all of your files.

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ID = 2

Your data is in jeopardy every time you use your hard disk. Why? Because if an application presents the dreaded bomb, the power flickers, or your hardware fails, you can damage your disk directory. Over half of the HFS formatted hard disks in daily use have some directory damage. Eventually this will cause you to lose from one to all of your files. The only way to prevent data loss is to have a second (backup) copy of your files.

DiskEnsure will make you feel safe and secure. Use it as needed to make backup copies of your files to 400K or 800K floppies - even large or "invisible" files that the Finder cannot copy to a floppy. With DiskEnsure's unique desktop interface you can specify backup by volume, folder, or file and exclude specific files from the backup. Subsequent volume backups are performed incrementally. This means that it only copies those files that have been modified since the last backup and removes those files from the backup disks that have been deleted from the hard disk.

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Supports MFS and HFS formatted Apple and non-Apple hard disk drives with 400K or 800K Apple floppy drives connected to a Macintosh XL, 512, 512E, Plus, SE, and II.

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DiskExpress™

will keep your drives running at peak performance.

The more you use your floppy or hard disk the slower it becomes. Why? Because as you use a disk, the files on it become more and more fragmented. All disks are divided into a number of areas called blocks with each block holding as little as 1/2K of data. The Macintosh stores files by breaking them into block-size pieces and writing them into unused blocks wherever they are available. Over time, virtually every file can be scattered around in different places. Starting applications, opening documents, sorting databases, and compiling programs all become slower and slower because your drive has to move its head from block to block as it retrieves the pieces of your files.

DiskExpress puts maximum performance back into your disk. It gathers all the pieces of files and puts them into contiguous blocks. Then your drive head need only move to the beginning of a file where it can continue to read sequentially. All the unused blocks are also placed together so that MacServe users will no longer suffer from the "disk too fragmented" message when attempting to create new volumes. It supports floppy and hard disks with either MFS and HFS formats running on Macintosh XL, 512, 512E, Plus, SE, and II.

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long in my employ. No prudent employer will risk his standing with the community or his corporate owners by keeping a thief. It isn't worth the business risk, let alone the employer's personal standing in the community should piracy charges be leveled and made public. Permitting such behavior by employees is suicidal and as stupid as sexual harassment or racism.

The upshot is that any school system that wants its graduates to find gainful employment had better give its students a clear understanding of ethical behavior. The issue of software piracy is a subset of a much larger problem. The bottom line is that if you want a job and a career, don't steal, not in any form. It is a fast way to short circuit the rest of your life.

The highest quality graduate possible should be the first priority on any school system's priority list.

CHARLES E. SCRIPPS, JR.
JUPITER, FL

A DEALER'S REPLY

I am a dealer who applauds Apple Computer and its policies regarding mail order companies. If Apple were to lower itself by selling through catalogs, they would lose a very large part of the market that still requires some assistance in the purchase and operation of their computers.

Neil Shapiro's statement that he has been working with computers for ten years ("How's Your Dealer?" December, 1986) puts him in about one percent of the computer market. Most customers still know very little about computers and rely on their local dealer for much needed assistance.

As a dealer, I see two types of customers:

The first understands the value of dealing with someone knowledgeable, appreciates the service and support that he is given. This customer is loyal to his dealer and relies on the dealer to keep him up to date on new ways to better utilize the equipment he has purchased.

The second type of customer is the price squeezer. This customer phones every dealer in the state asking for their best price, travels 20 to 30 miles to save \$20 and then insists that the dealer around the corner support his system.

In purchasing a computer, you should develop a relationship with a dealer that you feel comfortable working with, negotiate a fair price and expect support equal to the value of your purchase.

I feel that Neil Shapiro is way off the mark and knows absolutely nothing about Apple dealers. He should work as

a dealer for a month and see what is actually involved in selling and servicing the needs of the consumer. On the other hand, if he feels that strongly about buying mail order, maybe he should buy a Commodore 64. He will then learn to appreciate his Apple and his dealer.
EARICK WARD
LONG BEACH, CA

It was never Neil's nor MacUser's intention to imply that all dealers are reprobates. However, a look at the reader mail in response to Neil's column indicates that it would be equally uninformed to assume all dealers are angels. It seems clear that the dealers who have taken the time to write to us are not, in fact, the group to whom the original comments were directed. The "bad" dealers apparently don't care, don't recognize themselves or don't read. Dealers who do run responsible operations have little to fear; their customers will stick to them for life.—LK

LESS THAN ONE DA AT A TIME

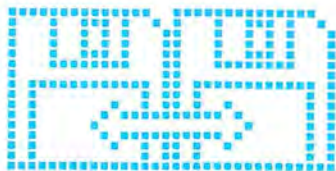
Using your article "One DA at a Time" (April 1987), I tried to modify my *Font/DA Mover* to accommodate more than 15 DAs. When I got to the part about patching, I used *Fedit* 3.0, not having the recommended *Fedit Plus*. I got the message: "This file cannot be displayed because neither the data fork or resource fork have disk sectors allocated." I then tried *Copy II Mac's MacTools*, but I couldn't find "001A 5EC0." What did I do wrong?
MICHAEL J. MUELLER
DETROIT, MI

I can't tell exactly what went wrong without being there, but my guess is that you had a bad master Font/DA Mover.—SB

WISH LIST

There are several things missing on the Mac and which have not been forthcoming as desk accessories.

1. Fixed spacing (both positive and negative). A "minus one half point" space would be particularly useful. This would allow us to kern our own characters and remove eyesores like "Yo" and "y.", etc.
 2. Adjustable leading regardless of point size.
 3. "Minus one quarter point" and "Plus one quarter point" letter spacing. With this we could eliminate widows.
 4. At least four callout positions where we could store up to 500 character strings without tying up the Clipboard.
- I have found that *Thunder!* provides



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Requires a Macintosh 512 with external Apple 800K disk drive. Or 512E, Plus, SE, II with second drive (hard or floppy).

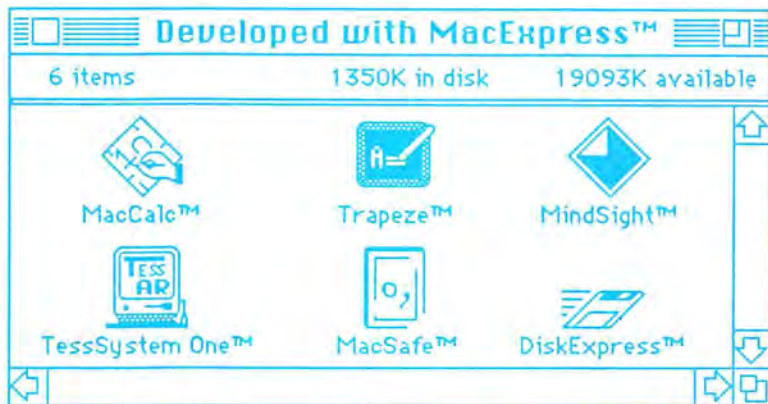
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MacExpress supports the entire Macintosh family including the Macintosh SE and Macintosh II. There are currently versions for MPW Pascal, MPW C, LightspeedC, Lightspeed Pascal, and TML Pascal.

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or
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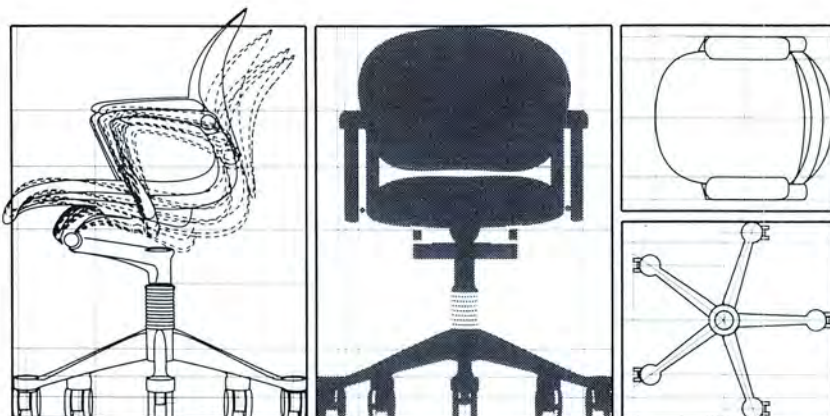
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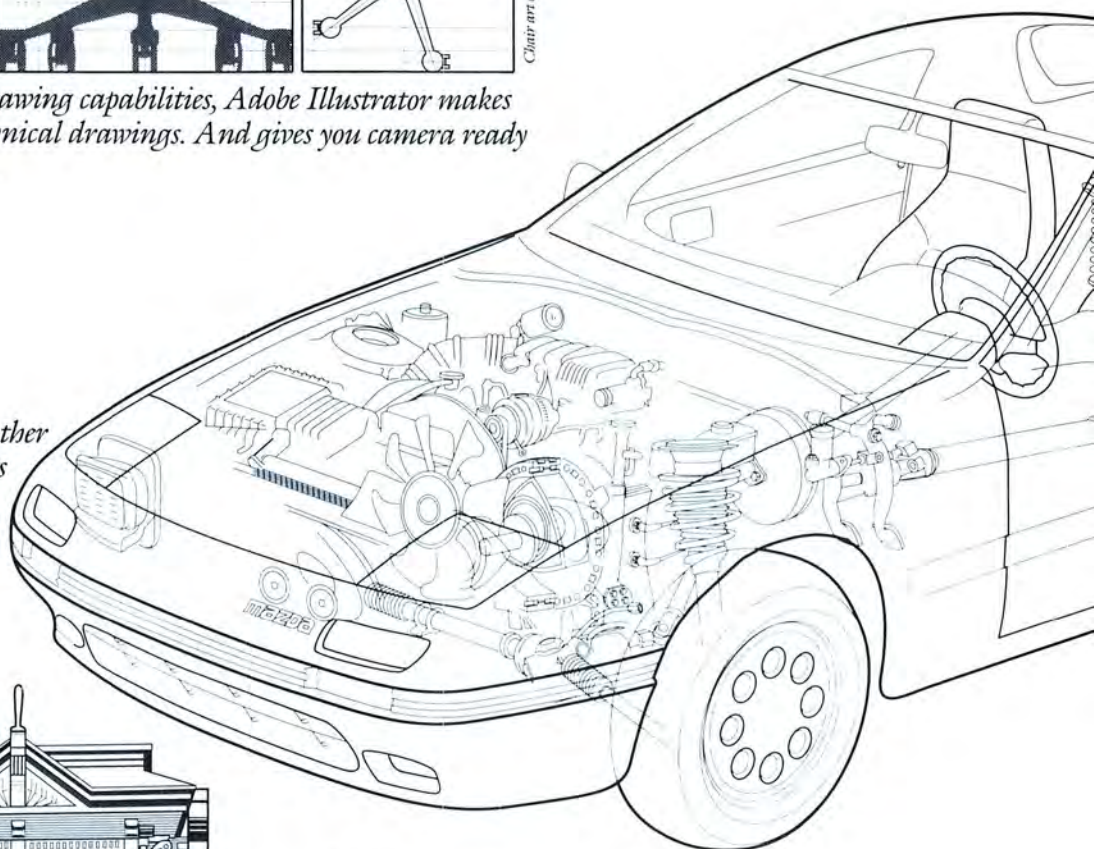
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Chair art courtesy of Apple Computer, Inc.

With its powerful curve drawing capabilities, Adobe Illustrator makes short work of the most technical drawings. And gives you camera ready output right at your desk.

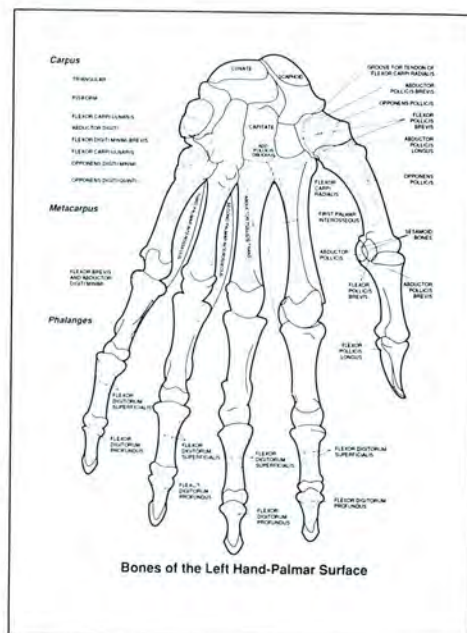
Share your drawing with other users. And if anyone wants to change it—no problem—the Adobe Illustrator can give you another perfect original. Fast.

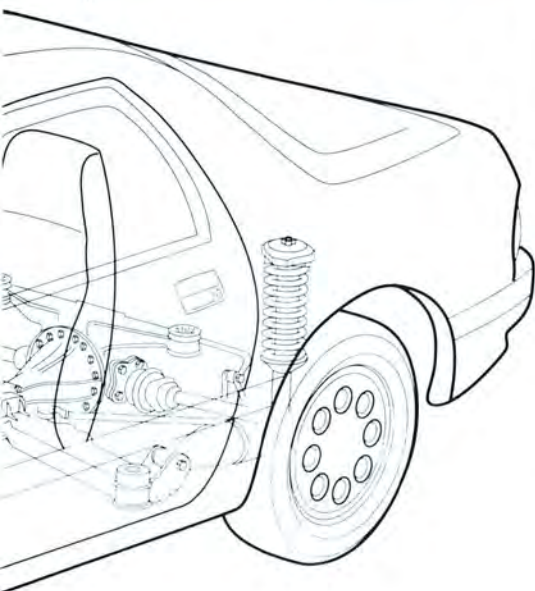


Start with a blueprint or just a dream and the Adobe Illustrator can help you build out the rest. Straight and true.



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Unlike other
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Here's how it works.

Unlike other programs, the Adobe Illustrator doesn't build
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Secondly, nothing has to be drawn from scratch. You and
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image of a photograph, logotype, blueprint, something from
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Once in the computer, this scanned image becomes your
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some of the other missing elements, but I wish it had a good thesaurus and the ability to access and search the dictionaries.

WALTER P. ABBOTT
YARNELL, AZ

ADVERTISING STANDARDS

I am writing to object to an ad in the March 1987 issue of *MacUser*. I am referring to the "Stop Rape" ad for the Network Specialties monitor. Rape is a violent crime that violates its victims in the most personal and degrading manner. It is offensive to see "Stop Rape" (in red ink, no less) used as an attention-grabbing ploy. The ad would be no more offensive if it shouted "Stop Child Sexual Abuse" (just one form of rape).

Please extend *MacUser's* editorial standards to the ad copy you accept; an ad like this one detracts from the otherwise excellent standards applied in the rest of your magazine.

I have notified Network Specialties of my objections. I hope they'll clean up their next ad!

WAYNE BLIZZARD
RIDGECREST, CA

While we agree with you, we do not see advertising copy before it goes into the magazine. Advertising and editorial content are kept as separate as possible, for good reasons. However, it can sometimes backfire in either direction.—SB

PRINT SHOP VS. HFS

Broderbund has adapted *Print Shop* to the Macintosh from the IBM and Apple II versions. Based on *MacUser's* December four-star review, I bought a copy. Let me warn other prospective Macintosh owners. Despite the label on the box that it serves all forms of Macintosh, and while the review states that the program is HFS compatible, it does not recognize the Minifinder or the contents of folders (except its own fixed folder of ready-made files). To bring up a new file, it is necessary to go back to the Finder and start over. *Print Shop* is available only on two 400K disks, and cannot be transferred to an 800K disk without encountering a particularly obnoxious copy protection. A master disk must be reinserted at intervals throughout the work period, sometimes Disk One and sometimes Disk Two. Can there be any excuse for repeatedly having to assure Broderbund I am a legitimate paid user? I have been unable to defeat this copy protection either by bit copy or hard disk copy. One must occupy both disk drives with the two master 400K disks, neither

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If you run out of room on your current disk, simply insert another.
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Don't be bound by standard hard disk capacities. Grow with Peripheral Land's *Infinity™* drive.

Suggested retail: \$1,095.00 *Infinity™*

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Get 30 or 45 meg storage with our internal drive upgrade.

Until now, there were only 2 ways to buy the new Mac SE™. You could get it equipped with two 800K floppies. Or, with a floppy and a 20 meg internal drive. Those were your choices.

We thought that was a little limiting. What about all the storage hungry people out there? People who want

to outrun, outsmart and outdo the competition? Well, here's your answer:

INTRODUCING INTERNAL HARD DRIVES FOR THE MAC SE. THE 30 SE AND 45 SE.

Before you buy your Mac SE, have your dealer replace one of its standard 800K drives with our 30 meg drive (30 SE). That gives you 50% more storage. 50% more, that's nothing to sneer at. And all it will cost you is \$100 over the regular 20 meg SE price.* Or if you want more storage, have our 45 meg drive (45 SE) installed.

Our drives come with shock absorbing mounts to manage the hustle and bustle of everyday use. And if you need to chain hard drives or tape drives, you can easily turn termination on or off. Plus, changing SCSI address is as easy as a push of a button. (Apple doesn't offer any of these features.)

So if you're after the most storage a little money can buy, talk to a Mirror Tech dealer. And together, we'll make your Mac SE the best it can be.

FREE SOFTWARE. ANOTHER GREAT REASON TO UPGRADE.

If you choose to upgrade your Mac SE with our 30 or 45 meg drive, we'll give you THINK Technologies LaserSpeed™ (a \$99 value) free.

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MIRROR TECHNOLOGIES Inc.

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More than 95% of available Macintosh software runs on the Lisa. Call today for our free Lisa Fact Book and see how the Lisa can handle the most popular applications for much less than you would spend on a newer Mac and hard drive. We'll even buy that software...FREE.* It comes standard with a larger 12" screen, detached keyboard with numeric keypad and available in several affordable configurations. Even HFS is now available for the Lisa.

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L E T T E R S

of which has any space to spare for added files, and revert to the Finder and switch to a third floppy to access an added file. It's *deja vu* to the days of the early Macintosh. Broderbund marketed this Macintosh adaptation without doing its HFS homework, and with little consideration for the user's convenience. A set of backup disks can be had for an extra fifteen dollars, but only in 400K form.

I note in the same December issue of *MacUser* a letter from a user who says that Broderbund informed him they do not plan to upgrade a game program to the HFS system. I advise Mac Plus and Mac 512E users to avoid Broderbund programs, unless and until they follow the full HFS protocol and eliminate copy protection.

SAMUEL ZELMAN
TOPEKA, KS

According to Broderbund there are no plans to update any of their software to support HFS, for hard disks or 800K floppies. Broderbund asserts that copy protection is a company policy and that it has and will continue that policy on all software they manufacture.

We did find some drastic HFS problems with Print Shop after we did our review, and we promptly reduced Print Shop's rating from 4 mice to one. Since that time, Broderbund has upgraded Print Shop so that it may "co-exist," but still not be compatible, with HFS.—DS

ICON MAKER CORREX

I was pleasantly surprised while reading "Dress Your Mac For Success" (February 1987) to see my desk accessory *Icon Maker* mentioned. After finishing the article I felt that there were a couple of things about *Icon Maker* that the readers should know.

First, *Icon Maker* is shareware—not a public domain program as mentioned in the article. Second, I think Mr. Russell was using an old version of *Icon Maker*. The latest version, 2.1, has two features that will allow some users to skip using *ResEdit* when changing disk icons. This version will let you set the icon's ID number and will generate a simple mask for the icon. Version 2.1 also fixes a bug in an earlier version. Those who have *Icon Maker* can check the version number by starting the accessory and pressing "?". Version 2.1 has been circulating since early 1986, so many information services, BBSs and users' groups should have it.

Keep the interesting articles coming!
STEVE FINE
STATE COLLEGE, PA

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Peripheral Land Introduces the New High Capacity Internal Hard Disks for the Macintosh SE.

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LOUISE

KOHL

Getting Apple Juice



The recent news from Apple was really great. No, there are no upgrades to the Mac II; this news was for Apple stockholders. Apple revealed that in addition

to their very good second quarter sales and income results, stockholders received both a two-for-one share split and Apple's first cash dividend.

Sales for the period ending March 27 were a whopping \$575.3 million, compared to \$408.9 million for the same period 1 year ago. This was an increase of just under 41 percent. Net income for the company rose from \$31.8 million to \$33.9 million, an increase of just over 6.5 percent. The reason, according to Apple, that the net income increased less than revenues is because of an increase in R&D spending and a planned reduction in gross margin.

All stockholders at the close of business on May 15, 1987 received the two-for-one stock split. A cash dividend of \$0.12 per share (\$0.06 post-split) was also declared.—DS

A New Dimension

Two well-known Apple employees, Guy Kawasaki and Scott Knaster, announced a number of months back that they were leaving Apple to form Acius, the U.S. subsidiary of the French-based ACI. Acius, as you might know, is set to release a "super" data base, entitled *4th Dimension*. When Apple, under lots of pressure, decided not to market *4th Dimension*, Guy and Scott got the marketing rights and decided that their time to leave Apple had come.

Guy Kawasaki was the Manager of Software Products at Apple, while Scott Knaster was Director of Developer Technical Support. Both made tremendous contributions to the Macintosh.

4th Dimension, developed under the code name of *Silver Surfer*, is a relatively easy to use, high-end data base that can best be compared to the likes of *dBase III* on the IBM PC. It allows for almost full use of the user interface: menus, dialogs, buttons, check boxes and so on, can be created with its command language. Other features of *4th Dimension* are serial port connectivity, picture manipulation, multi-user capability and the ability to use external procedures (code created outside *4th Dimension*).—DS

Shades of Star Wars

The newest entry in the SE accelerator board wars is Peak Systems' Orion. This nicely made and very fast board is built, as you would expect, around a Motorola 68020 chip running at 16 MHz. This is the same CPU chip you'll find in the Mac II.

As it comes from the box, the \$1995 Orion adds one megabyte of memory as well the 68020 to your Mac SE. There's room on the board for 8 megabytes of RAM (using 1-megabyte SIMMs—they list at 2 for \$895). If you decide to buy a 68851 MMU (Memory Management Unit—there's a socket for it on Orion) and can afford the 4-megabyte SIMMs that will be available later this year, you can put up to 32 megabytes of RAM on the board.

Also available as an option is a 68881 math coprocessor chip.



This \$295 option will dramatically speed up the performance of any program that does substantial number crunching (like *Excel* and *MacSpin*).

The dealer-installed Orion is simply inserted into the SE's expansion slot. And since it also has an identical slot built into its top surface, you don't have to

limit your expansionist tendencies to just the Orion.

Performance of the prototype board was outstanding. It typically made an ordinary SE appear intolerably slow. Some Apple benchmark tests ran significantly faster on the Orion than they did on a Mac II! Speed improvements ranged from a

mere 100 to 200 percent faster performance to literally several thousand percent faster on some very calculation-intensive tests.

For more information, or to get the name of your local dealer, contact Peak Systems, 1201 Spyglass, Austin, TX 78746. (800) 225-7509 or (512) 328-0747.—SB

In an Upswing

The screenshot shows the Trapeze spreadsheet application. The menu bar includes File, Edit, Font, Style, Format, Block, Sheet, and Environment. The title bar reads 'Subchapter S'. The main window title is 'Subchapter S Stock Schedule'. Below the title, there are two summary fields: 'Income' with a value of \$ 237,665.75 and 'Income Per Day' with a value of \$ 651.14. Below these is a section titled 'Share Ownership by Individual' which contains a table with 8 columns and 6 rows of data.

	27,000	46,500	46,500	48,900	52,500	59,833	62,500
Waspson	27,000	46,500	46,500	48,900	52,500	59,833	62,500
Eiffel	12,300	15,000	42,000	50,000	50,000	57,000	47,000
Washer	3,000	4,250	4,250	4,250	4,250	4,250	4,250
Fox	600	1,250	1,250	1,250	1,250	1,250	1,250
O'Grady	900	1,500	1,000	1,000	1,000	1,000	1,000

The eagerly awaited *Trapeze* spreadsheet was released in January to quick acclaim. However, the cheers became a bit muted as users discovered missing features and other problems. The potential was there and both the users and developers realized this. The publisher, Data Tailor, has now announced version 2.0

of *Trapeze*, and they say it should be available as you read this. Even though version 2.0 does not address all of our reviewer's criticisms (June '87), *Trapeze* is closer to what was originally promised: a spreadsheet with no limits.

The most important of the many changes in version 2.0 is

the ability to import data in several formats, including Lotus WKS files (which *Excel* can save to). Previously all data had to be imported through the Clipboard. And there's now a comprehensive Undo feature, additional chart types with more options, worksheet password protection, the ability to create larger worksheets and new, more powerful data base functions.

The authors of *Trapeze* also announced another version, set for release in early 1988. This version will include all of the features found in version 2.0 plus a powerful macro facility, full color support for the Mac II, three-dimensional charts and additional functions. Meanwhile, the upgrade to version 2.0 is free to all registered owners of older versions. You can get further information regarding *Trapeze* by contacting Data Tailor, Inc. at 1300 S. University Drive, Fort Worth, TX 76107, (817) 332-6836.—DS

Rap Sheet



Disk Librarian, the cataloging program reviewed in the April '87 Quick Clicks, has a new name—*DiskQuick*—and a new publisher—Ideaforms. Ideaforms bought the program and gave it a commercial makeover by removing bugs and adding speed and options. *DiskQuick*'s first version number is 2.0 to reflect its 9-month gestation period on bulletin boards and in user groups' libraries. The upwardly mobile program now retails for \$37.50 instead of the previous \$20 licensing fee.—BT

RUMOR MANAGER

Look for a "new" page description language (that's what some computers use to talk to some printers; PostScript is a page description language) to be marketed by Apple (or its software subsidiary). It'll be called AppleScript and will be the result of lots of collaboration between Apple and a well-known page description language company. It'll be very fast and make great use of the Mac.

A new graphics program, currently under development in the southwest, is looking for a publisher. The demos we've seen are already as good as *SuperPaint* and *GraphicWorks* 1.1. Look for a major publisher, maybe one in the Scotts Valley area, to pick it up and get it out by Christmas.

Recently our offices were graced by a new laser printer. This tiny (well, small) powerhouse might even be available as you read this. It's quick, it's nice, it has features you want and need, and it doesn't use PostScript (or AppleScript for that matter). And it's not from Apple. Price? It really doesn't matter. You'll be able to buy it for under \$2000. Start saving.

The Mac II is proving a hard nut for the game writers to crack. Color is simple, but sound (thanks in part to the 68020's own cache) is proving difficult. Thus, that predicted rash of color games is just going to be a trickle for the rest of the year.

Color monitors, on the other hand, are starting to

turn up in alarming numbers (we don't have room for all we have already). One of the best comes out of southern Florida of all places. Prices are OK now, but look for steep cuts as Mac II sales increase and Christmas draws nigh.

Several companies have indicated to us their intention to create a new generation of accounting software. All of them indicate that their programs will be far more flexible in their formatting abilities than anything currently available. We'll keep you informed.

ADB (Apple Desktop Bus) devices will start to appear in significant quantity and variety by the end of the year, but not before. Look for some really neat stuff.

Software prices are going to go up. A lot. Now that the Mac is a serious business machine, its software is going to command serious business prices. Be prepared for some real shocks. It might be a good idea to buy now, as the price increases that have been few and far between become much more common.

A few more Laptop Mac prototypes have been spotted, including a color model that recently spent a week in the editorial offices of each major Mac magazine (it was a short tour). It's spiffy, fast and overall a dream, but still (at 10 pounds) far too heavy. Production should start on whichever design is chosen around April 1988. I've already sent in my order.

Jasmine Abloom

Jasmine, known in the Mac community up to now for their fast and inexpensive 20- and 80-meg SCSI hard disks, has just introduced two new, and rather different, products. The first is a 40-meg SCSI hard disk that mounts on the back of your Mac Plus. Naturally enough, it's



called the BackPac 40. A Mac with a BackPac mounted will fit into virtually all Mac carrying cases, thus ending the problem of what to do with the hard disk when you transport the Mac.

The BackPac has several advantages over an internal drive. You can easily install it yourself, and doing so doesn't void your warranty. While some internal drives are sold as user-installable, none is easy to install, and opening the Mac's case voids your warranty. Another advantage is that if the drive fails, you can take it off and have it fixed. If an internal drive fails, your Mac is out of service until it is repaired. The BackPac comes with a 1-year warranty, data

recovery service and 30-day money back guarantee. And it is preloaded with over 8 megs of public domain and shareware software. List price is a very competitive \$1299.

The second product is a 10-meg removable cartridge system called MegaDrive. Ranking high in every list of the advantages of removable cartridges is security. You can take the data out and lock it up. Never running out of space is another advantage.

The 5.25-inch cartridges, which Jasmine calls megafloppies, behave very much like large floppy disks, but are as fast as a hard disk. That's a hard combination to beat. The cartridges list for \$39.95 each and



are also available in three packs for \$109.95. The MegaDrive itself lists for \$999.

You can get more information on these products from Jasmine Technologies. They're located at 555 DeHaro Street, San Francisco, CA 94107 and their phone number is (415) 621-4339.—SB

UPDATES

Programs, like people, change over time. To get the most out of your programs, you should be using the most recent versions. Here's a list of the current version number (as of press time) of many popular programs. The

version number of a program can usually be found by running the program and checking the About... item at the top of the Apple menu.

Apple System software is special. If you don't have the latest

System and Finder you can get them free from an authorized Apple dealer. Be sure to bring in a blank disk or two, though. Also be sure to see the special note on Apple System software elsewhere in New On The Menu.

The meanings of the codes in the right column are as follows: CP or NCP, copy protected or not; +, known to be HFS compatible; -, known not to work under HFS; S, shareware; and 5, requires at least 512K of RAM.

Acta	1.2	NCP, +	Fontographer	2.3	CP, +, 5	MacProof	2.0	NCP, +	Quick & Dirty Util.,		
Aztec C	1.06H.1	NCP, +	Front Desk	3.02	NCP, -	MacSafe	1.03	CP, +	Vol. 2	1.1	NCP, +
Back to Basics	1.03	NCP, +	FullPaint	1.0	NCP, +, 5	MacServe	2.1	CP, +	Rags to Riches	3.0	CP, +
Balance of Power	1.03	CP, +	Gato	1.42	CP, +	MacSpec	1.3	CP, +	RagTime	1.1	CP, +
Business Filevision	1.1	CP, +	Hard Disk 20	1.1	NCP, +, 5	MacSpin	1.1	CP, +	Ready, Set, Go! 3	3.0	NCP, +
CalendarMaker	2.2.1	NCP, +, S	Hard Disk Utility	2.0	NCP, +, 5	MacSpool	2.1	NCP, +	Record Holder	2.1	NCP, +
Chooser	3.1	NCP, +	Helix	2.0r11	NCP, +, 5	MacTerminal	2.0	NCP, +	REdit	1.2	NCP, +
ColorChart	1.3	NCP, +	Helix, Double	DH1r35	NCP, +, 5	MacTools			Red Ryder	9.4	NCP, +, S
ColorMate	2.1	NCP, +	HFS Backup	2.01	NCP, +, 5	(MFS/HFS)	6.5	NCP, +	Reflex	1.0	NCP, +
ColorPrint	2.03	NCP, +	HFS Locator Plus	1.4	NCP, +	MacWrite	4.5	NCP, +	ResEdit	1.1d12	NCP, +
Comic Strip Factory	1.5	NCP, +, 5	ImageWriter	2.6	NCP, +	Mac Zap Copier	4.52	NCP, +	Sargon III	1.0	CP, +
ComicWorks	1.0	NCP, +	ImageWriter, Apple-			MailManager	1.0	CP, +	SideKick	2.0	NCP, +
ConcertWare+	3.1	NCP, +	Talk	2.6	NCP, +	Measure Test	8.3	CP, +, S	Silicon Press	1.1	NCP, +
Copy II Mac	6.5	NCP, +	InTalk	2.1	CP, +	MicroPhone	1.0	NCP, +	Slide Show Magician	1.3	CP, +
Copy II HD	6.5	NCP, +	Jazz	1A	CP, +, 5	Micro Planner Plus	5.7	CP, +	Smartcom II	2.2B	NCP, +
Cricket Graph	1.1	NCP, +, 5	JustText	1.1	NCP, +, 5	MindWrite	1.1	NCP, +	SoundCap	4.4	CP, +
DesignScope	1.14	NCP, +, 5	Laser Prep	4.0	NCP, +	miniWriter	1.34	NCP, +, S	SpellNow	1.0	NCP, +
Desk Accessory			LaserWriter	4.0	NCP, +	MockPackage+	4.3.4	NCP, +, S	Spellswell	2.0	NCP, +
Mover	1.4	NCP, -, S	Lightspeed C	2.01	NCP, +	MORE	1.1	NCP, +	StatView 512+	1.0	NCP, +
Disk Express	1.10	NCP, +, 5	Lightspeed Pascal	1.0	NCP, +	MS BASIC	3.0	NCP, +	StatWorks	1.2	NCP, +
Disk First Aid	1.0.1	NCP, +, 5	Lode Runner	1.0	CP, +	MS Chart	1.0	CP, +	Studio Session	1.2	CP, +
DiskInfo	1.45	NCP, +, S	Mac-3D	2.0	CP, +	MS Excel	1.04	NCP, +	SuperPaint	1.00	NCP, +, 5
Disk Ranger	2.6	NCP, +	MacASM	2.0	NCP	MS File	1.05	CP, +	Switcher	5.1	NCP, +, 5
Dollars & Sense	1.4	CP, +	MacBillboard	4.01	NCP, +, S	MS Fortran	2.2	CP, +	System (MFS-128K)	2.0	NCP, +
Easy3D	1.01	NCP, +	Mac C	5.0	NCP, +	MS Word	3.0	NCP, +	System (HFS)	4.1	NCP, +
Edit	2.0	NCP, +	MDS	2.0	NCP, +	MS Works	1.0	NCP, +	Tempo	1.1	NCP, +
ExperLogo	1.1	NCP, +	Mac Disk Catalog II	2.1.1	NCP, +	Multipan	1.1	NCP, +	ThinkTank 512	1.3	NCP, +
Fedit Plus	2.0	NCP, +	MacDraw	1.9	NCP, +	MusicWorks	1.1	CP, +	Thunder!	1.0.1	NCP, +
FileMaker	1.0	NCP, +	MacDraft	1.2a	NCP, +	myDiskLabeler	2.11	NCP, +	ThunderScan	3.2	NCP, +
FileMaker Plus	2.0	NCP, +	MacGolf	2.0	CP, +	Neon	2.0	NCP, +	TML Pascal	2.01	NCP, +
Filevision	1.0	CP, +	MacInTalk	1.1	NCP, +	Omni III Plus	3.24	CP, +	TMON	2.585	NCP, +
Find File	1.1	NCP, +	MacLabeler	2.2	CP, +	OverVUE	2.1	NCP, +	Top Desk	2.1	CP, +
Finder (MFS-128K)	4.1	NCP, +	MacLightning	2.0	NCP, +	PackIt III	1.2	NCP, +, S	TurboCharger	2.0	
Finder (HFS)	5.5	NCP, +, 5	MacMoney	2.02	NCP, +	PageMaker	2.0	NCP, +, 5			
FlashBack	1.4	NCP, +	MacNosy V2	2.47	NCP, +	PictureBase	1.2	NCP, +	VersaTerm	3.0	NCP, +
Flight Simulator	1.0	CP, +	MacPaint	1.5	NCP, +	QUED	1.55	NCP, +	VersaTerm Pro	2.0	NCP, +
Fokker Triplane	1.0	CP, +	MacPalette	1.0	CP, +	Quick & Dirty Util.,			VideoWorks	1.1	NCP, +
FontTastic	2.7	NCP, +	MacPascal	2.1	CP, +	Vol. 1	1.6	NCP, +	Word Handler	1.6	NCP, +
Font/DA Mover	3.5	NCP, +	Mac + JI	3.0	NCP, +				WriteNow	1.0	NCP, +
			MacProject	1.1	NCP, +				ZBasic	3.02	NCP, +

Summer Sale - Part Two

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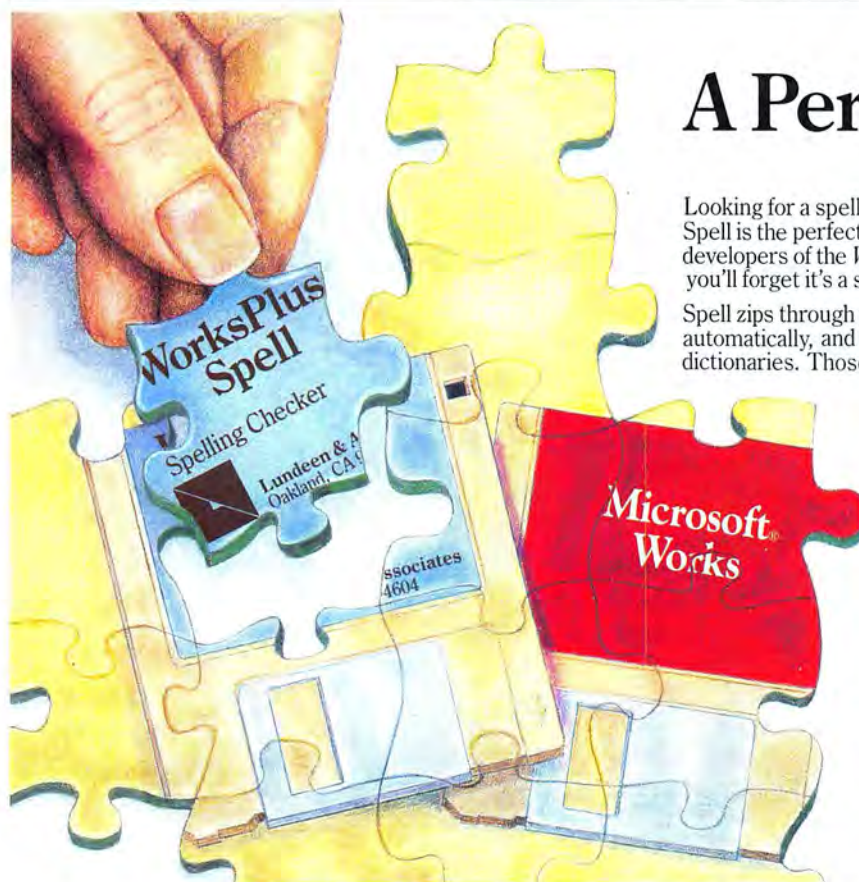
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SDMUG Resources, February 1987

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2. Set your modem for local echo (half duplex)—300 or 1200 baud.
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**How many times have you
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to start up another to type a
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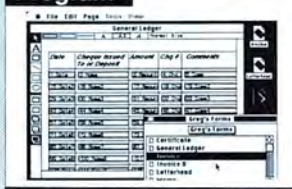
New! Now supports automatic
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**Fast
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construction kit

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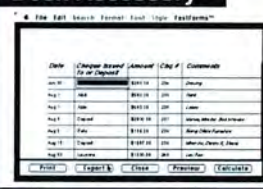
If you are like most other Macintosh users, your answer to this question is probably "Too Often!". FastForms Construction Kit consists of two programs: a powerful drawing application that lets you create forms, letterheads, newsletters and about a zillion other documents, **and** a convenient desk accessory that provides you with instant access to any of your FastForms creations. The drawing program features nifty tools such as grey screens, foreground and background drawing planes for visible and invisible objects, text editing, interactive fields, hairlines, and some unique object alignment and distribution tricks. Once your document has been created, the desk accessory can retrieve it from FastForms own built in hierarchical file system from within any other program. From the desk accessory, tab to move from field to field entering in data. Then print, file and get back to work. Type a letter complete with letterhead graphics and print with the LaserWriter, add a loaf of bread to your shopping list, create an on-line help file, write and print a cheque (FastForms can even balance your bank account!) or fill out an invoice that totals all items, plus adds tax - all without interrupting your regular work! You could even scan your forms and trace over them with the drawing program, then fill them out with the desk accessory and print. What could you use FastForms construction kit for? Explore the possibilities and get your FastForms Kit today!

Program



Design your own professional forms with the drawing program. Specify interactive fields for entering information. Create letterheads, invoices, labels and much much more!

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Use the Desk accessory for instant access to your forms. Enter data into fields then print to the LaserWriter or ImageWriter, all without quitting the program you were working with!

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First and Foremost

The United Kingdom's first official Mac show will take place in London, November 10-12, 1987, under the aegis of *MacUser* magazine UK, at the Business Design Centre. Over £100,000 has been budgeted for a

two-pronged advertising promotion, targeting both current and potential Macintosh owners, and including joint promotions with exhibitors. Part of the impetus for this venture comes through the introduction of the Macin-

tosh SE and Macintosh II. To quote one of the show's promotional letters: "The Mac SE and the superb Mac II prove beyond a shadow of a doubt that far from being a dead end street, the Macintosh route is now a six-

lane highway." For exhibitor information, call Lynda Elliott in London at 011-441-631-1433. You can get ticket information by writing to The MacUser Show (Tickets), 14 Rathbone Place, London W1P1DE.—LK

Life Imitates Art

If you've ever read anything by Douglas Adams (whose latest computer offering, *Bureaucracy*, is reviewed in this issue), you might get the idea that he lives in a world other than the real one. You might be right, too. However, sometimes worlds collide, as Adams and British Telecom can attest.

Adams' latest book, *Dirk Gently's Holistic Detective Agency*, was recently published in England and is due out in the US any day now. Adams, a dedicated

Mac fanatic as well as a writer, needed a fake telephone number for the Gently office. He checked with British Telecom to get an unused number. Somehow two of the digits were transposed and the number in the book is (in the real world) the number of a government branch office in Islington. No doubt by the time you read this, the office will have a new number as unlike Dirk Gently's as possible. Give the British government a break—don't call.—LK

DIALOG BOX OF THE MONTH



OK

Real Mac users don't need Help!

And they don't eat quiche, either. How would you like it if you clicked on help and you were presented with this? Well, If you had *RamDisk+*, a shareware RAMDisk utility, and you clicked on its Help button, you'd see this dialog prior to obtaining the help you so desperately needed. *RamDisk+* is

an excellent utility (with a shareware fee of \$15) that was written by Roger Bates of Hillsboro, OR.

Have you come across any unusual dialog boxes recently? If you have, share them with us. Send your dialogs to MacUser Dialog Box, 25 West 39th Street, New York, NY 10018.—DS

DEFORMED.

Forms deformed? If producing a presentable form has always been a formidable task, you'll appreciate the scene on the far right. It's TrueForm™—the first and only Macintosh™-based system that lets you deftly deal with any form you feed it.

TrueForm is not just another forms software package, although it does offer you a choice of 20 ready-made forms to use. And it's not just a design-your-own-forms program, yet it lets you do that, too.

If you fill out lots of forms, lots of different kinds of forms or forms supplied by other people, TrueForm will transform your working world.

Feed any form into TrueForm's Image Scanner, and it's transmitted to your screen. Complete with logo and graphics. In seconds.

Target Insurance
Family Car Insurance Application

1. Policy Term: From 12:01 AM Mar 3, 87 to 12:01 AM 3/31/88 AGENCY: Tel: Spectra 400-2018 LOCATION: Spectra, NY

2. IS COVERAGE BOUND? ☐ YES ☐ NO

3. Name of applicant: (Please type or print) Job: *6022861*

Address: 114 Main St City: *Island* Zip Code: *01570*

County: *Franklin* Township: *Franklin* Tel. Number: *555-1212*

4. Lienholder: Vehicle #1: *First National Bank* Vehicle #2:

5. COVERAGES AS DEFINED LIMITS/Deductibles Auto 1 Auto 2 Rate Factor Total

A. LIABILITY	100/300/50			
Body Injury				
Property Damage	50/500			
B. MEDICAL PAYMENTS	50/500			
C. COLLISION	<i>100/50</i>			

6. Description of vehicle(s):

Car	Year	Trade Name	Body Type	Serial Number	Actual Cost
1	87	<i>Corolla</i>	<i>Two-door</i>	<i>1077854/6-5-750-22</i>	<i>100000</i>
2				<i>123456789012</i>	

7. Have you been or are you now insured by Target Insurance? ☐ Yes ☐ No

8. Statement of all accidents and traffic violations during past 36 months for all drivers:

Name of Driver	Date	Accident	Violation	At Fault	Not at Fault
<i>Sam DeFazio</i>	<i>1/1/86</i>	<i>Reckless</i>	<i>Speeding</i>	<i>yes</i>	

I have read the foregoing and fully understand same and have answered all the questions and warrant them to be true and complete in every respect, and that the insurance herein applied for is subject to this application and in the event a policy is issued, the drivers herein made a part of said policy, and I further agree that the above named company is not bound by any knowledge or statement made to any agent unless written herein.

Signature of Applicant: *[Signature]* Date: _____

Next, you teach your computer how to fill out the form. You can supply information from your keyboard, or merge information from any database, or use TrueForm as an incredible forms-oriented spreadsheet.

Then print your perfect form with your LaserWriter® or ImageWriter®. Print the information on an original form. Or produce the entire completed form—graphics and all—on blank paper. Eliminate the problem of obsolete or out-of-stock forms inventories. Plain paper may be the only form you'll ever need again!

TrueForm makes it easy to set up a form, choosing the type font, size and style for each field. And with TrueForm you can capture and store both the forms you use and the data on them. Recall and reuse them. Save hours every day.

Point of Reference



As PostScript capable printers gain popularity in both the Macintosh and IBM worlds, more programmers are turning to this page description language. To aid these programmers, the editors of the *PostScript Language Journal* have just introduced the PostScript Programmers Instant Reference Card, a letter-sized plastic sheet.

One side of the plastic card contains short descriptions of all the PostScript operators and their effects on the stack (LaserWriter Statusdict operators are also shown). Also on this side of the card are listings of PostScript errors and their descrip-

tions. The other side of the card has PostScript code segments, showing how to create various PostScript effects. Definitions of the most common PostScript terms are also given.

This sheet is recommended for any PostScript programmer who seems to be constantly turning to Adobe's *PostScript Language Reference* or Apple's *Inside LaserWriter* manuals. The reference card costs \$5.95, plus a \$1 shipping fee, and it may be obtained by writing to PostScript Sheet, c/o *PostScript Language Journal*, PO Box 5763, Parsippany, NJ 07054; or call (201) 334-0772.—DS

BUG OF THE MONTH

Our award this month goes to Jake Szramek of Salem, Oregon. He stumbled upon the bug when he tried using the new (version 3.0) *Control Panel* DA that he received with his new two-drive Macintosh SE system.

It's easy to duplicate this bug, you just need to be using the Mac SE System software and the System Tools disk that comes with it. The System Tools disk for his SE contained version 5.4 of the *Finder*, version 4.0 of the *Chooser* and *Control Panel* desk accessories. The bug occurs only when using disks; all hard drives must be powered off.

After booting his new SE with the System Tools disk, Mr. Szramek went to the *Control Panel* desk accessory. He noticed an icon on the left side that said "Startup Device" and clicked on it. This icon, for you non-SE owners, lets you specify one of the hard drives that is connected as the default startup drive

for the SE. When nothing happened, he then decided to click on another *Control Panel* resource icon. As soon as he tried, the machine crashed.

When we reproduced the bug here, we received a flurry of different types of bombs. Sometimes we'd get a System Error bomb with an ID of 2. Other times the mouse froze up and we were helpless. One time the screen produced a series of flickering patterns.

Mr. Szramek was the (un) lucky winner of the \$25 prize this month. Maybe it could be you next time. You can't win if you don't enter. Send any bugs that you may have stumbled upon to Bugsy, c/o MacUser, 25 W. 39th St., New York, NY 10018. Always remember to include all of the related details, including what *Finder* and *System* versions were used, what non-standard DAs were installed, etc., and exactly what you did to get the bug to appear.—DS

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Family Car Insurance Application

1. Policy Term: From 12:01 AM to AGENCY LOCATION

2. IS COVERAGE BOUND? ☐ YES ☒ NO

3. Name of applicant: (Please type or print)



Target Insurance

Family Car Insurance Application

1. Policy Term: From 12:01 AM to AGENCY LOCATION

2. IS COVERAGE BOUND? ☐ YES ☒ NO

3. Name of applicant: (Please type or print)

Address City Zip Code

County Township Tel. Number

4. Licenseholder: Vehicle #1 Vehicle #2

COVERAGE AS DEFINED	LIMITS/DEDUCTIBLES	Auto 1	Auto 2	Rate Factor	Total
A. LIABILITY					
Bodily Injury	100/300/50				
Property Damage	500000				
B. MEDICAL PAYMENTS	500000				
C. COLLISION	50000				

5. Description of vehicle(s):

Car	Year	Trade Name	Body Type	Serial Number	Actual Cost
1	87	Mustang	Mustang	197122/197122	197122

TrueForm works with the Apple® Macintosh 512, Macintosh Plus, Macintosh SE, and Macintosh II. (Scanner requires a SCSI interface.)

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The Barbecue Brothers would rather bake beans than count them.

It's only the best chili in the whole doggone state.

But it might not be, if Larry Keenan and Curt Fischer had to spend more time balancing their books and less time balancing their spices.

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That means all the information is right there on the desktop. So the guys can see at a glance things like their checking balance, or the amount they spent on hot peppers

last month. They can also call up context-sensitive help windows anytime they need them.

Larry and Curt also like the fact that In-House Accountant, unlike other software designed merely to automate paper-based systems, was developed from scratch to take full advantage of their Macintosh's power.

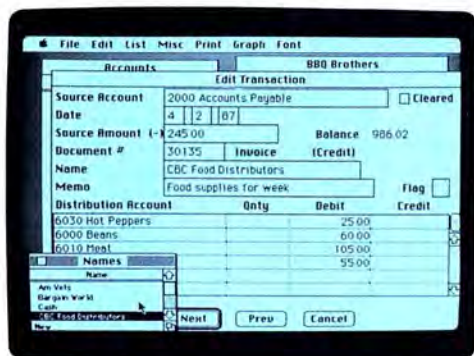
The result is that when they enter a transaction, all related items in other lists are updated immediately. So there's never a need for "posting." And to handle payables and receivables, the guys simply zip among their various accounts without ever having to change modules, or even close a window.

The program also lets them search for and change any entry in the current fiscal year, so they're not forced to close the books at the end of the month. It even lets them print balance sheets—or reports, with bar graphs and pie charts—anytime they want.

But mostly, In-House Accountant just lets the guys do what they do best.

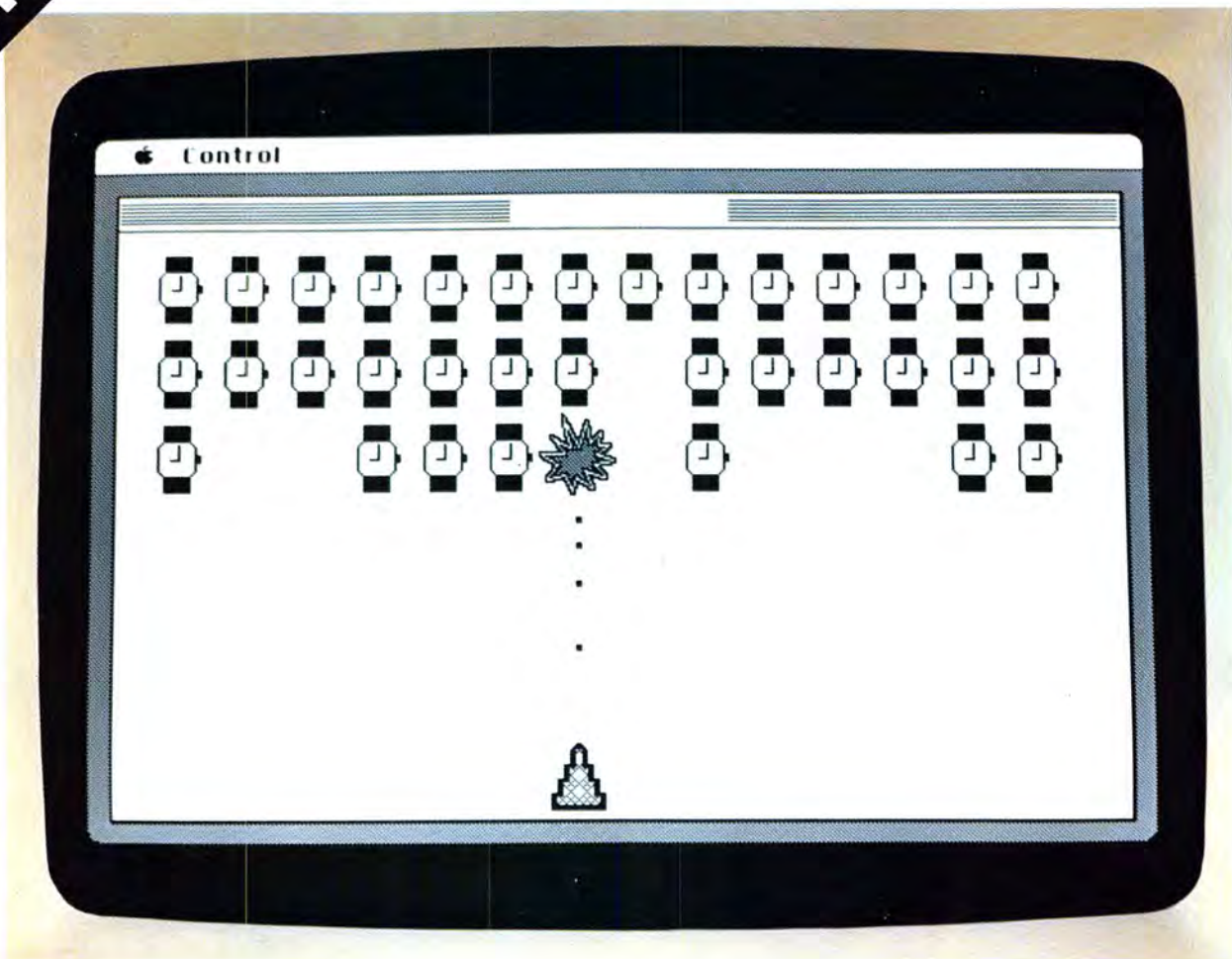
Which is make the best chili in the whole doggone state.

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by Robert R. Wiggins

Beyond The Blue Horizon

April 2 was a big day over in IBM world—the long-awaited Personal System/2 was announced. I was attending the Apple Developer's Conference in Santa Clara, California, and it happened that IBM was presenting its announcement locally at the same hotel. Scott Knaster of Apple got his hands on some IBM buttons which we put on (tactfully removing our Apple badges). Since we were wearing suits and blended right in, Scott, Guy Kawasaki and Bob Perez (from Apple Evangelism) and I wandered into the IBM demos. (As of this writing, Scott and Guy have left Apple to form their own company, ACIUS, which will distribute *Silver Surfer* — aka *Fourth Dimension* — the database program Apple wouldn't publish.)

It was a choreographed marvel. There were IBM reps scattered throughout the new Santa Clara Techmart, directing people to the demos and buffet lunch. All four systems were shown, and the audience oohed and aaahed over the color graphics. The highlight for me was Bob Perez asking the IBM rep how the "pointing device" attached (heaven forbid IBM use a non-technical term like "mouse"). That and an IBM rep saying how *PageMaker* for the PS/2 will print on "the LaserWriter...er, laser printer." The buffet was also delicious, and after we

got through with it there wasn't much left for the paying customers. (Perez, Knaster and I aren't small people.)

The real question, of course, is not how was the paté, but what do the IBM announcements mean to the business market?

In February, the top of the Macintosh line (the Mac Plus) and the top of the IBM line (the PC AT) were comparable in power, with the edge going to the Mac Plus in several independently run benchmarks. Then in March, the top of the Macintosh line became the *bottom* of the line, with the Macintosh II moving into the top slot with some amazing power and features. Now, with IBM's announcements, their line extends from below the Mac Plus (the PS/2 Model 30) to the Mac II area (the PS/2 Model 80), with two intermediate steps (the 50 and 60) instead of one (the SE).

At first glance, the new IBM line seems to be formidable competition for the Macintosh line. They offer extended graphics, have "pointing devices" and are based on hot new microprocessors (the 80286 and 80386). But on closer inspection, the blue smoke clears and the true picture emerges.

Graphics: IBM is touting 256 colors from a palette of 256,000 on the PS/2. While not quite as impressive as the Mac II's 256 out of 16,000,000, it's still respectable—until you read the fine print. In 256-color mode IBM's resolution drops to 320 X 200 while the Mac II stays at 640 X 480. To my untrained eye, the Mac II has a big edge in legibility and crispness in all modes. The Mac II color monitor from Apple is so sharp and clear that when only black and white are on the screen you'd never suspect it wasn't just a slightly larger black and white display.

Operating Systems: This is the bone

that is going to stick in users' crawls, at least until 1988. Yes, IBM announced the incredible multi-functional amazing OS/2 for the PS/2. But availability was announced for 1988. IBM also is making much of Systems Application Architecture, which is supposed to "standardize" the interface across their product line, but this is so far just a promise, not a product.

Multitasking: The hot topic of 1987 is multitasking. Everyone wants to do more than one thing at a time. And OS/2 is, you guessed it, multitasking; users will be able to run multiple programs at the same time. The Mac operating system (the existence of which most Mac users never even know about since it is so well integrated) is not a true multitasking system. With desk accessories, however, a semblance of multitasking is available, and more and more powerful desk accessories are released each month. One major shortcoming with desk accessories has been the difficulty of installing them and the limited number of "slots" available. But with the release of *DA Mob* (one of this month's Pinstripe Picks) these hurdles have been removed. There are also rumors swirling about in the trade press of a true multitasking operating system for the Macintosh under development by Apple.

Connectivity: Neck-in-neck with "multitasking" for buzzword of the year is "mainframe connectivity." Since IBM makes mainframes as well as the PS/2, they have a vested interest in this connectivity, and the PS/2 has multitudinous options available for connecting to IBM mainframes. But Apple hasn't been ignoring this area either, and has been offering the same built-in asynchronous communications capability as the PS/2 for over 3 years now. And Apple is working with third-party developers like



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Avatar and Tri-Data to offer enhanced IBM 3270 connectivity (which Apple has offered since 1984 via its AppleLine product). One advantage Apple has in the connectivity sweepstakes is that there are a lot more things out there to connect to than IBM mainframes, and Apple offers DEC and EtherNet connectivity as well.

What it all boils down to is that the PS/2 is a product line that has the appearance of comparing favorably with

IBM announced the incredible multi-functional amazing OS/2 for the PS/2. But availability was announced for 1988.

the Macintosh line, so that people who really want that IBM logo on their machine can justify their decision. But this favorable comparison is a two-edged sword, since by offering a more graphic interface with "pointing devices," IBM has legitimized the Macintosh interface in the eyes of many industry analysts. The PS/2 also has the appearance of power, especially the Model 80 with its 80386. But for power *now* (as opposed to 1988), the Macintosh II offers a whole lot more than the PS/2. For one thing, with an 80286 add-on board, the Mac II can run MS-DOS programs. Many people have been locked into the IBM world by vertical market applications that only come in the IBM flavor. Now they can run these applications in a Mac II.

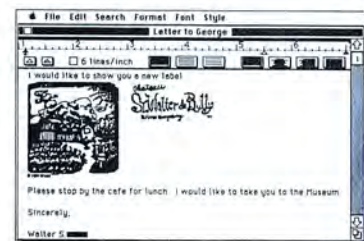
At least one industry wag characterized the IBM announcement as "The Empire Strikes Back." But the "rebels" being struck against are the IBM clone-makers rather than Apple. IBM has gone to considerable lengths to make the new machines more difficult to copy, and they may in fact be able to reclaim the leadership in their own market. But in the overall market, IBM's new line should actually strengthen Apple's line in the short term. With the lag time before OS/2 is available, Apple has also been handed a long lead time to work on improving their operating system. It is significant that Apple stock went up and

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Still drawing "Pretty Pictures" with MacProject?

Those in the know have switched from MacProject to MICRO PLANNER PLUS. Apple's own software and hardware engineers have switched to MICRO PLANNER PLUS for mainframe power made easy on the Macintosh™.

From the Venus Orbiter to business startups, managers are switching to MICRO PLANNER PLUS to get projects done on time and on budget.

R.D. Warshawer, Planning and Scheduling Manager, GTE/Government Systems, Strategic Systems Division — from his MICRO PLANNER review. "My evaluation of the software is that it is a superior package, very user oriented, with good documentation . . . The structure makes the maximum use of the Macintosh™ interface, allowing the user to become adept rather rapidly. Users who are familiar with the networking techniques will find this product falls between MacProject (a low-end planning tool) and Artemis (a super powerful mini/mainframe tool). In fact, this product appears to have similar functionality to the Artemis system . . . **For those who find MacProject inadequate** . . . and Artemis too much for their needs, MICRO PLANNER PLUS should be an excellent tool . . . One of the most important features . . . is the ability to save the 'plan' and assess progress against the plan as the actual work progresses. The lack of this capability is what makes MacProject's use extremely limited."

From 'Project Management' by Barry Keating, *Macazine*, June 1986

—"**Carl Sanchez, Chief of Planning for the Launch**

Control Systems Divisions of Martin Marietta . . . As an

individual who must both plan and control projects, he has used both MacProject and MICRO PLANNER PLUS (as well as mainframe versions of project management software such as Artemis). While he 'cut his teeth' on MacProject . . . Sanchez believes MICRO PLANNER PLUS to be a much more powerful tool for practitioners than MacProject. Many people at Martin Marietta use MICRO PLANNER PLUS not only for its power but because its learning curve is quite short . . . (less than a day for some people) . . . MICRO PLANNER PLUS has the best training curve of the project management software."

Another user who has switched from MacProject to MICRO PLANNER PLUS is Mike Krueger of Natural Intelligence . . . Krueger, like Carl Sanchez, started out using MacProject but soon found that his job required the sophistication found in MICRO PLANNER PLUS. MICRO PLANNER PLUS is . . . being used to develop the schedule for producing Natural Intelligence's first product . . . (software with an expert systems or artificial intelligence capability).

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IBM stock went down following the announcement.


SELLING THEIR SOCKS OFF


One thing that the IBM announcement showed was that IBM is still a great marketing company. They replaced the "Little Tramp" with his humorous connotations with a more businesslike mythical office populated by the actors from *M*A*S*H*, a group of people that come with a built-in feeling of warmth for many people. The print and television campaigns are very warm and friendly, while imparting the idea that the new PS/2 is a good productivity tool.


Another good marketing strategy is the introduction of SolutionPacs, packages of software bundled with hardware for specific jobs. For instance, the Desktop Publishing SolutionPac includes *PageMaker* and DOS already installed on the system hard disk. IBM even made a selling point out of the fact that not all IBM dealers will be allowed to sell the PS/2.


PINSTRIPE PICKS



Hard disks are a way of life for business users, and managing the large numbers of files on hard disks can become troublesome. This month's Picks focus on products that can help business users enjoy greater productivity managing hard disks:

 **PowerStation:** (from Software Supply)—Power users will dance with glee as this *Finder* replacement frees them from the HFS folder morass. Most effective when used with the following products:

 **DA Mob:** (also from Software Supply)—a silly name for an amazing product. Put it in your System folder, and it will automatically open desk accessory and font "suitcase" files (created with *Font/DA Mover*) and install their contents under the Apple and font menus.

 **DiskTools:** (from Electronic Arts)—a file and disk maintenance desk accessory that complements the functions of *Finder* replacements like *PowerStation*. Part of BatteryPak.

 **DiskInfo:** (from Maitreya Design)—another disk and file DA for keeping track of what's going on. Shareware.

 **DiskTop:** (from CE Software)—yet another disk and file maintenance DA that has a few extra features. (NOTE: I did write the manual for version 2.0 of *DiskTop*, but I was recommending the product even before I was asked to do so.) 

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by Michael D. Wesley

Publish Or Perish

It starts with years of planning, figuring out how everything would fit together, collecting scraps of paper with notes about this event or that unusual character. The scraps go into a file which was carefully kept in a secret place, waiting for just the right time.

One day, the moment arrives. Perhaps there is enough time and energy now, or perhaps the drive has simply become overpowering and everything else is shunted rudely aside. The folder comes quietly out of its secret location. Creation may occur in bits and snatches, whenever a few moments can be found, or all at once in a manic flurry of energy. After many months of banging on the keyboard of a Macintosh and a lifetime of mental planning, the process is complete. The world witnesses the birth of a brand new bouncing baby...book.

Filled with the pride of accomplishment the book's creator lovingly sends the manuscript off to the publisher. Or publishers. The first "Thank you for your submission but I'm afraid this work doesn't fit into our current plans" rejection letter is met courageously, with a stout heart and a firm conviction. After the twenty-third, comes self-doubt.

Eventually, though, good news arrives. A New York publisher is interested in the book and negotiations begin. Although deep down the writer understands that there isn't much to hope for as a first-time author, daydreams of awards, critical acclaim, monumental sales and advances of seven figures fill the train ride to New York. The return trip is more down to earth, as the author stares blankly at a check for \$2000 and a written promise that the publisher will promote the book as much as possible.

The anticipation of seeing the book in print soon obscures the initial disappointment over money. A package arrives and is torn apart almost before it leaves the delivery person's hand. A book is withdrawn. Confused, the author looks for something on the cover that would identify this as the same book that was so lovingly crafted in this very room. Yes, the author's name is there. But the title and subtitle have changed slightly, from "A Brief History of the California Wine Country" to "Wino's Paradise: A

Tale of Lust, Liquor and Lewdness in Sonoma." A cover letter talks glowingly about the book and explains that the title change was a result of a limited advertising budget for the product. It is hoped that the title and cover art will pull in some sales by themselves.

DO-IT-YOURSELF PUBLISHING

This fictionalized account is obviously exaggerated, but anyone who has dealt with book publishers may recognize a core of truth. Creative people often have to give up a tremendous amount of control over the final product in order to see a work published, displayed or distributed. How much control you can retain, and how much money you make, are often a factor of how much success you've previously demonstrated.

One way to avoid the headaches of dealing with publishers is to produce your work yourself (thus becoming a publisher and having a whole new world of headaches to face). This has always been an option, but until desktop publishing became a reality, the costs were



prohibitive and the technology was a mystery. Without some heavy duty industrial strength distribution, there wasn't much hope of recovering the money spent on design, production, typesetting, printing, marketing, etc.

Along comes Macintosh—and Laser-Writer and page layout software—and suddenly it's really possible to publish yourself. Desktop publishing may or may not save time or money (depending largely on what goes in the book and how nice it needs to look) but it does put you in control of the process, from start to finish. Suddenly, the statement "It's MY book" takes on new meaning.

WHAT! ME PUBLISH?

I think there could be some major changes coming in the way book publishing happens, and self-publishing, or

small house publishing, will grow by leaps and bounds. This belief is spurred (and possibly skewed a bit) by the fact that I've received several self-published books in the past few weeks. They're all quite different, not just in content or style, but in the way they came about. They all point to some interesting possibilities for the future of book publishing.

Type, Graphics, and Macintosh is a spiral-bound, 92-page book that started out as a class project for John Richard Balint. John, a senior at UC Santa Barbara, "convinced the executive committee of the university that desktop publishing was more than just a trendy craze" and proposed a curriculum for computer-based graphic design.

The book is a user's guide to *MacDraw* and *PageMaker*, in the sense that it shows you how to do specific, design-related tasks with each. With only 92 pages, it can't be a thorough *MacDraw/**PageMaker* manual, and it isn't. But it does provide some very useful techniques for both programs and for design, and a glossary of typographical terms.

There are three chapters, "Creating Perspective With the Polygon Tool," "Typography and the Macintosh Plus" and "Technical Drawings With *MacDraw*." The last of these shows how to create and use an isometric grid with *MacDraw*, which is very handy for drawing three-dimensional objects.

Type, Graphics, and Macintosh is beautifully presented. The design is clean and professional looking. If you want to do desktop publishing, but you don't know as much as you'd like about design or could use some practical techniques with *MacDraw*, you might want to give this book a look. You get it from Computer-Based Publications Design, PO Box 23037, Santa Barbara, CA 93121.

THEY MADE A MONKEE OUT OF ME

This one's a bit different. It's the autobiography of Davy Jones, the British rocker from The Monkees, in conversation with Alan Green. Another celebrity autobiography? Ah, yes, but this one was done on a Macintosh. Alan Green joined David Jones' band in 1979, long after the Monkees, and the two of them have assembled a fairly typical celebrity autobiography. Davy tells stories about his childhood, about the Monkees, about his wife and children and the breakup of his first marriage, about his career after the Monkees and his second wife and so on. The book is filled with candid photos of the Monkees, as well as pictures of David as the Artful Dodger in "Oliver" on Broadway and so on. There are even

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check stubs, notes and odds and ends.

I generally hate celebrity autobiographies. But I used to love the Monkees when I was a kid, so I decided to read it. I mean, after all it was done on a Macintosh. Although the book varies from really interesting to really boring, it is very funny in spots.

They Made a Monkee Out of Me is even more interesting as an exercise in desktop self-publishing. Alan Green explains in the introduction that the main reason for taking the DTP route was to have complete control over the creative process and be able to price the book low enough for kids to get it (\$11.95 + \$3.00 shipping and handling). This book is also well done, and quite professional looking for a first effort. It is available from Dome Press, PO Box 400, Beavertown, PA 17813.

WHALE SONG

I'm cheating a tiny bit on this one. *Whale Song* is not exactly a self-publishing effort. It is and it isn't—Bob Goodman has published other books using traditional methods. His other books have won awards like crazy. *Whale Song* is the first book he's published using Macs and LaserWriters, assembling what he calls a "publishing company without walls." *Whale Song* is a coffee table book (which means looks are very important), yet uses LaserWriter type for all the copy. And it does so very successfully. The book is gorgeous, thanks to some interesting techniques like the use of a special paper that optimizes the LaserWriter output.

Whale Song is a pictorial history of whaling and Hawaii. In addition to spectacular photos of whales, the book is filled with fascinating details about whales and whaling, and an important era in the history of Hawaii. It also has a very interesting section on how the book was produced. *Whale Song* is well written and gorgeously photographed and I think you should buy it—not only because it's a great book and an extraordinary example of desktop publishing, but also because all the proceeds go to the Whale Song Fund for marine mammal research in Hawaii.

Whale Song has won awards from Aldus Corporation, and was runner-up for the grand prize at the NCA convention of typographers.

Whale Song is \$24.95 and is available through special order from your bookstore or directly from Beyond Words, 112 Meleana Place, Honolulu, Hawaii 96817. (808) 595-8166. Add \$4.20 for priority handling.

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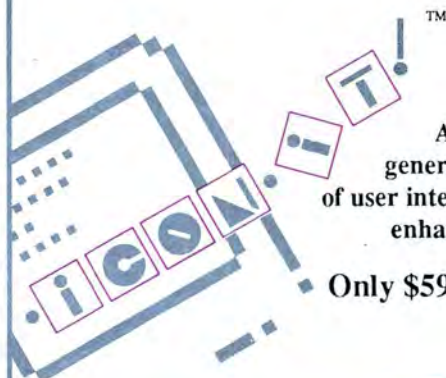
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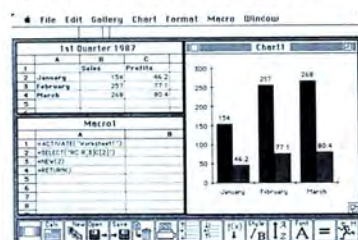


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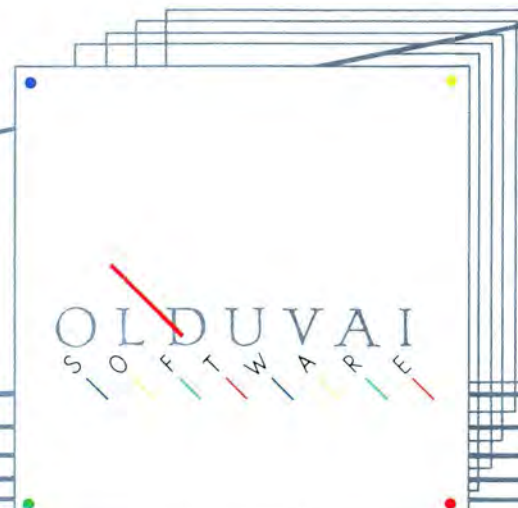
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by Doug Clapp

It Doesn't Suit Me

When you write columns, you have to think, "Was I mean last month? If so, I shouldn't be mean 2 months in a row. Did I do a featurey, people-type column? Can't have two of those in a row!"

But I'm in luck. Last month, like most months, I didn't have much to say about much of anything.

So let's talk about those stupid ignorant ninnies. "The Suits."

The immigration of three-piece suits into the Mac market makes illegal aliens look like abominable snowmen: damn few. Suits, suits, suits.

I don't mind suits. I got married in one; I probably still have it, somewhere. What bothers me is that the suits are so incredibly stupid!

I realize I'm spewing to the choir. Since you're reading this, I can assume you've heard of *MacUser*, and probably other Macintosh magazines.

But just between you and me, the ignorance level out there is frightening.

For instance, there are people who've had a Macintosh for years and don't know "how to work the Finder." Some people use *MacWrite* and think it's the only word processor available—and some think *MacWrite* is too complicated. (I'm not making this up.)

Or, "You mean you can send stuff over the phone?" Yes, Virginia, there are modems.

There are people who don't have the slightest idea what "text only" means, let alone "ASCII files." Let's not even get into the "what brand of computer should I buy?" question. That's like asking, "I'd like to date. What gender should I consider?"

The ignorance is astounding. The only proper response is: "Huh?"

These are people, remember, who are adults. High school and college grads! Some are parents, some hold political office! It's frightening. And the suit crowd makes it worse. Now that the Macintosh is "the cool machine to have in business," it's stupidity on parade. (Yes, it worked, John. You can stop now.)

Most corporations, in fact, encourage computer ignorance. (Boy am I going to

get mail...) Their attitude is "the Macintosh is for business. We don't want you wasting time with it." Wasting time means "taking time to understand the computer and software."

Instead, many companies have a resident nerd. The nerd is someone accomplished enough to run Font/DA Mover. In a pinch, the nerd can almost explain what the difference is between a single-sided and a double-sided disk.

One nerd per company is enough. After all, we're trying to increase productivity!

So here's what's happening. Businesses are buying lots of Macintoshes. And *Works* and *Excel*. And suits are using Macintoshes for "work."

It makes me shudder. Ever tracked down a formula error in *Excel*? Imagine the wonderfully inaccurate spreadsheets



Just between you and me, the ignorance level out there is frightening.

the suits will create. Next time you meet a suit with a Macintosh and *Microsoft Works*, ask them what a "relative reference" is. If you dare.

Then there's desktop publishing, or "DTP" as the suits like to say. People who can't write a decent business letter are now laying out newsletters. These are people who don't know the difference between leading and letter spacing, who think Sans Serif is a French designer, and who think weight is something you lose if the suit gets too tight.

Suits who are flummoxed by *Chooser* are *PageMaking* and *Exceling* everywhere. Gives you the willies, doesn't it?

Part of this—but only part—is Apple's

doing. If you sell a computer as "easy," people think it is.

Macintosh was easy when it was 128K and didn't do much. Those days are gone. Macintosh is easy only in comparison to other computers. And other computers are beneath contempt.

And it's partly the fault of dealers. To their credit, good salespeople are hard to find. And computer-salespeople bashing is so easy I don't have the heart for it. And, to be fair, you don't expect your car dealer to give driving lessons.

A few suits—Bob Wiggins' choir—are excepted. I don't suppose that smugly ignorant suits read "The Pinstripe Mac," let alone *MacUser*. (Oh God, I just had a horrible thought! How long until I hear "I'm sorry, Mr. Clapp, we can't help you with that. Our Macintosh is 'down' today.")

So what should we do with these ninnies?

First, tell 'em to read a book—even one book would help. Cary Lu's *The Apple Macintosh Book* will do. If they're cheap, it's at the library. After that, try one of the "tip books." I like Arthur Naiman's *The Macintosh Bible*, sight unseen, because I like Arthur, and I like his style, and because Arthur is a Mac convert who once upon a time wrote a book about *WordStar* that sold over 100,000 copies, and because we share similar political views and because I thought of the title first.

Reading manuals also bespeaks a certain desire to not be an idiot. Even if it's only the *Macintosh User's Guide*, which was, in fact, written expressly for idiots.

Then there's the newsstand. Even in Fiji, I'm sure I could find at least two Mac magazines. But I won't tell you how many times I've heard "Oh, there are magazines about the Macintosh?"


No need to mention user groups. After all, the company doesn't pay for attendance.

Maybe that's it! I've got it! I can't imagine spending over \$2,000 on something and not wanting to understand what I bought. But the suits don't buy computers. The company buys them.

Poor suits. The company buys computers, and they have to use them, gritting their teeth all the while, trying to "get the damned thing to work!"

But they go home at night and complain about the damned things. "Honey, that mouse thing is just sooo damn hard to get used to!"

I take back everything I said. I just realized...unlike the suits, you and I like Macintosh!

Sorry, suits. 

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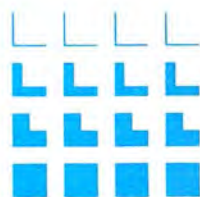
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Quick Clicks are short reviews of released products, not beta releases, pre-release products or vaporware. If it appears here, it is available commercially. Products reviewed here will often be the subject of a longer review in a future issue.

myDISKLABELER



List Price: \$64.95 (color & LaserWriter options) Published by Williams & Macias, P.O. Box 19206, Spokane, WA 99219. (800) 752-4400. Works on all Macintoshes; LaserWriter required. Not copy protected.

MyDiskLabeler is one of those unpretentious and handy little utilities that you always wonder how you ever lived without. My floppy disks proliferate like rabbits and the only form of control I have over them is *myDiskLabeler*.



When I first got a copy of *myDiskLabeler* 1.1, the ImageWriter version, I was pleased with the appearance of the labels. I was, however, unhappy that the ink smeared whenever I used a new ribbon. Using an older ImageWriter ribbon solved the problem, but the end result, though smear-proof, was never as dark as I would have liked.

The LaserWriter version of *myDiskLabeler* cures the problem of smeared labels and does much more. It takes full advantage of the PostScript fonts installed in your LaserWriter or LaserWriter Plus.

Nine sheets of Laser Labels are supplied with the program (as well as six sheets of Smart Labels for color printing on an ImageWriter II). The Laser Labels come six to a sheet in a two by three

grid. They are on heavier stock than the Smart Labels. As a result, they cannot be fed automatically from the cassette but must be manually fed. The manual is very helpful on this point; it provides instructions and illustrations so you can print the labels correctly the first time.

Although *myDiskLabeler* takes advantage of the PostScript fonts, any pictures or icons added to the label are still bit-mapped images and appear in their jagged splendor. The picture looks better than one produced by an ImageWriter, but it would be slick if the picture also took advantage of the LaserWriter's smoothing. Another slight annoyance is that the Back Title and the Edge Title on the label are printed in bit-mapped form when they are inverted. You can get around this by using a bit-mapped font like Casady's Bodoni for the inverted titles. It looks a little better than the bit-mapped printing of the LaserBodoni.

You can spruce up your labels by using some of the PostScript fonts on the market. I used several downloadable fonts without any trouble; I should point out that none of the downloadable fonts I used were copy protected. As a side note, *myDiskLabeler* works smoothly with *SuperLaserSpool*.

As with the previous versions of *myDiskLabeler*, it is a good idea to print several labels at one time. In the earlier versions, the pin-feed holes would become damaged with each successive trip through the ImageWriter. Since the LaserWriter labels are not pin fed, that is no longer a problem. I did however notice that a sheet of labels that had seen several passes through the LaserWriter looked dirty, as though it had picked up toner from the drum.

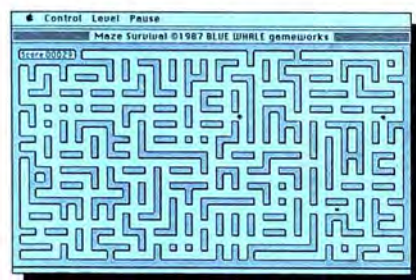
Most companies have an upgrade path so you can always have the most recent version of their software and Williams & Macias is no exception. If you have an earlier version of *myDiskLabeler*, you can upgrade to the LaserWriter version. To upgrade from the current version (2.5) to the LaserWriter version costs \$25, and to upgrade from the color version costs \$15.—Fred Terry

MAZE SURVIVAL



List Price: \$34.95. Published by Olduvai Software, 830 NE PopTilton's Place, Jensen Beach, FL 33457. (305) 334-1404. Copy protected.

They're coming to get me! They're coming to get me! That's the feeling you'll get after playing a few rounds of *Maze Survival*. Whether it's the bugs or the people from the psychiatric hospital that are coming to get you depends on how you like this genre of games.



The situation is a simple one. In a maze that is constantly, randomly losing and gaining pieces of its walls, you must make sure that these little bugs crawling throughout it do not die. There are three ways a bug can die. Old age, running into a wall repetitively or by colliding with another bug. You also have to make sure that these bugs do not eat their own eggs, which can end the game.

As the game starts, you will find a few eggs placed in the maze, which will eventually grow into crawling insects. As the bugs crawl throughout the maze they might find themselves crawling into a dead end alley. Bugs, of course, are stupid things. If it was up to them, they will walk into a dead end alley and bang their heads into the wall in front of them until they die. That's where you come in. By clicking on a wall segment, that piece of the wall will disappear, allowing the bug to go on his merry way. If you wait too long, poof, the bug vanishes.

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If you manage to keep the bug alive, it will become pregnant, and sooner or later (unless the bug is old and has to abort the pregnancy) it will lay an egg. Eventually, this egg will grow into a full grown bug, but until that time it is important that you keep all other bugs away from that hatching egg. Without a new generation, the old bugs will simply die, leading to the end of a quick game.

The longer you keep all the bugs alive, the higher your score gets; but every time you create or destroy a wall segment, a point is taken off. Even though the game is a cute one and you have a number of different levels of play, ranging from "Beginner" to "Crazy," the game lost its appeal after an hour of play. The game has you continually staring at the same screen, doing the same things over and over with very little variation. The pace of the game can get very hectic at the highest level, and the game then becomes a test of your hand-eye coordination. If I was looking for the fastest mouse in the west, I'd certainly set them up with *Maze Survival*.

One of the more enjoyable parts of the game is the wonderful, digitized sound. One in particular that I loved was when you choose HELP from the menu, you are given a few seconds from the timeless Beatles song, "Help."

Will you slip into the frenzy of the ever changing mazes? With *Maze Survival* you just might. But be forewarned, changing mazes doesn't always mean a changing game, and that might just keep you from making this game one you will play again and again.—DS

DiskTop 2.0

★★★★½

List Price: \$39.95
(Upgrading from version 1.0 is \$7; \$10 for upgrade and manual). Published by CE Software, 801 73rd Street, Des Moines, IA 50312. (800) 523-7638. Not copy protected.



Few things are more annoying than trying to save a file only to discover that you are out of disk space. You know that you can throw the letter to your sister in the trash, but how can you get to the desktop to do it and still save the file you are working on?

DiskTop is a convenient answer. It gives you all of the *Finder* functions (except the ability to print) in a desk accessory. With it you can Rename,

Delete, Copy, Move, Find or get the Size of a file or a folder without leaving the application you are in.

When you open *DiskTop*, you can see all of the mounted disks. *DiskTop* shows how many bytes of storage are used on each disk and how many remain. It also tells you whether the disk is HFS or MFS and how much RAM is free. You can erase or rename a disk at this level, or you can eject a disk by dragging it into the trash.

Clicking on the Find button opens a dialog where you can enter the name of a file or application you are looking for. You can choose to match the beginning, end or any part of the file name. When *DiskTop* finds a matching name, it displays the location of the file as a tree. You can then select the Open button to launch the file, or the Go To button to see the file in the Files window.

DiskTop's Files window is like selecting View-by-Name in the *Finder*. In it you can see all of the files and folders on the mounted disks. You can copy, move, delete, rename, find or get the sizes of any file or folder. You can move a file to a different folder on the same disk, or move it to a different disk and delete it from its original location. All of the commands have keyboard equivalents so you can execute them without taking your hands from the keyboard.

Any documents that you work with frequently or applications that you use on a regular basis can be added to the *DiskTop* menu. Then you only have to select the application from the menu to launch it. In addition, the menu contains New Folder and File Info commands. Besides showing the date and time a file was created and modified, File Info lets you change the creator and type of a file or set any of the file bits.

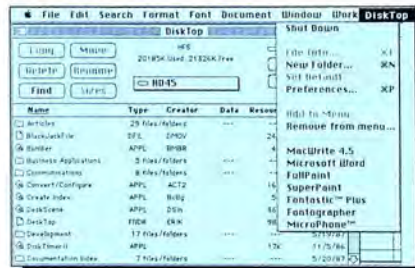
DiskTop is not small. It weighs in at a hefty 90K, so it might not be practical for floppy-based systems. But its features make it valuable for hard disk users.

As if *DiskTop* were not valuable enough alone, CE Software includes two bonus programs: *Widgets* and *LaserStatus*. *Widgets* is a small application with a large number of uses. With it you can create custom paper sizes in the *ImageWriter's* Page Setup dialog, or you can customize the paper sizes in programs. You can change both the creator of a file and the System heap size. With *Widgets*, you can customize your *DiskTop* menus and create special-purpose menus which you can install whenever the need arises.

Widgets allows you to change a *Paint* file into a *Startup* screen or change a *PICT* file into a *Paint* file, and print

Laser thumbnails. You can also reset the *LaserWriter* and disable or enable the start-up page.

LaserStatus reports the status of any *LaserWriter* hooked up. It tells you the type of *LaserWriter*, what its *AppleTalk* name is, the ROM version and the current page count. It also shows which



fonts are currently resident in the ROM or in memory, and how much free memory remains. These last two items are particularly helpful for anyone who uses downloadable fonts.

In fact, the primary function of *LaserStatus* is for downloading: both PostScript files and fonts. Until now, you had to quit whatever you were doing to manually download PostScript fonts. *LaserStatus* lets you download fonts from within an application. You can also create sets which include the fonts and the document you want printed.

CE Software is one of the pioneer companies in Mac shareware, and *DiskTop* reflects the shareware spirit. They include *DiskTop* 1.2 on the 2.0 disk so your friends can try it and decide whether they can't live without it. And they have uploaded the 1.2 version onto CompuServe and Delphi.—Fred Terry

SUB BATTLE SIMULATOR

★★★★



List Price \$39.95.
Published by Epyx,
600 Galveston Drive,
PO Box 8020, Redwood City, CA 94063.
(415) 366-0606. Requires 512K. Copy protected.

Submarine warfare is ideally suited for computer simulation. So much of submarine warfare involves restricted vision (periscope views, sonar screens, etc.) that a vicarious combatant peering into a computer screen isn't working at too much of a disadvantage. After all, turning your head inside a submarine does little to improve your perspective of the

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But the real beauty of Totem is that it fits perfectly right under your Mac. No mess. No fuss. And no extra hardware to buy. To add storage, just pick up another Totem cartridge.

Last, but certainly not least, there's a whole family of Totem drives to choose from. They're all in the brochure. To get yours, write or call Bering Industries, Inc., 280 Technology Circle, Scotts Valley, CA 95066. Inside California, call 800 533-DISK. Call 800 BERING 1 outside California. Just say "I'll take it."

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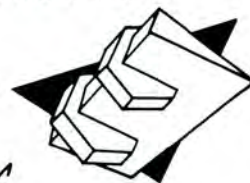
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battle. The makers of *Sub Battle Simulator* have capitalized on this limitation to produce a superior simulation.

Set in World War II, *Sub Battle* reproduces several classes of American and German submarines. American operations are conducted in the Pacific Theater, and German missions take place in the Atlantic. Sixty different missions (24 American and 36 German) are available on the disk and all are based, as much as possible, on actual records. Players may choose single missions or simulate an entire wartime command. Games in progress may be saved to disk and, since wartime campaigns take many sessions to complete, the game keeps track of your accomplishments from mission to mission.

The game screen consists of two windows and a control panel. On the left appear (at your command) a map display, a side display and a status readout. On the right, you can toggle between a tower view, a binocular view, the radar screen, a periscope view and the sonar screen.

Separating the two windows is a control panel where the various displays are selected. The control panel also includes gauges indicating depth, speed, heading and direction of view, as well as buttons for selecting the mode of propulsion and for firing weapons (torpedoes, deck gun, anti-aircraft gun). At the top of the screen is a standard Mac menu bar.

Battles are fought by pointing and clicking with the mouse or by keyboard commands. Four levels of play are available.

Because both windows are on-screen at all times, the views of the world outside your sub are necessarily small. Still, the graphics are quite good. Enemy ships and planes (there is quite a variety of them) are solid silhouettes—much as they would appear in real life against the sea and sky. Hits from your weapons result in explosions and misses kick up a spray of pixels.

Unlike most "action" games, *Sub Battle* combat takes full account of the dynamics of battle. Since the game is

played in real time, gaining on a target seems painfully slow. Torpedoes and shells take time to reach their destinations. And the delay in reloading torpedoes reminds you of the difficulties inherent in moving heavy objects in cramped quarters.

Sub Battle does have a provision for time compression. One second can become 5 or 30 during tactical operations or up to 10 minutes or 4 hours during navigation. But when you close in on the enemy the game automatically slows down.

The result is a very realistic simulation. The time you think you have on your hands is well spent devising strategy and planning the next tactical move. When the battle begins things happen quickly. In fact, prepare yourself to feel overwhelmed. Use of the Target Practice mode and heeding the "hints" in the manual will help your apprenticeship. Success in *Sub Battle* is directly proportional to your understanding of those dynamics which the game duplicates.

One final wrinkle is the use of a speech synthesis routine to imitate the giving of orders and the reports from the crew. *Sub Battle Simulator* is so engrossing, you might expect to find water around your ankles as you listen to the damage reports.—Carlos Martinez

PRINTWORKS FOR THE MAC



List Price: \$75. Published by SoftStyle, Inc., 7192 Kalanianaʻaʻole Hwy., Suite 205, Honolulu, Hawaii. (808) 396-6368. Requires 512K+. Not for LaserWriters. Not copy protected.

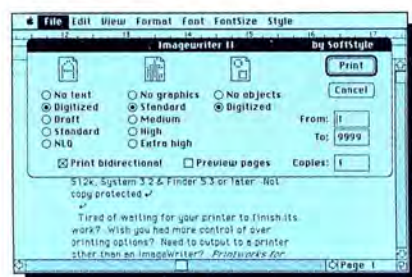
Tired of waiting for your dot matrix printer to finish its work? Wish you had more printing options? Need to output to a printer other than an ImageWriter? *Printworks for the Mac*, a comprehensive printer control system, may be the solution to your problems.

Printworks for the Mac takes command of your printing by installing printer drivers and desk accessories in the System folder of your application disks. *Printworks* provides a print spooler, color printing (if your printer supports it), easy access to a printer's built-in fonts (for near letter quality output), extensive control over print quality (even when text and graphics are mixed on a page),

bi-directional printing (most of the time), the ability to connect to a variety of printers and increased printing speed.

The *Printworks* system comes with three drivers for the ImageWriters I and II (one is optimized for Microsoft and Lotus programs). These can either replace your current driver or co-exist with it. Up to six drivers may be used concurrently. Drivers for other popular printers are available to registered owners, directly from SoftStyle. A postcard for ordering a free driver is included.

If more than one driver is installed, or if more than one printer is connected to your Mac, the correct drivers and ports may be specified from the *Chooser*. In fact, *Printworks* cannot operate without the *Chooser*. Thus the latest *System* files are required, even for operation on unenhanced Fat Macs. Since the combination of old ROMs and new *System* may

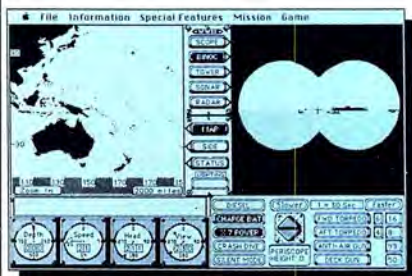


cause problems with some applications, it is recommended that you first test *Printworks* on backups of your working disks to ensure compatibility.

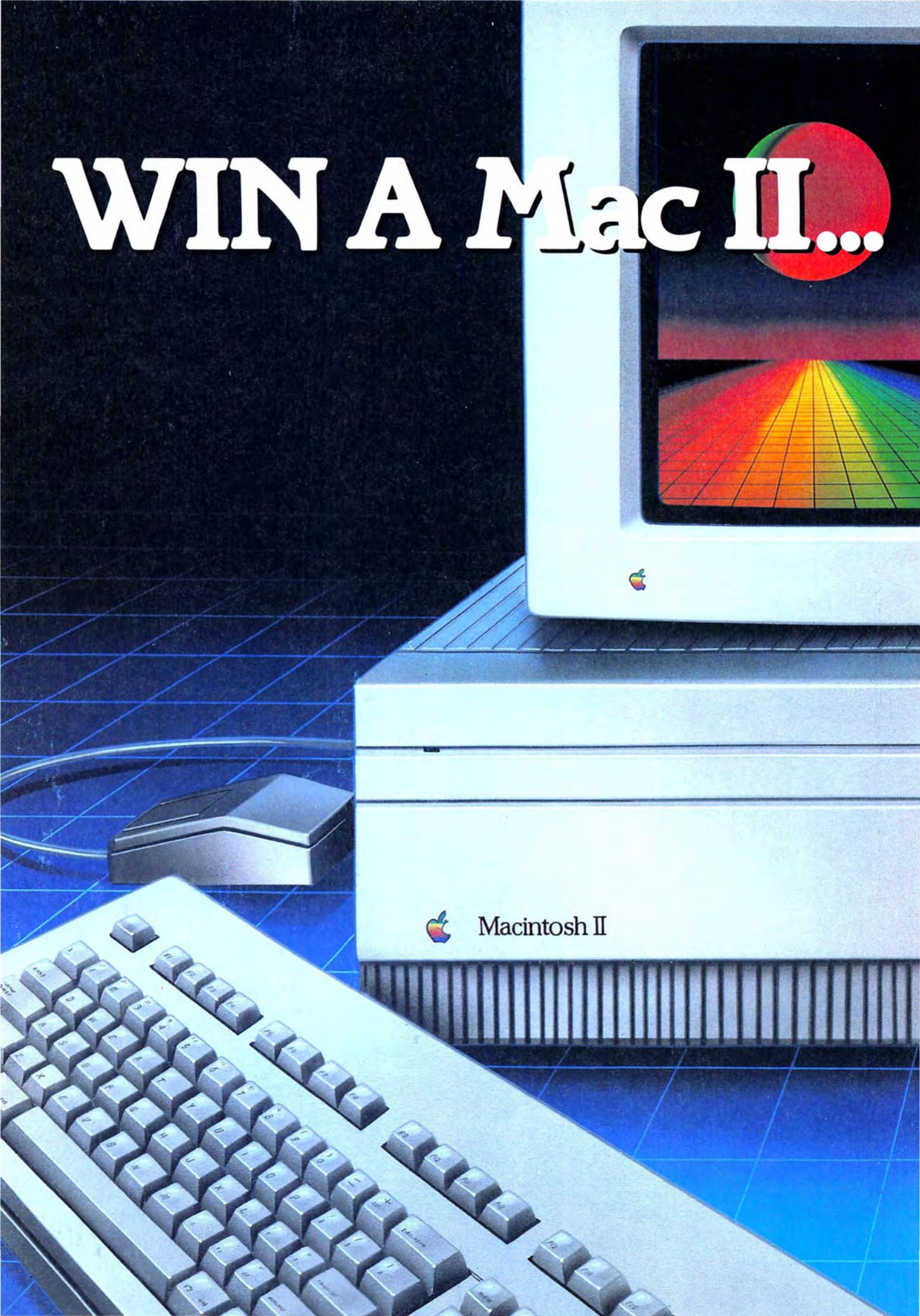
Installation is straightforward. Simply follow the instructions in the *Printworks* manual. One minor problem is a discrepancy between the DIP switch settings shown in the *Printworks* manual and those displayed on the ImageWriter II documents. However, the manual states that no special set-up is required for this connection. I left my DIPs alone, and *Printworks* functioned just fine.

With a *PrintWorks* driver enabled, new icon-based Page Setup and Print dialogs appear. Documents that have been formatted for other drivers normally require a new Page Setup. *Printworks* treats text elements, bit-mapped images and object graphics as different entities. The Print dialog allows each category to be turned on or off, and permits graphics or text to be printed in any of several quality modes. Bi-directional printing and Page Preview are also available.

Three desk accessories access the special features of *Printworks* from within your applications. Color Adjustment assigns color for output on those printers that support it. Font Adjustment match-



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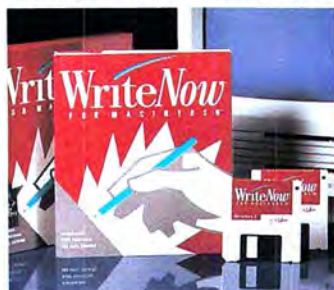
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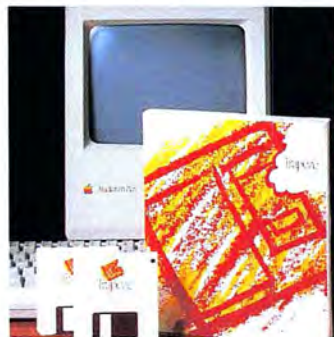


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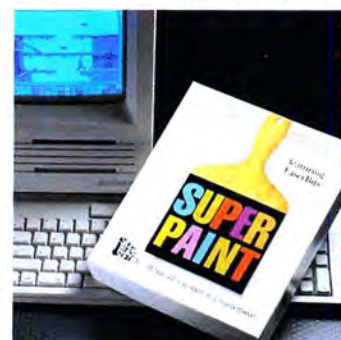
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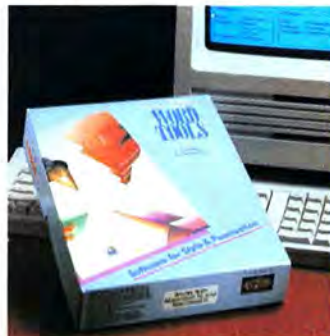
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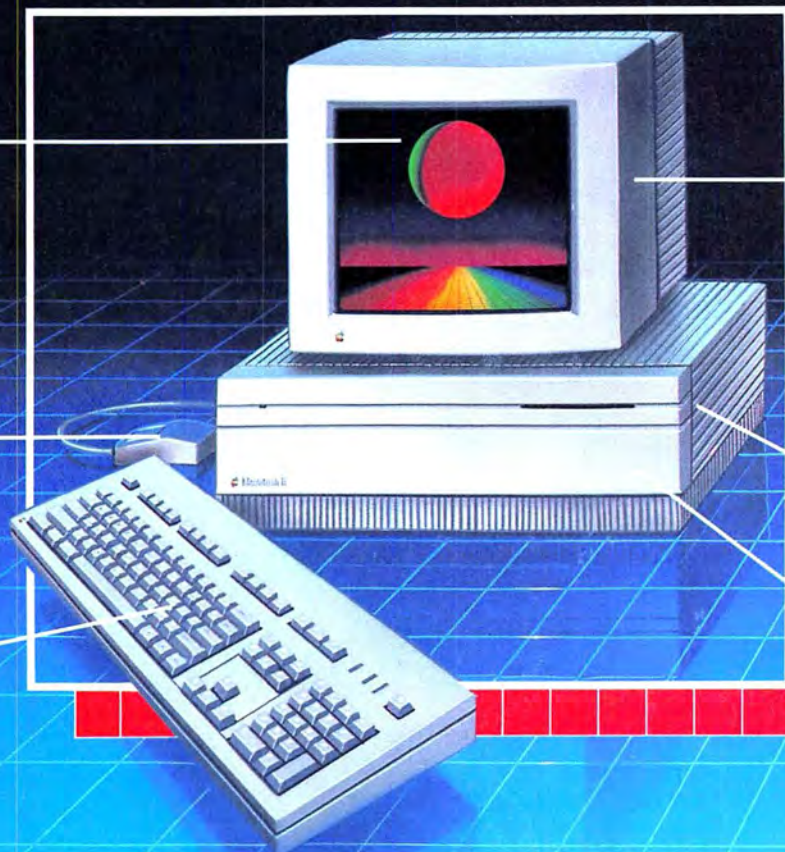
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es the Macintosh "screen" fonts to whichever "built-in" printer font is its closest equivalent. This DA is only available for printers with more than one near letter quality (NLQ) font. None of the ImageWriter drivers install this DA. And Spool Adjustment regulates the amount of memory reserved for printing tasks and controls printing under the spooler. Because memory partitions are specified at start-up, alterations made within this DA do not take effect until the next time you boot your Mac.

Printworks can also install four fonts: Elite, Pica, Compressed and Proportional. Designed to match the style and spacing of the built-in fonts of most printers, these fonts facilitate on-screen composition for near letter quality output.

Once everything is set up, *Printworks* prints faster than the standard ImageWriter driver. Using the ImageWriter's built-in fonts, even in NLQ mode, further improve the times. The extra speed combined with the print spooler saves quite a bit of time when printing large documents.

The reproduction of graphics is very good, and the NLQ output generated on my ImageWriter II looks terrific. But, to my eyes, the normal Faster mode of the ImageWriter driver looks better than *Printworks'* Digitized text mode.

If several drivers and all the fonts are installed, floppy disk users may discover that their System folders have grown to unwieldy proportions. But since you can pick and choose the elements needed, it is simple to customize the installation for each application. *Printworks* may not solve all your printing problems but the extra functionality it provides makes it more than worth the investment.—Carlos Martinez

LEVCO ONE PLUS ONE

★★★★½



List Price: \$375. Published by Levco, 6160 Lusk Blvd., Suite C-203, San Diego, CA 92121. (619) 457-2011.

It wasn't so long ago that I had a computer with 2K of memory that used a tape recorder for mass storage. Then, why, you may ask, is a Mac Plus with 1024K of memory and a hard drive not large enough for my needs? Mostly because I live in *Switcher* and use programs

that need a lot of room to work well. *MORE*, *SuperPaint*, and *Word 3.0* to start; a spreadsheet moves in and out as needed, as do various other programs. Then there are memory-hungry desk accessories that I can't live without, like *Thunder*, which eats 150K right off the top of whatever program you're running. So, a meg of memory was just not enough any more. The perfect solution: Levco's One Plus One memory upgrade, which doubles the Plus' memory to 2048K.

You get everything you need to do the upgrade, which is a simple enough process. But, do it with a friend; you might need the moral support when you crack open the Mac, and you'll be grateful for the extra pair of hands when you try and get the main board back inside.

To do the upgrade, open the Mac—yes, you void the warranty—take out the main board, and snap out the memory chips. The chips snap into Levco's board, which piggybacks onto the main board. There's no soldering involved; a simple clip attaches the Levco board to the Mac board. The only hard part is getting the main board back into the Mac. It can't slide into the brackets the way it was meant to, because the Levco board is in the way; so you have to pry the brackets apart a little to get the board in. Try not to think about how much the computer cost when you start prying; that makes doing it much easier, as do the support and hands of the aforementioned friend.

Levco's MacBreeze fan installs inside at the base of the Mac. It's not perfectly quiet, but I can't hear it over the sound of my hard drive. It's not a fan in the normal sense of the word, but two wands whose vibrations set up enough of a current to keep the heat moving up and out the Mac vents. MacBreeze was designed for the original Mac, until you-know-who vetoed the idea of a fan altogether. The installation is a cinch, since all you use is two strips of self-stick Velcro to attach the fan.

The only possible stumbling block in the installation for a total amateur is a mention in the excellent documentation about checking the voltage. In talking with one of the Levco techies, I was told this is only necessary if the Mac doesn't work after the installation. Other sources suggest checking the voltage as a matter of course, upgrade or no upgrade, as a precaution against letting your power supply do a slow burn.

I've had my upgrade for 3 months now, and it's wonderful to use. I have RAMdisks, a RAM cache, large desk

accessories, and hefty *Switcher* partitions all going at once. I seldom turn off the Mac (I just turn the screen down when I'm not using it), and it runs cooler to the touch now than before the upgrade.

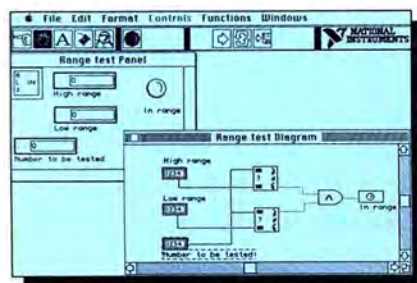
I'm not getting one of the new Macs until I can be sure I can get 2 megs of memory for it.—Sharon Aker

LABVIEW ★★½



List Price: \$1995. Published by National Instruments, 12109 Technology Boulevard, Austin, TX 78727. (512) 250-9119. Requires 512K+. Version 1.02 reviewed. Not copy protected.

National Instrument's *LabView* automates the repetitive task of controlling and calibrating laboratory and/or industrial tools. It takes advantage of the Mac interface to allow programming and instrument control by manipulating icons. But the program may be too slow for



instruments that require a quick response.

A program in *LabView* resembles a flow chart. Icons, which represent functions (e.g., plus, multiply, sine) are selected from pull-down or pop-up menus. They may be "wired" together (connecting inputs and outputs) using the tools provided. The shape and thickness of a wire represents the sort of information being passed—numeric, binary, string or arrays thereof. Programs are controlled by putting icons inside other icons which represent Do loops, and so on.

A separate Panel window controls the program's inputs and outputs. The icons represent slide controls (for number and case selections), switches (for true-false controls), lights, dials and even graphs. Pop-up menus allow every control and wire to have a name and comment. Completed subroutines are called Virtual

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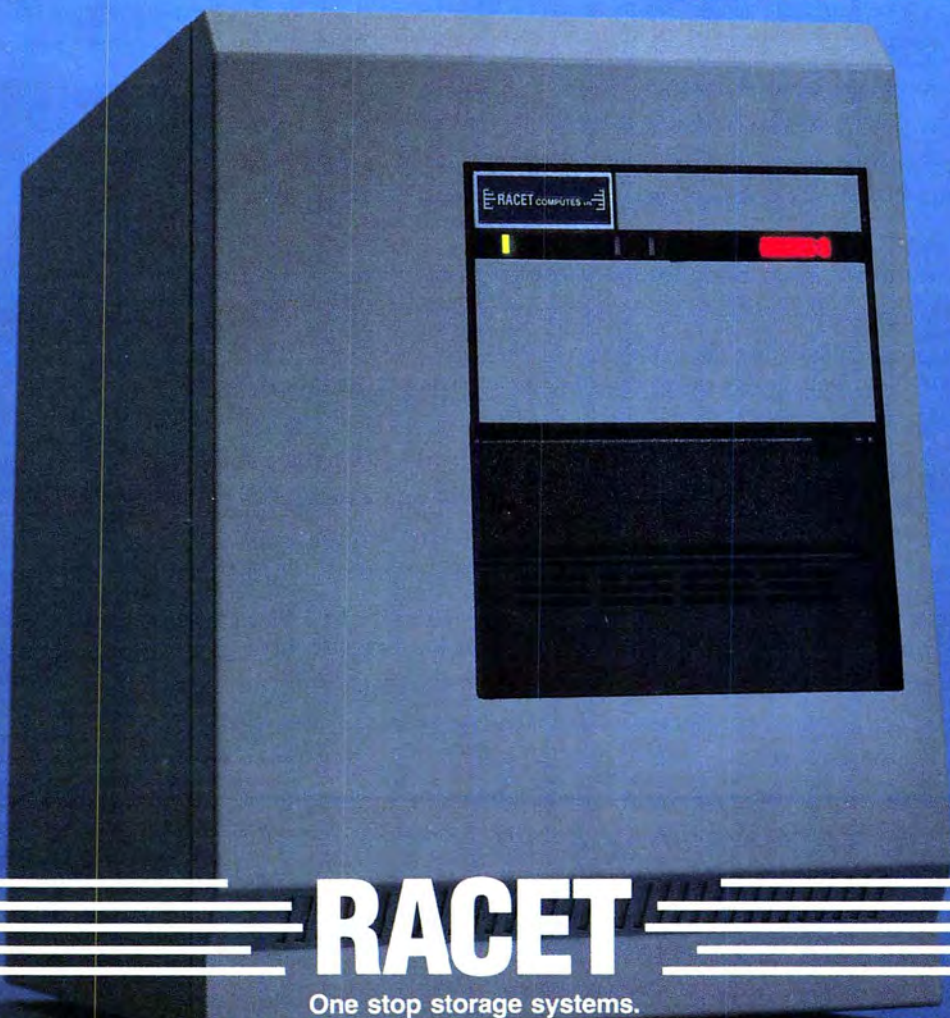


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Instruments. By using a pull-down menu, a subroutine may be given an icon and a name, and is then available to other routines. Icons for file manipulation are included, along with icons for digital signal processing, such as Fourier transforms.

Error checking is automatic. An attempt to wire a numeric output to a binary input, for example, results in a dashed line instead of a wire. Command-clicking on the wire brings a pop-up menu with an explanation of the error.

This environment is very rich, and in itself would be exciting enough, but National designed this language to complement their own hardware products which control laboratory instrumentation. National sells a box for the Macintosh Plus SCSI port, and (shortly) cards for the SE and Mac II, which allows the Macintosh to access the IEEE-488 bus. *LabView*, of course, comes with icons to control the bus. This combination allows the Mac to access literally hundreds of different scientific and engineering instruments. Now it becomes possible to control a laboratory instrument, not by twiddling the knob on the instrument itself, but by using the mouse to turn a dial on your Mac's screen! Then the instrument's controls can be merged into a larger, more complex overall program that simultaneously adjusts several different instruments. *LabView* comes with a folder full of these Virtual Instruments.

Very extensive on-line help is available. A command-click on a control brings up a pop-up menu which allows you to Enable Database Access. All data that passes through the control may be automatically logged and time/date stamped as well. The data can be retrieved and passed on for processing a data base access function.

The major difficulty with *LabView* is that it is slow. *LabView* might not be fast enough to control critical real-time applications. I tested *LabView* on a Macintosh Plus and using their MacBus hardware to translate SCSI to IEEE-488. A simple subroutine to prepare five bytes to be transmitted over the IEEE-488 bus took almost 6 seconds to execute. A program that wrote three bytes to the IEEE-488 and then read three bytes executed eight times in 3 seconds. By way of comparison, running National's MacBus as an independent processor, the program ran 800 times in 8 seconds, or 37 times faster.

There are several problems and bugs in *LabView*. None of the instruments I wrote would print; only a small subsection would print, or the system would



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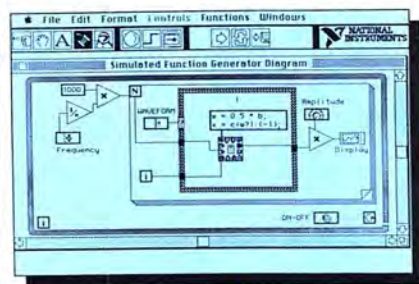
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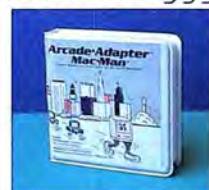


bomb (albeit with a graceful Resume and exit to the Finder instead of a data-killing Restart).

The LabView manual comes in two loose-leaf binders with plenty of examples, but the explanations and diagrams are often confusing, and instruments and functions are not presented in alphabetical order. Several functions that are needed badly are not included—for example, there is no function to create and initialize arrays. In an annoying divergence from what we expect in Macintosh programs, only one function or wire can be selected at a time, and once two functions are wired together, they can no longer be moved, either individually or as a unit. Telephone technical support is excellent, with prompt and courteous replies, although a fix for a bug in one of the MacBus subroutines did take some time to arrive.

LabView is exciting, but not yet fully mature. LabView may very well be the program you're searching for—to run a laboratory instrument, to analyze data or to demonstrate laboratory techniques (without having to buy any real instrument). If you can live with the slow execution time and the program's growing pains, it may well be worth the price.—Michael Yudkowsky

MACMAN 5 1/2



List Price: \$39.95.
Published by Nuvo
Lab Systems, 225
Tank Farm Road, San
Luis Obispo, CA
93401. (805) 544-
5766.

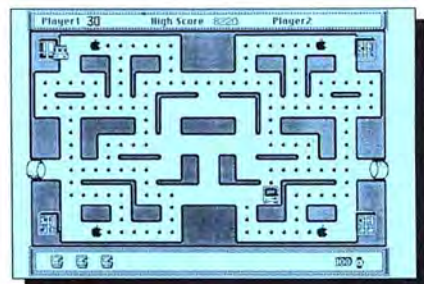
There's something to be said for the staying power of the classics. And in the computer game field, one of the classics is PacMan. He's finally made it to the Macintosh, in the form of MacMan.

But what's a computer game classic without a joystick? Well, MacMan comes with the Arcade Adapter, a small plug for the mouse port into which you can



plug your Atari-compatible joystick. (Sure, you have one someplace—I found two in the attic.) It does feel a little sacrilegious to use a joystick with the Mac, but you get used to it. I do wish I didn't have to unplug the mouse entirely to plug in the joystick.

The MacMan game is the classic with a few graphic twists. MacMan is a little Macintosh that chomps its way through a maze, chased by four other computers of various (and obviously inferior) brands. Instead of dots, MacMan eats small apples; instead of power pellets, large Apples. In case you've been locked in a closet for the last decade, eating power pellets makes the pursuing computers edible, so MacMan can turn around and chase them, gaining 100 points for every one he catches. Occasional bonus items pop up: the watch



cursor is 100 points, the mouse is 200 points—and the joystick is 500 points. (The game has a sense of humor.) Each time you clear the maze of the apples, a new screen appears and you start all over. Since the level of play can be set at any of four difficulties, everyone in the family can play.

Nuvo Labs, MacMan's creator, is hoping that its Arcade Adaptor becomes a standard. I hope so, too. The stick action is perfectly smooth, and a welcome change from mouse-controlled action games.

An Arcade Adaptor desk accessory lets you set the computer to read the joystick instead of the mouse, and includes an option to set the speed of the cursor movement when the stick is held in any direction. The MacMan program configures the computer to work with the joystick automatically; the desk accessory is for use with other software. But, until games are specifically written for joystick control, and specifically for the Arcade Adaptor as controller, MacMan is the only thing you'll be able to use it for comfortably. That's OK. Like all computer game classics, MacMan is addictive; it should last you a long, long time.—Sharon Aker



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WHAT'S THE POINT OF YET ANOTHER integrated word processor and graphics program, you may ask? Like good novels and classic cinema, it's all been done before. Everything else is a repeat performance.

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The price of *PowerPoint* makes a point of its own: at \$395 this is a professional product. How many slide presentations do most consumers make, anyway? As soon as you open the box, this point is underscored. The *PowerPoint* manual is bound in hard covers, and under those very attractive covers you'll find a well-written, well-laid-out, comprehensive and comprehensible manual. Also in the box is the *Guide to Powerful Presentations*, a 46-page booklet covering presentation basics. It's accompanied by *PowerPoint* files

on the Presentation Library disk. After reading this booklet and using the templates, even the most artistically naive user can get started making attractive and effective presentations.

By the time you get to the actual program, you're expecting a lot. For the most part, you won't be disappointed. When you start a new presentation or open an existing one or (and this is a nice feature) open an existing presentation as Untitled (so you can make changes and not affect the original—like Save As only less dangerous since you can't forget), the presentation is shown in a window with icons down the left, as in *MacDraw*. You can have several documents open at once, limited only by available memory and the limits of the Macintosh file system.

PowerPoint supports several slide formats, and you need to select one before you start in order to make sure your slide doesn't go out-of-bounds. Page Setup lets you choose Portrait (tall) or Landscape (wide), like all Mac applications, but you then get a second dialog box to specify whether you want overhead transparencies (foils) with an aspect ratio of 3:4, or slides with the aspect ratio of 2:3 (the same as 35mm slides) or custom slides of any dimensions you choose (such as the screen size for slide shows on the Mac screen). Forethought tends to prefer Landscape mode (for one reason, it's easier to work on the screen) and most of their examples are Landscape mode foils.

BY ROBERT R. WIGGINS

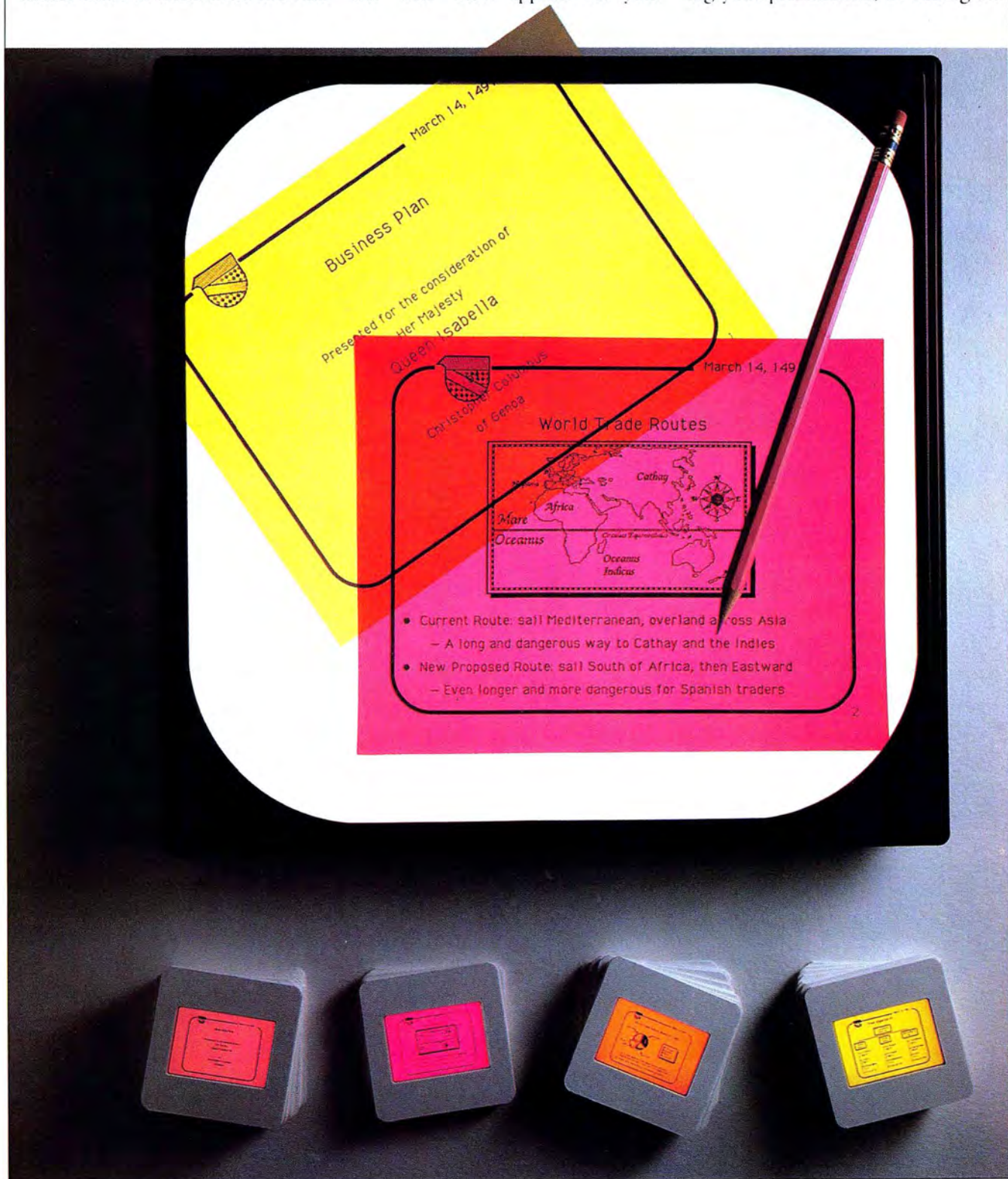
MAKING SLIDES

Once you've made your decision, you can design a "master" slide, whose contents will automatically appear on all slides (unless you choose OMIT MASTER from the Edit

menu). This feature is useful for designing borders for your slides, or including your company logo in a corner of each slide, or both. The master slide also determines where the "title" field appears on your

slides. Each slide must have a title (you can leave it blank), which comes in handy later when sorting slides.

At last you're ready to start creating your presentation, or editing an



Point/Counterpoint

existing one if you chose the Open as untitled option. The icon bar on the left of the window works very much like *MacDraw*. You can use the arrow to select objects and rearrange them, draw lines with the line tool, circles and ovals with the oval tool, rounded corner rectangles, squares and rectangles with the rectangle tools, and text labels with the label tool. The objects created with these tools can be manipulated using the Draw menu, the Line menu and the Pattern menu. Filling is done with

the Draw menu, which eliminates the need for separate filled object tools. Under all these tools is a rectangle with lines in it. This is the text tool, which places word processing blocks on the slide.

Word processing objects need a little more explanation for you to understand the inherent flexibility. In a word processing block, text can be left aligned, right aligned, centered or justified right and left. (Label objects can't be justified, but can be aligned or centered.) Word pro-

cessing blocks also have rulers to control indentation (important for bullet charts) and tabs. *PowerPoint* allows up to five levels of text in a word processing block—each with their own indentation settings—and has menu commands under the Text menu to indent and “undent” paragraphs from level to level. While the one ruler and five levels per block may seem restrictive, remember you can have multiple word processing blocks on a slide. *PowerPoint* also lets you set line spacing within and between paragraphs, and each level of indenting can have its own spacing. Once you have the ruler and line spacing done, you can set them as the default for all future word processing blocks (although you can still adjust each block separately). Full access to fonts and styles is available for text in word processing blocks or label items.

All objects can be automatically aligned to an invisible grid of lines 1/12 inch apart, or you can turn the grid off. *PowerPoint* also has guides which you can use to manually align objects. One of the few failings of *PowerPoint* is its inability to align objects to one another automatically or to group objects so they move together.

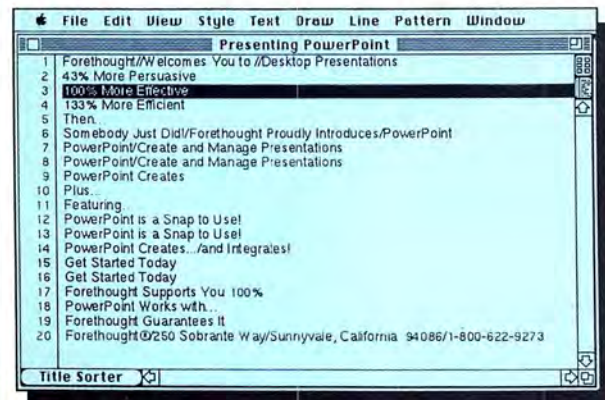
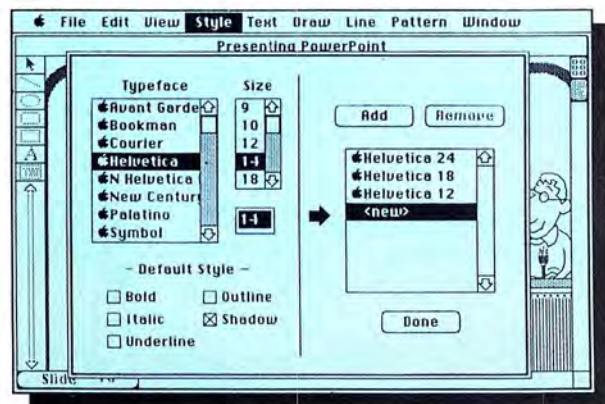
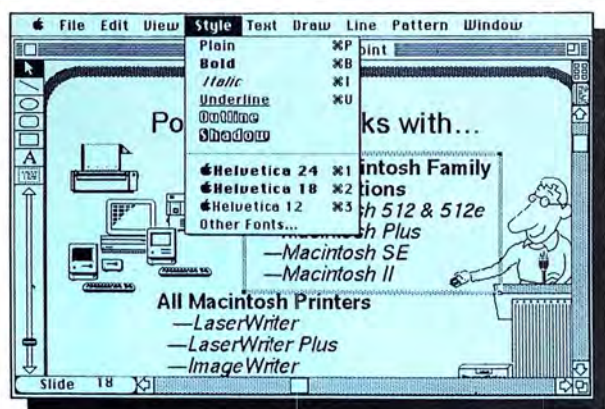
While *PowerPoint* fully supports cut and paste of text and graphics via the Clipboard, there's another way to get drawings onto a slide. The Paste from... command on the File menu allows you to paste *MacPaint* format files and PICT format files created by programs like *MacDraw*, *CricketDraw* or *MacDraft* directly onto your slide. Paste from... has another use, too. It can be used to create a series of slides directly from *MORE* or *ThinkTank* files. This feature is intelligent enough to put the topics on slides in a manner similar to the way *MORE* creates bullet charts from outlines (this use of Paste from... is slightly more complicated, so consult the manual).

You can control what appears in the window with the scroll bars on the right and bottom of the window, and with the View menu which offers full-size and 66 percent, 50 percent or 33 percent size views. When you've finished a slide, New

The *PowerPoint* Style menu limits access to fonts installed on the menu, but provides command key equivalents and reduces “font clutter” for users with many fonts installed. Unfortunately, access to font sizes is similarly limited.

Fonts are installed into and removed from the Style menu with this dialog. Any point size from 1 to 127 can be selected, and the font can have a default style attribute associated with it.

The Title Sorter provides a View-by-name capability for all the slides in the presentation, and allows them to be removed, duplicated, copied and rearranged. Double-clicking on a slide takes you directly to the slide (or notes) view.



Slide from the Edit menu adds a new slide after the current slide. Once you have more than one slide in a presentation, a "slider" appears on the arrows under the tool icons, which you click on to move from slide to slide.

ARRANGING SLIDES

PowerPoint has a slide sorter which can be accessed from the View menu or by clicking the icon at the top right of the window. The slide sorter shows little thumbnail sketches of

your slides. Whole slides can be deleted (with cut or clear), duplicated or added from other presentations (with copy and paste), or resequenced (either with cut and paste, or by clicking and dragging). You can also go directly to a slide by double-clicking on it. There is also a title sorter, which works like the slide sorter but which shows the titles instead of pictures of the slides (this makes it considerably faster, as well as being able to show more slides on the screen). Working with

the title sorter is virtually identical to working with the slide sorter.

TAKING NOTES

Each slide has a Notes Page associated with it, where you can make notes for yourself about the slide. This page can be used to document the slides, so you'll remember what each slide was about, and serve to jog your memory during a presentation. There is a "note master" similar to the slide master, where you create the basic layout of notes pages. A smaller image of the slide is automatically put on each slide (the default is 50 percent size), and you can control its size and placement on the page with the note master. All of the tools are available to use on notes pages, so you can draw pictures or lines, paste text or graphics or use Paste from... to get graphics. Notes pages can also be created from *MORE* or *ThinkTank* files using Paste from... similar to the way slides can be created.

LOOKING FOR A HANDOUT

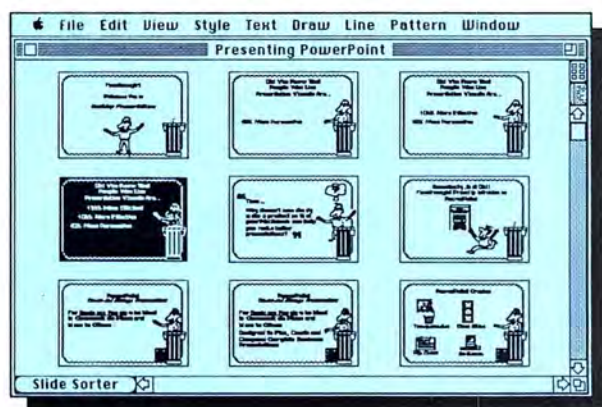
One of the major headaches of presentations is making handouts. *PowerPoint* can automatically create handouts with two, three or six slides per page. You can also customize the handouts by selecting "Handout Page" from the View menu. While whatever text or graphics you add will be printed on all handout pages—which limits its usefulness—you can use this facility to put a company name or logo on each handout page, or to number and date the pages.

NOW PRESENTING . . .

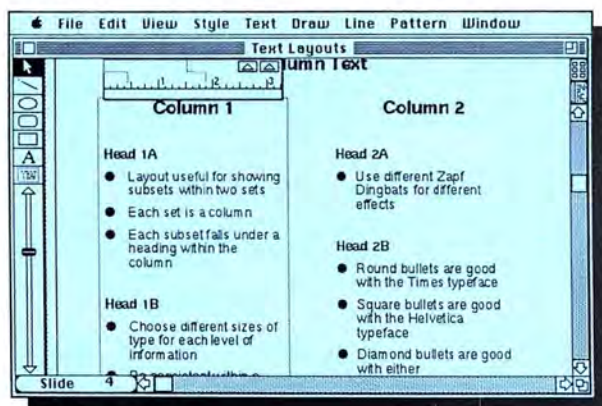
PowerPoint displays slides on the Macintosh screen using the Slide show... choice from the File menu. Slides can be changed either manually with a mouse click or automatically at an interval of seconds set by you. It will also repeat slide shows until COMMAND-PERIOD is pressed for unattended operation.

There are also many print options. *PowerPoint* was designed to work with the LaserWriter (Helvetica is the default font, but the program will revert to Geneva if Helvetica is

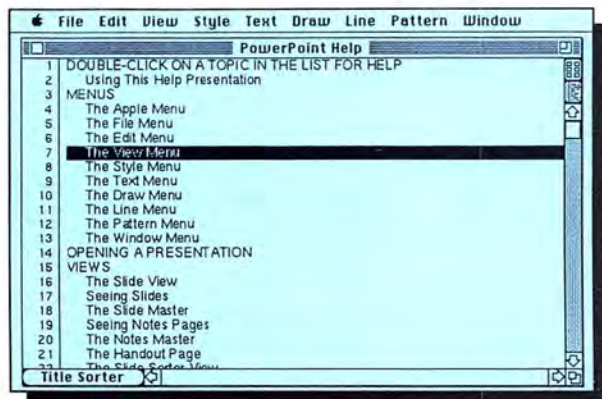
(continued on page 80)



The Slide Sorter provides a View-by-icon look at the slides in the presentation, and can be used to move directly to a slide or to resequence the presentation and add or delete slides.



The icons on the left of the window are used for selecting and creating objects. The ruler is associated with the outlined word processing block. Note the indentation of the lines after the first line of each paragraph.



The *PowerPoint* help file is actually a presentation file. The help items are listed in the Title Sorter, and selected by double-clicking (just as any slide can be selected). Each help slide has instructions at the bottom to select Title Sorter from the View menu to return to the help titles.

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(continued from page 79)

not available). It can print to an ImageWriter, but not as well. The print dialog gives you the choice of printing the slides, the notes pages or handouts—or any combination of these. It is also in the print dialog that you specify whether you want 2, 3 or 6 slides per handout page. If you are printing on a LaserWriter, you have the option of printing collated sets, which take longer to print, but can be very convenient.

The availability of the 35mm aspect ratio is designed for creating actual 35mm slides, but *PowerPoint* has no special facilities built in toward this end other than the maintenance of the proper aspect ratio. The *Guide to Powerful Presentations* offers some suggestions, such as third-party hardware attachments, transfer services or shooting the printed output onto film yourself, but it doesn't mention any particular products or services.

SO WHAT'S NOT TO LIKE?

PowerPoint is a powerful program, and makes presentations much easier to produce. But its options can be confusing. The word processor rulers, with regard to indentation, are somewhat different from those found in most word processing programs. The fill pattern selection is limited. *PowerPoint* doesn't always do quite what you had in mind (or what it is supposed to do) when using Paste from... with *MORE* and *ThinkTank* files. The on-screen help is actually a *PowerPoint* presentation which is quite a clever idea. But while there are instructions on each slide on how to get back to the topic list, it is possible (while not likely) for a user to get confused.

PowerPoint can also become sluggish when dealing with complicated slides, particularly in the slide sorter where it draws many slides. There are also the previously mentioned shortcomings such as the lack of a way to group objects or align objects to one another.

The font menu is very nonstandard. Fonts are installed on the Style menu with font size and style attached to them (such as Helvetica 24 Bold Italic) and assigned command

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key equivalents from 1 to 9 in the order in which they were installed. The installed fonts are associated with a presentation, not the program, so changing presentations changes the menu. Thus, Command-2 can mean one font in one presentation and another font in a different presentation. Fonts (and sizes) can also only be used if they are installed in the Style menu, although styles (bold, italic, etc.) are always available in the Style menu. While this behavior cuts down on the number of fonts used in a presentation (which is good from an effective presentation viewpoint), it makes getting used to *PowerPoint* take considerably longer than it otherwise would.

THE BOTTOM LINE

PowerPoint is an excellent presentation tool. It is not inexpensive, but the features it provides are wide ranging and, considering the business market at which it is targeted, it offers good value for the money. It is not, however, perfect. While it is relatively easy to learn it could take some time to feel completely comfortable with it. *PowerPoint's Guide to Effective Presentations* coupled with the many examples and templates should help get users up to speed and producing attractive presentations fairly quickly. ☐

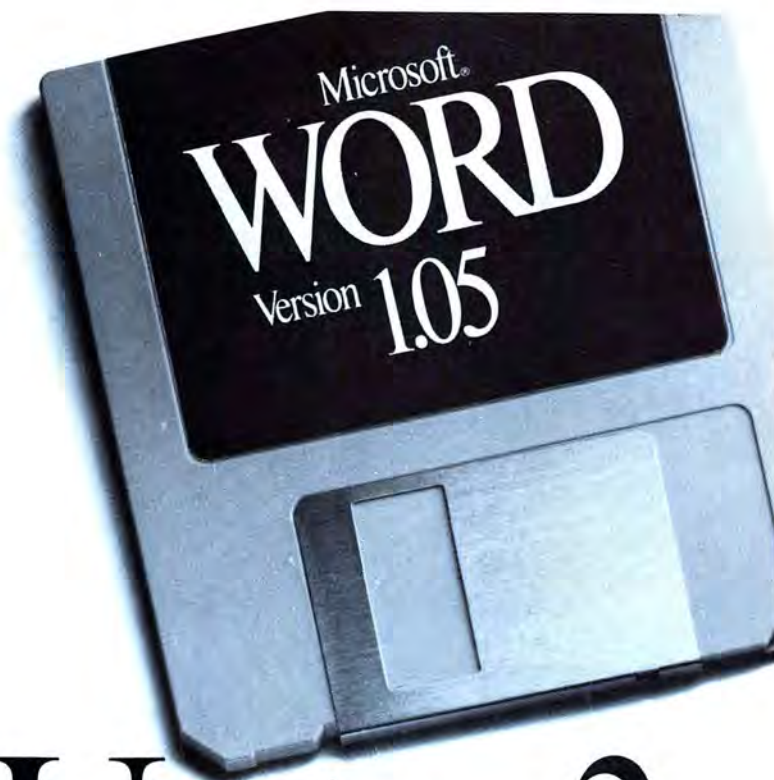
ROBERT R. WIGGINS IS MACUSER'S CONTRIBUTING BUSINESS EDITOR.

MACUSER RATING

PowerPoint

Follows Mac Interface	■ ■ ■ ■ □
Printed Documentation	■ ■ ■ ■ □
On-Screen Help	■ ■ ■ □ □
Performance	■ ■ ■ □ □
Support	■ ■ ■ ■ □
Consumer Value	■ ■ ■ ■ □

Comments: An extremely powerful tool for preparing overhead transparencies and 35mm slides. Combines *MacDraw* and *MacWrite* features. **Best Feature:** Notes pages and handouts preparation. **Worst Feature:** Inability to group objects or align them automatically. **List Price:** \$395. Published by Forethought, Inc., 250 Sobrante Way, Sunnyvale, CA 94086. (800) 622-9273. Mac II compatible. Requires 512K+. Not copy protected.



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U-What?



Is UNIX just a bunch of letters to you? MacUser spells out the details.

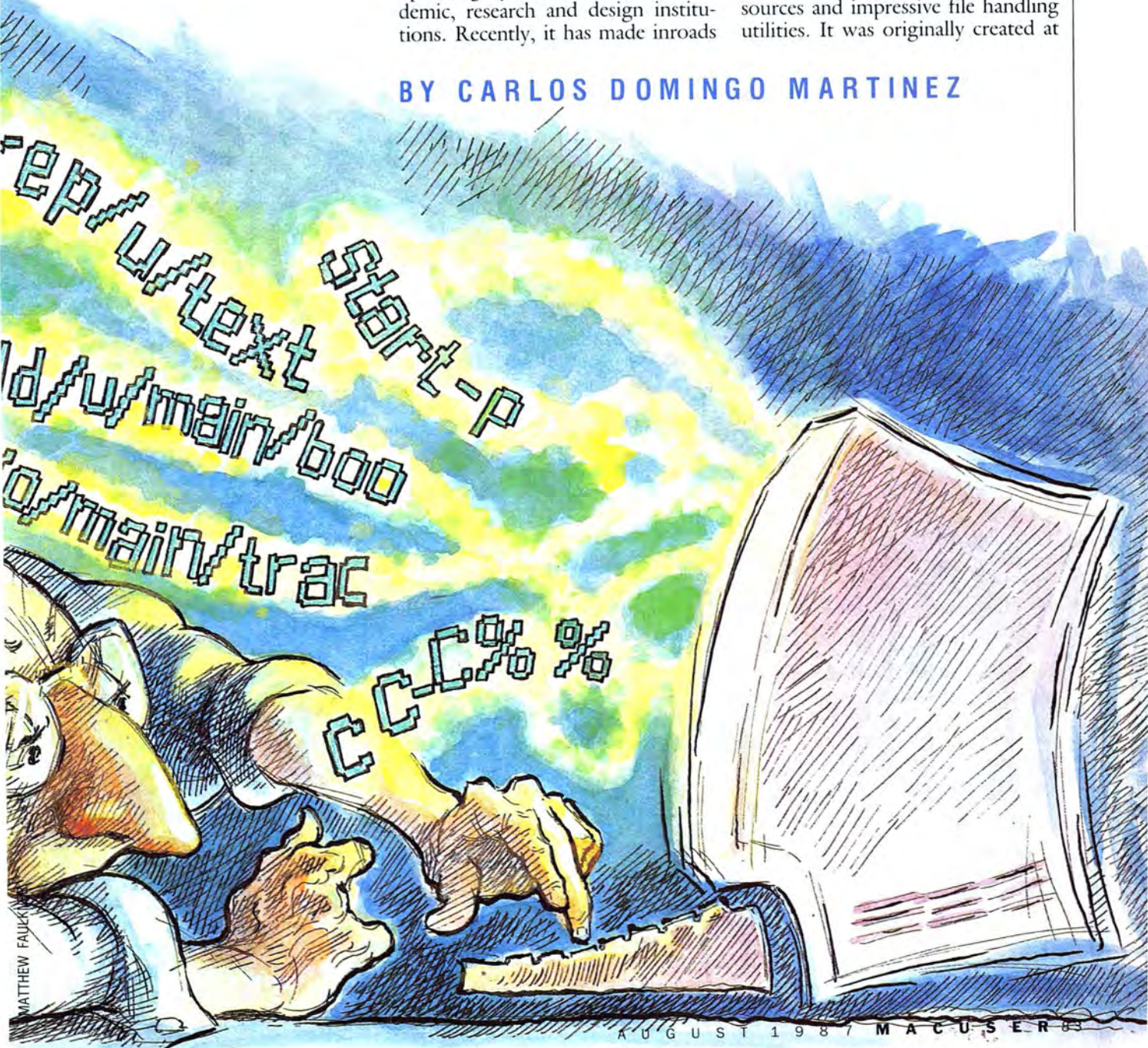
"UNIX IS NOT FOR NORMAL PEOPLE." So said Jean-Louis Gassée at the announcement of A/UX, Apple's implementation of the UNIX operating environment for the Mac II. Gassée is right. Most Mac users will never need nor want to be bothered with the intricacies of the UNIX system.

So what's the big deal about UNIX on the Mac II? Well, first of all, UNIX is something of a standard. For 15 years it has been the operating system of choice in academic, research and design institutions. Recently, it has made inroads

into the business and commercial worlds. So the ability to run UNIX gives the Mac II some extra influence in these domains. But UNIX is generally perceived as a large, complex system that is difficult to learn—the operating system equivalent of an adventure game—and something suitable for scientists and academicians but not for "normal people." So why is UNIX so important?

UNIX is a multi-user, multi-tasking operating environment with an exceptionally full set of system resources and impressive file handling utilities. It was originally created at

BY CARLOS DOMINGO MARTINEZ



U-What?

AT&T as a mini-computer program-developer's tool. UNIX, as we know it, dates from 1973 when the original version was translated into the then new C language. The C version of UNIX provided a structure that made it easier to bring UNIX to many different computer systems. Given the popularity of UNIX, this new portability led to its rapid spread. But portability was not the reason UNIX prospered and grew to have the importance and impact it has today. Other major factors include its wealth of powerful functions and utilities, its structural approach to the management of computer and software resources and its expandability. UNIX is both powerful and versatile enough to meet the ever-changing needs of its science and business users.

CORN FED

Much of UNIX' portability comes from the way in which UNIX works. In simplest terms, it divides its work load. Any UNIX system can be viewed as two separate parts: the Kernel, which interacts with the computer hardware, and the Shell, which interacts with the user. The Kernel is the machine level "operating system" part of UNIX. The Kernel controls all input and output functions, schedules the processor, allocates main memory, manages the UNIX file system and organizes mass storage devices. The Shell is the user interface of UNIX. In UNIX all commands are given to the Shell to interpret and pass on to the Kernel. Dividing labor in this manner greatly reduces the effort necessary to transport UNIX from one computer to another. It is not too farfetched to say that only those parts of the Kernel that interact directly with the hardware need be modified. The rest of the system is insulated from the hardware and can be ported virtually intact from one machine to another. This account is a bit oversimplified. Many technical considerations must be taken into account in any porting process. But the bottom line is you don't have to start from scratch. Applications written for the UNIX system are pretty much machine independent and, thus, highly portable.

AND THE KITCHEN SINK

Virtually everything you've ever wanted in an operating system can be found in UNIX. First, UNIX is a multi/tasking (the system can support more than one operation at a time) and multi-user (more than one person can use the same system resources at any one time) operating environment. Several users may each have several tasks running at the same time; UNIX keeps track of it all. Second, UNIX has a full complement of system resources—the collection of utilities through which it operates. Each UNIX utility is invoked by a simple command. The command is usually an abbreviation of the name of, or the action performed by, the utility—for example, `dir` for directory. The sheer number of utilities (there are over 200) is one of the major reasons why UNIX is often considered complex.

Finally, there are UNIX' file handling capabilities. UNIX permits you to alter (redirect) the normal input or output of a command. So, for example, operations that normally output to the screen may be redirected to the printer. UNIX also supports piping. With pipes the output of an operation may be directly employed as the input of a subsequent command. UNIX commands can also be used in chained sequences. These sequences, called Shell Scripts, can be saved as programs and used to automate repetitive operations.

BUILDING BLOCKS

UNIX takes a highly structured approach to system resources. The entire UNIX system is built on a hierarchical framework of directories and subdirectories. Conceptually, this is identical to the HFS system of nested files and folders used by the Mac. One difference, of course, is that HFS on the Mac is visual, while the UNIX hierarchy must be accessed through pathnames. And it's not just UNIX files that are arranged in this fashion. The entire system is organized hierarchically within the same structural framework—making it possible for authorized users to access every part of the system. The structural approach also carries over to the way UNIX ad-

Any UNIX system can be viewed as two separate parts: the Kernel, which interacts with the computer hardware, and the Shell, which interacts with the user.

dresses hardware resources. For example, output or storage devices (printers, disk drives, and so on) are all part of the same hierarchy. UNIX makes no distinction between performing an operation to a file or to a device, thus maximizing the usefulness of its utilities.

BRANCHING OUT

UNIX' coherent structure also lends itself to an exceptional level of expandability. A UNIX system will take additions to the system hardware completely in stride. For example, any number of printers may be hooked up to a system. UNIX simply differentiates them as LP1, LP2, LP3, etc. And UNIX imposes no constraints (unlike, for example, MS-DOS which has been hindered by its built-in limitations) on maximum system memory.

If UNIX is so powerful and versatile, you might ask, why haven't we been using it for years? Mostly, the barrier has been the price of admission. UNIX requires a great deal of computing power, copious amounts of memory and large storage devices. Until recently the microprocessors available in personal computers did not have the capability to deal with these requirements. On the other hand, those mini and super-micro computers suitable for UNIX were very expensive, usually far too expensive. Today both the cost and performance barriers have been breached. As the price of memory and mass

storage has come down, the capability of microprocessors has expanded. UNIX is now a viable alternative.

MAC ENHANCED

The Mac II is a great platform upon which to build a UNIX system. It has the necessary speed and power and then some. It can be expanded to a size where even UNIX can feel comfortable. Although at the time this was written I had yet to see a completed version of A/UX, Apple's implementation of UNIX, it promises to be a highly competent, complete product with a number of enhancements over standard UNIX. Probably the most important of these is the built-in access to the Macintosh Toolbox. The UNIX command line interface must, by today's standards, be considered unfriendly. Most Mac users will feel

like they have been transported back to the Dark Ages—or at least back to the days of CP/M. So far, Apple has promised only the standard UNIX command line interface, but the potential for a "Mac-Shell" exists. If and when this is available UNIX could become as palatable as the Mac system we know and love.

The minimum configuration for Apple A/UX on the Mac II is 2 megabytes of system memory (RAM) and a 40-megabyte hard disk. Depending on your needs, A/UX may still find itself somewhat cramped in this configuration. Four megabytes of RAM and an 80-meg hard disk are recommended. And to run A/UX your Mac II must contain the 68851 Page Memory Management Unit (PMMU) chip, an expensive option.

Since UNIX is a multi-user envi-

ronment, and the Mac II is powerful enough to be considered a "super-micro," it will be possible to employ the Mac II as a host computer/file-server, with either terminals or other Macs hooked up to it. But I suspect that most Mac IIs will be used as individual workstations within a network. As UNIX-based applications, especially in the computer aided design (CAD) and engineering fields, become available, users will most likely want the undivided attention of their Mac IIs, so that they can run these programs to their optimum capabilities. Designed with such networking in mind, the Mac II may be connected to either AppleTalk or, with the new Apple EtherTalk Card, to Ethernet networks. File transfers and electronic mail will run under standard UNIX (UUCP) protocols and, since the Sun Network File System (NFS) is built into A/UX, Mac IIs can be plugged into existing Sun networks, transparently sharing files with Sun workstations—a very cost effective alternative.

As Mac IIs proliferate, A/UX is sure to become a major factor in the Mac community. But what will this mean to the average Mac owner? Well, that depends on the individual and the work he or she performs on the Mac. If spreadsheet number crunching is your need, the Mac II will be tough to beat. There is nothing available for the UNIX system, or any other operating system for that matter, that comes close. But, if you use your Mac for CAD, you might find some of the high-end UNIX-workstation software ported to the Mac II before comparable Macintosh system programs arrive. For these people, A/UX, even in a single user configuration, will be the way to go. Maybe "normal" Mac users will never need to explore the potential of UNIX on their Mac II's. But like the extra horsepower of a high-performance automobile, it's nice to know that A/UX is available, if you ever need it. ☞

CARLOS DOMINGO MARTINEZ, A 5-YEAR VETERAN OF THE PC WARS, IS AN INDEPENDENT TECH WRITER, AND HOPES ONE DAY TO BE ABLE TO AFFORD A MAC II.

ALF? AWK? ARK? AU/X

Although this description of Apple A/UX is based entirely on pre-release information, it seems safe to say that it will be a state-of-the-art UNIX. Developed jointly by Apple and UniSoft Corp., a company with wide experience in the UNIX marketplace, Apple A/UX is based on UNIX System V, Version 2, Release 2—AT&T's current standard version. As such A/UX is a fully configured UNIX, not an imperfect clone. A/UX conforms to the System V Interface Definitions (SVID) and has passed the System V Validation Suite (SVVS). Thus, System V applications should be almost universally compatible.

Included in A/UX are the Bourne, Korn and C command shells. Software development support is provided by the Software Generation System (SGS) and the Source Code Control System (SCCS). And the C, Fortran77 and Snobol programming languages are to be available from UniSoft at product rollout. Still, users familiar with the standard System V will find some differences in A/UX and, more importantly, some improvements.

Over the years, several distinct versions of UNIX, such as Berkeley 4.2, (Berkeley Software Distribution) developed at the University of California, have gained wide acceptance. However, the more recent trend in the UNIX community has been toward integration of the various versions into a "standard" UNIX. A/UX continues this trend, incorporating over 50 of the Berkeley 4.2 utilities, many of which are extensions of UNIX not usually available in System V. Thus A/UX should provide an environment capable of executing both System V and Berkeley 4.2 applications. Users acquainted with either form of UNIX should find themselves in familiar territory.

A/UX also provides several unique enhancements. The recovery of system files in the event of a disk crash has been automated as is the reconfiguration of device drivers when new interface cards are added to the Mac II. These two features will ease the workload of system administrators and make single-user UNIX more convenient.

Over and above the normal UNIX communications capabilities, the ability to connect with various types of networks has been built into A/UX. Of course, A/UX supports links to AppleTalk. Also included are the Sun Network File System (NFS), permitting transparent access to both UNIX and non-UNIX remote file systems employing these protocols, and B-Net, UniSoft's version of the Defense Department's TCP/IP protocol for connectivity through Ethernet.

Finally, A/UX has the potential of replacing the normal UNIX command line interface with a Mac-like system of pull-down menus. Software developers will have access to a subset of the Macintosh Toolbox, permitting UNIX applications to acquire some of the look and feel of Macintosh programs.

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StatView 512+ (req. external drive, 512k)	179.
Bravo Technologies ... NCP	
MacCalc (easy to use spreadsheet)	85.
Broderbund ... CP	
Print Shop (create cards and memos)	39.
Geometry (over 350 problems!)	64.
CAMDE ... NCP	
Nutricalc (diet & nutrition analysis)	49.
Nutricalc Plus (dietician's delight)	175.
CasadyWare ... NCP	
Fluent Fonts (two-disk set)	29.
Fluent Laser Fonts (Vols. 1-15)	each 48.
Central Point Software ... NCP	
Copy II Mac (includes MacTools)	20.
Challenger Software ... NCP	
Mac3D (3D graphics, CAD features)	119.
Chang Labs ... CP	
Rags to Riches Ledger or Payables	125.
Rags to Riches Receivables (req. 512k)	125.
Rags to Riches Three Pak	299.
Inventory Control	243.
Professional Billing	243.
Cortland ... CP	
TopDesk (7 new desk accessories)	34.
Cricket Software ... NCP	
Statworks (statistical package)	77.
Cricket Graph (multiple windows)	127.
Cricket Draw (advanced draw capabilities)	177.
Data Tailor ... NCP	
Trapeze (spreadsheet, reqs. 512k)	173.
DataViz ... NCP	
MacLink Plus (transfer Mac/IBM data)	159.
Desktop Graphics ... NCP	
DrawArt (MacDraw artwork, req. 512k)	28.
DrawArt Vol. 2 (MacDraw clipart, req. 512k)	42.
DrawForms (requires MacDraw)	30.
Digital, etc. ... NCP	
Turbo Maccountant (GL, APAR, Payroll)	262.

MacConnection Software Special

through August 31, 1987

TRUE BASIC True BASIC

From the people who gave you BASIC to begin with, comes True BASIC. It's the flexible structured programming version of BASIC with a full range of control libraries.

- Features a full editing environment
- ANSI transportable code
- Supports all QuickDraw routines
- Full HFS support

And when you buy True BASIC, we'll sell you either or both of two of the most popular optional libraries, *Calculus* and *3D Graphics* for only \$25. These programs are not copy-protected.

True BASIC	\$59.
Calculus (reg. \$35) w/purchase of True BASIC	25.
3D Graphics (reg. \$35) w/purchase of True BASIC	25.

Dove Computer ... NCP	
RAMSnap (RAM Disk/Disk Cache)	35.
Dow Jones ... CP	
Market Manager PLUS 1.5	159.
Dreams of the Phoenix ... NCP	
Day Keeper Calendar	35.
Quick & Dirty Utilities	each 35.
Twelve-C Financial Desk Accessory	35.
Dubl-Click Software ... NCP	
World-Class Fonts! Vol. One or Vol. Two	28.
World-Class Fonts! (both Volumes)	49.
WetPaint Vol. One or Vol. Two	29.
WetPaint Clip Art (both volumes)	49.
Calculator Construction Set	39.
Electronic Arts ... CP	
Deluxe Music Construction Set 2.0	63.
Enabling Technologies ... NCP	
Easy3D (create solid 3D objects)	89.
Pro 3D (3D shaded modeling)	199.
Enzan-Hoshigumi USA ... NCP	
Japanese Clip Art Scroll 1 "Earth"	65.
Japanese Clip Art Scroll 2 "Heaven"	65.
MacCalligraphy (create unique designs)	119.
Firebird Licensees ... NCP	
Laser Author (word processor)	105.
1st Byte ... CP	
Speller Bee or First Shapes	27.
KidTalk or Mathtalk	27.
Smoothtalker (speech synthesis)	27.
Forethought ... NCP	
Factfinder (free-form info organizer)	49.
FileMaker (custom forms & reports)	79.
FileMaker Plus (feature-packed database)	159.
PowerPoint (professional presentations)	269.
Foundation Publishing ... NCP	
Comic Strip Factory (create cartoons)	65.
FWB Software ... NCP	
Hard Disk Backup (protect hard disk info)	38.
Hard Disk Partition (speeds up hard disk)	38.
Hard Disk Util (program backup)	56.
Great Wave Software ... NCP	
Early Music	12.
KidsTime (educational, ages 3-8)	28.

TimeMasters (learn about time, ages 4+)	\$28.
ConcertWare+ (music composition)	36.
ConcertWare+ MIDI	75.
Hayden Software ... CP	
MusicWorks (songs for your Mac)	29.
VideoWorks (animation)	32.
Home Design (NCP)	49.
Score Improvement for the SAT	59.
Score Improvement: Achievement Test	59.
Ideaform ... NCP	
MacLabeler (print disk labels)	29.
DiskQuick (catalog floppies & hard drives)	29.
Imagine ... NCP	
Smart Alarms (DA reminder system)	38.
Industrial Computations ... NCP	
Powermath (equation solving tool)	59.
Infosphere ... CP	
LaserServe (network software)	65.
MacServe (network software)	175.
Innovative Data Design ... NCP	
MacDraft (new updated version, 512k)	159.
Kensington ... NCP	
Type Fonts for Text (16 new fonts)	29.
Type Fonts for Headlines (req. 512k)	41.
Laserware ... CP	
Laserworks (requires 512k, Laserwriter)	229.
Layered ... CP	
Notes for... Excel or Microsoft Works	each 42.
Legissoft/Nolo Press ... NCP	
WillWriter 2.0 (prepare your own will)	31.
Letraset ... NCP	
Ready, Set, Go! 3	249.
Linguist's Software ... NCP	
Tech (1000 different symbols)	59.
FOREIGN LANGUAGE FONTS	
SuperFrench/German/Spanish	39.
MacHieroglyphics, MacKana/Basic Kanji, MacSemitic/Coptic/Devanagari, MacKorean, MacGreek, MacHebrew	each 59.
MacCyrillic	each 59.
SuperGreek New or Old Testament	79.
MacGreek/Hebrew/Phonetics	89.
LaserGreek or LaserHebrew	79.
LaserFrench/German/Spanish	79.
LaserCyrillic	115.
Living Videotext ... NCP	
More (outlines, windows, & tree charts)	158.
Lundeen & Associates ... NCP	
WorksPlus Spell	39.
Magnum ... NCP	
Natural Sound Effects	27.
Natural Sound Cable & Editor Disk	89.
MacPic - Volume 1 or Volume 2	29.
The Slide Show Magician 1.3 (CP)	35.
Micro Analyst ... NCP	
Mac Zap (recover crashed hard disks)	36.
Microsoft	
Flight Simulator (the Mac takes flight, CP)	32.
Basic Interpreter 3.0 (NCP)	64.
Chart 1.02 (42 chart styles, CP)	72.
Multipan 1.1 (63 col. by 255 rows, CP)	105.
File 1.05 (flexible data manager, NCP)	111.
Basic Compiler 1.0 (NCP)	119.
Fortran 2.2 (compiler, NCP)	169.
Works 1.0 (integrated tool, NCP)	189.
Excel 1.04 (power spreadsheet, NCP)	224.
Word 3.0 (word processor, NCP)	239.
Miles Computing ... NCP	
Mac the Ripper (req. Paint program)	27.
Orchestra of Fonts Vol. 4 (30 different fonts)	27.



In Your Write Mind

MOST OF THE WORD PROCESSORS coming out these days can also be called page or document processors, because they eliminate some of the need for page layout programs. In fact, the people in the industry are saying that in another couple of years, there won't be any difference between word processors and layout programs. This is supposed to be a marvelous achievement.

But what about us folks who just plain want to write? What if I don't care how the words look on the page? Is this heresy? What if I just want a program that will help me organize and express my thoughts? What if my output is going to be plain old text, and someone else is going to do the formatting? I know what you're thinking: "Somebody hand this guy a stone tablet and a chisel and get him out of here."

MindWrite does not attempt to be a page layout program. It can't display multiple columns on the screen.

**MindWrite is a serious,
heavy-duty word
processor. Powerful
integrated outlining and
true writers' features
add up to a superior
program.**

It doesn't have a built-in spelling checker or automatic hyphenation. It won't let you place imported graphics in the middle of a sentence. But it does something better than all of that.

INTEGRATED OUTLINING

MindWrite is the first program to truly integrate outlining with word processing. In all the other outliners I've used, there are headings and there are paragraphs, and never the twain shall meet. Headings are short, but you can drag them around with the mouse. Paragraphs are long, but they come in their own windows and you can't drag them around. Instead you have to drag the headlines that belong to them.

In *MindWrite*, headings can be long and behave like regular text. They wrap the end of a line and can be edited, just like paragraphs. You can drag headings to new locations with the mouse. The same thing holds true for paragraphs. You can move them around with the mouse, just like headings. You can have paragraphs subordinate to other paragraphs in an outline and collapse and expand the outline at will.

In other words, there's no basic

BY HENRY BORTMAN

for success. Call you

Mindscape ... CP	
The Luscher Profile (<i>personality profile</i>)	\$24.
The Perfect Score: SAT	47.
ComicWorks (<i>create your own comics</i>)	48.
GraphicWorks 1.1 (<i>newsletters, NCP</i>)	48.
Monogram ... NCP	
Dollars & Sense (<i>home, small business</i>)	81.
New Canaan MicroCode ... NCP	
Mac Disk Catalog II (<i>requires 512k</i>)	31.
Odesta ... NCP	
Double Helix (<i>relational, custom menus</i>)	275.
OWL International ... NCP	
Guide (<i>hypertext, free-form info</i>)	79.
Palantir ... CP	
MathFlash, WordPlay or MacType	26.
inTalk (<i>communication to emulation, NCP</i>)	99.
PBI Software ... NCP	
Icon Switcher (<i>customized icons</i>)	14.
HFS Locator (<i>DA organizer for HFS</i>)	26.
HD Backup (<i>supports MFS, HFS</i>)	29.
Personal Computer Peripherals ... NCP	
HFS Backup	29.
ProVUE Development ... NCP	
OverVUE 2.0 (<i>power-packed database</i>)	149.
Mail Manager Template	29.
Personal Finance Template	29.
Rubicon Publishing ... CP	
Dinner At Eight-Silver Palate Bundle	52.
Satori ... NCP	
BulkMailer (<i>mailing lists</i>)	74.
BulkMailer Plus (<i>up to 90,000 names</i>)	225.
Legal Billing (<i>attorneys to accountants</i>)	385.
Legal Billing II (<i>full trust accounting</i>)	575.
Project Billing (<i>architects to engineers</i>)	445.
Silicon Beach Software ... NCP	
Silicon Press (<i>printer utility, 512k</i>)	41.
SuperPaint (<i>advanced graphics program</i>)	54.
Simon & Schuster ... NCP	
Mac Art Department (<i>req. Paint program</i>)	24.
Paper Airplane Construction Kit	24.
Typing Tutor III (<i>learn to type!</i>)	35.
SoftStyle ... NCP	
Epstart (<i>Epson printer driver</i>)	29.
Colormate (<i>color printing utility</i>)	48.
Printworks (<i>print faster & in color</i>)	49.
Laserstart (<i>Hewlett-Packard Laserjet</i>)	58.
Softview ... NCP	
Macinuse (<i>time-use manager</i>)	35.
Software Ventures ... NCP	
Microphone 1.1 (<i>includes Glue</i>)	119.
Solutions, Inc. ... NCP	
SmartScrap & The Clipper	41.
Glue (<i>creates "print to disk" capability</i>)	41.
Springboard ... CP	
Art a la Mac Vol. 1-People & Places (<i>NCP</i>)	23.
Art a la Mac Vol. 2-Variety Pack (<i>NCP</i>)	23.

Certificate Maker (<i>CP</i>)	\$35.
State of the Art ... CP	
Electric Checkbook (<i>print checks</i>)	28.
SuperMac Technology ... NCP	
SuperSpool	39.
Diskfit (<i>backup & restore utility</i>)	49.
SuperLaserSpool	99.
Multi-User SuperLaserSpool	259.
Survivor Software ... NCP	
MacMoney (<i>financial planner</i>)	42.
Symmetry ... NCP	
Acta 1.2 (<i>outline/writing desk accessory</i>)	38.
PictureBase 1.2 (<i>clip art manager, 512k</i>)	44.
Target Software ... NCP	
Memorandum (<i>electronic post notes</i>)	75.
Telos Software ... NCP	
Business Fivision (<i>512k, external drive</i>)	199.
Think Educational ... CP	
MacEdge II or Mind Over Mac	28.
THINK Technologies ... NCP	
Laserspeed (<i>Laserwriter utility</i>)	67.
Lightspeed Pascal (<i>includes debugger</i>)	87.
Lightspeed C (<i>top-rated C Compiler</i>)	127.
InBox Starter Kit (<i>CP</i>)	235.
InBox Personal Connection (<i>CP</i>)	85.
T/Maker ... NCP	
ClickArt Personal Graphics, Effects, Publications, Letters Vol. 1 or 2, Holidays, Business Image	each 28.
Bombay, Plymouth, or Seville Laser font	46.
Write Now (<i>word processor</i>)	104.
TML Systems ... NCP	
TML Source Code Library	58.
TML Database Toolkit	64.
TML Pascal (<i>compiler, req. 512k</i>)	68.
TrueBasic ... NCP	
True BASIC	see special
Algebra II, Pre-calculus, Trigonometry, Discrete Math, Probability & Chippendale utilities	each 35.
TrueSTAT (<i>statistics</i>)	58.
Runtime (<i>create stand-alone applications</i>)	59.
Unicorn ... CP	
Animal Kingdom (<i>ages 6-12</i>)	27.
Decimal Dungeon (<i>math, ages 9 and up</i>)	27.
Fraction Action (<i>arcade style math game</i>)	27.
Mac Robots (<i>pre-school program</i>)	27.
Math Wizard (<i>math games, ages 5-10</i>)	27.
Read-A-Rama (<i>reading, ages 5-8</i>)	32.
William & Macias ... NCP	
myDiskLabeler (<i>design & print labels</i>)	24.
myDiskLabeler w/Color (<i>req. Imagewriter II</i>)	33.
myDiskLabeler w/Laserwriter option	38.
Working Software ... NCP	
Spellswell (<i>spelling checker</i>)	45.
Spellswell Medical Dictionary	59.

GAMES

Accolade ... CP	
Hardball (<i>baseball simulation</i>)	\$24.
Activision ... CP	
Tass Times in Tonetown	21.
Championship Star League Baseball	22.
Shanghai (<i>Mah Jongg strategy</i>)	24.
Addison-Wesley ... CP	
Puppy Love (<i>your dog will love it!</i>)	15.
Artworx ... CP	
Bridge 4.0 (<i>sharpen your skills</i>)	20.
Avalon Hill ... CP	
MacPro Football (<i>req. 512k</i>)	30.
Blue Chip ... CP	
Millionaire, Tycoon, Baron or Squire	35.
Broderbund Software ... CP	
Lode Runner (<i>over 150 levels</i>)	24.
Ancient Art of War (<i>military strategy</i>)	27.
Toy Shop (<i>create working models</i>)	39.
Bullseye ... CP	
Ferrari Grand Prix (<i>Formula One racing</i>)	34.
Fokker TriPlane Flight Simulator	34.
Electronic Arts ... CP	
Archon (<i>arcade strategy, req. 512k</i>)	27.
Skyfox (<i>3D graphics</i>)	27.
Seven Cities of Gold	27.
One on One/Dr J vs Larry Bird (<i>req. 512k</i>)	27.
Patton-vs-Rommel (<i>req. 512k</i>)	27.
Pinball Construction Set	27.
Chessmaster 2000	30.
Epyx ... CP	
Rogue (<i>strategy dungeon classic!</i>)	15.
Sub Battle Simulator	24.
Winter Games (<i>Olympic events</i>)	24.
Hayden Software ... CP	
Perplexx (<i>scrabble-type game</i>)	24.
Sargon III (<i>9 levels of chess</i>)	29.
Infinity Software ... CP	
Grand Slam (<i>tennis, req. 512k</i>)	27.
Infocom ... CP	
Hitchhiker's Guide to the Galaxy	18.
Leather Goddesses, Trinity, Moonmist, Ballyhoo, Bureaucracy (<i>standard</i>)	each 24.
Zork Trilogy	45.
Invisiclues Hint Booklets (<i>please specify</i>)	6.
MacroMind ... NCP	
Maze Wars+ (<i>play via modem or network</i>)	32.
Miles Computing ... CP	
Harrier Strike Mission (<i>3D flight simulation</i>)	27.
Mindscape ... CP	
Balance of Power (<i>world politics</i>)	30.
King of Chicago (<i>req. minimum 512E</i>)	30.
Bratucci (<i>great graphics, req. 512k</i>)	30.
Uninvited (<i>mystery adventure</i>)	30.
Shadowgate (<i>fantasy graphic adventure</i>)	30.

1-800/Mac&Lisa 730U

MacConnection™

MacConnection, 14 Mill Street, Marlow, NH 03456 800/622-5472 603/446-7711

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All items subject to availability. Prices subject to change without notice.

*Defective software replaced immediately. Defective hardware replaced or repaired at our discretion. Some items have warranties up to five years.

Please circle 82 on reader service card.



your connection.

Deja Vu (<i>murder mystery</i>)	\$30.
PBI Software ... CP	
Strategic Conquest (<i>multi-user</i>)	35.
Primera Software ... CP	
Smash Hit Racquetball (<i>top-rated!</i>)	15.
Psion ... CP	
Psion Chess (<i>3D and multi-lingual</i>)	31.
Rainbird ... CP	
Pawn (<i>fantasy adventure</i>)	27.
Silicon Beach Software	
Airborne! (<i>CP, the classic!</i>)	20.
Enchanted Scepters (<i>CP, over 200 scenes</i>)	21.
Dark Castle (<i>NCP, arcade action</i>)	28.
World Builder (<i>NCP, program creator</i>)	41.
Simon & Schuster ... CP	
Star Trek—The Kobayashi Adventure	24.
Sir-Tech ... CP	
Mac Wizardry (<i>high-rated fantasy</i>)	35.
SPHERE, INC. ... NCP	
GATO (<i>submarine simulation</i>)	26.
Orbiter (<i>space shuttle simulation</i>)	27.
Tellstar II (<i>No. & So. hemispheres, req. 512k</i>)	32.
XOR ... NCP	
NFL Challenge (<i>be the coach!</i>)	79.

HARDWARE

Manufacturer's minimum limited warranty period is listed after each company name. Some products in their line may have longer warranty periods.

NOTE: Some hardware items are available in either platinum or beige color. Please specify.

Apricorn ... 1 year	
ApriCord Mac (<i>for Mac 512k or Mac Plus</i>)	75.
AST Research ... 2 years	
AST TurboScan (<i>300 dpi scanner</i>)	1479.
AST 2000 (<i>20 MB, 20 MB tape</i>)	1479.
AST 4000 (<i>74 MB, 60 MB tape</i>)	3895.
Curtis Manufacturing ... lifetime	
Diamond (<i>6 outlets</i>)	29.
Emerald (<i>6 outlets; 6 ft cord</i>)	36.
Sapphire (<i>3 outlets; EMI/RFI filtered</i>)	47.
Ruby (<i>6 outlets; EMI/RFI filtered; 6 ft cord</i>)	55.
Dove Computer ... 90 days	
Mac Snap 524 (<i>512k to 1 Meg</i>)	139.
Mac Snap 524S (<i>incl. SCSI interface</i>)	239.
Mac Snap Plus 2 (<i>Mac Plus to 2 Meg</i>)	249.
Mac Snap 548 (<i>512k to 2 Meg</i>)	369.
Mac Snap 548S (<i>incl. SCSI interface</i>)	469.
Ergotron ... 1 year	
Mouse Cleaner 360°	15.
MacTilt or MacTilt SE	74.
MacBuffer 512k	329.
MacBuffer 1024k	429.
Hayes ... 2 years	
Smartcom II (<i>communications software</i>)	88.
Smartmodem 1200	299.
Smartmodem 2400	449.
InterBridge (<i>connect Appletalk networks</i>)	599.
IOMEGA ... 90 days	
Bernoulli Box (<i>dual 10 MB w/SCSI</i>)	1579.
Bernoulli Box (<i>dual 20 MB w/SCSI</i>)	1879.
Kensington ... 1 year	
Appletalk Cable Clips or Connectors	each 1.
Mouseway (<i>mouse tracking pad</i>)	8.
Mouse Pocket (<i>for your idle mouse</i>)	8.
Mac Plus/Mac SE System Saver Cover	9.

MacConnection Hardware Special

through August 31, 1987

20 Megabyte SCSI Hard Drive

This highly-rated 20 megabyte hard drive from a leading manufacturer is one of the most reliable we've tested. Simply connect it to your Mac Plus and gain 20 to 25 floppy disks worth of additional space. Or daisy chain several drives together for even more storage. This beige colored drive fits directly underneath the Macintosh, raising your computer a comfortable 3 1/2 inches.

- Comes with backup software
- Includes SCSI cable and built-in terminator
- Convection cooled—no noisy fan
- Additional SCSI port for daisy chaining

20 Megabyte SCSI Hard Drive \$569.

Imagewriter II Dust Cover	9.
Mouse Cleaning Kit w/Mouse Pocket	17.
Disk Case (<i>holds 36 Mac disks</i>)	19.
Disk Drive Cleaning Kit	20.
Tilt/Swivel	22.
Universal Copy Stand	24.
Polarizing Filter (<i>Mac Plus or Mac SE</i>)	34.
Surge Suppressor	34.
Printer Muffler (<i>80 column</i>)	39.
Printer Muffler (<i>132 column</i>)	52.
Control Center	64.
System Saver Mac	64.
A-B Box (<i>for the Mac Plus</i>)	65.
Turbo Mouse	85.
Koala Technologies ... 90 days	
MacVision (<i>digitizer</i>)	175.
Kraft ... 1 year	
3 Button QuickStick	49.
Migent ... 1 year	
Pocket Modem (<i>ext. 300/1200 baud</i>)	169.
Mirror Technologies ... 1 year	
Magnum 800 External Drive	209.
Magnum Tape 20 Backup	899.
Magnum Tape 40 Backup	1199.
MagNet 40/40 (<i>40MB, 40MB tape</i>)	2395.
MagNet 20x (<i>w/cable & backup utilities</i>)	779.
MagNet 30x (<i>w/cable & print spoolers</i>)	949.
MagNet 40x (<i>w/cable & print spoolers</i>)	1299.
MagNet 85x (<i>w/40 MB tape</i>)	3995.
Nuvotech ... 1 year	
EasyNet (<i>AppleTalk network connector</i>)	29.
Personal Computer Peripherals ... 1 year	
MacBottom Hard Drive 21MB (<i>SCSI</i>)	859.
MacBottom Hard Drive 45MB (<i>SCSI</i>)	1285.
SoftStyle ... 90 days	
MacEnhancer (<i>for plotters to printers</i>)	179.
Summagraphics ... 90 days	
MacTablet 12" x 12"	379.
Systems Control ... 2 years	
MacGard (<i>surge protection</i>)	55.
Thunderware ... 90 days	
Thunderscan (<i>high-resolution digitizer</i>)	189.
Powerport	29.
Western Automation ... 1 year	
DASCH RAMdisk 2000k	459.

DISKS

Double-sided Diskettes

Sony 3 1/2" Disks (<i>box of 10</i>)	\$21.
MAXELL 3 1/2" Disks (<i>box of 10</i>)	21.
Fuji 3 1/2" Disks (<i>box of 10</i>)	21.
Verbatim 3 1/2" Disks (<i>box of 10</i>)	23.
3M 3 1/2" Disks (<i>box of 10</i>)	24.

INFORMATION SERVICES

Compuserve

Compuserve Information Service 24.

Dow Jones

Dow Jones News/Retrieval Membership Kit 24.

ACCESSORIES

Computer Coverup

Imagewriter II Cover	8.
Mac Plus & Keyboard (<i>two covers</i>)	10.

I/O Design

Imageware II (<i>Imagewriter II carry case</i>)	49.
Macinware Plus (<i>Mac Plus carry case</i>)	69.
Macinware SE (<i>Mac SE carry case</i>)	89.

Innovative Technologies

The Easel (*holds 20 disks*) 13.

Kalmar Designs

Teakwood Roll-top Case (<i>holds 45 disks</i>)	14.
Teakwood Roll-top Case (<i>holds 90 disks</i>)	21.
Teakwood Roll-top Case (<i>holds 135 disks</i>)	29.

Magnum

Mouse Mover (*let your mouse ride!*) 14.

Moustrak

Moustrak Pad (<i>standard 7" x 9"</i>)	8.
Moustrak Pad (<i>large 9" x 11"</i>)	9.

Sensible Softworks

High Quality "MacAttire" dust covers 7-17.

Smith & Bellows

Mahogany Disk Case (*holds 90 disks*) 28.

OUR POLICY

- We accept VISA and MASTERCARD.
- No surcharge added for credit card orders.
- Your card is not charged until we ship.
- If we must ship a partial order, we never charge freight on the shipment(s) that complete the order.
- No sales tax.
- All U.S. shipments insured; no additional charge.
- APO/FPO orders usually shipped 1st Class Mail.
- Allow 1 week for personal and company checks to clear.
- UPS Next-Day-Air available.
- COD max. \$1000. Cash or certified check.
- 120 day limited warranty on all products.*
- To order, call us anytime Monday thru Friday 9:00 to 9:00, or Saturday 9:00 to 5:30. You can call our business offices at 603/446-7711 Monday through Friday 9:00 to 5:30.

SHIPPING

Note: Accounts on net terms pay actual shipping.
Continental US: For printers and drives add 2% for UPS ground shipping (call for UPS Blue or UPS Next-Day-Air). For all other items, add \$2 per order to cover UPS shipping. We will automatically use UPS 2nd-Day-Air at no extra charge if you are more than 2 days from us by UPS ground. **Hawaii:** For printers and drives, actual UPS Blue charge will be added. For all other items, add \$2 per order. **Alaska and Outside Continental US:** Call 603/446-7711 for information.

Soft Wear.

Out on a limb.

We don't want to offend anyone, but people who still use hard copy are seriously out of date. Just take a look at the artistic strokes of genius on our temporarily tattooed friend. Why, for the right price, you could present your next newsletter, spreadsheet, or epic poem in real living color.

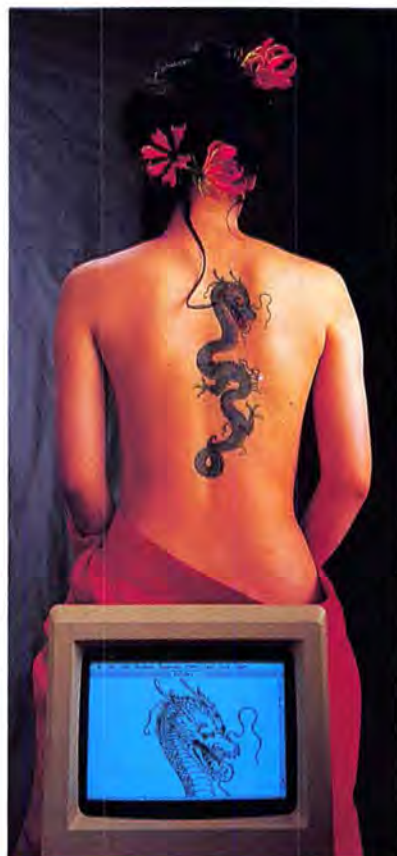


Picture your logo rippling across someone's exotic exterior. Amaze your boss as the gentle undulations of breath do things to

your five-year plan that you never imagined possible. Why, even editing could be fun again!

Fleshtop publishing.

David Chalk and his partner Roy Zuckerman at Temptu Marketing in New York are designing tattoos on their Mac



which are turning traditional marketing literally inside out.

It all started when Roy saw what his father, one of the world's leading cosmetics chemists, had developed for the movie "Tattoo"—a safer and longer-lasting body paint than anything previously available. He and David were soon selling

the paint in kits along with design transfers which can be applied in seconds with good old rubbing alcohol.

They've done custom work for everyone from Miami Vice to Guinness Stout. And, for quick designs, the Mac is starting to come in handy (and footy, and everywhere in between). Temptu can now digitize very custom images for transfer to very custom parts.

According to our winners, temporary tattooing is "the contact sport of the 80's." So it's only natural that they've chosen the micro of the 80's to help with their design and marketing. Oh, Lydia, could you have had fun with this one. Eh, Groucho?

<input type="checkbox"/>	Contest Winner #9
Name: David Chalk, Temptu Marketing	
System: Mac Plus	
Applications: Designs custom temporary tattoos; tracks clients and orders; produces mailing pieces and catalogs.	

MacConnectionTM

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- ◆ The story, told by Simon Wheeler
 - ◆ Development of Jim Smiley character
 - ◇ Betting habit
 - ◇ Winning habit
 - ◆ Examples of Smiley's betting
 - ◇ horse-race
 - ◇ dog/cat/chicken fight
 - ◇ two birds on fence
 - ◇ best exhorter
 - ◇ destination of bug
 - ◇ Parson Walker's wife's illness
 - ◇ Smiley's mare
 - ◇ Smiley's bull-pup
 - ◆ Smiley's frog
 - ◆ Frog's education
 - ◇ acrobatics
 - ◇ fly-catching

In Your Write Mind

difference between an outline heading and a paragraph. The two differ visually only in that the former have diamonds (or bullets or numbers) in front of them; the paragraphs don't. With minor and subtle exceptions, their behavior is the same.

PUSHING TEXT AROUND

MindWrite's most important tool for moving text is the hand tool. It's similar to other outliner tools that allow you to move headlines around. It's always accessible, but appears only when you place the cursor over one of the diamonds that define the outline hierarchy. The hand is a pointing finger until you click the mouse to use it. Then the thumb and forefinger come together to "hold" the type you want to move around.

All text can be freely moved as well as edited by all the standard text editing methods, with one irritating exception. You can double-click to select a word, but you can't then drag to select additional words. (I assume this will be fixed in the next revision. I would also like to see a shortcut for selecting a sentence.) And, while the cursor keys on the Mac Plus keyboard works, you can't use them in conjunction with the Shift key for text selection. With luck, this will also be cleaned up.

When it comes to paragraph selection, *MindWork* has achieved a breakthrough. You can select multiple, disconnected paragraphs (labeled or unlabeled). Then, in one fell swoop, copy or cut them to the Clipboard, delete them or move them to another position in your document. The left margin (to the left of the outline diamonds) is used

All text can be freely moved as well as edited by all the standard text editing methods, with one irritating exception.

to manipulate the paragraphs. You know you're there when the cursor changes to an arrow.

It takes a while to get used to the interaction between the hand tool and the selection arrow. When you want to select several paragraphs and move them, you have to first move the cursor to the left to make the selection, then move it just a tad back to the right to get the hand so you can move the text. It's even worse when you're using unlabeled paragraphs, which don't display any diamonds in front of them. You have to trust in "The Force." Do it wrong a bunch of times and then you'll get used to it.

The Clipboard has a special feature: It's cumulative. Each time you cut or copy to the Clipboard, you add to what's already there. The most recent cut or copy is on top, but you can select whatever you like from it, including discontinuous selections. Whatever is selected will be pasted. But there's more. In addition to being a Clipboard, the Clipboard

window acts just like another *MindWrite* document. You can even edit it and save it to a file.

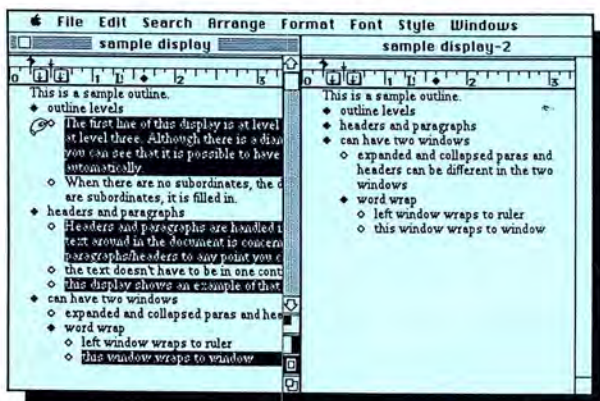
MindWrite is also one of the first programs to have an "intelligent" cut and paste option. When you cut or copy text to the Clipboard, *MindWrite* closes up the space in the remaining text, even if there's a comma after the word. Paste the word back in somewhere else and again *MindWrite* worries about the spaces. Select a word, type another word, move a sentence and *MindWrite* still takes care of the spacing. It is possible to mess this up and overcompensate, but when I don't worry about it, the program usually gets it right. I like it.

You can expand and collapse an outline in the same way that you do in other outlining programs: Double-click on the diamond in front of a heading (or paragraph) and its subordinates appear or disappear. However, *MindWrite* offers one important advance. You can collapse a paragraph to show its first line only. A dot appears at the left end of the line indicating that there's some text hidden. As soon as you click anywhere on the visible line, the paragraph expands to show all its text. This is very handy for getting a quick overview of your work, even if most of your text is hidden.

Another welcome innovation is the Mark command. When you select MARK from the Search menu, a dialog box appears and asks for a beginning and ending time. Any block of text that has been modified in the period between these times is marked with a solid vertical bar in the left margin, both on the screen and in the printout. It's the first Macintosh program I know of that lets you mark changes like this, although timed drafts are a common requirement among people who churn out multiple copies of a document and pass it around for revision.

FORMATTING

You can select a default typeface and point size, the default heading marker (diamond, bullet or numbers), whether pagination should be turned on or off, and so on. In addition, you can create a document



This *MindWrite* screen display shows several important features of the product: There is no essential difference between outline headings and paragraphs; multiple, discontinuous headings/paragraphs can be dealt with as a group; the same document can be viewed in more than one window at a time; and text can be set to wrap either to the rulers (left window) or to the window (right window).

with your choice of ruler settings, default font/style/point size. You can even include some default text. Save it under the name "Stationery," and when you ask for a new document, you'll get a copy of Stationery as an Untitled document.

MindWrite's rulers are embedded in the text, like *MacWrite's*, rather than being paragraph-based, like *Word's*. Yuck! Whose idea was it to do this in *MacWrite* in the first place? And who decided to repeat it in *MindWrite*? Never mind, I don't want to know. Despite this unpleasantness, there are some interesting aspects of *MindWrite's* rulers. There are two kinds—one for headings and one for paragraphs. Rulers affect text only at their own or deeper levels, which is a bit too complex for my taste. But this feature can help cut down on the total number of rulers in your document. Unless you have some heavy formatting needs, you will be able to ignore this for the most part.

One of the unfortunate implica-

You can select multiple, disconnected paragraphs and, in one fell swoop, copy or cut them to the Clipboard, delete or move them.

tions is that you can't add extra leading between paragraphs or even have different leading between paragraphs than within paragraphs (for example, single-spaced paragraphs separated by one-and-a-half line spaces). I know I said I was just writing, but when I do need to format, it's nice to have a few tools available.

MindWrite does have headers and footers, however. With pagination

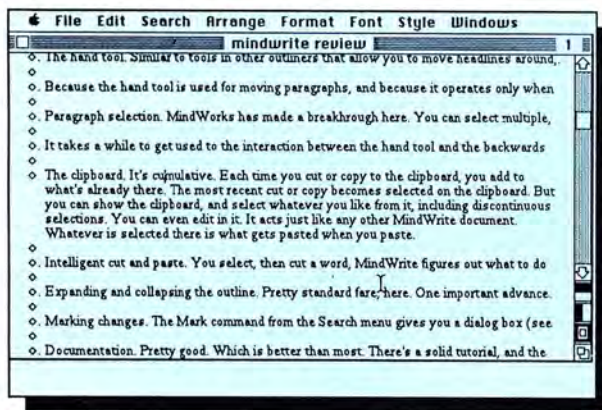
turned on, they appear on the screen in their proper place. And there are icons—date, time, page number and file name—that can be placed on the page. But to format the typeface, style and point size of these items you have to take a rather strange journey that starts at the Select option of the Edit menu and proceeds with the use of a poorly designed dialog box that interacts in a confusing manner with the Font and Style menus.

WINDOWS

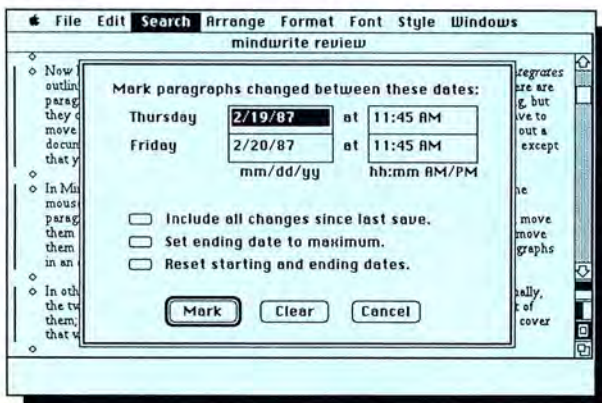
MindWrite gets a B in windowing. You can clone a window, creating two (or more) different views of the same document. Editing changes made in one window, including the moving of text from one place to another, are reflected in the other. But if you expand or collapse portions of the outline in one window, the other remains unaffected. This is handy for keeping an overview of your document nearby while you do detail-level editing.

There is also a novel approach to tiling. *MindWrite* got designed before the zoom box in the upper right corner of many windows came into vogue. So *MindWork* did their own version, only it's down near the bottom of the scroll bar. In addition, there are two other window controls that make it relatively easy to shrink a full-screen window to either a vertical or horizontal half-screen window and to reduce half-screens to quarter screens. This was a good try, but, in my opinion, not a very good implementation. It often takes two or three steps to get a window to the desired size, shape and position. It's definitely easier than manually resizing windows, and better than automatic tiling—which gives you no control over what goes where—but there's still room for improvement.

One of my favorite *MindWrite* features is the choice between text wrapping to either the ruler (in which case you get WYSIWYG line endings), or to the window, which guarantees that there's no invisible text hanging off the edge of the screen. Those of you who, like me, do a lot of non-WYSIWYG writing



MindWrite not only allows you to collapse and expand an outline, it also collapses paragraphs to show first lines only. When a paragraph is collapsed, it displays a small dot at its left end. Clicking anywhere on the line that is visible causes the entire paragraph to redisplay.



It is possible to mark text that has been revised between specified dates. The dates appear on the display (and on printouts) as vertical bars in the left margin. This is handy for auditing revisions.

In Your Write Mind

will appreciate having this choice.

My biggest complaint about *MindWrite's* windows is that there are no horizontal scroll bars. At first I thought I was doing something wrong, but I was mistaken. *MindWrite* was designed that way—another thing to be redesigned in the next release. One could argue that the program is not intended primarily for WYSIWYG writing, and since it is possible to set the text to wrap to a window's right edge rather than to a ruler, the absence of horizontal scroll bars is not all that important. In fact, I don't mind it that much, for precisely those reasons. But I suspect *MindWork* has gotten some complaints on this one.

GETTING IT OUT THE DOOR

It must be difficult to decide when "enough" bugs have been squashed to warrant the release of version 1.0 of an application. The advertisements have been running for months. The phone has been ringing off the hook with potential customers begging for a beta copy, so you

Most word processors offer either a built-in spelling checker or automatic hyphenation, or both; *MindWrite* has neither.

take a deep breath and ship the product—too early.

MindWork fell into this trap and released *MindWrite* with some major problems. The most obvious is that the screen display is very buggy. At times it appears that a line has been repeated twice or, worse, that some text has been wiped out. Sometimes you will lose the ability to edit on part or all of the screen. While none of my files have been destroyed, these glitches are very

disconcerting, especially the first time. Fortunately, they are easy to fix: Command-semicolon will almost always restore the screen display to the way it should be. This bug is supposed to be fixed in the first upgrade.

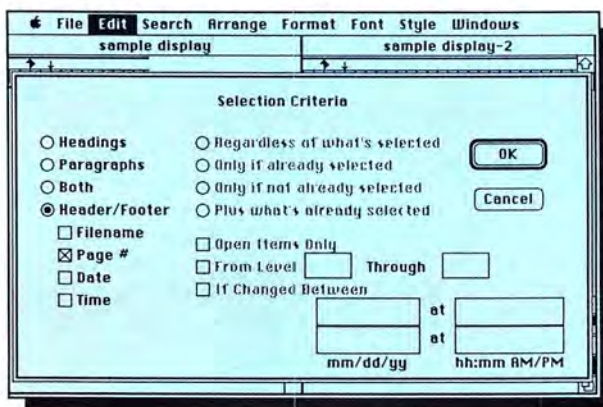
Even worse, there are serious problems with the "save to *MacWrite* format" function. (*MindWrite* will save files in *MacWrite*, *ThinkTank* and Text Only formats, as well as its own.) If you run into this bug, it can destroy your file. Since saving to *MacWrite* format is currently the only way to bring a *MindWrite* file into *PageMaker* or *ReadySet Go*, the potential for problems here is quite high. **Warning:** once you save a file in *MacWrite* format, leave it that way. Don't start transporting the same file back and forth for editing purposes. The precise workings of this bug are difficult to describe, but if you restrict yourself to saving to *MacWrite* format only when you're done with all your *MindWrite* editing, you'll be all right. If necessary, save two copies of your file—one in *MindWrite* format, for further editing, the other in *MacWrite* format, for use in other contexts. This bug should also be fixed in the first upgrade.

While we're on the subject, saving in *MacWrite* format will preserve all font, style, leading, point size, column width and justification information, but not indenting. *MacWrite* can't support it. The standard line length in *MindWrite* is slightly longer than that in *MacWrite*, so line endings might change when you convert.

Also in the major problems department—although not exactly a bug—is *MindWrite's* speed. It's not super-slow, but scrolling could definitely stand some speeding up. While the judicious use of expanding and collapsing headlines is a way to mitigate this problem, you often have to scroll a long distance in order to collapse text that you are not currently interested in. The lack of any keystroke commands for navigating an existing outline reduces the potential effectiveness of such an approach. (You can move text left and right in the outline with simple



The search and replace dialog, while comprehensive, is so large that it obscures the text completely. As a result, *MindWork* decided to make it disappear after each individual search or replace action. This makes multiple find-next/replace-and-find-next operations a tedious chore.



The selection dialog box, accessed from the Edit menu, has many uses. However, it's poorly organized. Functions co-exist here that bear no relationship to each other. And the fact that you must use it to modify the type characteristics of the time, date, page number and file name icons in the headers and footers is the most counterintuitive aspect of *MindWrite's* user interface.

keyboard commands, but you can't move the cursor up, down, left or right in the outline, as you can in *ThinkTank* and *MORE*.)

In addition, the screen display frequently lags behind a fast typist. This is supposedly worse on Mac XLs and 512K machines that don't have the new ROMs, but is better on the SE and Mac II. MindWork says that the first upgrade will alleviate this problem.

SEARCH AND REPLACE

The search and replace dialog box is humongous. It's so big that it would block the entire screen if it didn't disappear when you do a series of search and replace actions. I find it frustrating to use, because I'm accustomed to seeing my search and replace strings on-screen while making changes. I also generally rely on the buttons in a search dialog box to perform these actions. *MindWrite* forces you to use the Search menu repeatedly or to memorize the command key equivalents—most of which are neither standard nor mnemonic.

There is one useful new feature in the Search function. Find All creates a new window that contains every paragraph or outline heading in which your search string appears. This is extremely handy for collecting all references to a particular subject. You can then save this new window as a separate document if you like.

MISCELLANEOUS POINTS

Most of the current crop of word processors offer either a built-in spelling checker or automatic hyphenation, or both. As mentioned above, *MindWrite* has neither. As far as hyphenation goes, *MindWrite* doesn't even support discretionary hyphens. In fact, Mindwork assigned the Command-hyphen keystroke combination, used by every other word processing and page layout program to set potential breaks, to something else. Oops. MindWork had better fix this one quick.

As for a spelling checker, you will need to get a standalone to check your *MindWrite* documents. It is supported by both *Thunder!* and

MindWrite's documentation is very good. The index gets a C+, maybe a B, depending on whether you grade on the curve or not.

MacProof, but because of the way *MindWrite*'s search dialog box works, *MacLightning* is inefficient. This is also scheduled for repair in the first upgrade. The publishers of *Spellswell* are working on an upgrade to their product that will support *MindWrite*.

MindWrite's documentation is very good. There's a solid tutorial, and the explanations in the reference section are for the most part clear, thorough and well illustrated. It's also easy to tell, as you thumb through the book, what topic is being discussed on any particular page. This is no minor achievement. I've seen lots of manuals where you practically have to read a whole page to find out what it's about. The index gets a C+, maybe a B, depending on whether you grade on the curve or not. Technical support is also excellent.

Another warning: *MindWrite* comes with a special font, ZDiamonds, which prints the diamond characters the program uses for outline headings. This font must be present in your System folder when you print the document, or you will have problems. If you print to an ImageWriter, you'll see As and Bs instead of diamonds in front of your outline sections. If you print to a LaserWriter, you will get a PostScript "nocurrentpoint" error (very helpful!).

This special font can also cause problems with spoolers. At the present time, only *SuperLaserSpool* supports *MindWrite* for printing to a

LaserWriter. But there is a catch. To get the diamonds to work properly, you must use the *Font/DA Mover* to copy the ZDiamond screen fonts from the *MindWrite* application to your System file. If you don't know how to do this, MindWork technical support can walk you through it.

MindWrite is the first word processor for the Macintosh specifically designed with the heavy duty writer in mind. It allows the user to move body text around in a document as easily as other outlining programs allow the manipulation of outline headings. As a new product, it has its share of problems. A couple of bugs should have been taken care of before it shipped, not after. Despite these shortcomings, it is a well-conceived application that meets the needs of an important segment of the word processing consumer market. Check it out.

P.S.: According to MindWork, the first upgrade, scheduled for late March, will be free to registered owners. In addition to fixing bugs, revisions will include support for *AppleShare* and wide screen monitors, and will provide a modest improvement in speed. ☒

HENRY BORTMAN IS A FREELANCE WRITER IN SAN FRANCISCO. HE IS A FREQUENT CONTRIBUTOR TO MACUSER.

MACUSER RATING

MindWrite ⬆⬆⬆⬆

Follows Mac Interface	■ ■ ■ □ □
Printed Documentation	■ ■ ■ ■ ■
On-Screen Help	■ ■ ■ □ □
Performance	■ ■ ■ □ □
Support	■ ■ ■ ■ ■
Consumer Value	■ ■ ■ ■ ■

Comments: The best integration of outlining and text editing available on the Macintosh. While not the most advanced in desktop publishing features, it's likely to be a tool of choice for authors and others who need to make multiple revisions to documents. **Best Features:** Ability to move paragraphs around with the mouse, ability to select discontinuous paragraphs. **Worst Features:** Buggy screen display, potential file corruption when re-saving files previously saved in *MacWrite* format. **List Price:** \$125. Requires 512K Mac, two drives. MindWork Software, P.O. Box 222280, Carmel, CA 93922. (800) 367-4334. In CA call (800) 654-5599. Not copy protected.

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Once Upon a Board

Put away your
checkbook: Here's how
to do professional
storyboards with the
software you already
own!



A MAC JOKE: HOW MANY APPLICATIONS does it take to finish a job?

Answer: Just one more.

An imaginary scenario: You've written a film script in *MacWoody-Allen Writer*; you've done the budget in *Maxploitation Flick*. You've planned the entire production with *MacSpielberg Producer*—and now your Mac burps, and says "I'm still hungry. Get me *MacStoryboard-Works!*"

Whoa! Another \$400? Another 2 weeks learning a new program? More phone calls to California: "How does this thing work?" More

incompatibilities, limitations, goofy interfaces and oddball printouts.

And the problem is universal. In business, you've just got to have the latest *MacTaxEvader*. In architecture, it's *MacBlueprint Maker Plus*. And so on.

Where does it all end? Right here. Use the tools at hand.

Storyboards demand crisp visuals, revisable text and numerical organization. They must be easily retrieved, edited and viewed. And jazzy printouts are a must. But you don't need a dedicated program.

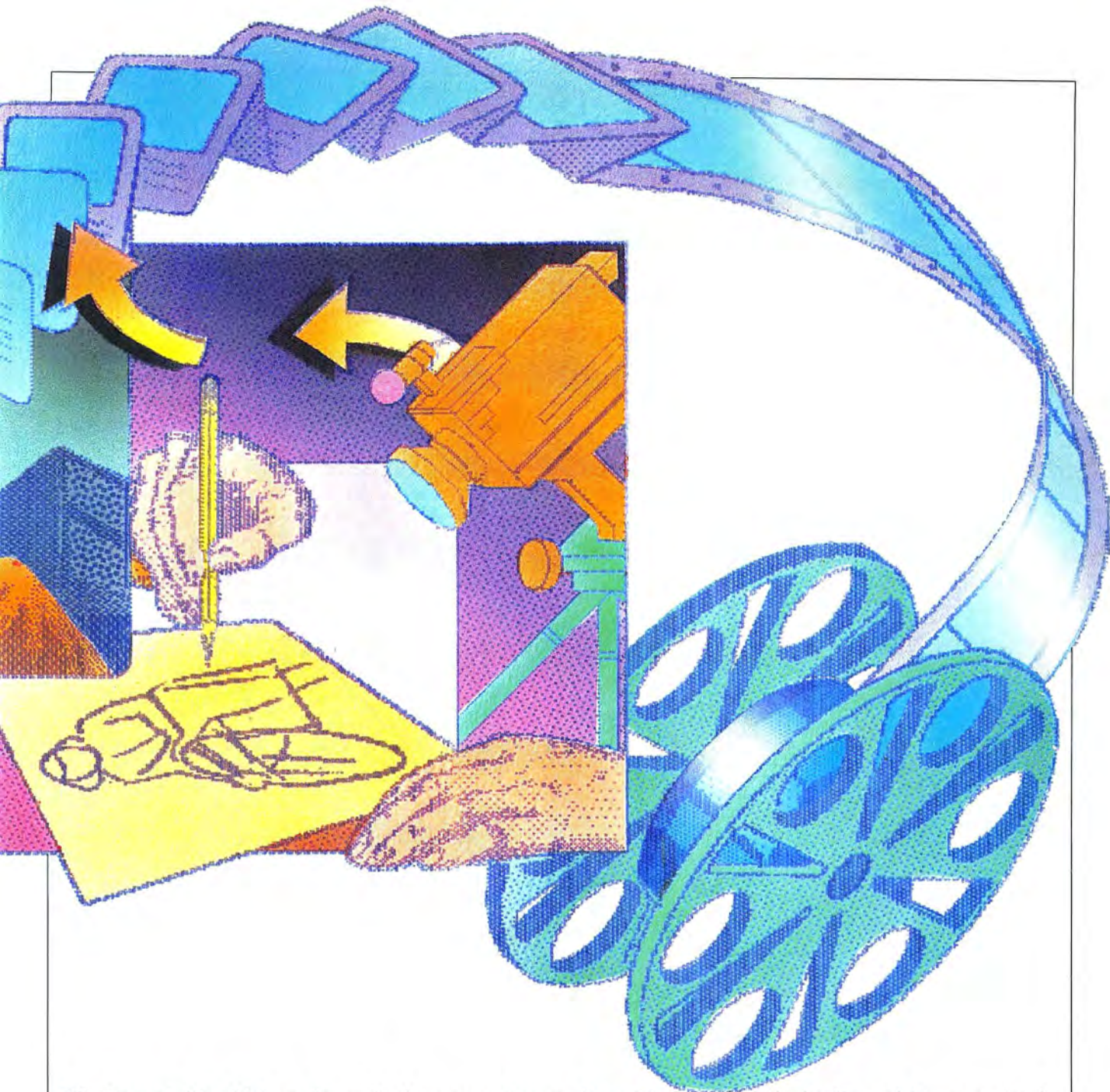
Surely you have a few of these

products—or their equivalents—on hand: *MacPaint*, *MacDraw*, *Full-Paint*, *SuperPaint* or *GraphicWorks*; *PageMaker*, *Ready, Set, Go!* or *Xpress*; *PictureBase*, *FileMaker Plus*, *Reflex* or *Slide Show Magician*; *ViewPaint*, *Glue*, *The Clipper*, *Art Grabber* or *Disk Quick*, *MacVision* or *Magic*.

Let's look at a few features.

First, you need Input. If your storyboard artist is good, you'll have lots of charcoal sketches to digitize. Flat art looks best on the new generation of page scanners like (Abaton, Microtek, DEST and MacScan.) They give you TIFF (Tagged Image

BY DOUGLAS K. DEMPSEY



File Format) files, high-quality and PostScript-ready. Of course, ThunderScan—at one-tenth the cost—is still the poor man's answer to scanning.

A good compromise might be a video digitizer, like *MacVision* or *Magic*. With a home video camera, and/or a VCR, you can shoot flat art, actors, sets, locations, scale models—and send them all to disk. *MacVision* is ridiculously simple, and delivers *MacPaint* screen shots to work with. New Image's *Magic* requires more effort, but allows you to manipulate contrast, patterns and

the output format—from *MacPaint* to *PageMaker* and TIFF files.

Or, you can simply draw your art, right on the Mac. One pro, Scott Cunningham of Foresight Films in Brooklyn, likes to do all three. He'll run out and shoot locations on his Sony Video 8 camcorder, and use them as backgrounds. Then he'll scan in some sketched character studies; finally, he'll work up some "dynamic action" right on his MacTablet—and combine the whole brew for his final boards.

You should build up a collection of art-on-disk, and organize it ac-

cordingly. You might use a simple disk cataloguer like Ideaform's *Disk Quick*, or a full blown data base like *Reflex*.

Even better are "visual catalogs." A cheap one is *SmartScrap* from Solutions, Inc. Really just a powerful scrapbook, it features a Table of Contents that lets you scroll through a series of reduced pictures, double-clicking to view them full-sized. You can create as many *SmartScrap* files as you like, naming them, "Scenes 25-50," or "Freeway Chase scene" and so on.

And there's *PictureBase* from Sym-

Once Upon a Board

metry. It also stores bit-maps or PICT files in libraries that can be flipped through quickly in reduced view, or seen full size. Select all or any part of a page and attach an "info" file to each shot. You can also merge different libraries, thus adding, for example, Scene 27 to the Freeway Chase.

I recommend this method of data basing. It's much easier to see a thumbnail than to puzzle over, "Which shot did we like? 'CU Jenny, looks left,' or 'CU Jenny, looks right?'"

So, you've got a huge data base of art—on hard disk, if you're smart. What next?

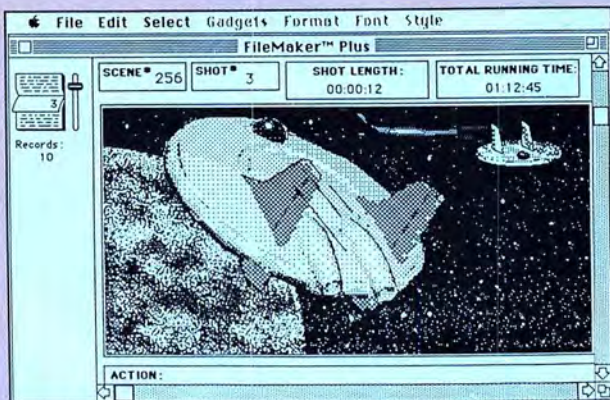
DRAWING CONCLUSIONS

So, you've got a huge data base of

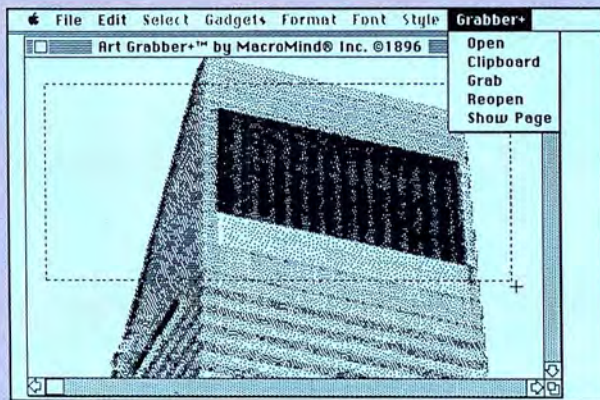
art—on hard disk, if you're smart. What next?

You need a storyboard template—in a form that best suits your production. That might be a gorgeous full-page layout, with logo and title on top, to raise money with. Or a sparse little file-card with a scene number for the Director to carry in a pocket. Or a precisely drawn frame with lots of technical info for the special effects house you're working with.

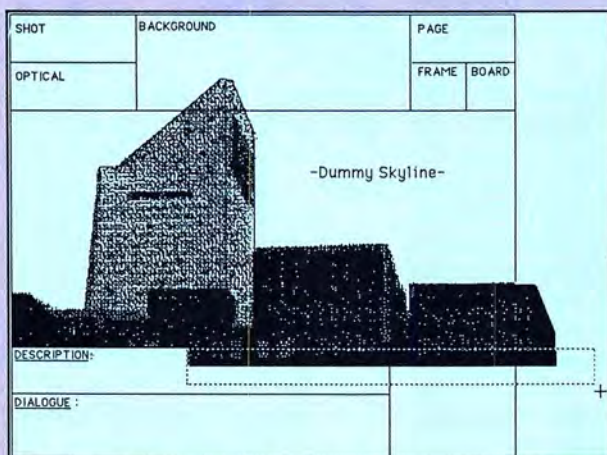
Scott Cunningham finds the perfect medium is *SuperPaint*. It's



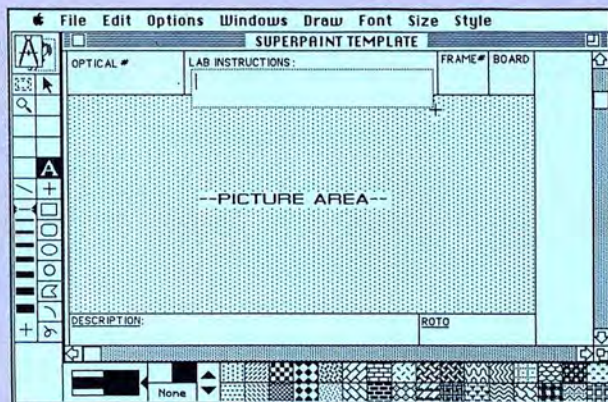
1 *FileMaker Plus*: Full View. This is scrolled down slightly to see the full picture. Once you set the position, it will stay there as you flip through hundreds of boards. Note the Slide Control on the upper left. As you move it with the mouse, the numbers scroll so you can find any page instantly and accurately. Or click on the Browse pages and change boards one at a time. Note the Shot Length and Running Time. You can use the data base's math section to add all your shots and their times, giving you a cumulative total.



2 *Art Grabber*: Note the selection rectangle. Choosing GRAB will copy the selection to the Clipboard. Dragging the marquee beyond the borders will auto-scroll the art. *Art Grabber* will open only *MacPaint* files.



3 *SuperPaint*: A piece of digitized skyline has been imported using *Art Grabber*. Cropping is easy using either the selection marquee or the eraser, because the template resides on the Draw level of the program, and is not affected by Paint operations. This template has been designed to fill the screen, once *SuperPaint*'s tools, patterns, scroll bars and menu bar have been hidden.



4 *SuperPaint*: The Compass icon in the upper left corner means you're working in the Draw level. This is where you lay out your template. Note the Text tool, which has just dragged a text box to size; the cursor is inside the active area. The icon directly behind the Compass is a Paintbrush. Click on it to work in the Paint level in order to create original art or to import and touch up digitized art.

In today's computerized world, the concept of craftsmanship is still very much alive.



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A good example is the Adobe Type Library.

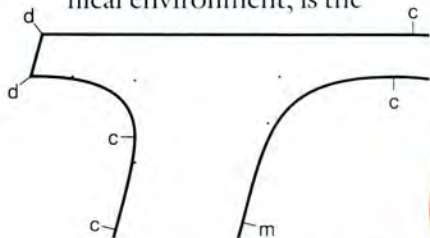
The Adobe Type Library is created in a modern setting, using sophisticated computer software. And



To ensure that each type face in the Adobe Library is true to the original, we carefully study a wide range of historic type reference material.

the people who perform this task are much like the "punch cutters" of another era... each letter in a type family is painstakingly examined, manipulated and refined until, at last, it's as close to the original as humanly possible.

Indeed, the human factor, even in a highly technical environment, is the

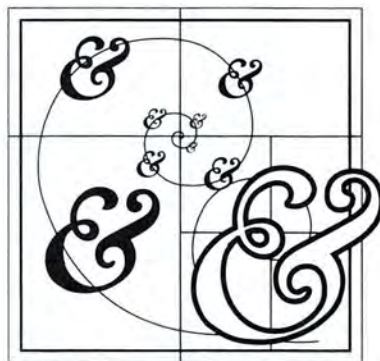


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cheap, fast and self-contained. He makes his templates in the Draw level, so he can move objects and create text boxes that are easily editable. Then he imports his art—or creates it from scratch—into the Paint level. This way, the template resides *behind* the art, visible but not affected by the Paint tools. When the frame is finished, he uses the Copy to Draw Level command, and presto!—a finished, but still editable, storyboard frame.

SuperPaint cranks out a quick ImageWriter print, or lets you scale the piece and create dazzling LaserWriter output.

A limitation becomes apparent in viewing. *SuperPaint*, like *FullPaint* and others, works on single page files. You can shuffle between a few windows, but you can't click through a hundred pages of storyboards. A feature script may have from 250 to 750 boards.

MacDraw allows a limited number of pages, but it is maddening to scroll around between them. And you've got no Paint level for creating or fine-tuning the art.

Enter *GraphicWorks* 1.1, from Mindscape. Billed as a "graphics, text and layout tool," it actually falls somewhere between *SuperPaint* and *Ready, Set, Go*. That compromise makes it an attractive all-around storyboarder. Mindscape thinks so;

GraphicWorks 1.1 falls somewhere between *SuperPaint* and *Ready, Set, Go*. That compromise makes it an attractive all-around storyboarder.

they've included a sample storyboard template right on the disk.

As with *SuperPaint*, you can work in both Paint and Draw levels, and combine the two. You first create Text and Picture boxes or "panels" and "easels," as they're called in *GraphicWorks*. A grid system makes design and alignment less of a chore. Next, create or import some art and paste it into a "picture box" on your template. Then type your dialogue, etc. into a "text box." Done.

But suppose you want to import a digitized background, a Draw-object foreground set, and Paint-created characters—all in the same board? Easy; you just drop them in place and use *GraphicWorks*' sophisticated

Shuffle tool to flip through the various layers, and reorganize foreground/background relationships.

The *GraphicWorks* airbrush is incredibly powerful. It's great for "blending" art from one source into another, that is, a drawn character into a digitized background. *GraphicWorks* also has 1-degree rotation, perspective effects—things *SuperPaint* does not. Its Laser Scaling feature is simple and effective. And the *Art Grabber+* DA is installed on the disk for easy access to your art files.

The word processor is a step up from the *SuperPaint*'s text editor; that's important if you're entering lots of dialogue and notes.

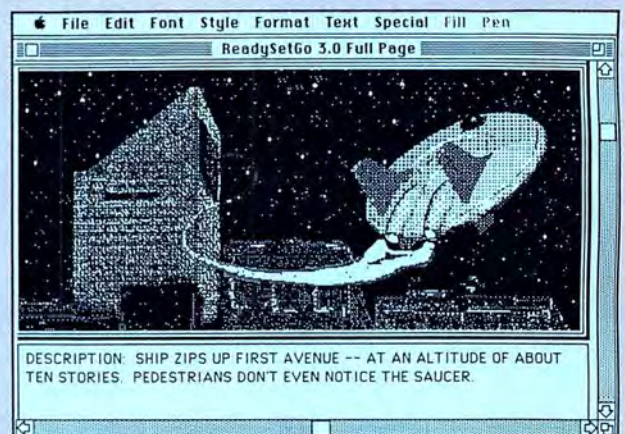
GraphicWorks 1.1 is a recently improved version; it was originally *ComicWorks*—and it still has that "ink and superheroes" smell of a comic book, complete with "Wham!"- and "Pow!"-type dialogue balloons. You may want to dazzle potential investors with a "Raiders-of-the-Lost-Art" look.

The drawbacks: You can only add a page at a time. There is no Master Page, so you must paste continuously from your template. There is no Go To feature; you just scroll until you find the right page. And the interface is a bit complex.

For creation and manipulation of storyboard art, *GraphicWorks* seems



5 *Ready, Set, Go! 3: The Facing Pages Window.* You can click or scroll through the document and get a good feel for sequences. But don't count on reading the dialogue unless you have entered 36-point text—which I suppose would be fine for Rambo's monosyllables.



6 *Ready, Set, Go! 3: Actual Size View.* Note that the page scroll and tool palette have been hidden. You can still jump from page to page using the go to command.

MacVision

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Ted Benhari is Public Information Officer at Dominican Hospital in Santa Cruz, CA. He is very much into Desktop Publishing. He produces numerous publications for the hospital, including "The Dominigram," a magazine for the general public, "The Scanner," a newsletter for employees, and a catalog promoting various classes at the hospital's Education Center. Ted likes having the ability to digitize

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DOMINICAN HOSPITAL EMPLOYEE NEWSLETTER
VOLUME 1, NUMBER 7
AUGUST, 1986



Alphonse Castaneda...Blooming Genius

The gorgeous orchid coverage at the Hospital's Employee Service Award Dinner came not from some South American jungle, but from the carefully tended plants grown locally by Alphonse Castaneda, the instrument technician in the Surgery Department.

Alphonse has been growing orchids for seven years. Blissful from a hobby into a part-time vocation, his orchids are in great demand by local flower stores for retailing to the public.

Orchids' delicate beauty belies their durability. They make great gifts - a cut stem

laden with flowers, called a spray, can last for one to two months, Alphonse says.

He grows his plants by cloning them in petri dishes, or combines varieties through hybridization. The work is exacting, as is his delicate adjustments of the sophisticated surgical equipment.

"My job here is to make sure everything used in an operation is working properly," says Alphonse. "It requires great care and the ability to troubleshoot during a procedure if something isn't working as well as it should.

Alphonse's expertise goes beyond mere

maintenance. He redesigned a surgical saw used for cutting bone blocks for ventral fixation. "The improvement makes the procedure go a lot faster," Alphonse says with justifiable pride.

Alphonse was a game mover in organizing the Hospital softball team, although his schedule doesn't permit him to play this year. "The team-based morale by helping people from different departments get to know each other as people," he says, "is not just a function."

This is very important to Alphonse, who, as anyone who knows him will affirm, is a real "people person," with a well-deserved reputation for kindness and generosity.

Newsletter created with the Macintosh™ using PageMaker™ MacWrite™ MacDraw™ and MacVision™

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ideal. If you're concerned about layout and presentation, though, you may have to try the dedicated page layout programs.

LAYING IT ON

PageMaker, like *GraphicWorks*, allows you to create a non-printing grid that your picture and text boxes will "snap" to—making easy work of template design.

Placing input files, whether Paint, Draw or text, is simple to the point of perfection. You just choose the PLACE command, and *PageMaker* opens any file—identifying it as Paint, Draw or text by the shape of the cursor. You can click anywhere, on or off the page, and place the art. When you move the objects, they're "transparent" so you can frame the shot while looking at the whole picture. A Cropping Tool then hides the unwanted area, while retaining it for later reference.

If you're using *PageMaker* 2.0, you can even install *PictureBase's* Retriever DA on your disk. It grabs art directly from a *PictureBase* library and places it in *PageMaker*.

Since you'll most likely type in your text, rather than importing it, you should define the text area. Use the Text tool to click the start point, then drag to define a text rectangle. You must then enter a space or character to "set" the box. You

Ready, Set, Go
allows unlimited pages. I
created an 800-page
document and zipped
around in it like the
Millenium Falcon.

would most likely enter "Scene #" and so on.

But most important to storyboarding are Master Pages and Viewing. You design your template on the Master Page, and it then appears as a "non-active" background element on each following page—up to 128 pages in *PageMaker* 2.0. That could get you ½ of the way through a feature script—if you're lucky.

Actually, it's best to create Acts I, II and III files—and use the extra pages for insertions and any editing you might do. *PageMaker* lets you add and delete any number of pages, in any position you want. You might cut out a sequence, and store it at the end of your file. The Go To command is excellent, enabling you to

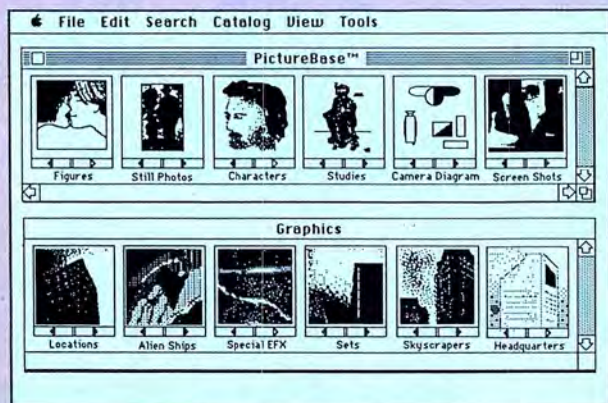
leap huge chunks of storyboard in a single bound.

Another big advantage is the reduced views, which are fully interactive. I find the 75% size very helpful for an overview of picture and text. During a presentation, I use Actual Size. As with all of these graphics programs, you can hide the tool boxes and scroll bars for more image area. And since Go To has a key command, you can still get to any page instantly.

I find the *PageMaker* interface simplest and most elegant; it feels like shuffling papers around on a desk. It's very Mac-like and easy to learn; your production assistants can learn *PageMaker* in minutes and be pasting up boards for you.

The big problem is text boxes. The "live" text areas cannot be installed on the Master Page. You must create them, by hand, on each active page. Of course, you can create them once and copy them onto the Clipboard, but Paste leaves them positioned arbitrarily in the middle of the screen—so you must use the Selection arrow to move them, as a group, to the correct location. (Snap to guides come in handy here.)

That means 128 pages of Paste, Move and Go To the next page. Tedious. You'd do well to create a full 128-page template just once. Then open and "Save As" during



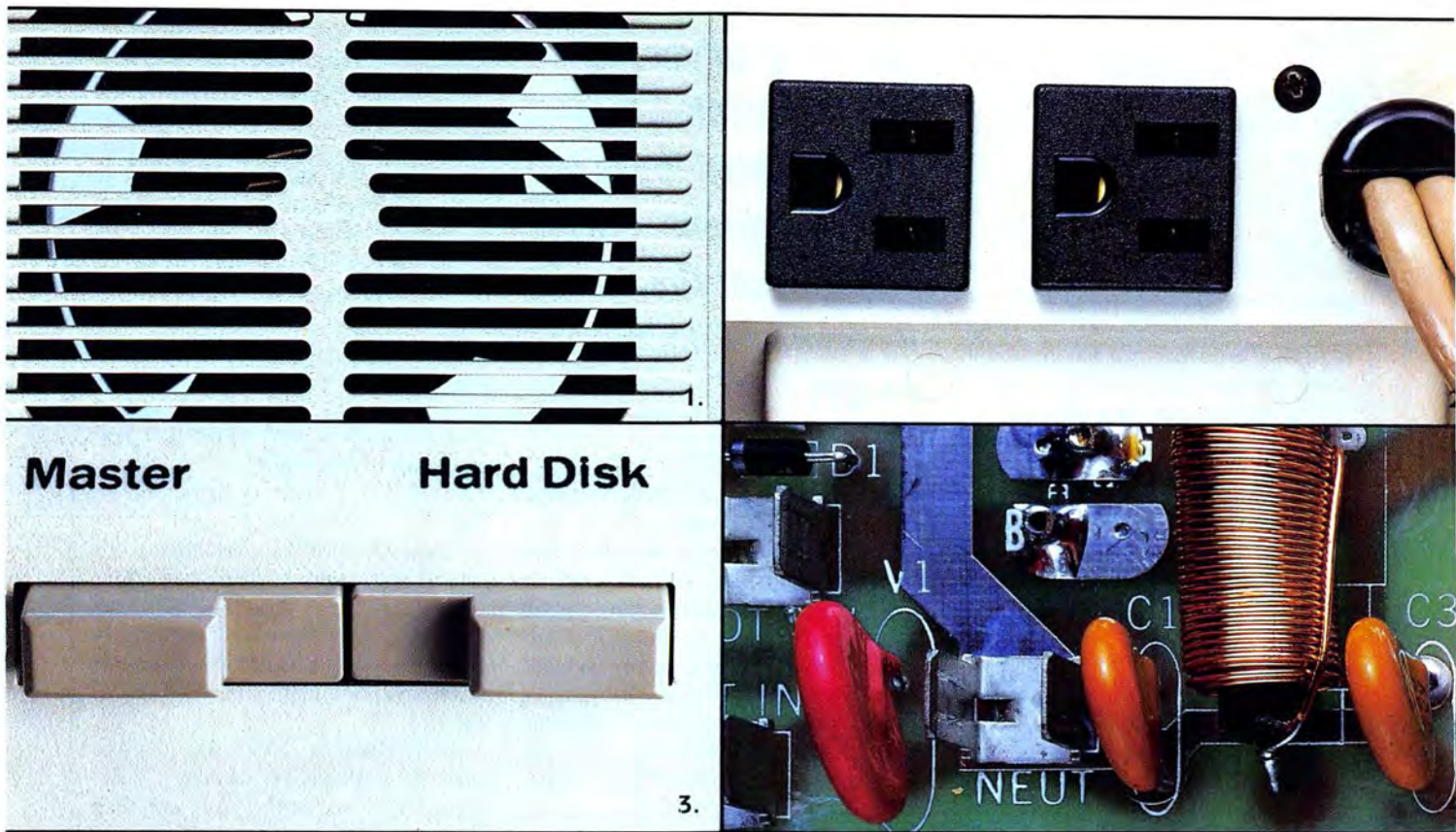
7 *PictureBase*: Catalog Window. You can click on the arrows and scroll through each of your libraries. Double-clicking opens the library where you can view the pictures at 25%, 50% or Full Size. You can also call up an Info window for each image, with Titles, Keywords (for Search functions) and Notes.



8 *PageMaker* 2.0: By using the Wide setting in Page Setup, your 8 ½ x 11 sheet is displayed horizontally. This format works well with four 1.85:1 Theatrical Aspect Ratio masks. The View shown here is Actual Size.

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each session—deleting as many pages as makes the file manageable.

Or, you can define “column guides” and adjust their width to provide right and left borders for your text boxes. Column guides *will* work on every page when stored as Master Items. However, they extend the full vertical length of the page. That means you can’t design a template with a wide box (for dialogue, let’s say) underneath a narrow box (for scene number); the Guides will limit all text in any particular column to one width only. So you must design a template to accommodate these quirks.

The rewards are easy template design and use, good picture cropping, fast “Go To” and flexible Viewing. The Costs are the limitations on text box design, and a maximum file of 128 pages.

READY TO GO

The cure is *Ready, Set, Go*, which allows an unlimited number of pages. I created an 800-page document and zipped around in it like the Millennium Falcon.

Ready, Set, Go also uses a grid system. But it is highly refined; there is even a Specifications box that lets you define exact sizes and positions. This is particularly helpful if you’re designing a number of similar storyboard templates, or you want precise

FileMaker lets you import graphics, so you can create Laser-Writer scaled logos in other programs. Maybe Forethought should call its product *Filmmaker Plus?*

picture frames, for example, for the standard 1.33:1 aspect ratio, the 1.85:1 wide-screen format, the 2.35:1 anamorphic format and so on. For an EFX house, you might create registration marks to show exactly where in the frame special effects will be optically printed. A further refinement is an Alignment tool, allowing you to line up all your text and picture boxes by Right, Left, Top and Bottom.

As in *PageMaker*, you cannot install “live” text boxes in the Master page. But *Ready, Set, Go* will Paste in a copy to any page in perfect registration. No adjustment necessary.

And the “Insert Page” dialogue is more sophisticated than *PageMaker*’s; it includes a Duplicate Current Page command. So if you’re planning an 800-page document, all you do is click that option, type “799” in the “Add Pages” box—and Presto!—your document is ready.

Viewing in *Ready, Set, Go* is essentially the same as *PageMaker*. The only serious *Ready, Set, Go* weakness is that the Undo key doesn’t undo many of the layout functions—so moving things around can be a real chore.

For creating templates and prepping a big document fast, *Ready, Set, Go* excels. But for ease of use, a simple interface and more text features, see *PageMaker*.

FILE IT

There is another alternative; it’s simple and elegant. *FileMaker Plus*.

That’s right. A data base. Perhaps even the same one you’re already using for your Production Contacts or your Locations file. Here’s how to do it:

First, open a New file. Define your Text fields as “Scene,” “Dialogue” and so forth. And create a “Picture field” for your art.

In the Layout mode, make the appropriate boxes, sizing them so that the picture and a line or two of pertinent text fit into the viewing



9 *PageMaker 2.0*: Cropping your artwork is very satisfying in *PageMaker*. Select the Cropping tool, click on the artwork and sizing handles appear. At that point, the underlying template lines, guidelines and borders all invert, becoming white. This makes it very easy to see exactly what your frame will be—while still viewing the entire piece of artwork.



10 *PageMaker 2.0*: This is the 75% View. If you use 18-point type for your captions, they will be easily readable while scanning four boards at a time. Note the column guides. I designed the template for four columns and set the space between columns at $\frac{1}{4}$ inch. The width of the columns is adjusted to fit the text boxes by using the Selection tool to move the Guides.



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window. Go to "Browse" and begin creating "New Records"—in this case, each one is a new "board." Type in your text info; use *Art Grabber+* to grab your pictures.

You might also install *The Clipper*, a DA from Solutions, Inc. *The Clipper* displays art as it appears on the Clipboard—and trims or scales it to the exact size needed. Drag *The Clipper* over the Picture frame, size it, and choose the "Trim To Fit" command. The art is sized and ready to paste in. *The Clipper* will remain set at that size for the rest of your session.

You can paste in as many Records or "Boards" as you want. You can even install a self-stamping "Record #" in the Layout mode; the Record number will appear automatically and serve as your "Board #."

FileMaker is a data base; thus it has a powerful Search function. You can find frames by number, shot description, character name or camera angle. *FileMaker* sorts your boards according to various attributes. You can use the numerical formulas to add timings and get a cumulative running time for the whole movie—which changes as you vary the length of each shot. *FileMaker* also prints out good LaserWriter copies. And it will print a list of all your boards, which you can use as an editing log—while you Delete,

How about automatic sequencing of your storyboards to study the pacing and impact of your shots. Or to dazzle a potential backer.

Clone and Export boards to other *FileMaker* files. Fantastic!

Viewing is fast, clean and effortless. You can click to view boards in sequence, or move the slide bar to scroll through the whole file. The numbers change, so you can slide to a distant board quickly and accurately. And you don't have to watch the entire screen being redrawn; only the Text and Pictures change. And if you've designed your page carefully, a single click in the scroll bar will jump you to the bottom half of the page, to view your dialogue, and so on.

FileMaker lets you import graphics, so you can create LaserWriter-scaled logos in *SuperPaint* or

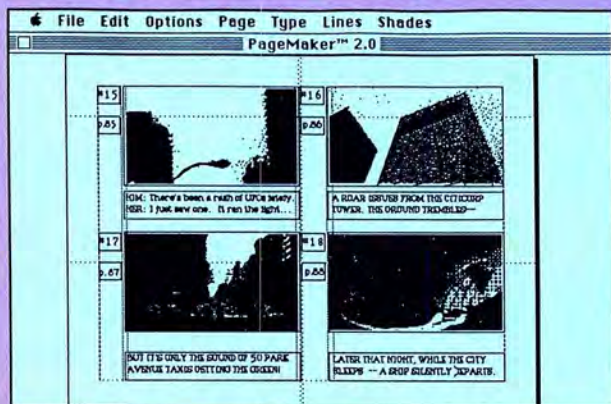
GraphicWorks, 1.85:1 aspect ratios in *Ready, Set, Go*—and import the whole thing into your *FileMaker* layout. Maybe Forethought should call its product *Filmmaker Plus*!?

SCREENING COPY

Okay. So how about presentation: automatic sequencing of your storyboards. To study the pacing and impact of your shots. Or to dazzle a potential backer. Well, that's what the standalone programs do, for \$400 to \$500.

However, there is an interesting little sequencer called *Slide Show Magician*, from Magnum. It was designed not for the limited Hollywood market, but for the vast corporate presentation and training fields. And for less than \$60, it will do some amazing things with your storyboards.

Like the standalones, these applications work with *MacPaint* documents only. So the boards you create in *SuperPaint*, or whatever, must be duplicated in the *MacPaint* format. That means extra hard disk space; a 20K *SuperPaint* document will save as a 13K *MacPaint* document. Since a feature film's worth of boards adds up to 4 to 5 megabytes—the extra *MacPaint* files will be another 2.5 to 3M. That's what hard disks are for, right? Also, you need to position your template in the upper left cor-



11 *PageMaker* 2.0: This is the 50% View. Use 18-point type for your captions and the LaserWriter will print an easily readable 9-point Helvetica. Again, note the column guides. This template has four columns; the spacing between them is $\frac{1}{8}$ inch and the column width was adjusted manually to fit the text blocks.



12 *GraphicWorks* 1.1: All of the elements combined. The Shuffle tool allows you to sift through the various easels, so you can quickly find and modify any of the elements.

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Vertical Programs

Storyboarder, by American Inteliware, has a limited paint program. It has a good sequencer, with lots of editing and effects. But you can't design your own templates, the interface is confusing and there have been some serious complaints from professionals about its reliability.

CineWrite, from Max³, has a nice sequencing module, but it's linked to their script module. Since you can't import a script into *CineWrite*, you would have to write your script in their program as well.

Both programs require *MacPaint* documents. And neither creates a particularly snazzy printout.

In general, the standalone programs are very specifically designed. If you like the looks and the way it works, buy it. But if you don't quite like the output—you're stuck, with few options and limited flexibility.

ner of the document; sequencers read art as a "screen shot" in the upper left quadrant.

Slide Show Magician allows you to list 99 shots per show. You define Time On-screen, a choice of Wipes, Cuts or Fades, and whether you want frame numbers and text to appear on-screen. You can also install on-screen "buttons"—invisible if you like—to control Stop/Go and Go To. The Go To feature allows you to branch to other shows. Therefore, it makes sense to create "shows" that represent Scenes or Sequences. You can then easily program variations that jump to Shots or Scenes in a different order.

Slide Show Magician prints out an info list on each show, keeping a log of shots, timings and effects. And finally, *Slide Show Magician* has a

digital sound module. You can record and link any kind of sound effects, music or dialogue for your presentation.

Or, for under \$100 you can have Beck Tech's *MacMovies*, another sequencer of similar ilk.


MacMovies has no sound module, no effects and it doesn't control the time on-screen for individual frames. However, it does allow more control as the sequence is running: In addition to Stop/Go and Single Frame, you can vary the playback speed by clicking the number keys.

MacMovies allows editing, forward-and-reverse play and chaining to other shows. It consists of four modules: a compiler, which takes your *MacPaint* files and compresses them into a "MacMovie Reel"; a Preview which loads your shots into

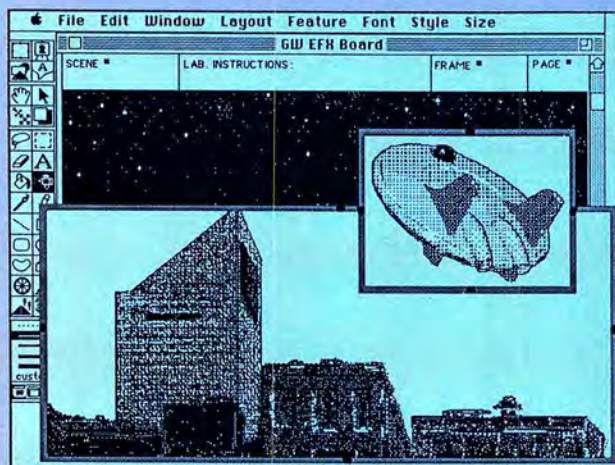
RAM and plays them; a Projector for playing completed reels, and "MacMovie" which can chain several reels together.

The problem is that *MacMovies* works by compressing your *MacPaint* files and creating another file of it's own—the "Reel." That means yet another set of graphic files, one more generation removed from the original storyboard. It gets a little cumbersome; if live presentation is worth that much effort, perhaps you should be working in *VideoWorks*. Or better yet, videotape the boards frame-by-frame off the Mac screen, and send a VHS tape to potential viewers.

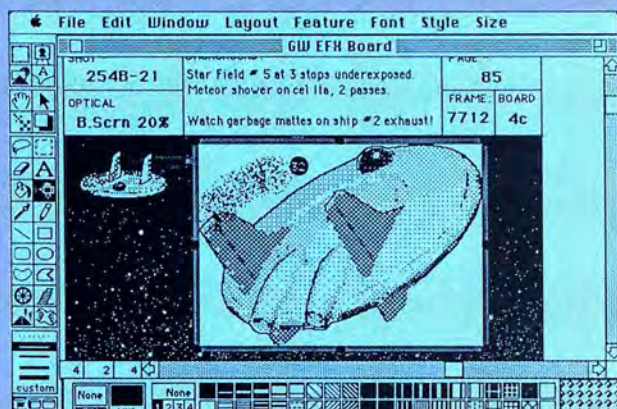
So there you have it. A bit of imagination, a little patience and a minimum of money should get you the storyboards you want.

The key word here is "tailoring." Remember, it's *your* movie—or whatever other project you may be concocting. So get the Mac to do it your way: Rummage through that disk box. Be creative. Like Picasso twisting "Head of a Bull" out of a bicycle seat & handlebars—Use the materials you've got on hand! 

DOUGLAS DEMPSEY IS A FILMMAKER AND SCRIPT DOCTOR. ("WE LOST ANOTHER ONE TODAY...") HE LIVES IN NEW YORK WITH HIS WIFE AND TWO MACS.



13 *GraphicWorks 1.1*: The skyline shot has been retouched, using the *GraphicWorks* airbrush and Paint tools. The spaceship was imported from the *GraphicWorks Art Disk* and scaled to 75% of original size. Both easels are highlighted to show all the "elements" of this board. In actual practice, *GraphicWorks* will highlight only the current easel.



14 *GraphicWorks 1.1*: The current easel is highlighted. The Paint tools are to the left, and the tool in use is the Airbrush. The number "32" in the black circle indicates airbrush size. The current easel, containing the foreground spaceship, can be moved around on the background. The numbers "4, 2, 4" to the left of the horizontal scroll bar translate as "Page 4, Panel 2, Easel 4."

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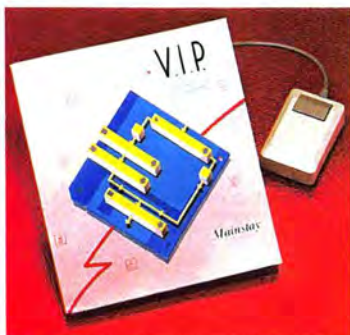
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It's Elementary

When it comes to kids' software for the Macintosh, some developers have yet to learn their ABCs.

FOR A COMPUTER THAT'S EASY enough for a child to use, the Macintosh certainly lacks a decent selection of children's software. There's hope (or perhaps blind faith) in my house: we bought a second Mac just so the kids would leave mine alone. It's already been to "Show and Tell" in both nursery school and first grade.

But there's just not much *good* children's software. Not a single one of the 30 programs I looked at deserves a five-mouse rating. How hard could it be to design a terrific children's program? Very hard, apparently. Fortunately, there are enough on the four-mouse level to keep the kids busy for a while — maybe even until the really good stuff comes along.

Predictably, most packages aimed at the 4 to 12 age group are touted as "educational." I guess software companies think we won't buy anything for the kids that's just fun.

THE BEST OF TIMES

Great Wave's *KidsTime* is probably the best single package available for kids on the Mac. If I had a nickel for every time I've recommended it to someone, I'd . . . well, I wouldn't be rich, but I'd probably have enough to buy another piece of software. Its five programs include an electronic connect-the-dots, matching puzzles, a picture-font word processor and a pretty sophisticated (in results, not use) music maker for kids of all ages. Rough edges, and the fact that a promised

puzzle editor is still not available more than a year after the program's release, keep *KidsTime* from getting a higher mark.

First Byte, the *SmoothTalker* people, offers four kids' programs, three of which make it into the "Best of" category. Each has drop-down-and-stay-down menus that make selections easier for kids, as well as optional graphic menus. And, of course, they all talk.

KidTalk is a word processor that can be set to say letters, words or sentences (or all of the above) as the child types. It's great for thank you notes, short stories, school essays and spelling practice. Too bad it prints only in draft mode.

SpellerBee uses your own list of spelling words for games and drills. A good spelling program has to talk, and *SpellerBee* certainly does. You can even teach it the correct pronunciation for words it says wrong. (Our favorite so far of the default pronunciations is "doork-nob.") There's lots of little things that should be changed. The phrase "Bee Prepared" in the menu is a cute pun, but not a good idea for a program that is supposed to teach spelling. English is hard enough.

FirstShapes is one of the favorites in the preschool and kindergarten crowd around here. Ted E. Bear guides the child through different games, identifying and matching shapes, and building toys (robots, spaceships) with them. There are lots of places where too many clicks are

BY SHARON ZARDETTO AKER

It's Elementary

Kids and Graphics

The intricacies of *SuperPaint* are beyond the abilities of the younger set: keep your old *MacPaint* around for them. They'll find its more structured environment and limited options easier to deal with.

Other interesting graphics software for kids:

- *The Great Paper Airplane Construction Set*. Make 'em and fly 'em.
- *The Toy Shop*. Make 'em and break 'em.
- *Certificate Maker*. Make a certificate for a best friend, a favorite teacher, a horrible sibling. *Certificate Maker's* canned certificate forms with mix and match borders and fillers makes it easy for the kids to design half-page and full-page graphics.
- *Print Shop*. Make greeting cards, full-page signs, stationery and banners. Canned designs make it simple; the ability to import graphics make it flexible.
- *MacBanner*. Make a Happy Birthday banner, a lemonade stand sign, a KEEP OUT OF MY ROOM warning.
- *Mac-a-Mug*. Make lots of faces, on the screen or printed out. (And it's always amusing to hear a 7-year-old instruct a younger brother to choose something from the Sex menu.)

needed to get from one thing to another, and the pronunciations should have been cleaned up — "oh-veel" for oval is a stretch for a 4-year-old.

The three programs in Compu-Teach's *ArithMATIC* series — *Counting*, *Addition*, and *Subtraction* — are charming, despite their flaws. Pictures and numbers appear on-screen and the child counts, adds or

subtracts to find the answer. The pictures come to life with simple but amusing animation and glide off the screen one by one. Unfortunately, design problems pop up in all the programs. In *Subtraction*, for instance, the question "How many?" is printed under the box that contains the total number of items. Although questions refer to how many will be left after the subtraction, it sure

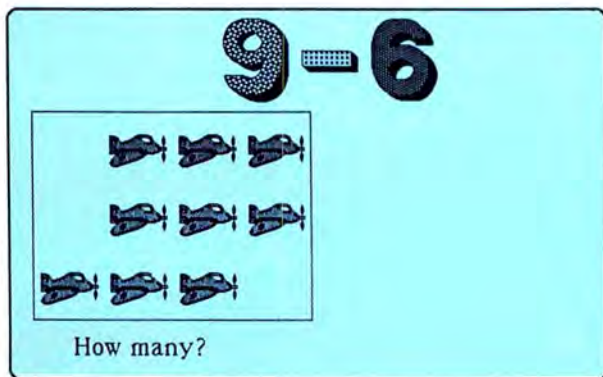
Predictably, most packages are touted as "educational." I guess software companies think we won't buy anything for the kids that's just fun.

looks like it's asking how many are in the box.

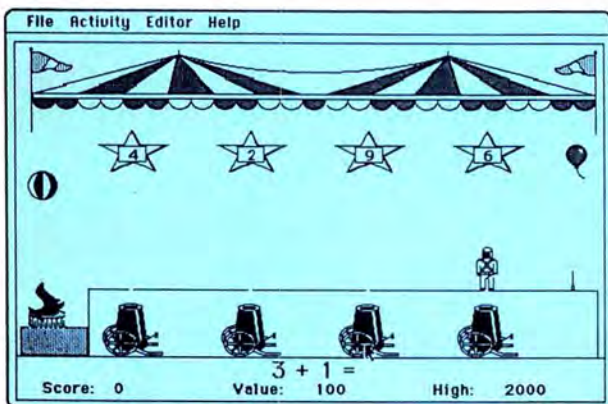
Math Blaster from Davidson and Associates is another four-mouse program, but I wouldn't give this Mac translation the rave reviews that its other versions have received. There's a good mix of learning skills covered, and you can set lots of options in the various modules, but the game itself doesn't translate well to the Mac. The screen is too busy, and the mouse control of the man in the game is very awkward. The math problem is presented at the bottom of the screen (almost lost in the scores) while the answers are at the top — just the opposite of natural reading progression.

Easy As ABC from Springboard software is a nice collection of letter games with a pictorial menu that makes it easy for a child to pick an activity. It gets a high rating despite the fact that it won't run on machines with new ROM (Pluses and SEs) except by running it from the external drive with your own system disk in the internal drive.

The final four-mouse kids program is a new one: *Kieran* from Ohm Software. Like so many others, a little polishing could raise the rating. *Kieran* has a calculator-like window with buttons for the child to both enter his answers and select one of the five available letter and number games. It's excellent at handling wrong answers. In the number game, for instance, the program helps the child count the apples one



ArithMATIC Subtraction is good, but has a few problems—like this poorly placed, misleading question.



Math Blaster's game screen is a little crowded, the mouse control of the man is awkward, and the placement of the problem and answers is backwards.

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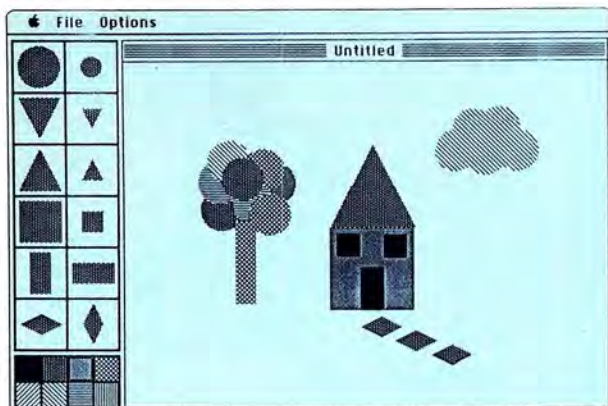
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It's Elementary



ShapeArt on the Learning Time disk is electronic Colorforms.

at a time if the wrong answer is entered. But *Kieran* falls short in the little things: the *MacInTalk* phrases fade into unintelligibility at the end of sentences; the "behind the door" game always has the same thing behind the door; the items being counted are always apples; the single letters that *MacInTalk* says so the child can find them are very hard to tell apart—"b" sounds like "v" which sounds like "d".

FAIR TO MIDDLIN'

Moving down in the ratings, we get to the three-mouse programs: a passing grade of C if we were handing out report cards. In brief:

MathTalk is not up to the standards of First Byte's other programs. Its screens are too busy, and the general set-up is confusing. There is no built-in problem generator to define limits; you have to make up your own "math sheets" from scratch.

CompuTeach's *Word Pieces* just doesn't pack enough value onto the disk. It matches appropriate letters from the keyboard with some basic endings, like "ar" and "in" to form words. The pictures fill the disk up so there's not enough variety in the program. And, it needs *MacInTalk*: "jar" and "war" sound very different, despite their spellings.

Worst Case Scenarios

Not even the best children's programs deserve five mice, but some of the worst deserve bombs.

Beginning Reading and *Beginning Math* are two programs from Rune Software that reinvent a Mac interface. It didn't need reinventing, and especially not like this. Even an adult won't get either of these programs started without carefully reading the minimal instructions. Both programs have problems beyond the interface (if you can get yourself beyond it). In the reading program, a tractor part in one screen is labeled the EXHORST pipe. I couldn't do the math program on the preschool level. I was absolutely stumped by the question "Which number did not count to 10 correctly?" after being shown a series of pictures and numbers. There are more problems with these programs, but they won't bother you if you don't buy them.

ShapeWorks from MacKids seems fine on the surface, but when you start using it the flaws are obvious. First, someone should tell the MacKids people that "lightning" is not one of the basic shapes preschoolers need to be taught; nor is "rounded rectangle" a basic shape, except in Macintosh graphics. If you click on the wrong answer, the computer buzzes and a new screen shows up: no second chance, no right answer, no nothing.

Pepper Finds A Home is the first in a Talking Book series from Woodchuck Software. The concept and execution of the program are decent. The book is shown a page at a time on the screen, with the words highlighted one at a time as *MacInTalk* speaks them; then, the child is asked to click on one of the words. The problem with *Pepper* is the story. The dog's owners are referred to as his "Mommy and Daddy". The story is awkwardly written, with lapses in good grammar. But, the big problem is the mean old farmer who originally owns Pepper. Pepper gets on his nerves, so the farmer gets out his shotgun. Hmm...a perfectly understandable and acceptable way to deal with anger.

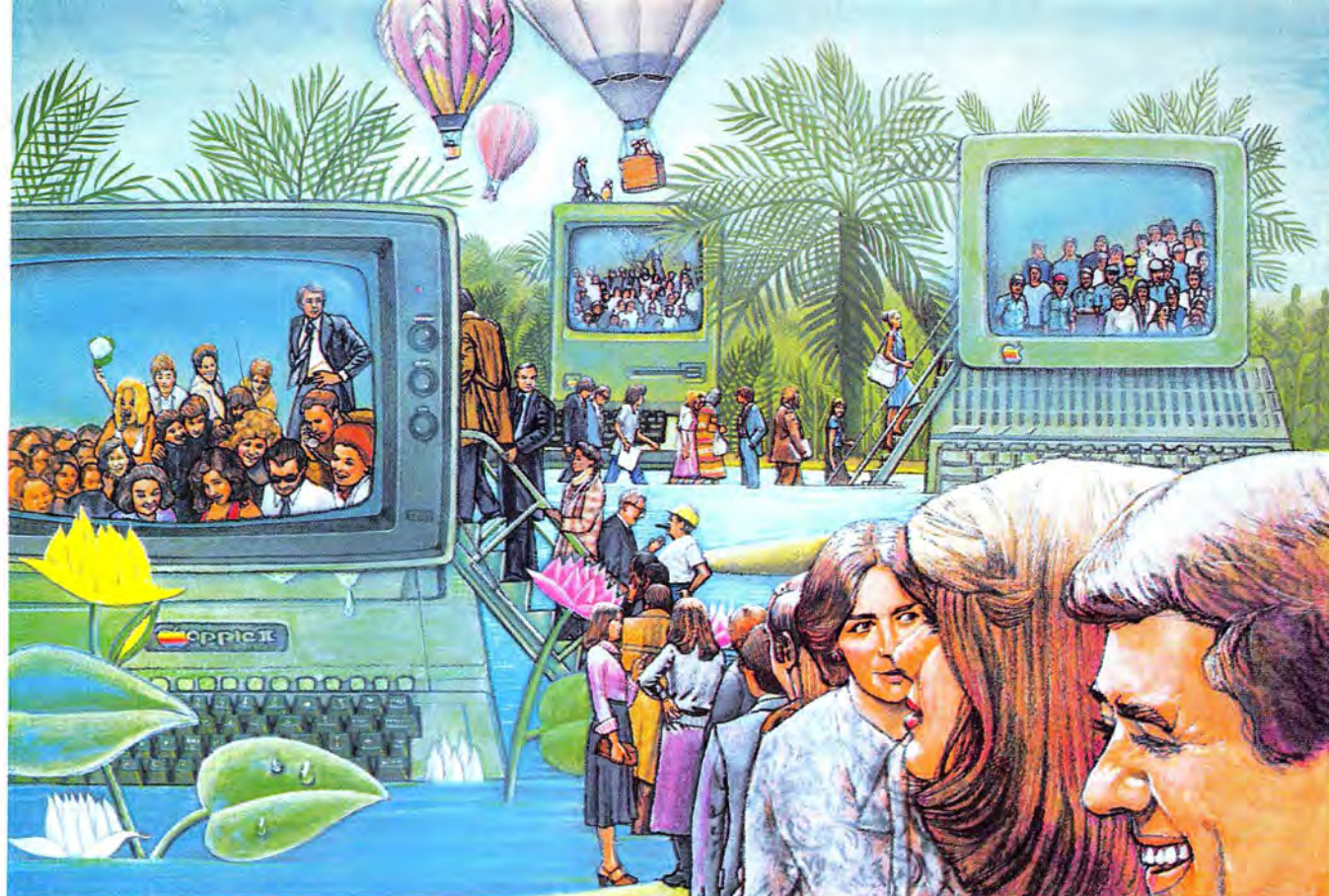
ABScenes, from the same company, is an excellent package with a fatal flaw. The child presses a letter and a picture beginning with that letter appears, or vice versa. An advanced option requires the whole word to be typed in. Unfortunately, a wrong answer is only buzzed—the right answer is never provided. *MacInTalk* is needed here, too; my son kept entering "s" for "spiderweb" when the answer was really "w" for "web."

Word Attack is a vocabulary-builder from the Davidson *Math Blaster* people. It would probably be good in a classroom setting, but it's not interesting enough for a child to use it independently at home.

Early Games (Springboard Software) is a mixture of math and reading readiness games, but it's nothing special and has a few specific problems. It's hard for a child to tell what's expected. Sometimes a letter is displayed so you can find it on the keyboard, while in another module he has to find the letter that comes next in the alphabet. The on-screen instructions certainly can't be read by a child just learning the alphabet; *MacInTalk* would improve matters. Neither *Early Games* nor *Easy as ABC* runs on the new ROMs. You have to run them from an external drive with your own system disk in the internal drive. There's really no excuse for this at this point in the Mac's life.

Decimal Dungeons and *Fraction Action* from Unicorn Software are arcade-style games with great animation. A correct answer to a math problem is needed to proceed with the action. But you get only a single chance at the right answer each time, and the voice droning "That is correct, you may proceed" gets on your nerves pretty quickly.

Learning Time has four brief programs of uneven quality. *ShapeArt*, an electronic version of *Colorforms*, is simple, but the kids find it fascinating. They create pictures by using pre-defined shapes of various shades. Unfortunately, as you drag a piece around on the screen, it erases anything it passes over; the screen is refreshed only when you let the piece go. *TimeTeller* is a nice piece of programming, but it's unforgiving



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It's Elementary

About "Educational"...

"Educational" is a relative term. There are some educational packages that fail their purpose completely, while many regular games can teach kids a lot.

I've watched my 7-year-old immerse himself in one of Infocom's latest games: *Hollywood Hijinks*. He's learned a lot about sentence structure...mapping skills...compass points...problem solving...alternate plans of action...and stick-to-it-tiveness. But he doesn't realize it; he's just having fun.

Of course, you can rationalize anything as educational. After watching my son Nicholas glue himself to the screen for hours with *Dark Castle*, I had a little talk with him. I told him I noticed how he kept trying even though he kept losing, and even though the game wasn't easy, since it wasn't meant for kids of his age. I suggested that next time he was having trouble with some schoolwork he should remember how hard he tried at *Dark Castle*—you get the drift. Did he? Probably not. But I felt a lot better.

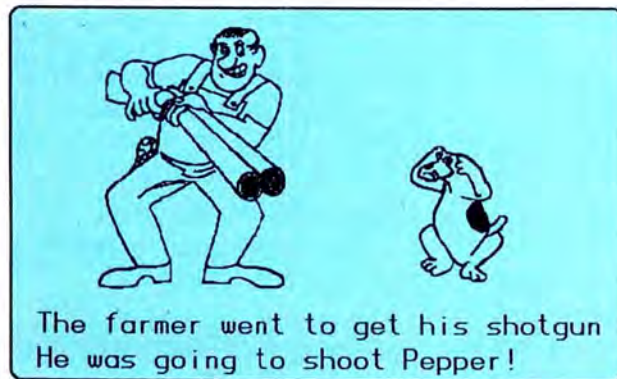
in the placement of the hands on the clock. If you want to show 7:15, for instance, you have to place the hour hand at just the right spot between the 7 and 8; this should be done automatically based on the position of the minute hand. *ABSpeaks* is too-simple as a letter-recognition game, and the *MacN'States* geography program is out of place on a disk of programs for younger children. What might have been a two-mouse package rates three because of its price: at \$19.95 it's hard to go wrong.

BARELY PASSING

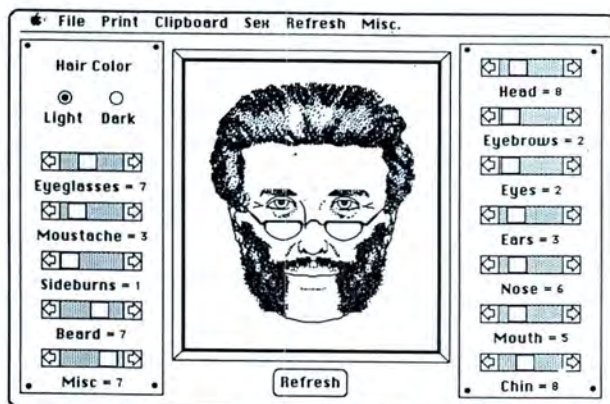
Some programs just don't make the grade. Here's a list of what to avoid, and why.

Nordic Software's MacKids line. Each of the programs has its own problems, but they all suffer from a poor interface design. To switch "lessons," for instance, you have to choose STOP LESSON from the menu, hit the CHANGE LESSON button in the dialog that comes up, choose the new lesson from the menu, then select the START LESSON command. That's at least three commands too

For my kids and their friends, the top three game favorites are *Dark Castle*, *Dark Castle* and *Dark Castle*.



Pepper Finds a Home: not a bedtime, or anytime, story.



Mac-a-Mug is amusing for a wide age-range.

many. In *CoinWorks*, you set options for which coins will be displayed, but the questions are not adjusted as a result. How would you like to click on 92 cents in pennies, one at a time? The *ClockWorks* screen is too crowded, and the kids found it just plain boring. *Early Elementary* has a number of problems, not the least of which is its general premise: Each right answer to a math problem adds a rung to the ladder that reaches towards an overhead kitchen cabinet. The final reward is a "Junk food...YUM!!" dialog. Each MacKids disk has a bonus game unrelated to the main program. The games are quick, and generally good, interpretations of standards like *Break Out* and *Concentration*. Most kids will play the games instead of working with the educational programs, making them an expensive proposition.

MacRobots, *Read-a-Rama* and *Animal Kingdom* from Unicorn are all bogged down by (all together now ...) a poor interpretation of the Mac interface, and the latter two in particular have little in the way of saving graces. You have to click the mouse button or press Return too often. If you click in part of the screen instead of pressing Return, the click is "held over" and applied to the next round of questions—at which point it's a click in the wrong spot: Although the games use *MacInTalk*, they never read exactly what's on the screen, particularly ignoring the child's name that appears so often.

TimeMaster is a disappointing offering from Great Wave. It teaches time concepts by letting kids work with clocks and calendars, but its list of little problems add up to ruin the

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It's Elementary

program. The first obvious problem is that the screens aren't refreshed quickly enough; the *MacInTalk* phrases take priority, and it is only when they are finished that the screen is updated. When you're dragging the clock hands around, the mouse cursor changes to the grabber hand only after the mouse button is pressed, not when it is within the clockface. Changing the month on the calendar makes the program read the displayed date twice. And so on.

Match on a Mac is nicely done, but not worth its price. Its 11 games are really all the same thing: match the item in the box at the left with one of the other four items on the screen. Correct answers gradually raise the rocket ship at the right of the screen until it blasts off. Unfortunately, the only difference between the games is the type of item you're matching: letters, numbers, quantities and so on. Everything else is the same, and the kids soon lose interest.

PLAYTIME

... and then there are the real games, not in the made-for-kids category, that the kids play anyway. For my kids and their friends, the top

three favorites are *Dark Castle*, *Dark Castle* and *Dark Castle*. (Caveat: it takes a lot of coordination, and has nifty scenes like a torture chamber that you might not want your young kids exposed to.) Tied for fourth place are *Airborne*, *LodeRunner* and *MacMan*. *LodeRunner* is an especially good choice because you can design the playing boards to be very simple. *MacMan*'s arcade adapter for Atari-compatible joysticks and four levels of play make it easy for kids as young as four.

Infocom's beginner-level games, like *SeaStalker* or *Wishbringer*, are good for kids; even those who don't read too well like to play along in the adventure when someone's there to read for them.

WHERE THERE'S LIFE . . .

Okay, so there's no single kids program out yet that elicits a "Wow!" from anyone. But then, the Mac isn't any older than some of its youngest users. Just wait. ☺

SHARON ZARDETTO AKER IS A MACUSER CONTRIBUTING EDITOR AND AUTHOR OF MANY GREAT COMPUTER BOOKS.

At-a-Glance

ArithMATIC Counting	☺☺☺☺
ArithMATIC Subtraction	☺☺☺☺
ArithMATIC Addition	☺☺☺☺
Word Pieces	☺☺☺
ABScenes	☺☺☺
Math Blaster	☺☺☺☺
Word Attack	☺☺☺
Kieran	☺☺☺☺
Kid Talk	☺☺☺☺
SpellerBee	☺☺☺☺
MathTalk	☺☺☺
First Shapes	☺☺☺☺
KidsTime	☺☺☺☺
TimeMaster	☺☺
CoinWorks	☺☺
ClockWorks	☺☺
ShapeWorks	☺
Early Elementary	☺☺
Reading Readiness	☺
Math Readiness	☺
Early Games	☺☺☺☺
Easy as ABC	☺☺☺☺
Read-a-Rama	☺
Animal Kingdom	☺
Decimal Dungeon	☺☺☺☺
Fraction Action	☺☺☺☺
MacRobots	☺☺
Match On a Mac	☺☺
Learning Time	☺☺☺☺
Pepper Finds a Home	☺

At-a-glance ratings; the programs are grouped by manufacturer.

Product Information

ArithMATIC Subtraction, Counting, Addition, ABScenes, Word Pieces. \$39.95 each. CompuTeach, 240 Bradley Street, New Haven, CT.

Beginning Math, Beginning Reading. \$39.95. Rune Educational Software, 1502 Kirkham, San Francisco, CA 94122.

Dark Castle, \$49.95. Airborne. \$34.95. Silicon Beach Software, PO Box 261430, San Diego, CA 92126.

Early Games, Easy as ABC, Certificate Maker. \$49.95. Springboard Software, 7808 CreekrIDGE Circle, Minneapolis, MN 55435.

Great International Paper Airplane Construction Kit. \$39.95. Simon and Schuster Software, 1 Gulf and Western Plaza, New York, NY 10023.

KidsTime, TimeMasters. \$49.95 each. Great Wave Software, 104 Gil-

bert Avenue, Menlo Park, CA 94025.

Kieran. Ohm Software, 133 Richard Drive, Tiverton, RI 02878.

Learning Time. \$19.95. Viking Technologies, 174 Bellevue Avenue, Newport, RI 02840.

Mac-a-Mug. \$59.95. Sheherazam, PPO Box 26731, Milwaukee, WI 53226.

MacBanner. \$35. Available only with *MacBillboard*. CE Software, 801-73rd Street, Des Moines, IA 50312.

MacKids: CoinWorks, ShapeWorks, ClockWorks, Early Elementary Disk. \$34.95 each. Nordic Software, 3939 North 48th Street, Lincoln, NE 68504.

MacMan. \$39.95. Nuvo Labs, 225 Tank Farm Road, San Luis Obispo, CA 93405.

Match on a Mac. \$39.95. Teach Yourself by Computer Software,

Inc., 2128 W. Jefferson Road, Pittsford, NY 14534.

Math Blaster, Word Attack. \$49.95 each. Davidson and Associates, 3135 Kashiwa Street, Torrance, CA 90505.

Pepper Finds a Home. \$24.95. Woodchuck Software, 700 Pine Valley Road, Knoxville, TN 37923.

Print Shop, \$59.95. The Toy Shop, \$49.95. LodeRunner, \$39.95. Broderbund Software, 17 Paul Drive, San Rafael, CA 94903.

Read-a-Rama, Decimal Dungeons, Fraction Action, MacRobots, Animal Kingdom. \$49.95 each. Unicorn Educational Software, 2950 E. Flamingo Road, Las Vegas, NV 89121.

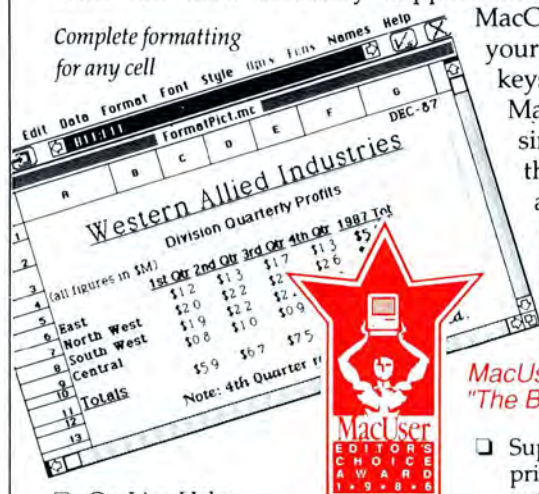
SpellerBee, First Shapes, Kid-Talk, MathTalk. \$79.95 each. First Byte Software, 2845 Temple Avenue, Long Beach, CA 90806.

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Music for the Masses

So you want to write your own MIDI program?

MIDIBasic is the way to go.

IN THE 4 YEARS SINCE ITS INTRODUCTION, MIDI, the Musical Instrument Digital Interface, has achieved unquestioned universality. Originally devised to allow keyboard synthesizers from different manufacturers to communicate with each other, today virtually every electronic instrument produced has MIDI capability. It can also be found on non-keyboard instruments like guitars and brass-like "controllers;" on peripheral devices like reverb units, equalizers and mixing consoles; and on non-professional instruments like home organs and even grand pianos.

Inasmuch as MIDI is nothing more than digital data, inserting a computer into a MIDI stream seems only natural, and indeed there are now hundreds of software packages available that link computers to MIDI instruments and processors. They include sequencers, which allow performances to be recorded, overdubbed and edited; patch editors, which let the user adjust a synthesizer's sound, or "patch," by manipulating parameters on the

computer; librarians, which are essentially data bases for patches; and performance and compositional aids, like *Music Mouse* (reviewed in the May '87 *MacUser*), in which the computer generates MIDI data by itself, following some form of predetermined interactive algorithm.

The MIDI protocol is not difficult to understand, and it thus tempts many amateur programmers to try to create their own custom applications. For most computers, this is simply a matter of obtaining a piece of hardware known as a MIDI interface and its attendant documentation, which shows how to PEEK and POKE at the interface to get the data flowing.

Unfortunately, until recently, if you were a Mac owner who was prey to this temptation, you were out of luck. For one thing, there is no such thing as a "standard" Mac-to-MIDI interface, and since most of the manufacturers of such interfaces also make software, they are reluctant to release the details of their systems to potential competitors. (One manu-

facturer told a potential developer that not only would he have to pay \$500 and sign a non-disclosure agreement to get the manufacturer's MIDI driver routines, he would also have to offer the manufacturer first refusal rights on anything he came up with!) Faced with the prospect of having to write their own machine-language MIDI drivers—a task not unlike re-inventing the wheel—countless software writers, amateur and even professional, have simply not bothered with MIDI.

This has all changed, however, thanks to a new package that not only provides a set of machine-language routines for getting the Macintosh to talk MIDI, but does so within that simplest of programming languages, BASIC.

MIDIBasic, from a small firm in Louisiana called Altech Systems, consists simply of 11 new commands that can be accessed by programs written in *Microsoft BASIC* (either the interpreter or compiler versions) or in Zedcor's *ZBasic*. To accommodate both flavors of BASIC, the disk

BY PAUL D. LEHRMAN



Music for the Masses

comes with two types of *MIDIBasic*. For *MS-BASIC* applications there is a "library" containing the commands, similar to the Clear Lake Research libraries that gave older versions of the language access to the Mac toolbox. This library has to reside on the same disk or in the same folder as the BASIC interpreter. *ZBasic* users get a BASIC program itself, consisting almost entirely of **MACHLG** statements defining the commands, which attaches onto the user's program with the Merge function, and is compiled with the user's program into one application.

MIDIBasic started life about a year ago as shareware, and was uploaded on CompuServe and PAN, among others. It got as far as version 1.2, but according to Altech System's Allen Marsalis, it never picked up the following he thought it deserved. So the next upgrade was named 2.0 and released as a commercial package, accompanied on the disk by a few examples of the program at work, including a librarian for Casio CZ synthesizers—a program that lets you build a different chord on each note of a musical scale; and "OTIS," a "One-Track Itsybitsy Sequencer."

MIDIBasic works with all commercially available interfaces for the Mac. Most MIDI programmers acknowledge that there are only a limited number of ways for a Mac to talk MIDI, and in fact, the only criterion that separates the various interfaces on the market is the clock speed used between the interface itself and the computer. *MIDIBasic*

includes a command for setting that speed.

ON COMMAND

Here are the *MIDIBasic* commands, in their *MS-BASIC* versions; the *ZBasic* commands use slightly different syntax.

MIDIport(*n*) selects which serial port and what clock speed you want to use. You can use either the modem or printer port, and the clock rate is selectable: It will be 0.5, 1.0 or 2.0 MHz, depending on the value you give *n*.

MIDIopen sets up input and output buffers in RAM for the MIDI data, and specifies their size. Knowing the precise optimum size for the buffers is not really important, except that they should be as small as possible so as not to take up excess memory. Real-time applications, in which data is moving in and out quickly, can use smaller buffers (on the order of 100 bytes or even less), while off-line applications, like patch librarians, need large buffers, so that whole blocks of data can be sent in one piece. A librarian for an Ensoniq ESQ-1 synthesizer, for example, would require input and output buffers of at least 32K.

MIDIfilter tells a program to ignore MIDI data within certain specified limits before it gets to the input buffer. Some synthesizers send out an obscure MIDI command known as "active sensing" several times a second. This is of little use to any software program, but it can fill up a buffer very quickly. Filtering that

specific command out before it reaches the input buffer alleviates the problem. Different MIDI commands use different numbers of data bytes (a program change command, for example, has one data byte, while a pitchbend command has two, a most-significant byte and a least-significant byte), so the number of bytes to be ignored following the filtered event can also be specified in this command. A program can contain up to eight distinct filters, any of which can be redefined at any time. The command has four arguments: the filter number, the lower data limit, the upper data limit, and the number of trailing bytes.

MIDIin and **MIDIout** are the most basic MIDI commands. They deal with one-byte "primitives," or single integers. (To handle most MIDI events, you would have to use at least two of these commands.) They are very fast, and are used for real-time MIDI transmission.

GetMIDI and **SendMIDI** are for dealing with larger blocks of data, in non-real-time situations, such as definitions of entire patches or even banks of patches. **GetMIDI** retrieves a string from the input buffer, and also returns certain other data which the program can use: the number of bytes in the string; whether the data is in normal or "nibble" mode, the latter being used in certain specialized applications; and a byte showing whether the string was loaded successfully or somehow was interrupted or hung up. The **SendMIDI** command sends a string and a mode message. These commands are used for inputting and outputting larger blocks of data, such as an entire patch or bank.

InCount and **OutCount** are used to determine the number of bytes currently in the input or output buffers respectively. They are used for keeping track of the data flow.

Finally, **MIDI(*n*)** clears, enables, disables, or resets the buffers, depending on the value of *n*.

IN THE BEGINNING

Getting started with *MIDIBasic* is not terribly easy. For one thing, the program will not teach you how to use MIDI—that's something you're



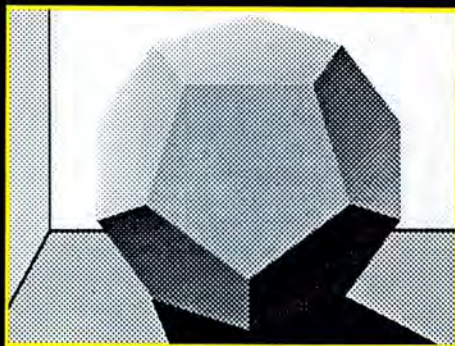
The worst problem with *MIDIBasic* has to do with BASIC itself. I was horrified at the fussy and unforgiving nature of the language on the Mac.

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going to have to do yourself. MIDI can be tricky stuff, and understanding everything in it, including the various types of messages like System-exclusive, System-common, Real-time, Mode, and so on, can be a challenge. Fortunately, to write effective small applications, it's usually only necessary to master the appropriate sections of the MIDI specification.

Even if you understand MIDI, *MIDIBasic's* learning curve can be steep, although considering how few commands it entails, it is quite short. Understanding the difference between "MIDIin" and "GetMIDI," for example, is crucial; while the first will pass along MIDI data as it comes in, the second will wait for a specified number of bytes, and if they are not forthcoming within a certain amount of time, will return something anyway. This makes the first command very inefficient for large blocks of data, while the second is quite useless for any kind of real-time data processing.

There are other interesting idiosyncracies. For example, if the input buffer is empty, the MIDIin command will return a value of -1, a number that does not exist in MIDI. This is fine, except that if your program doesn't watch out for this condition, and instead processes the -1 as if it were a real MIDI value, it can screw things up royally. Consider this program:

```
100 MIDIin event%
MIDIin notenumber%
MIDIin velocity%
otherevent%=event%+1
MIDIout otherevent%:MIDIout
notenumber%:MIDIout velocity%
GOTO 100
```

Theoretically, it should take in a MIDI command, such as a "note-on," along with its attendant note number and velocity, and spit out a similar note-on on the next-highest MIDI channel. If, however, the MIDIin command scans the input buffer before the next MIDI byte actually comes into it (which can happen if the MIDI program is running very fast), then notenumber% will be -1, and the program will generate a nonsense command. Furthermore, the data synchronization between

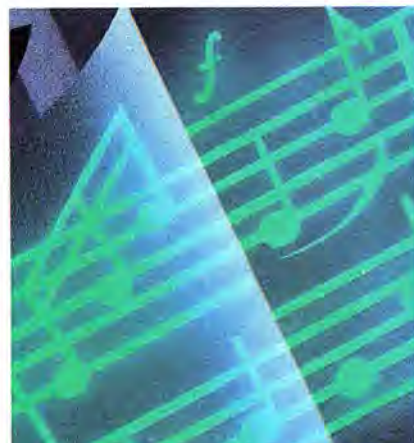
More than any other recent development in computer music, *MIDIBasic* breaks down the barrier between programmer and user.

input and output will be thrown off, and the program will produce nothing but garbage from that point onward. To alleviate this problem, the first three statements should include an IF-THEN or WHILE loop that ignores any -1's that crop up.

DOCUMENTED SUPPORT

Another problem with *MIDIBasic* is the documentation. Although it is perfectly accurate, and is a useful reference for the experienced programmer, it is far too sketchy for the novice. All the commands are explained reasonably well, but they are not shown in context, and the potential pitfalls associated with them (using an undefined variable, specifying a wrong data type, trying to pull data out of an empty buffer, etc.) are not documented. There are three programs listed in the back of the manual as examples (and the other programs on the disk can be listed as well), but they are full of unexplained and unremarked commands, and are therefore not as instructive as they should be.

Fortunately, however, Altech Systems' Marsalis is very generous with his time, and anyone who wants to spring for a telephone call to Louisiana is welcome to his wisdom. Usually an hour or so is sufficient—as in certain pop-psychology movements, once you "get" what's going on with *MIDIBasic*, it all falls into place. In fact, Marsalis's official policy is that any registered user gets one free hour of support time, and beyond that he charges \$35 hour, but "No one has gotten that far yet." He does



spend a lot of time with some serious users, however—"If I'm on the phone with them longer than an hour, it usually means I'm going into business with them."

The worst problem with *MIDIBasic* has to do with BASIC itself. First of all, as a former AppleSoft programmer having my first encounter with BASIC on the Mac in the preparation of this review, I was horrified at the fussy and unforgiving nature of the language on the Mac, both in the Microsoft and Zedcor versions. With *Microsoft BASIC*, the situation is exacerbated when using a library—if the library is not opened and closed properly, all sorts of spurious errors result. Most of the *MIDIBasic* commands use integer variables, and the way the DEFINT command works with libraries means that either all of your variables have to have the "%" declaration tag, or all of the commands have to have "&" tags, either of which can be very clumsy and easy to forget or mistype.

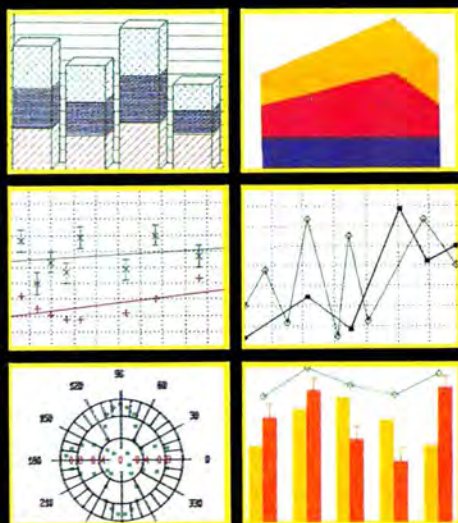
In *ZBasic*, you have to have tags on both variables and commands. You also have to get your upper and lower cases right, and with a command like "MIDIin&" that can be a major challenge. In addition, the obscure Space Required After Keyword option on the Configuration menu must be invoked, or else a string in the machine-language part of the program that happens to consist of the hex digits DEF will be misread as a command, preventing the program from being compiled. In addition, using actual integers in *MIDIBasic* commands in *ZBasic* is

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not allowed, so every argument, no matter how trivial, must be declared ahead of time.

If you violate these or any of the many other such silly problems and restrictions, the error messages that result are usually of no help whatsoever. There are also lots of bugs—doing multiple line edits in *ZBasic's* edit window, or transferring a listing between the separate Edit program

Most MIDI programmers acknowledge that there are only a limited number of ways for a Mac to talk MIDI.

and the *ZBasic* compiler without first exiting to the *Finder* are both open invitations to system crashes. I suppose you just have to get used to it.

As to the actual performance of the two versions of *MIDIBasic*, again, that's dependent on the BASIC being used. Debugging a program is decidedly easier in *MS-BASIC*, especially for the novice, and the code looks somewhat cleaner. On the other hand, code created with *ZBasic* is much, much faster, which is an important consideration in MIDI applications. The program in the sidebar accompanying this article, when run in *ZBasic*, works just fine, but when it's run with the *MS-BASIC* compiler, it slows down to the point where several seconds can pass between the time you lift your finger off the key and the time the music actually stops. Therefore, for off-line applications such as patch editors, *MS-BASIC* is adequate, but for any applications requiring real-time input and output, *ZBasic* is the only choice. Although it's nobody's fault, it's a shame that BASIC programs cannot be shrunk down far enough to be desk accessories—I can think of plenty of "little" applications I would love to have available while I am running a sequencing program.

There is one feature missing from *MIDIBasic* itself, which is that an event cannot be "time-stamped," that is, given a data tag that describes when it occurred. Programs that use lots of data in an extremely time-sensitive context, such as multitrack sequencers, need this type of information. Simpler programs (like the aforementioned "OTIS" sample program) can get away with using pro-

gram loops for timing purposes, but this gets very clumsy with more complex applications. This is not that serious a drawback, however, for two reasons. One, a programmer who would attempt something as complicated as a multitrack sequencer would be crazy to work in BASIC, and two, Altech Systems is promising time-stamping for the 3.0 version of *MIDIBasic*, due out this fall.

The Programs

Here is an example of a simple *MIDIBasic* program, which took a couple of hours to write. It translates keyboard aftertouch pressure generated by one MIDI keyboard, into pitchbend on two other MIDI instruments. This means that after a note is played on a keyboard, pressing down on the key will cause the pitch to change proportionately with the pressure applied. To make it more interesting, the pitch on one of the MIDI instruments will go up as pressure is applied, while the pitch on the other instrument will go down. The program is presented in both *MS-BASIC* and *ZBasic* versions.

```
REM --- Aftertouch to pitchbend mapper, MS-BASIC version ---
REM This program takes aftertouch on one channel and converts it
REM to pitchbend on two other channels, one going negative and the other
REM going positive. It also has adjustable sensitivity.
REM © 1987 Paul D. Lehrman
LIBRARY "MIDIBasic"
MIDIOPEN 800,800:REM open the buffers
MIDIPOrt 3:MIDIPOrt 1:REM interface is at modem port, 1 MHz speed
MIDIFILTER 1,254,254,0:REM filter out "active sensing"
MIDI 0:REM reset buffers
REM Set up the channels and the sensitivity
120 INPUT "Input channel? (default=1)";CHin%:IF CHin%>16 THEN 120
CHin%=CHin%-1:IF CHin%<0 THEN CHin%=0
140 INPUT "Output channel a? (default=1)";CHoutA%:IF CHoutA%>16 THEN 140
CHoutA%=CHoutA%-1:IF CHoutA%<0 THEN CHoutA%=0
INPUT "Output channel b? (default=2)";CHoutB%
IF CHoutB%>16 THEN 160
CHoutB%=CHoutB%-1:IF CHoutB%<0 THEN CHoutB%=1
IF CHoutA%=CHoutB% THEN PRINT "You'll be sorry...."
INPUT "Sensitivity? (default=100%)";sens!:IF sens!=0 THEN sens!=100
sens!=sens/100
REM Dummy input and output calls to initialize buffer
note%=0:vel%=0:x%=254:MIDIIN x%:MIDIOUT x%
PRINT "Ready....Click mouse to exit."
250 CALL MIDIIN x%
IF MOUSE(0)<0 THEN 510
IF x%=-1 THEN 250:REM If buffer is empty, look again
IF x%=208+CHin% THEN 400:REM aftertouch
IF 127<x%<160 THEN 320:REM note on or off
MIDIOUT x%:REM anything else, spit out again
GOTO 250
320 REM
330 MIDIIN note%:IF note%<0 THEN 330
340 MIDIIN vel%:IF vel%<0 THEN 340
x%=(x%+CHoutA%)-CHin%
MIDIOUT x%:MIDIOUT note%:MIDIOUT vel%
x%=(x%+CHoutB%)-CHoutA%
MIDIOUT x%:MIDIOUT note%:MIDIOUT vel%
390 GOTO 250
400 REM aftertouch processing
410 MIDIIN x%:IF x%<0 THEN 410
REM ...positive pitchbend, using sensitivity factor
y%=224+CHoutA%:z%=0:x1%=(sens!*x%)+64:IF x1%<68 THEN x1%=64
IF x1%>127 THEN x1%=127
MIDIOUT y%:MIDIOUT z%:MIDIOUT x1%
REM ...negative pitchbend, using sensitivity factor
y%=224+CHoutB%:z%=64-(sens!*x%):IF x2%<0 THEN x2%=0
IF x2%>59 THEN x2%=59
MIDIOUT y%:MIDIOUT z%:MIDIOUT x2%
GOTO 250
510 LIBRARY CLOSE
530 END
```

Don't get me wrong—although *MIDIBasic* is not as easy to use as, say, *MacPaint*, for those who would like to get into MIDI programming and don't want to have to learn C, *Inside Mac* and assembler all at the same time, it could be considered an achievement on a level with MIDI itself. Its greatest virtue is that it really does what it's supposed to. Once you get the hang of it, the code

comes tripping out of the fingers, and each program you write leads to ideas for dozens more. How about a patch librarian for that "orphan" synth that no one else has bothered to write one for? Or a program that will automatically generate melodic, harmonic- or rhythmic-dictation exercises? Or a "super librarian," that will store and load data not just for one synthesizer, but for every synth

in a studio simultaneously, regardless of make or model? The mind boggles.

More than any other recent development in computer music, *MIDI-Basic* breaks down the barrier between programmer and user, so that computer musicians, amateur or professional, are no longer dependent on the whims of a handful of established companies for fulfilling their

The program will not teach you how to use MIDI—that's something you're going to have to do yourself.

```
10 REM --- Aftertouch to pitchbend mapper, ZBASIC version ---
20 REM This program takes aftertouch on one channel and converts it
30 REM to pitchbend on two other channels, one going negative and the other
40 REM going positive. It also has adjustable sensitivity.
45 REM © 1987 Paul D. Lehrman
50 x%=MOUSE(0)
60 GOSUB "MIDIBasic"
70 REM MIDIBasic subroutine is appended at end of this program
80 buff%=800
90 one%=1:zero%=0:lim%=254
100 CALL MIDlopen&(buff%,buff%):REM open the buffers
110 CALL MIDIfilter&(one%,lim%,lim%,zero%):REM ignore active sensing
120 CALL MIDI&(zero%):REM reset buffers
130 pt%=3:ck%=1:CALL MIDlport&(pt%):CALL MIDlport&(ck%):REM Modem port 1.0 MHz 140 REM
Set up the channels and the sensitivity
150 INPUT "Input channel? (default=1)":CHin%:IF CHin%>16 THEN 150
160 CHin%=CHin%-1:IF CHin%<0 THEN CHin%=0
170 INPUT "Output channel a? (default=1)":CHoutA%:IF CHoutA%>16 THEN 170
180 CHoutA%=CHoutA%-1:IF CHoutA%<0 THEN CHoutA%=0
190 INPUT "Output channel b? (default=2)":CHoutB%
200 IF CHoutB%>16 THEN 190
210 CHoutB%=CHoutB%-1:IF CHoutB%<0 THEN CHoutB%=1
220 IF CHoutA%=CHoutB% THEN PRINT "You'll be sorry...."
230 INPUT "Sensitivity? (default=100%):sens!:IF sens!=0 THEN sens!=100
240 sens!=sens/100
250 REM Dummy input and output calls to initialize buffer
260 note%=0:vel%=0:x%=254:CALL MIDlin&(VARPTR(x%)):CALL MIDlout&(x%)
270 PRINT "Ready....Click mouse to exit."
280 CALL MIDlin&(VARPTR(x%))
290 IF MOUSE(3) THEN 540
300 IF x%=-1 THEN 280:REM If buffer is empty, look again
310 IF x%=208+CHin% THEN 430:REM aftertouch
320 IF 127<x%<160 THEN 350:REM note on or off
330 CALL MIDlout&(x%):REM anything else, spit out again
340 GOTO 280
350 REM
360 CALL MIDlin&(VARPTR(note%)):IF note%<0 THEN 360
370 CALL MIDlin&(VARPTR(vel%)):IF vel%<0 THEN 370
380 x%=(x%+CHoutA%)-CHin%
390 CALL MIDlout&(x%):CALL MIDlout&(note%):CALL MIDlout&(vel%)
400 x%=(x%+CHoutB%)-CHoutA%
410 CALL MIDlout&(x%):CALL MIDlout&(note%):CALL MIDlout&(vel%)
420 GOTO 280
430 REM aftertouch processing
440 CALL MIDlin&(VARPTR(x%)):IF x%<0 THEN 440
450 REM ...positive pitchbend, using sensitivity factor
460 y%=224+CHoutA%:z%=0:x1%=(sens!*x%)+64:IF x1%<68 THEN x1%=64
470 IF x1%>127 THEN x1%=127
480 CALL MIDlout&(y%):CALL MIDlout&(z%):CALL MIDlout&(x1%)
490 REM ...negative pitchbend, using sensitivity factor
500 y%=224+CHoutB%:x2%=64-(sens!*x%):IF x2%<0 THEN x2%=0
510 IF x2%>59 THEN x2%=59
520 CALL MIDlout&(y%):CALL MIDlout&(z%):CALL MIDlout&(x2%)
530 GOTO 280
540 CALL MIDlclose&
550 END
```

needs. And if you are one of "the rest of us" who still thinks that Pascal is the only true Macintosh language, you'll be happy to know that Altech Systems plans to release *MIDIPascal* in the Fall. ☞

PAUL D. LEHRMAN IS A BOSTON MUSICIAN, CONSULTANT AND WRITER. HE IS THE CREATOR OF THE CELTIC MACINTOSH, THE WORLD'S FIRST ALL-MIDI COMPUTER-GENERATED ALBUM. HE USED TO PLAY THE BASSOON, GUITAR AND PIANO, BUT NOW JUST SITS AND STARES AT HIS MAC.

MAC USER RATING

MIDIBasic

Follows Mac Interface	Not Applicable
On-Screen Help	None
Printed Documentation	■ ■ ■ ■ ■
Performance	■ ■ ■ ■ ■
Support	■ ■ ■ ■ ■
Consumer Value	■ ■ ■ ■ ■

Comments: Simple but highly useful library of routines for writing MIDI software using either popular version of BASIC. **Best Feature:** Easy to use, and very effective, once you get the hang of it. **Worst Feature:** For the novice, the documentation is far too sketchy. **List Price:** \$49.95. Published by Altech Systems, 831 Kings Highway, Suite 200, Shreveport, LA 71119. Requires 512K+; MIDI interface; and *MS-Basic* Interpreter, Compiler or *ZBasic*. Not copy protected.



Just Like Real Life

If you think dealing with your bank is bad, wait until you run up against this kind of Bureaucracy.

INFOCOM. THE VERY NAME makes veteran gamers jump up and down and shout, "Hooray, hooray! A new game is here! Dibs on the computer!" Why? Because text adventure game fanatics have learned to associate quality, pacing, cleverness and a good sense of humor with Infocom products. Solve an Infocom game and you walk away thinking "I'm smart."

Bureaucracy is an Infocom game that has all the trappings of that company's famous text adventures, but none of the real wit or depth. The box contains all the usual funny support material including a *Popular Paranoia* magazine and an application form for a Beezer credit card. (What, no red tape?) In the game itself, there are the sassy comebacks and the cute stuff such as telephone answering machines that really beep. But the game play just isn't great. The individual puzzles lack logic, and the situations you find yourself in are just plain silly. I expect greater things from a collaboration between Douglas Adams and Infocom.

And Douglas Adams. Douglas Adams is a funny writer. He wrote *The Hitchhiker's Guide to the Galaxy*.

He wrote *The Restaurant at the End of the Universe*. He wrote *Life, the Universe and Everything*. He is responsible for such gems as a talking cow who comes over to your table in a restaurant and recommends particularly delicious parts of herself. He is responsible for the tiny babel fish which, when placed in the ear, allows the person whose ear it's in to understand every language in the universe. He is responsible for Ford Prefect, the man who knows how to see the "Marvels of the Universe" for less than thirty Altairian dollars per day.

Based on his books, it's nice to think that Douglas Adams would be the kind of guy who likes to turn on his Mac, slip in a disk and write a good computer game that is challenging and makes you feel smart. Okay, so I thought his *Hitchhiker's Guide to the Galaxy* game was only so-so. It was his first, after all, and it did have a couple of great puzzles: the babel fish vending machine, for example, was outstanding and the bit with the speedboat and Zaphod Beeblebrox, two-headed president of the universe, was good. But it also had a few annoying traits: transitions

that were repetitive, gratuitous jokes and little things that impeded progress and seemed to be included just because the author thought of them. They added nothing to the challenge or pleasure of the game.

Still, there was enough there so that anyone who had read the book would enjoy playing, and anyone who hadn't read the book would be puzzled but would have some fun. Space is fun.

Bureaucracy, on the other hand, is mostly a disappointment. It has fewer clever moments and far more of the characteristics that made *Hitchhiker* less than satisfying to an adventure gamer looking for a good, mind-sharpening time.

The presumed point of *Bureaucracy* is to get to the airport so you can board a flight to Paris where Happitec, the company you work for, is holding an employee seminar. The real point is learning the cardinal rule of bureaucracy: When dealing with a bureaucracy, there's a right way to do everything and if you do things that way they won't get done. That's a promising premise that's funny because it's true.

Real bureaucracy could make an excellent game. For example, you receive a letter from the government telling you you're dead. Your job, then, is to find the government and convince them you're alive. You bring your passport, they say it's expired and therefore invalid. You bring your birth certificate, they say it's forged. You bring your mother, they lock her up for non-payment of back taxes dating to 1963. You point to yourself and say "I'm here," they say "Prove it."

Unfortunately, Mr. Adams strays too far from bureaucratic reality. Instead of focusing on what can really happen when you get involved with bureaucratic red tape, Mr. Adams has thrown in totally gratuitous frustrations that are not fun to figure out. For example, it's almost impossible to find the airline ticket counter you need. You can't get there from

BY RANDI HACKER

Just Like Real Life

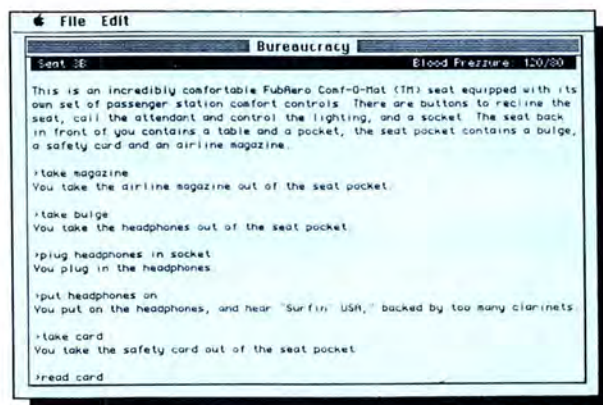
the concourse. You have to go outside. And the signs are wrong. So what do you do? When the sign doesn't say Air Zalagasa, you go north twice. This sort of frustration is unrealistic and unfunny. Anyone who has tried to exchange an airline ticket at the airport knows that just dealing with airline personnel can be frustrating and funny enough without having to add a disappearing ticket desk.

Some of the puzzles don't relate directly to bureaucracy. They're simply frustrating because they're so silly. For example, down the street from your house is a mansion. In this mansion lives an old lady with an elephant gun. You can get into the mansion by squeezing through a hole in the hedge and going in the back way. On the porch, there's a macaw with one wing who yells "Death to the communist dogs!" and things like that. Under his perch is some mail. You reach for the mail. The bird won't let you have it. You go in the house. There's either a portrait of Mikhail S. Gorbachev or Ronald W. Reagan hanging on the wall (what you see depends upon when you arrive). The woman is sitting in a chair with her elephant gun across her lap. She yells "Robbers!" and shoots you.

The next time, you go to the front door. You ring the bell. The old lady



As in all true bureaucracies, you need a license to get around.



Irritating Muzak is the least of your worries when you board the airplane.

comes to the door. Nothing you say to her persuades her to let you in. She closes the door and goes away.

Given these clues, what do you think the solution to getting the mail from the bird is? Do you think you have to:

1. Give the bird some food.
2. Wrestle the old lady to the ground, grab the gun and shoot the bird.
3. Ring the front doorbell, run around to the back, run into the parlor, get the portrait of Gorbachev or Ronald and show it to the macaw.

The bird doesn't want anything to eat. You can't get close enough to the old lady to wrestle her to the ground. That leaves number 3, a course of action that has not been alluded to in any way and is not based on any logical progression of action. Yet it's the correct solution to the problem.

There are some funny puzzles on the plane and the idea of computer-literate aborigines is not without humor, but most of the problems in *Bureaucracy* have disappointing solutions. Instead of making me feel smart having solved them, they made me mad. I felt gypped. I had spent a lot of time at the keyboard trying to deduce what to do, I read the text over and over looking for clues and then the solution turns out to be inane.

Running the Treadmill

Bureaucracy is a game I love to hate. It takes a particular temperament to appreciate its oddball puzzles and subtle, sometimes deadpan, humor. And it's not a game for people with short fuses. The irritation factor is intentionally high. If you were discouraged by *Zork*, then *Bureaucracy* is not for you.

Douglas Adams intended the game to mirror reality. He was inspired to write it when his bank refused to acknowledge his change-of-address form. It's not that I enjoy standing in line at a bank and still not get my money (which has happened plenty of times in New York), but I do appreciate puzzles that let me, if I'm clever enough, get revenge on petty, rule-bound tyrants.

Most of the irritating things in *Bureaucracy* are really red herrings. The more it bothers you, the less important it is to the final solution of the game. Unlike real life, however, when you're going in circles the program sometimes nudges you in the right direction.

Cope with the irritation factor and you'll find plenty of intriguing puzzles. Like the classic literary device, a story within a story, *Bureaucracy* presents a computer within a computer. At several points you'll be forced to literally "hack" around a computer system or program to find the solution to your problem.

Bureaucracy is a thinking game that requires bizarre solutions to rigid problems. If you complete it you'll be told that you're really "pissed off"—as if you didn't already know. *Bureaucracy* is perhaps one of the first in a line of existentialist computer games that will rival a Kafka novel for generating a sense of fatalism.—BT



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Just Like Real Life

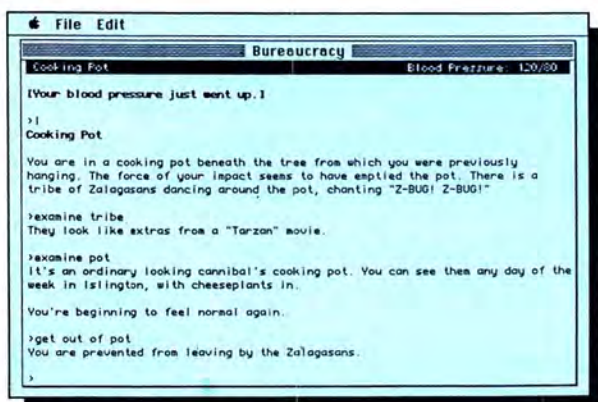
Psst! Listen to This

Here are a few things you should keep in mind to ease your way through the game:

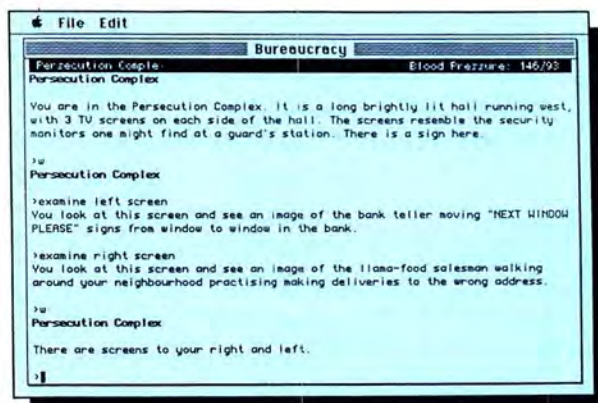
1. Philately can be an interesting and profitable hobby.
2. Software piracy can pay off.
3. Never dial without first checking the number.
4. There is such a thing as a free lunch.
5. Never underestimate the value of taking a bag of llama food when you leave the house.

In most Infocom games, scenarios are tight and logical. Exploration of the surroundings turns up clues which can be plugged into other things found within the game. When

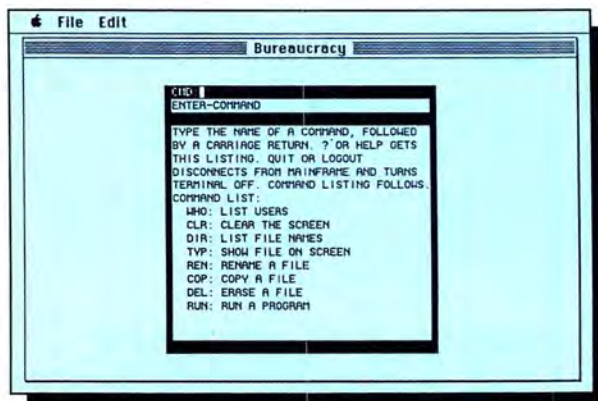
you encounter an object you either know exactly how to use it based on what has happened already or you know that if you just look around a little longer its use will become clear



At times you'll feel like you've stepped into a scene out of *National Geographic*.



Yes, it helps to be paranoid, because they really are out to get you.



The computer within a computer has something less than the usual Mac interface.

to you. If you see, say, a painting you know there's either going to be a safe behind it or a key or nothing but dust or that it's just ornamental. It isn't going to be something you have to show a bird.

Perhaps the main problem with *Bureaucracy* is that it isn't as much fun for us to play as it was for Douglas Adams to write. The elements are not well integrated. Not like they are in *Sorcerer* where you find a resurrection spell and then have to let the hunched and hairy figures kill you so you can rise again on the altar of blood. Not like they are in *Infidel* where you have to fill a goblet to the line with water and replace the weight on the sacred scale so you won't get crushed by the booby trapped pyramid walls. Not like they are in *Planetfall* where the broken laser gun becomes a means of escaping from a heat-seeking microbe.

In *Bureaucracy*, there's a llama farm on your street. A llama farm may be charmingly incongruous on a suburban street, but the llamas have nothing to do with getting to the airport. There's also a paranoid on the street. But he's just someone else to collect mail from and I don't even want to get into the way you have to do that—it's just too silly. Now what if the paranoid ended up driving you to the airport in a llama-pulled cart? That might be fun.

Ford Prefect would turn this game off and go visit another planet.

RANDI HACKER IS A NEW YORK WRITER WHOSE WORK APPEARS IN PUNCH, SPY AND LOUISIANA FISH AND GAME.

MACUSER RATING

Bureaucracy

Follows Mac Interface
Printed Documentation
On-Screen Help
Performance
Support
Consumer Value

None
None
None
None
None
None

Comments: Less than inspiring text adventure with little to recommend it except its author. **Best Feature:** Support material. **Worst Feature:** Vapid puzzles. **List Price:** \$39.95. Published by Infocom, 125 CambridgePark Drive, Cambridge, MA 02140. (617) 492-6000. Not copy protected.

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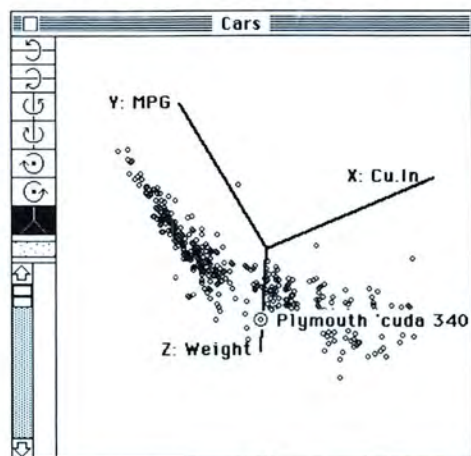
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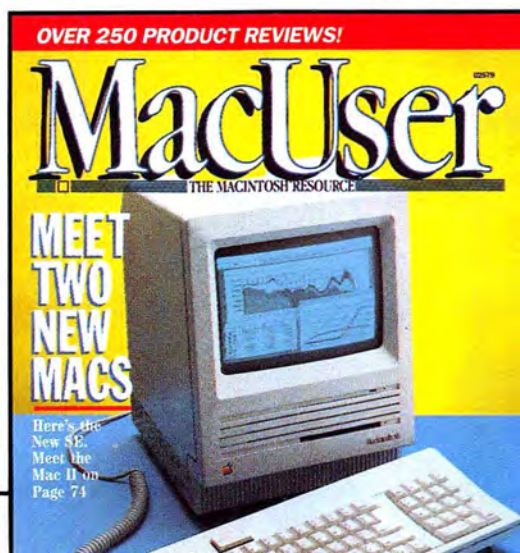
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```
(ATOM '(A B D))  
-> NIL  
(ATOM "Imma String")  
-> 6  
(ATOM (CAR '(A B D)))  
-> 6
```

```
(ASCII  
->  
(ASCII  
->
```

BY ANDREW SHALIT

Talk

glibberish")

The sky's the limit with three new high-level programming languages for the Macintosh.

LISP IS ONE OF THE OLDEST computer languages still in use. And yet, LISP could also be called the most modern computer language. Since its conception in the 1950s LISP has steadily evolved and grown. It has survived by providing programming tools and a degree of flexibility unparalleled by other languages.

In the United States, LISP is the language of choice for artificial intelligence work. It is actually the language of choice for working with many types of complex systems. Among its features are an interactive programming environment, automatic memory allocation and reclamation, weak typing (any variable can hold any type of data), the ability to have programs write programs and a range of tools for manipulating complex data types. LISP encourages exploratory, incremental programming. Large programs are easily built up from smaller, more manageable pieces.

Three new products bring the symbolic programming power of LISP to the Macintosh. These languages provide an added bonus to Macintosh users: The same features which make LISP ideal for tackling the complexities of artificial intelligence make it ideal for tackling the Macintosh Toolbox.

FLYING TURTLES

Weighing in at \$79.95 and 283K, with turtles limited only by memory, *Object Logo* is in a class by itself. It is the easiest and one of the cheapest ways for a Macintosh owner to teach his or her machine new tricks. Logo was actually a close relative of LISP, developed for teaching children about computers. *Object Logo* is a major enhancement of the language, giving it much of the power of LISP, plus some goodies all its own.

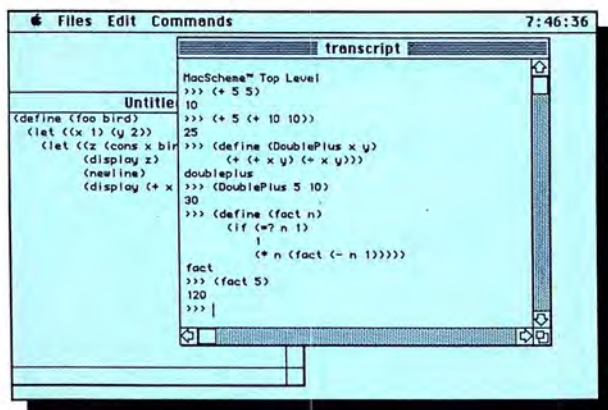
With *Object Logo*, the people at Coral Software debunk two myths: first, that Logo is not a practical language, and second, that the aver-

age person cannot write full-fledged Macintosh programs. *Object Logo* retains compatibility with older versions of Logo while adding a native code compiler, a powerful multiple-inheritance object system and an ultra-high-level interface to the Macintosh Toolbox. The result is a language which can be learned as easily as Logo, but which can take its user much further.

Object Logo begins with the most advanced object-oriented programming package available on the Macintosh. It is the only Macintosh language to offer multiple-inheritance. In addition, *Object Logo* does not enforce a distinction between classes and objects; any object can be used as a template for creating other objects. This system simplifies both the learning process and the development cycle. *Object Logo* brings in some other features not found in previous implementations of the language. It adds arrays. The math package allows free mixing of floating point numbers, unlimited size integers, fractions and complex numbers. The debugger allows tracing, stepping, pausing programs to check values and monitoring variables as their values change.

In *Object Logo* you work with the Macintosh interface through a set of predefined objects. It is hard to describe how much easier this is than working with the Toolbox directly. As an example, in *Object Logo* a single instruction gives your program a window with full text editing abilities. From the outside, this window will look just like an editor. From the inside, it will respond to messages sent by a program or typed into the listener window. The message "HardCopy" makes it print its contents, "Selection" will output the position of the currently selected text, "SetWTitle" will set the title of the window, "SetWSize" will set the size of the window, and "SetWFontStyle" will set the window's font

The Experts Talk



A sample interaction with *MacScheme*. Note that procedures and variables can be defined, and used immediately.

style. There are over 75 commands for working with windows, plus the 105 QuickDraw commands, all of which are fully accessible. Error checking between you and the Toolbox prevents crashes.

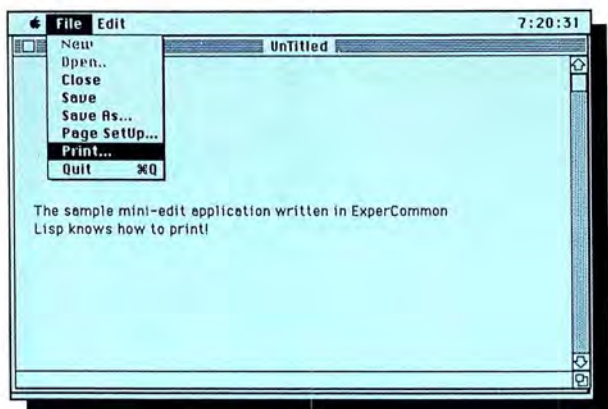
Object Logo provides access to a large portion of the Macintosh interface: windows, menus, text editing, text printing, the standard file package and all of QuickDraw. Customized versions of predefined Toolbox objects can be created through ordinary inheritance mechanisms. (The *Object Logo* user interface, its menus and windows, are all written in *Object Logo* and so can be freely modified.) There is also a peppering of bells and whistles. For example, the desktop pattern can be read with DeskPat and set with SetDeskPat. Toot will play a note of a given frequency, amplitude and duration. There are functions for reading the current date and time.

Unfortunately, anything that *Object Logo* doesn't provide at a high level is hard to get at all. There is a feature for calling traps directly, but it is labeled dangerous and given minimal documentation. Among the missing features are dialog boxes, access to many resource types, graphics printing and direct access to events. *Object Logo* cannot be used to create standalone applications, so there is no way to share your creations with friends (unless, of course, they have a copy of *Object Logo*).

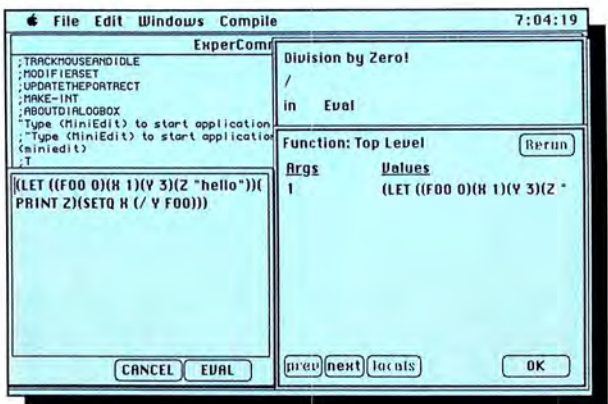
As a reference to a new and huge language, the *Object Logo* manual is a lot to absorb. It is a sufficient description of the language, aided to a large degree by the best index I have ever seen. It's a shame Coral did not include a tutorial. While there are many good books on learning Logo, none of these cover *Object Logo*'s advanced features, such as the object system and Toolbox interface.

Coral has plans for the future. They are still working on *Object Logo*; future releases could solve some of its current limitations. Coral is also developing two LISP products for release in 1987: a full Common LISP, and a subset for running on smaller machines.

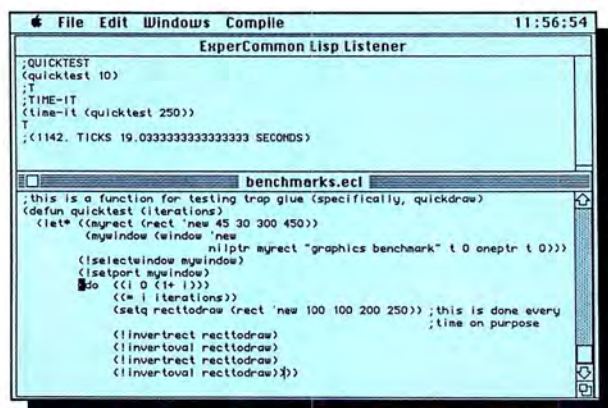
Object Logo could be the language



A version of mini-edit written in *ExperCommon Lisp*.



The *ExperCommon Lisp* debugger provides viewing and modification of global and some local variables. It also gives some information about current procedures.



A typical working situation in *ExperCommon Lisp*. The Listener window is at the top. The bottom window shows the QuickTest benchmark.

ExperCommon Lisp and *MacScheme+ Toolsmith* both highlight matching parentheses to make editing LISP code easier.

Benchmarks

	TAK	TAKL	DERIV	QUICKTEST 250
ExperCommon Lisp	37	98	151	19
MacScheme+Toolsmith	61	232	203	22
Object Logo	25	252	145	25

All times given in seconds. TAK, TAKL and DERIV are taken from Performance and Evaluation of Lisp Systems, by Richard P. Gabriel, MIT Press. QuickTest is a simple loop. In each iteration, a rectangle is allocated on the heap, sent to 4 QuickDraw traps and de-allocated. (For source code of QuickTest see ExperCommon Lisp screen shot.)

for the rest of us. It is a powerful language that gives novices painless access to the Macintosh interface, ideal for exploring and writing programs for personal use.

FIRST CLASS FARE

MacScheme+Toolsmith is a recent extension of *MacScheme*. Since its introduction in 1985 *MacScheme* has earned a reputation as a complete, reliable implementation of Scheme, a modern dialect of LISP. Scheme was invented at MIT in the late 1970's and has since become popular for research and college level instruction. As a language it stresses simplicity, elegance and power.

MacScheme is a semi-compiled language. Instead of compiling into native 68000 code, it compiles into byte code which is understood by *MacScheme's* runtime kernel. This is similar to the P-code system used by UCSD Pascal. The result is much faster than interpreted code, but two to three times slower than native code (see benchmarks). Byte compiled code is more compact than native code, and it allows more complex debugging tools. (*MacScheme's* debugger is excellent.) *MacScheme* does not come with a built-in object system. However, because it has full lexical closures and first class procedures, programming can be done in an object-oriented style.

When it was first released, *MacScheme* offered only simple text-line input and output. An early update added a graphics window and about 30 drawing commands. By itself, *MacScheme* is an inexpensive (\$125) tool for exploring with Scheme, one of the planet's most beautiful programming languages. For an additional \$125, *Toolsmith* gives *Mac-*

Scheme access to the entire Macintosh ROM.

Toolsmith comes with high-level tools for working with the most common parts of the Macintosh interface: windows, menus and text editors. For example, a single call to the procedure *Make-Window* gives you a window that knows how to move, how to resize, possibly even how to edit text. Once you make the window, you don't need to worry about it. It takes care of itself. This is in sharp contrast to traditional Macintosh languages, where the main program has to handle all window events (moving, scrolling, resizing and so on).

Toolsmith menus are equally intelligent. You just say *Make-Menu* and a new menu appears on the screen. To add menu items, call *Append*, specifying a procedure to be executed when the menu item is chosen. Once again, after you have created the menu, you can forget about it. *Toolsmith's* internals take care of all the busy work.

These smart windows and smart menus are made possible by the *Toolsmith* event dispatcher. Mouse clicks, keystrokes and disk insertions all generate events. Events are what tell a Macintosh program what to do next. Most programs receive and process events in a main event loop, a place where the computer spins its wheels, repeatedly asking whether an event has occurred. When an event does occur, the program figures out what it means and responds accordingly. Most Macintosh programs spend most of their time in the main event loop, doing essentially nothing at all (besides blinking the cursor).

With an event dispatcher there is no main event loop, so your pro-

gram can spend its time doing more useful things. When an event occurs, *Toolsmith* interrupts the current task and sends the event through a list of event handlers until it gets processed. *Toolsmith* comes with a good set of event handlers, but you are free to modify or replace them. The event dispatcher is a generation beyond main event loops. It makes better use of processor time and even allows full multitasking.

The high-level tools that come with *Toolsmith* cover much of what you need to set up a program. For those Toolbox functions which aren't covered, *Toolsmith* provides methods for directly calling traps and accessing Macintosh data structures on the heap. The version of *Toolsmith* reviewed was missing some of the traps from the 128K ROMs, but these should be added soon. *Toolsmith* does not yet allow the creation of standalone applications. Semantic Microsystems is developing an application builder which may even be available by the time you read this.

MacScheme+Toolsmith comes with two excellent reference manuals, one on *MacScheme* and one on *Toolsmith*. The manuals are clear, and technically explicit. For those who do not yet know LISP, an introductory book on Scheme is included. The package includes a sample mini-edit program, and sample procedures for setting up dialog boxes, reading and writing files, and more. The only notable omission is in printing, where there is no sample code given.

The only possible drawback to *MacScheme+Toolsmith* is its speed. I wouldn't want to use it for writing an arcade game. However, it is ideal for those who need the symbolic programming power of a full modern LISP, and also for those who just want a beautiful and powerful programming language. *MacScheme+Toolsmith* greatly simplifies the process of creating full-scale Macintosh applications.

AN UNCOMMON CARRIER

In reviewing *ExperCommon Lisp*, I had to answer three questions. One, is it really a Common LISP, as the name implies? Two, without regard



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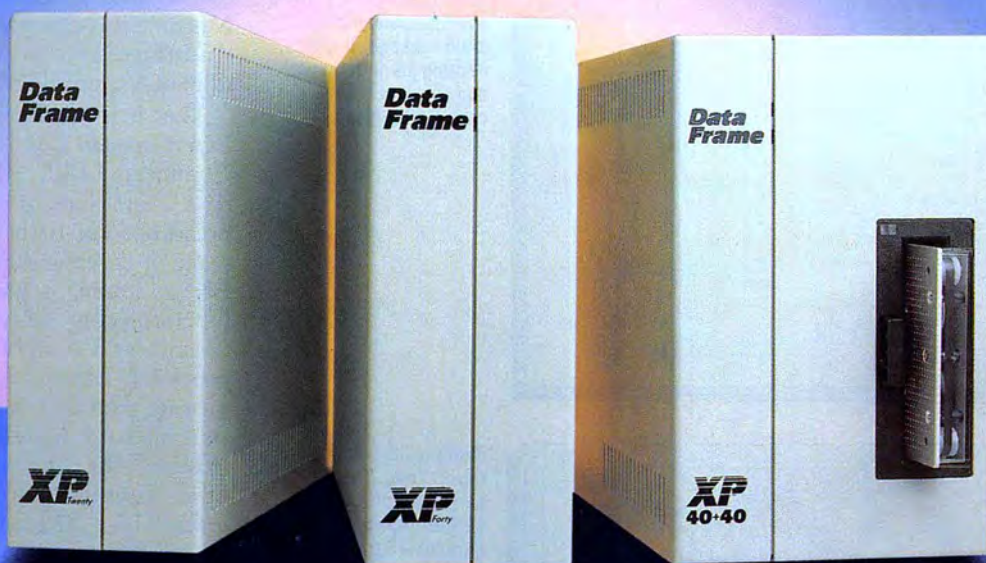
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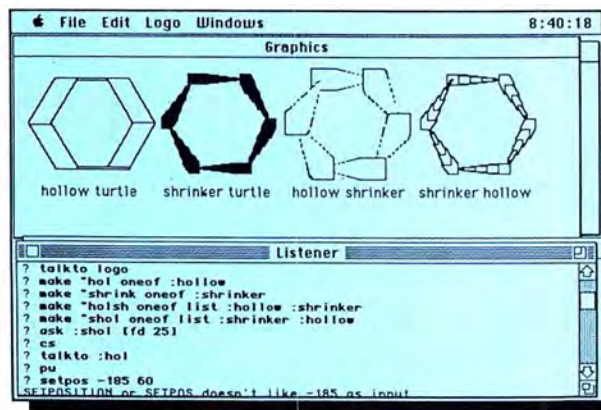
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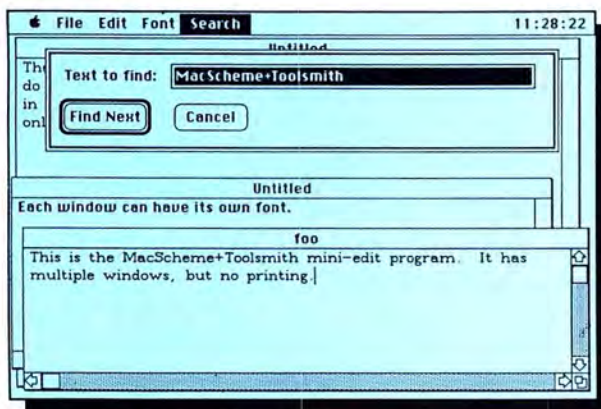
The Experts Talk



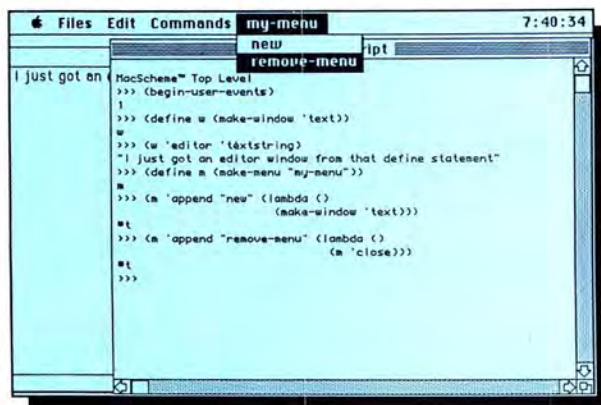
Object Logo comes with a sophisticated generic math package. Integers, floating point, fractions and complex numbers can all be mixed.



Multiple inheritance in *Object Logo*. The Hollow-shrinker turtle and the shrinker-hollow turtle both inherit from the other two turtles. They order their parents differently, and so they behave differently.



The mini-edit sample application included with *MacScheme+Toolsmith*.



A simple series of commands to *MacScheme+Toolsmith* yields a text window and a new menu with two menu items. (*w* 'editor 'textstring) is the method for asking a text window to output its contents.

to the first question, is it a good Macintosh development system? And three, is it worth the thousand dollars *Expertelligence* is asking?

The first question proved easy. *ExperCommon Lisp* is by no means a Common LISP. Though it does have some of Common LISP's breadth, some basic design decisions make it a very different language. For example, separate value and function cells, one of the key characteristics of Common LISP, are not provided. *ExperCommon Lisp* is also missing packages (a method for preventing name conflicts), full lexical closures, the *Defstruct* macro, and other essential Common LISP features. These differences would make it difficult to port Common LISP programs into *ExperCommon Lisp*.

With Common LISP out of mind, *ExperCommon Lisp* looks a lot better. The language is fairly complete in its own terms. It provides a huge number of tools for manipulating data. The object system only provides single-inheritance, but includes some advanced features for hiding instance variables. *ExperCommon Lisp* compiles to native 68000 code. The compiler is fast, and the speed of the resulting code is almost twice the speed of *MacScheme*. *ExperCommon Lisp* also comes with a utility to turn off type-checking which, though dangerous, can as much as double the speed of programs. *ExperCommon Lisp* can be used to produce standalone applications.

The *ExperCommon Lisp* interface to the Mac Toolbox takes a middle road. While *Toolsmith* provides a high-level interface to a small amount of the Toolbox and a low-level interface to the rest, *ExperCommon Lisp* provides a moderate-level interface to the whole thing. *ExperCommon Lisp* menus and windows don't work automatically, because its programs still operate around a main event loop.

Two sample program shells are included, but the complexity is not hidden as it is in the other languages. The poor programmer still has to take care of all the bookkeeping! On the other hand, *ExperCommon Lisp* implements many Macintosh data structures as objects, which simpli-

Identified Flying Objects

Object-oriented programming is a new technique for organizing and developing software. Traditional programming languages enforce a separation between data and the instructions: active instructions manipulate passive data. Object-oriented programming languages combine data and instructions into objects. These smart objects know how to operate on the information they contain.

You use an object by sending it messages. When an object receives a message, it decodes it and acts accordingly. Different objects may have different responses to the same message. For example, rectangle-objects and circle-objects will perform different calculations in response to the message "area?" A rectangle would output (side-a * side-b), while a circle would output ($\pi * r^2$). The rest of your program doesn't need to know how to calculate the different areas, because the objects know. If you add a new shape, you don't need to change other parts of the program; just make sure that the new shape knows how to respond to the message "area."

A template for building objects is called a class. A class is a description of the variables and procedures (usually called methods) used by a particular type of object. Once a class is created, it can be used to produce instances. You want five circle-objects? Just get five instances from the circle class. Each instance can have a unique position, size, and so on.

Object-oriented programming lets you re-use code through a technique called inheritance. New types of objects can inherit the skills of old objects while adding new skills of their own. New classes are created by adding methods and variables to old ones. The new class is said to be the subclass and the old one the superclass. Multiple-inheritance occurs when a subclass inherits from more than one superclass.

A number of object-oriented programming systems are now available for the Macintosh, including *Object Logo*, *ExperCommon Lisp*, and Apple's *MPW*. Be warned though, object-oriented programming is addictive. Once you start making objects, you may never want to go back to older programming styles.

fies creating them, referencing their contents and building them into larger structures. Memory from old Macintosh data structures can often be reclaimed automatically.

ExperCommon Lisp does not come with a tutorial. Moreover, I often found the informal approach of the reference manual inadequate for a nonstandard language. In its favor, the manual's large section on Toolbox traps often made references to *Inside Macintosh* unnecessary. I also received excellent telephone support every time I called ExperTelligence (even when I didn't mention my name or connection to *MacUser*).

In spite of its flaws, *ExperCommon Lisp* might still be worth the investment. It has some very good features mixed in with its shortcomings. While it cannot be called a fully modern LISP, it is a sufficient language in its own right. It offers compiled code, an object system and simplified but direct access to the Toolbox. At the time of this writing, it is the only LISP capable of producing standalone Macintosh applications. Perhaps in a future release ExperTelligence will lower their price, clean up a few of *ExperCom-*


mon Lisp's deficiencies, and make it a language to be proud of.

TOUCHING DOWN

The three languages reviewed address different needs.

Object Logo is ideal for those who want to explore programming with many features of the Macintosh interface. It provides an unparalleled combination of ease and power.

MacScheme+Toolsmith offers the full power of a modern dialect of LISP. Scheme is a wonderful language, and with *MacScheme+Toolsmith* it can access all the features of the Macintosh Toolbox.

ExperCommon Lisp, while disappointing in many ways, has the advantage of producing compiled code and standalone applications. Whether you're a serious developer or a Sunday hacker, these languages offer a combination of ease and power that you aren't likely to find anywhere else. 

ANDREW SHALIT IS A FREELANCE WRITER, MICROCOMPUTER CONSULTANT AND PART-TIME LISP HACKER, LIVING IN SOMERVILLE, MA.

MACUSER RATING

Object Logo

Follows Mac Interface	■	■	■	■	■
Printed Documentation	■	■	■	■	□
On-Screen Help (debugger)	■	■	■	■	□
Performance	■	■	■	■	■
Support	■	■	■	□	□
Consumer Value	■	■	■	■	■

Comments: Personal programming language with sophisticated features that simplify Macintosh-style programming. **Best Features:** Object system, ultra-high-level interface to Toolbox. **Worst Features:** Limited access to much of Toolbox, unable to produce standalone applications. **List Price:** \$79.95. 512K required. Published by Coral Software, P.O. Box 307, Cambridge, MA 02142. (800) 521-1027; (617) 547-2662. Not copy protected.

MACUSER RATING

MacScheme+Toolsmith

Follows Mac Interface	■	■	■	■	□
Printed Documentation	■	■	■	■	■
On-Screen Help (debugger)	■	■	■	■	■
Performance	■	■	■	■	□
Support	■	■	■	□	□
Consumer Value	■	■	■	■	□

Comments: Beautiful language for the developer, student or hacker with a deep interest in programming. **Best Feature:** Event dispatcher simplifies event-driven programming. **Worst Feature:** Slower than other products. **List Price:** *MacScheme*, \$125; *MacScheme+Toolsmith*, \$250 (introductory price). 512K required for *MacScheme*, 1M strongly recommended for *MacScheme+Toolsmith*. Published by Semantic Microsystems, 4470 S.W. Hall, Suite 340, Beaverton, OR 97005. (503) 643-4539. Not copy protected.

MACUSER RATING

ExperCommon Lisp

Follows Mac Interface	■	■	■	■	■
Printed Documentation	■	■	■	□	□
On-Screen Help (debugger)	■	■	■	□	□
Performance	■	■	■	□	□
Support	■	■	■	□	□
Consumer Value	■	■	□	□	□

Comments: High-priced LISP development system that falls short of modern LISP standards. **Best Features:** Compiled code, can produce standalone applications. **Worst Feature:** Numerous incompatibilities with Common LISP. **List Price:** \$995. 1M required. Published by ExperTelligence, 559 San Ysidro Road, Santa Barbara, CA 93108. (800) 828-0113; (805) 969-7871. Not copy protected.

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COMPILED BY DAVID SCHARGEL

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CHOOSE DA



Have you ever wondered who wrote Apple's *Chooser* desk accessory? Didn't think so. Nevertheless you can extract the author's name by clicking in the version number for all versions greater than 3.0.

RICHARD CHEN
STATEN ISLAND, NY

the time every minute, so the time will always be correct (assuming your clock is set properly). When you have gotten a look at the time, hit the Enter key and *MacWrite* will jump back to where you last left the insertion point.

TIM NICHOLS
GOLETA, CA

CRICKET DRAW

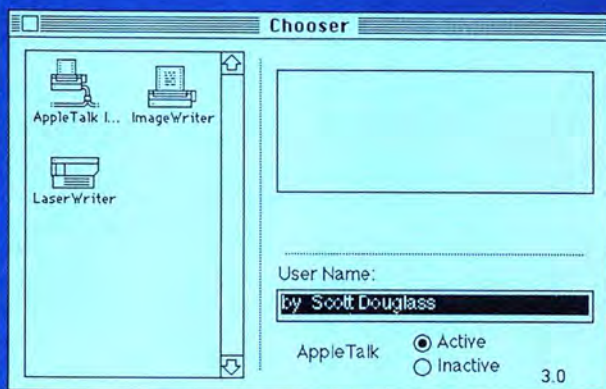


When working with documents that have a large number of grouped objects, you can save some time when printing to the LaserWriter by ungrouping your objects prior to generating the PostScript code.

MICHAEL YOUNG
MADISON, WI



CHOOSE DA



When working with the *Chooser* desk accessory (version 3.0, or higher) you can find out who wrote the desk accessory by clicking in the version number. Shown here is what happens after clicking in the number 3.0.

MACWRITE



If you want to keep track of time while using *MacWrite* it is often troublesome to either move your window or select a menu item to display the *Alarm Clock* desk accessory. Try opening a header or footer and inserting the time icon into it. Now, every time you want to know the time you just have to scroll to the nearest header or footer. *MacWrite* automatically updates

MACGOLF



Here's a tip for that aspiring *MacGolf* professional. Most *MacGolf* beginners get very frustrated because they are not used to putting with *MacGolf*. Many times players have gotten onto the green in two strokes only to take six putts to complete the hole. Try the following and you may find your putting will be on par (no pun intended) with

someone who's a *MacGolf* maven.

Once you get on the green, make sure the wind is at zero, face away from the hole, and place the swing indicator at the bottom (zero). Click once on the up arrow and putt. Record how far your putt goes. Now do the same thing, but click two times in the swing indicator's up arrow. Do the same until you get to

a full strength putt. By keeping track you can easily become an expert on how many clicks you must do to get the ball a certain distance. Now, when it's windy out there. ...
TIM NICHOLS
GOLETA, CA

READY, SET, GO! 3



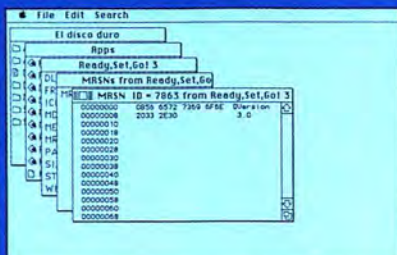
Ready, Set, Go! 3 has a problem with losing its icon, and that



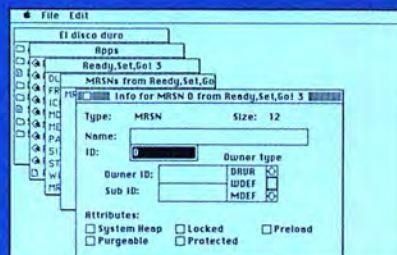
READY, SET, GO! 3



1 To get *Ready, Set, Go! 3* to recognize its icon and its associated documents we need to begin in *ResEdit*. In *ResEdit*'s Get Info window for *Ready, Set, Go! 3* you should start by turning the bundle bit on.



2 After creating a new MRSN resource, input the hexadecimal codes "0B 56 65 72 73 69 6F 6E 20 33 2E 30" into the blank resource.



3 Get Info on that new resource and change its ID to zero. This new resource is called the signature resource. After you quit *ResEdit* and save the changes, *Ready, Set, Go! 3* will have no problem recognizing its icon and documents.

sometimes leads to a "Couldn't Find The Application" error when attempting to open one of its documents. You can use *ResEdit* to patch *Ready, Set, Go! 3*. Be sure to work with a backup of *Ready, Set, Go! 3*.

- Launch *ResEdit* and select the *Ready, Set, Go! 3* application.

- Choose GET INFO from the File menu and click on the Bundle box, turning it on. Close the window and save the changes. Setting the "bundle bit" in an application specifies that that application "owns" documents and that it has its own, individual icon.

- Double-click on the *Ready, Set, Go! 3* application, thus opening the application, showing its resources.

- Select NEW from the File menu and enter a new resource type of MRSN (all caps). A blank MRSN window will immediately open.

- Choose NEW from the File menu and enter at the insertion point the following hexadecimal numbers: "0B 56 65 72 73 69 6F 6E 20 33 2E 30." This, in English, says

"Version 3.0." The MRSN resource, for *Ready, Set, Go! 3*, is the signature resource, and we just added the version information.

- Close the window and notice how the only listing in the MRSN window is highlighted. Choose GET INFO from the File menu and change the ID to zero.

- Quit *ResEdit*, saving the changes made to *Ready, Set, Go! 3*. Now reboot and use *Ready, Set, Go! 3*.

RICHARD CLARK
IRVINE, CA



If you are importing a complex PostScript document into *Ready, Set, Go! 3* you should check the size of the file prior to importing. The file must be under 32K. *Ready, Set, Go! 3* is limited to 32K text blocks, if it is longer (not uncommon with complex PostScript code) your PostScript program may not run properly. This limitation applies to all imported text in *Ready, Set, Go! 3*.

TIM WUBNE
RYE, NY

WORD 3.0



Even though *Word* 3.0 cannot do automatic word counts, you can use the following procedure to get a word count for basic *Word* documents. Be sure to save your document before doing this, because the document will be altered.

Bring up the Change dialog (by choosing CHANGE from the Search menu) and Change All occurrences of white spaces (␣) to end-of-line marks (␣n). This may take a bit of time. Next, select SECTION from the Format menu, click on the Line Numbering check box and the Continuous radio button and click OK. Now, to get the word count, select PAGE PREVIEW from the File menu, drag the scroll box to the bottom of the scroll bar, and use the magnifying glass to view the number just before the last word listed. This number is the word count for the text in the main body of the document.

STEVE CHARNOVITZ
FALLS CHURCH, VA



Word 3.0 has a problem with draft printing on the *ImageWriter* when using the *ImageWriter* driver, version 2.5. To obtain draft printing with the *ImageWriters*, place the *Serial Printer Driver* and *Typewriter* driver into your System Folder. Then, using the *Chooser* DA, click on the *SerialPrinter* icon and select *Typewriter*. You should now be able to print draft text on your *ImageWriter*.

DAVID EARNEST
ALBANY, GA



Word 3.0 has the undocumented ability to place a graphic behind text. This technique will even allow you to have a graphic that fills an entire page.

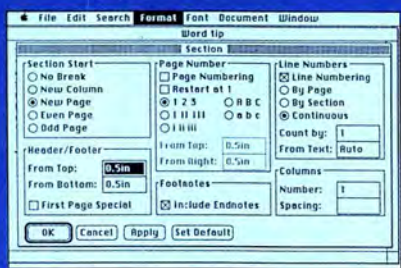
Before starting, it's a good idea to have the graphic placed in the Scrapbook. Begin by typing the text you want, such as a letter or text for a sign. Open the header and click in the zoom box so that the header window fills the entire screen. Hit the Return key a few times if you



WORD 3.0



1 To produce a simple word count in *Word* 3.0, start by changing all occurrences of the white spaces to end-of-line marks. Enter "␣" for Find What, and "␣n" for Change To.



2 Under Section from the Format menu, click on the Line numbering and choose Continuous before clicking OK.



3 You can now go to the last page in PAGE PREVIEW and use the magnifying glass to look at the number before the last word in the document to determine the word count.



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need to space down from the top of the page. Next, copy your graphic from the Scrapbook, paste it in the header window, and position it as if it was the only item on the page. Close the header and save the changes.

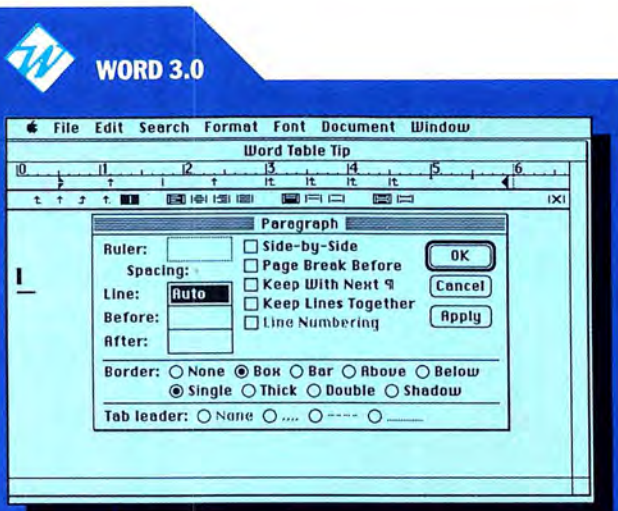
To get to the top of the header, you will need to change the top margin. Choose PAGE SETUP and change the top margin to a negative value, such as -3 inches. You can use PAGE PREVIEW to align the graphic properly. (In this mode the graphic block will appear on top of the text. Printing will yield different results.) Remember that the closer the margin is to zero, the higher on the page the text will print.

JOHN BROOKS III
HOUSTON, TX

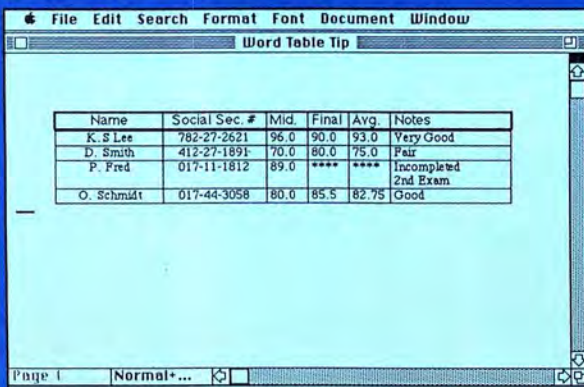


It's easy to create tables using *Word 3.0*.

Determine where you wish to place the table and insert a blank line there (by hitting Return). Select the blank line and choose PARAGRAPH from the Format menu. The Paragraph dialog box will appear with a ruler. In the dialog, choose a Border with BOX and SINGLE and adjust the size of the table using the left and right margin markers on the ruler. Now, place the vertical line markers (found in the ruler) precisely where you want vertical bars to appear in your table and then place tab markers after the vertical line markers. You may use any type of tab (left, right, center or numeric), but be sure that no tab markers are placed on top of any vertical line markers. Click OK and the beginnings of your table appears. Enter your data, making sure you use the tab key to place



1 Tables can be created fairly easily with *Word 3.0*. Start by creating a blank line, selecting it and create the table with the ruler found after choosing PARAGRAPH from the Format menu. Set a few vertical markers and place tab markers just after them. You can also adjust the size of the table here by adjusting the margin.



2 The final table as created with the settings shown in the previous figure. Data was input with tabs as delimiters. We were able to get the double-spaced line by typing Shift-Return at the end of the first line to be extended.

information in the correct column.

You may spice up the table by selecting any line and changing the border thickness to emphasize that entry. You may also use Shift-Return to produce a double-spaced line for any entry line.

KWANG LEE
HOUSTON, TX

MACDRAW



Using *MacDraw*, it is often a pain to attempt to center an item, such as a page number exactly in the middle of the page. There is, however, a way of doing this that takes minimal effort and is sure to produce correct results.

After creating your page,

type the text you wish to center in the approximate area you want it placed. Choose REDUCE TO FIT and create a rectangle as wide as possible so that it covers the entire width of the page. Choose NONE from the Fill menu so that you are able to see the objects behind your rectangle. Simply select the text item you want properly aligned. Now, choose ALIGN OBJECTS from the Arrange menu and click on L-R CENTER and click OK. Your text will now be centered on the midpoint of the box (since the box is too large to move).

You can use this technique to center objects horizontally as well by clicking TOP-BOTTOM instead.

MATT HERRINGTON
SYRACUSE, NY

FINDER



Have you ever wanted to see your icons listed in alphabetical order but just didn't want to sit down to manually reorganize each window? Now, while at the *Finder*, you can have the Macintosh automatically alphabetize your files for you.

Bring the window you want to sort to the front and select BY NAME from the View menu. Choose SELECT ALL from the Edit menu and drag all of the selected files to the desktop. While that window is still in front, select BY ICON from the View menu and close that window. Now, drag all of the icons that were placed on the desktop back into the disk/folder where the files originated. When you reopen the disk/folder you will find the icons are in alphabetical order.

TIM NICHOLS
GOLETA, CA

The Next Generation of Macintosh Graphics Software Has Arrived.

LaserPaint, The Integrated Graphics Workshop

Drawing

Full featured PostScript illustration program
Circles, squares, curves, arcs & spirals
Filling of shapes with patterns or screens
Positive & negative masking
Custom dashed lines, line joinings, & line cappings
Line widths from 1/4 point (1/300")

Painting

Full editing of imported bit-maps at 600 dpi
Airbrushing at 600 dpi
Adjustable Airbrush "rate of flow" and "diameter"
Grey scales & fountains
Configurable pens, brushes & markers
Drawn objects used as hard masks or soft shields
Eight zoom positions in any mode

Writing

Runaround text justified inside or around any object
Text on any defined path: lines, circles, objects
Full kerning & positive or negative leading
Font sizes up to 511 point
Full editing: multistyle, multisize and multifont

Import/Export

Import Bit-maps from Paint programs
300 dpi scanned images in TIF format
Text files from word processors
Use the scrapbook & clipboard
Export pure Postscript text files
EPS, Encapsulated Postscript files
Edited, enhanced & modified bit-maps

Color Separations

4-color process or line-color
Automatically on LaserWriter or Linotronic
Printers registration marks for alignment
Automatic adjustment for coated/uncoated paper
Color enhance & separate imported bit-maps
Drawing, page or poster size output

Layout/Paste-up

Multi page working surface: eight 8.5 x 11 pages
Configurable or standard column guides
Artwork may cross page boundaries
Automatic printer's registration marks
Positive & negative printing capabilities
Printers Overlays and job sheets

All in One

Draw, Paint, Write & Paste-up
Professional quality camera ready output
New capabilities never before seen on a Mac
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For additional information see your local computer dealer or call:

800-367-6898 (Toll free)

415-453-9500 (In Calif)

Suggested retail price: \$495.

LaserWare, Inc.
P.O. Box 668
San Rafael, CA 94915
Please circle 276 on reader service card.

LASERPAINT™

The Integrated Graphics Workshop
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FILEMAKER PIUS



If you're tired of having your ImageWriter II back up, peel a label off the page and jam, try this technique. Just prior to printing your label layout choose SET PAPER SIZE from the File menu and set the paper length to a long length (36 inches is maximum). Then, under PAGE SETUP, turn "No Gaps Between Pages" on and when selecting PRINT be sure to specify "Hand Feed." For example, if you are using 1-inch one across labels and set the paper length to 36, the printer will print 36 labels, skip two labels, and then print the next "page" of 36. BILL MYERS
MISSION VIEJO, CA

WRITENOW



There is an easy way to produce open paragraphs in WriteNow. Simply add an extra space before the end of each paragraph and subscript it. The more times you subscript the space, the larger the distance before the next para-

graph. If you want to control paragraph spacing from the top of a paragraph, subscript the first space found in the paragraph.

WILLIAM MAYNE
NORTH YORKSHIRE, ENG

DARK CASTLE



There is an easy way to keep track of how many times you toppled the throne in *Dark Castle*. When typing your name into the Hall of Fame, you can type Option and any other key to produce a *Dark Castle* symbol. Now, you can have the number of symbols represent the number of times you've toppled the throne.

NICK JONES
UKIAH, CA



How would you like to keep the shield on for an unlimited time? It's possible if you know this handy trick. The shield usually lasts for about 3 seconds. The next time you use the shield key, hold the key down for just under those few seconds. At the last moment, quickly re-

lease the shield key and depress it again. If you do this properly you'll have the shield for another few seconds. The secret here is that your finger should hardly release the key. ANDREW MARTINI
PHILADELPHIA, PA

LIGHTSPEED C



The project window in *LightSpeed C* is only able to display 12 file names at one time. Often, when working with more files, you need to enlarge the window to view your file names, but when you RUN the program, the project window returns to its normal size. You can use *ResEdit* to change the default size (and location) of this project window, so these problems don't occur in the future. Always remember, when working with *ResEdit*, to use a backup.

Open *ResEdit*, open the *LightSpeed C* application and open the WIND resources. Locate the resource numbered 129 and open it. The boxes with numbers shown are ordered by top, left, bot-

tom and right. The number we want to change is the bottom number (currently 220). Add to this number some multiple of 14 (each line in the project window is 14 pixels high. For example, to add seven additional lines, you need to type in 318 (220 + 7*14). Now quit *ResEdit* and view your changes in *LightSpeed C*. If you want to change the default location of the project window, you need to alter the number that shows the left bound of the window.

WILLIAM RAUSCH
KENNEWICK, WA

Don't just sit there waiting for us to get around to your problem or question. Copies of the deluxe, spiral bound edition of *The Power User's Manual: Over 1,000 Hints and Tips for the Macintosh* are now available for a mere \$19.95, which includes shipping and handling. The manual has two cross-referenced indexes to help find tips fast and covers over 100 of the most popular Mac programs and peripherals. It's worth its weight in gold mice. Make your checks payable to Power User's Manual and send the order to: Power Users Manual Offer, 831 Federal Road, Brookfield, CT 06804. Bulk rates for clubs, organizations and schools are available from the same address.



FINDER



1 You can arrange the icons shown in a Finder window alphabetically. Start by bringing the window to be sorted to the front and choose BY NAME from the View menu. This will produce a listing of files/folders sorted by name.



2 Choose SELECT ALL from the Edit menu and drag all the files to the desktop. While the files are on the desktop, select BY ICON from the View menu.



3 Close the window you want sorted and now drag all of the files on the desktop back into the icon representing that closed disk/folder. When you later open the folder you will find all of the files have been sorted alphabetically.

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MINIFINDERS



charts from spreadsheet data. Documentation is adequate, but not too well organized. \$199. Haba Systems, 6711 Valjean Ave., Van Nuys, CA 91406. CP

Have you often wished for a personal assistant to help in picking software? These MiniFinders may not breathe and move, but they do tell you what products are hot and, better, what these products do. Each of these items has been carefully reviewed and selected by the MacUser editorial staff. Each has been rated in increments of half mice, from 1 to 5. Ratings are relative within categories, and they can change as categories expand and new products advance the state of the art. You won't see many low ratings or bombs, since we're telling you about the cream of the crop, but we will warn you about the really bad products so that you don't spend your money on them. **Red names indicate this month's additions.** The letters at the end of the entries indicate whether a product is copy protected (CP) or not (NCP). CP? indicates that we don't know. If a product has been reviewed or QuickClicked in MacUser, the date of the review is shown. Next time you have to find products you can count on, count on MacUser!

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INTEGRATED SOFTWARE

Crunch is an icon-driven relational spreadsheet that features versatile charting and data base capabilities. Strong financial logic, date and mathematical functions. Spreadsheets can be linked. The manual is clear and concisely written. Macros are not supported. \$195. Paladin, 2895 Zanker Rd., San Jose, CA 95134. CP (Jan 86)

Excel is THE power spreadsheet. Of the Mac, of the world. Has 256-column by 16,384-row capability. Features include a powerful macro function (with a recorder to make creation simple) and elaborate charting facilities. 512K+ Mac and external drive required. \$395. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. CP (Prem)

Jazz provides well integrated modules for word processing, graphs, worksheets, data bases and communications. HotView is best feature. Requires 512K+ and external drive. Version 1A requires 400K drive. \$395. Lotus, 55 Cambridge Parkway, Cambridge, MA 02142. CP (Prem)

Microsoft Works is an integrated application that includes word processing, data base, spreadsheet and telecommunications functions. The telecommunications module includes background uploading and downloading. \$295. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. NCP (Oct 86)

Quartet is an integrated program that works on a 128K Mac, built around a powerful spreadsheet with a full range of functions. It can also be used as a data base and provides good quality

BUSINESS ACCOUNTING

Back to Basics Accounting is a powerful double-entry accounting software package for the small business user with GL, AR and AP modules. Exhaustive manual with numerous examples. Report capabilities are excellent. \$199. Peachtree, 4355 Shackleford Rd., Norcross, GA 30093. NCP (May 87)

BPI General Accounting is an easy to use system. Six journals, AR, AP, Payroll and GL on one disk. Offset amounts automatically post to ledgers. Up to 8000 accounts. Detailed records, wide range of reports. *Switcher* and HFS compatible. \$249. Requires 512K+. BPI Systems, 3001 Bee Cave Rd., Austin, TX 78746. NCP (Aug 86)

CheckMark is a Ledger with five preset journals: Cash Disbursements, Receipts, General, Sales and Purchases. Menus and data entry are very straightforward. Flexible summary reports are built in, but customer and vendor information is very minimal. \$295. CheckMark Software, PO Box 860, Fort Collins, CO 80522. CP

Insight is a high-powered accounting program for the small to medium size business. At present, three modules are available: Accounts Receivable, Payables and General Ledger; others are in the works. Requires 512K and hard disk. \$595. Layered, 85 Merrimac St., Boston, MA 02114. NCP (Dec 86)

Rags to Riches integrated accounting modules (General Ledger and Accounts Receivable) uses Mac interface to the hilt. Information entered in one window automatically transfers. Version 3.0 now provides detailed, flexible report options. Very easy to use, but it can be confusing with several windows on screen. Requires 512K+ and printer. \$199.95 per module. Chang Labs, 5300 Stevens Creek Blvd., San Jose, CA 95129. NCP (Dec 85)

Rags to Riches Professional Billing tracks and bills professional services. Batches activities for individual timekeepers. Use as standalone, or integrate with R to R modules. \$399.95. Chang Labs, 5300 Stevens Creek Blvd., San Jose, CA 95129. 512K+, printer. NCP (Feb 87)

Strictly Business General Ledger features clear, well-outlined set-up procedures and operations. Very flexible, up to 99 profit centers with up to 100 departments each; and customized reports. Program print spools. Requires 512K+, printer and external drive. \$395. Future Design, 13681 Williamette Dr., Westminster, CA 92683. NCP (Dec 85)

PERSONAL FINANCE

Dollars & Sense is a bookkeeping program. Easy to use, with a good manual and excellent on-screen help. Will handle up to 120 separate accounts or money categories. Uses standard double-entry accounting techniques. Will work on 128K. \$149.95. Monogram, 8295 S. La Cienega Blvd., Inglewood, CA 90301. CP (Mar 87)

MacInTax is an excellent tool for preparing tax forms. Intuitive, easy to use. Accepts data from leading personal finance programs. Good built-in help. Liberal upgrade policy for current owners. California forms set also available. \$99 federal; \$45 California. SoftView, 4820 Adohr Lane, Suite F, Camarillo, CA 93010. NCP (Mar 87)

MacMoney is a complete and easy to use personal financial system. Intuitive data entry. Integrates with *MacInTax*. Requires 512K+. \$74.95. Survivor Software, 11222 La Cienega Blvd., Inglewood, CA 90304. NCP (May 87)

Market Pro is a comprehensive portfolio management program for the generation of fundamental data as well as technical charts and graphs. Requires 512K+, external drive and Hayes-compatible modem. \$395. Pro Plus Software, 2830 E. Brown Rd., Mesa, AZ 85203. NCP (Nov 86)



DATA BASES

Business Filevision is a masterpiece of Macintosh programming, **ttttt** the only true graphic data base on any micro. Much more powerful than the original, accepts *MacPaint* graphics. \$395. Telos Software, 3420 Ocean Park Blvd, Santa Monica, CA 90405. NCP (Feb 86)

Double Helix is an environment to generate custom applications **ttttt** built around a data base-type framework. Contains enhancements to *Helix* 2.0. Includes custom menus, sub form windows, password protection and a universal dump and load parser. Ability to store pictures as data fields. \$495. Odesta, 4084 Commercial Blvd., Northbrook, IL 60062. NCP (Oct 86)

File is a flexible data manager. Creates files for a variety of data, **ttttt** including simple graphics. Files are created in simple row/column format, but reports and forms are easily customized. \$195. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. CP

FileMaker Plus retains features of *FileMaker* and reads *FileMaker* **ttttt** data, also displays up to 8 files, uses "lookup" to retrieve data from other files. Enhanced calculation with many additional functions. Scripts automate a sequence of actions. \$295. Requires 512K+. Forethought, 250 Sobrante Way, Sunnyvale, CA 94086. NCP (Nov 86)

Helix is a relational data base that makes extensive use of icons. **ttttt** Setup is easy due to adherence to the Mac interface. The manual is clear, thorough and well-indexed. Complicated for simple data base applications, excellent where a relational power is needed. Requires 512K+ and external drive. \$395. Odesta, 4084 Commercial Blvd., Northbrook, IL 60062. NCP (Mar 86)

MacRelax is a relational list manager that stores data in a column **tt** format. Files can be related by sharing a common field. Flexible design for reports. Screen display is sometimes strange. Easy to use but not obvious to learn. \$99.95. 512K required. Arrays, 6711 Valjean Ave., Van Nuys, CA 91406. NCP (Jan 87)

Omni 3 is a power data base, featuring concurrent multiple file **ttttt** management. Can handle 24 files, 12 at a time, and is fully relational. Create custom environments including user-defined menus, commands and dialogs. \$495. Blyth, 2929 Campus Dr., San Mateo, CA 94403. NCP (Mar 86)

OverVUE is a power-packed relational data base that has extensive **ttttt** sorting, summarizing and report generation capacity. Has macros and a charting function. Good manual. It can exchange files with a very wide variety of other programs (including IBM software). \$295. ProVUE, 222 22nd St., Huntington Beach, CA 92648. NCP (Nov 85)

Professional Bibliographic System is a specialized data base **ttttt** storing and retrieving bibliographies. Redesigned templates (20) simplify creation. Version 2.6 offers improved speed, flexible formatting. \$295. Personal Bibliographic Software, Box 4250, Ann Arbor, MI 48106. CP (Feb 87)

Record Holder is a flexible, easy-to-use form-oriented data **ttt** manager. Setup is particularly simple and the search features are powerful. \$69.95. Software Discoveries, 137 Krawski Dr., South Windsor, CT 06074. NCP (Apr 86)

Reflex For The Mac is a flexible relational data base. Excellent **ttttt** report generator gives full control over appearance, style of output. Requires 512K+, second drive or hard disk. \$99.95. Borland International, 4585 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Nov 86)

Writer's Workshop maintains orderly records for writers. It can **ttttt** track manuscripts, income and publisher. Based on and includes *Runtime Helix*. \$99.95. Futuresoft System Designs, PO Box 132, New York, NY 10012. NCP (Apr 87)

the equivalent of a dual trace oscilloscope plots output in real-time. Good for testing basic (and not-so-basic) circuitry without touching a breadboard. \$249.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP

MacCalc is a fast, competent, full-featured spreadsheet with **ttttt** impressive built-in functions, font control, on-line help, ability to expand columns and rows and read/write SYLK or WKS files. The worksheet is 125 columns by 999 rows. Cell names, printing power make *MacCalc* a very flexible pure spreadsheet. \$139. Bravo Technologies, c/o DPAS, PO Box T, Gilroy, CA 95021. NCP (Sep 86)

MacSpin is a unique and powerful graphic data analysis program. **ttttt** Handles multivariate data in a highly visual manner. Nothing else like it for any micro. \$199.95. D2 Software, PO Box 9546, Austin, TX 78766-9546. CP (Jun 86)

Mindsight is a professional level decision support and business **ttttt** planning package. Can work with IFPS on mainframes, and is able to transmit models in both directions. Powerful and easy to use. Requires 512K+. \$249. Execucom Systems, PO Box 9758, Austin, TX 78766. CP

Multiplan, the first Mac product from someone other than Apple, **ttttt** is beginning to show age. Still a very capable basic spreadsheet with simple sorting, 63 columns by 255 rows, many built-in functions, other standard spreadsheet features. \$195. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. CP (Mar 86)

Parameter Manager is a data manager, incorporating integrated **ttttt** scheduling, statistics and graphics. It has solid spreadsheet, calendar and data base functions, and reports can be customized using other software. *Parameter Manager* can also import data from *Excel* or *Lotus 1-2-3* \$495. Structural Measurement Systems, 651 River Oaks Parkway, San Jose, CA 95134. NCP (Jul 87)

StatView 512+ is a very intuitive statistical analysis program with **ttttt** tools needed to understand any set of data. Holds data in a spreadsheet-like form. Full-featured, fast and accurate. Extremely wide range of analyses possible. Requires a minimum of 512K of RAM & 800K of disk space to operate. \$349.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP (Dec 86)

StatWorks is a general-purpose statistics package that is both **ttttt** powerful and easy to use. Handles all standard tests and procedures. Single variable and multivariate statistics are supported. \$125. Cricket Software, 30 Valley Stream Pkwy., Malvern, PA 19355. NCP (May 86)

Trapeze is a powerful spreadsheet program that functions through **ttttt** use of blocks. Blocks can contain the usual spreadsheet-type cells, rows or columns, text, pictures and any type of special graphics. Includes financial, conversion and transcendental functions. Early versions have exporting problems. \$295. Data Tailor, 1300 S. University Dr., Fort Worth, TX 76107. NCP (Jun 87)

GRAPHICS & DESIGN

CalendarMaker creates monthly calendars in a variety of formats. **ttttt** Users can incorporate their art and daily notes. Note files can be imported from a variety of DA calendars and outliners. Shareware and prelicensed versions. \$30. CE Software, 801 73rd St., Des Moines, IA 50312. NCP (Dec 86)

Chart can easily create area, bar, column, line, pie, scatter and **ttttt** combination charts. A total of 42 styles are provided. Limited to 100 data items (64 in a series) on a 128K Mac, approximately twice that on a 512K Mac. \$125. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. CP

ClickArt Special Effects is a *MacPaint* enhancement desk **ttttt** accessory. Allows the user to distort, stretch, rotate and use perspective on *MacPaint* documents. A necessary addition for all serious users of *MacPaint*. \$49.95. T/Maker, 1973 Landings Dr., Mountain View, CA 94043. NCP (Apr 86)

ColorPrint allows you to print *FullPaint*, *MacPaint*, *MacDraw* and **ttttt** *MacDraft* documents in color using the ImageWriter II or

NUMBER CRUNCHING

DesignScope is a construction kit for digital and analog circuits. **ttttt** Up to 254 components can be utilized in a single circuit, and

MINIFINDERS



ImageWriter I. Paint files set up as overlays are read into ColorPrint, and the program controls proper positioning registration. \$29.95. I/O Design, PO Box 156, Exton, PA 19241. NCP (Mar 86)

ComicWorks is a graphics wonder. Manipulate bit mapped graphics as independent objects, with up to 64 layers of matting. An airbrush, multiple page capacity, full-screen drawing, and two disks of gorgeous artwork round out this package. Needs better LaserWriter support. \$79.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. NCP (Nov 86)

Cricket Draw is an object-oriented drawing program that will produce stunning, high-quality output. Designed to print on PostScript-compatible devices, such as the LaserWriter. Making shadows and flowing fountain effects are just a point and click away. \$295. Cricket Software, 30 Valley Stream Pkwy., Malvern, PA 19355. NCP (May 87)

Cricket Graph easily generates 12 graph types. Multiple windows can be displayed. Graph prints in up to 8 colors with up to 16 patterns. Self-generating macro formatting. Switcher, HFS, LaserWriter and plotter compatible. \$195. Cricket Software, 30 Valley Stream Pkwy., Malvern, PA 19355. NCP (Jun 86)

Easy3D is a three-dimensional, solid modeling masterpiece. Four variable light sources, powerful sculpting tools and an exquisite user interface make this a must-have for graphics enthusiasts. Requires 512K+. Enabling Technologies, 600 S. Dearborn, Chicago, IL 60605. NCP (May 86)

EZ Draft is a high-level CAD application. Does things usually only found on minicomputer programs. Uses "pop-up" menus to supplement a full set of pull-down menus. Comes with an additional set of printer/plotter/monitor drivers. \$1995. \$500 for IEGS module. Bridgeport Machines, 500 Lindley St., Bridgeport, CT 06606. CP (May 87)

Fluent Fonts is a two-disk collection of fonts. Forty-nine different items are included. All install easily in user systems. Most are well executed and some are extraordinarily nice. This is a real bargain for font lovers. \$49.95. CasadyWare, PO Box 223779, Carmel, CA 93922. NCP

Fontastic is the best font editor now available for the Mac. Features a large editing window with a grid to make positioning easy. Select letters to edit by clicking on a matrix of the font. Allows scaling of existing fonts and previewing the various styles (italic, bold, etc.). \$49.95. Altsys, PO Box 865410, Plano, TX 75086. NCP (Dec 85)

Fontographer is a complex, but excellent laser font creator. The fonts created have 300 bits per inch resolution. The fonts are actually downloadable PostScript files. \$395. Altsys, PO Box 865410, Plano, TX 75086. CP

FullPaint is an expanded version of MacPaint. Features include full-screen drawing, multiple documents open simultaneously, brush editing, movable tool palettes, special text effects and much more. It fills the gaps left by MacPaint. \$99.95. Ann Arbor Softworks, 2393 Teller Rd., Newbury Park, CA 91320. NCP (Jun 86)

GraphicWorks is a powerful bit-mapped graphics program using easels for drawings, balloons for text and panels to contain both. Confusing interface and the manual could be improved. Requires 512K+. \$99.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. NCP (Apr 87)

Graphindex indexes MacPaint and MacDraw format graphics without removing them from their original documents. Indexed graphics are retrieved via the Graphindex DA. Can modify an indexed graphic without affecting the original. Best for bit-mapped (Paint format) images but the design is questionable and the execution imperfect. Requires 512K. \$124.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP (May 87)

GridMaker is a tool for artists who use perspective. The program automatically generates a series of three-dimensional plane sets that can be pasted into MacDraw. Sizes and viewing vantage point are easily modified. \$49. FolkStone Design, Inc., PO Box 86982, North Vancouver, BC V7L 4P6, Canada. NCP (Nov 86)

Illustrator is a professional-level graphics program. Unique and powerful drawing technique. Program uses templates for precise and detailed art work. Requires 512K+. \$495. Adobe Systems, 1870 Embarcadero Rd., Palo Alto, CA 94303. CP until registered. (Jul 87)

Japanese Clip Art is a two-disk set of extraordinary Japanese clip art. Consists of MacPaint documents and separate fonts. Volume I, Heaven, covers mythological subjects; Volume II, Earth, has secular subject matters. \$79.95 each volume; \$149.95 set. Enzan Hoshigumi, 310 Still River Rd., PO Box 131, Still River, MA 01467. NCP (Apr 87)

LaserFonts are new fonts for the LaserWriter. Users download them to their machines. Very high quality and very simple to use. Willamette looks like Avant Garde. MicroFonts provides tiny, expanded and condensed versions of the LaserWriter's own fonts. \$34.95 to \$44.95 each. Century Software, 2483 Hearst, #175, Berkeley, CA 94709. NCP

The Mac Art Dept. is a collection of over 150 graphic images ranging from foods to hands holding signs to borders. Best suited for letterheads, memos, other business use. \$39.95. Simon & Schuster, Computer Software Div., 1 Gulf & Western Plaza, New York, NY 10023. NCP (Mar 86)

Mac-a-Mug is an Identikit type program for creating faces from facial feature files. Uses scroll bars that are slow and jerky. Lots of creative fun. 512K+ Mac required. \$59.95. Shaherazam, PO Box 26731, Milwaukee, WI 53226. CP (Jul 86)

MacDraft is an object-oriented graphics program. It sports advanced features such as variable scaling, single degree rotation, complex arcs and a FatBits-like magnification mode. Best used to complement MacDraw, not replace it. \$239. Innovative Data Design, 2280 Bates Ave., Ste. A, Concord, CA 94520. NCP (Feb 86)

MacDraw is an object-oriented structured graphics program. Can be used to design forms, create presentation materials and do technical illustrations. Drawing sizes up to 8 feet by 10 feet are possible. Text can be easily generated and integrated in the graphics. \$295. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Nov 85)

MacModel is an economical 3D package with shading. Somewhat sketchy Mac interface, shading speed slow (but acceptable), grainy image resolution. On-line help screens are a welcome addition. Frequent updates and low price make this a reasonably good buy. \$40. A.P.P.L.E. CO-OP, 290 SW 43rd St., Renton, WA 98055. NCP (Aug 86)

MacPaint is the graphics program that started a whole new genre. Still the best freehand graphics tool. Version 1.5 supports 512K+ Macs and the LaserWriter. Multiple tools, patterns and features too numerous to describe. A work of art for artists. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Nov 85)

Mac3D 2.0 is a feature-laden 3D program with a MacDraw-like interface. PostScript-resolution shading with six variable light sources, user-definable tools, and many more features make this a graphic powerhouse. \$249. Challenger Software, 18350 Kedzie Ave., Homewood, IL 60430. NCP (Jan 87)

MapMaker produces maps and analyses of related geographical data. Additional data disks available. Documentation could be better. Requires 512K; second drive recommended. \$295. Select Micro Systems, 40 Triangle Ctr., Yorktown Heights, NY 10598. NCP (Jan 87)

MGMS: Professional CAD for Macintosh offers more than 200 functions. Very complete, capable program. Powerful tools like Groups, Dimension, Libraries, etc. are standard. Sometimes confusing to follow—designed for experienced, professional CAD user, not the novice. Full plotter support. Good manual and tech support. Requires 512K+. \$799. Micro CAD/CAM, 5910 Noble, Van Nuys, CA 91411. CP (Jun 87)

MockPackage+ is a set of extremely powerful DAs. Includes a text editor, text printer (supports LaserWriter), charter, terminal and EZmenus. HFS compatible. \$35. CE Software,

SOFTWARE

BUSINESS & PRODUCTIVITY

Ann Arbor		Software Ventures		DiskIt	\$59.95
Full Paint	\$59.95	Microphone	\$59.95	Other Suprmac Products Available	
Fullwrite Professional	\$CALL	Springboard		Call for Price!!	
Batteries Included		Certificate Maker	\$CALL	Target Software	
Battery Pack	\$27.00	Suprmac Software		Memorandum	\$69.95
Thunder	\$29.00	Super Spool	\$48.95	TMaker	
Blyth Software		Super Laser Spool	\$119.95	Write Now	\$99.00
Omnis 3+	\$279.00				

BPI		GAMES & EDUCATIONAL		Mindscape	
General Accounting	\$219.00	Avalon Hill		Balance of Power	\$30.00
Central Point		MacPro Football	\$29.95	Crossword Magic	\$32.95
Copy II Mac	\$24.00	Broderbund		Deja Vu	\$29.00
Chang Labs		The Toy Shop	\$39.95	King of Chicago	\$37.95
Rags to Riches	\$259.00	Print Shop	\$49.95	SAT	\$45.00
Cricket		Electronic Arts		Uninvited	\$36.95
Cricket Draw	\$159.95	Autoduel	\$33.95	P.C.A.I.	
Cricket Graph	\$129.95	Chessmaster 2000	\$29.95	Mac Golf	\$39.95
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801-73rd St., Des Moines, IA 50312. NCP (Mar 87)

PageMaker is an advanced layout and makeup program. Can easily create multiple page documents. Output is optimized for LaserWriter. Great documentation. \$495. Aldus, 411 First Avenue South, Seattle, WA 98104. CP (Jun 86)

Phoenix 3D is an economical 3D drawing package, with features that belong in a more expensive program. Multiple light sources, fine object placement and orientation control, and a good selection of shapes. \$49.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP (Oct 86)

PictureBase is a program and accompanying desk accessory for organizing MacPaint and MacDraw files. Graphics are organized into libraries, and can be searched for by keywords. \$99. Symmetry Corporation, 761 E. University, Mesa, AZ 85203. NCP (Jun 86)

Portfolio: Designs for Newsletters provides over 20 templates for 2-page newsletters with pre-set columns, headlines, graphics and captions. Documentation provides excellent tutorial in page design. Includes DA called Wyzzy that optimizes screen fonts and copyfit. Requires 512K+. Page-Maker. \$79.95. Aldus Corp., 411 First Avenue South, Suite 200, Seattle, WA 98104. NCP (May 87)

The Print Shop makes it easy to create greeting cards, banners, letterhead and signs in minutes. Offers full access to fonts, styles, graphics. Can pull images from MacPaint files or off the Clipboard. \$59.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP (Dec 86)

Ragtime is an "Integrated Page Processor" with text, graphics and built-in spreadsheet. Flow text automatically from one frame to another. Spreadsheet has a full set of functions. Excellent, easy to use program. Requires 512K+. \$395. Orange Micro, 1400 N. Lakeview, Anaheim, CA 92807. NCP (Apr 87)

Ready, Set, Go! 3 is the newest of the Ready, Set, Go! page layout programs. New version offers power word processing and excellent control for text and graphics placement. Poor LaserWriter printing with complex pages. \$395. Letraset, USA, 40 Eisenhower Dr., Paramus, NJ 07652. NCP (Jul 87)

Slide Show Magician 1.3 is useful for creating full screen audiovisual presentations on the Mac. Frame branching, improved editing capabilities, external cassette recorder synchronization and digitized sound capabilities make this much more powerful than the original. \$59.95. Magnum, 21115 Devonshire St., Chatsworth, CA 91311. CP (Mar 86)

Space Edit is a 3-D CAD program. Display shows top, front, side and axonometric views of an object, all at once or one at a time. Has standard CAD features plus zoom, exploded view, animated flyover. Suppression of hidden lines is very slow. Requires 512K+. \$625. Abvent, 9903 Santa Monica Blvd., Suite 268, Beverly Hills, CA 90212. CP (Jul 87)

Storyboarder produces working animated storyboards for use in film and video production. Imports graphics from MacPaint; allows screen masking to simulate television, 35mm or 70mm screen widths; allows limited animation and special effects. \$495. American Intellware, PO Box 6980, Torrance, CA 90504. CP (Nov 86)

SuperPaint is a powerful, easy-to-use graphics program with all the best features of MacPaint and MacDraw—and then some. Among the new features, LaserBits provides 300 dpi magnification and there are 40 editable brush shapes. Requires 512K+. \$99. Silicon Beach, 9580 Black Mountain Rd., PO Box 261430, San Diego, CA 92126. NCP (Feb 87)

World-Class Fonts! comes in two volumes of three disks each. Includes all the Mac the Knife fonts and a lot more, including 2 useful utilities. This is now the best collection of ImageWriter fonts available. Each volume: \$39; both volumes: \$59. Dubl-Click Software, 18201 Gresham St., Northridge, CA 91325. NCP (Dec 86)

hard disk to run it. Allows users on the network to protect things from other users on the folder level. \$799. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (May 87)

HomePak is a package consisting of HomeTerm, an excellent simple telecommunications program with strong macro features; HomeFind, an electronic filer as bad as HomeTerm is good; and Apple's Edit, a simple, non-HFS-compatible text-file editor. \$49.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. NCP (Aug 86)

InBox is an easy to use mail system. It's called up from a desk accessory. Has a very slick interface. Current version requires a dedicated Mac to run as storage for the mail. \$350 for starter set which includes one Administrator disk and three Connection disks. Additional Connections cost \$125 each. Think Technologies, 135 South Rd., Bedford, MA 01730. NCP (May 87)

InTalk comes with its own communications command language able to do unattended sessions. Supports Xmodem and MacBinary. Has a macro key function. Many sample set up documents and command language files provided. \$195. Palantir, 12777 Jones Rd., Houston, TX 77070. NCP (Prem)

InterMail is an electronic mail system that runs under AppleTalk. Supports file transfers across the mail system. Full on-line help facility. Also includes "While you were out" messages. Desk accessory based. Prices determined by number of users licensed. One to four users, \$299.95; 5 to 10 users, \$499.95; 11 to 20 users, \$749.95; 21 or more users, \$949.95. Interactive Network Technologies, 20 Amy Circle, Waban, MA 02168. NCP (May 87)

MacTerminal provides basic telecommunications and terminal emulation for the Mac user. Doesn't have macros nor any sort of auto redial/auto logon capability. Best for those needing faithful VT100 or IBM 3278 emulation—it is superb at those. \$99. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Prem)

Microphone is a high-powered terminal program that's easy enough for novices. Very powerful command language allows full automation of communications, if desired. \$149. Software Ventures, 2907 Claremont Ave., Berkeley, CA 94705. NCP (Jun 86)

Red Ryder is a full-featured telecommunications program that supports MacBinary, Xmodem and Kermit. Remote service procedures, auto procedure writer and keyboard macros allow automation of many operations. It is shareware and a real bargain. \$40. The FreeSoft Corp., 10828 Lacklink, St. Louis, MO 63114. NCP (Jun 86)

Smartcom II balances power and ease of use. Capable of unattended operation and has a very powerful command language. Supports MacBinary, Xmodem, and Hayes Verification protocols. The large screen buffer can easily be archived. \$149. Hayes, 5923 Peachtree Industrial Blvd., Norcross, GA 30092. NCP (Prem)

Telescope is the power telecommunicator's terminal program. Can be configured to emulate any terminal. The documentation does not adequately explain the many features. \$125. Mainstay, 5311B Derry Ave., Agoura Hills, CA 91301. NCP (Jun 86)

TOPS is a file server that is designed to network computers with different operating systems. The current system will support Macs, MS-DOS compatibles and UNIX. Access to files and subdirectories is transparent to the user, they appear as Mac folders. Only handles ASCII or Text files. \$149 for Mac version. \$389 for PC's (comes with add-on card). Centram Systems West, 2560 Ninth St., Berkeley, CA 94710. Serial number protected. (May 87)

VersaTerm features include DEC VT100 and VT52, Tektronix 4014 graphics terminal and Data General DG200 emulation. Supports Xmodem and MacTerminal Xmodem protocols and MacBinary. VersaTerm is easy to use and well documented. \$99. Peripherals, Computers & Supplies, 2457 Perkiomen Ave., Mt. Penn, PA 19606. CP (Prem)

COMMUNICATIONS

AppleShare is the long awaited file sharer from Apple. Software-based, AppleShare requires you to dedicate a Mac and a

MINIFINDERS



VersaTerm-Pro is a very powerful terminal program with several special features. Does one of the best VT100 emulations available and specializes in high-quality Tektronix 4014 and 4105 emulation. A pro's tool. Requires 512K+. \$295. Peripherals, Computers & Supplies, 2457 Perkiomen Ave., Mt. Penn, PA 19606. NCP (Apr 87)

WORD PROCESSORS

Document Compare allows users to compare any two MacWrite 4.5, ASCII or MDS documents. Differences in spelling, punctuation, formatting and wording are detected. Documents can be printed out with differences highlighted. \$99. Legalware, 33 Young St., Toronto, Canada M5E 1S9. NCP (May 86)

Document Modeler can automate much of a professional office's correspondence. Comes in two parts: *Template Maker* and *Document Maker*. Initial set-up requires time and is complex. \$299.95. Legalware, 33 Young St., Toronto, Canada M5E 1S9. NCP (Mar 87)

Expressionist is a powerful DA that allows you to create complex mathematical equations from within an application. Equation manipulation has never been easier. \$79.95. Allan Bonadio Associates, 1579 Delores St., San Francisco, CA 94110. NCP (Jul 87)

Laser Author is a high-powered, technically oriented word processor. Good math setting capability. Has style sheets, word count and page layout capability. \$199.95. Firebird Licenses, PO Box 49, Ramsey, NJ 07446. NCP (Mar 87)

Liberty Spell Checker is a fast, effective interactive checker. The dictionary is smaller than average, but well chosen. Unfortunately, it has a few misspelled words. \$59.95. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP (Oct 86)

MacGAS is a DA spelling checker with both a small and extended dictionary. Its best point is the excellent thesaurus, provides antonyms & glossary. A slow checker. \$99. EnterSet, 2380 Ellsworth, Berkeley, CA 94720. CP (Oct 86)

MacLightning is an interactive spelling checker in desk accessory form. Text can be checked on the fly or by selection. Works within many applications, and options include a thesaurus, medical and legal dictionary. \$99.95. Target Software, 14206 Southwest 136th St., Miami, FL 33186. NCP (Oct 86)

MacProof is a grammar, style and spelling checker that's like having your own personal copy editor. Grammar rules are fixed, and you may not agree with the choices. The program only suggests corrections, it doesn't make them for you. And the checking process can be slow if your document is long. \$195 for standalone version; \$2500 for networked version. Automated Language Processing Systems, 190 West 800 North, Provo, UT 84604. NCP (Apr 87)

Macspell+ (version 1.10) is a spelling checker that installs as a desk accessory. Works easily with MacWrite 4.5 and 2.2 and Word, but has some drawbacks. New version just available. Requires 512K+, two drives or hard disk. \$99. Creighton Development, 16 Hughes St., Irvine, CA 92718. NCP

MacWrite is the basic Mac word processor. While it doesn't have every bell and whistle, it is more than adequate for most users. Features include global search and replace, page numbers indicated in the scroll bar and excellent LaserWriter compatibility. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

MindWrite is an outliner-based word processor of considerable power. Besides outlining, it allows multiple documents and multiple selections. Excellent if you like to outline your writing first. \$295. MindWork Software, 100 Pacific St., Monterey, CA 93940. NCP (Mar 87)

QuickWord is a word processing accessory that adds sophisticated glossaries to MacWrite. Simple to install and use, yet powerful and efficient. \$49.95. EnterSet, 2380 Ellsworth, Berkeley, CA 94720. NCP

Scriptor is designed for producing standard format scripts. Starts with a Word document. As you change your Word document,

Scriptor will reformat, renumber and reprint the script. Supports LaserWriter and daisywheel printers. \$295. Screenplay Systems, 348 E. Olive Ave., Suite F, Burbank, CA 91502. NCP (May 87)

Spelling Champion is a fast and accurate batch-type spelling checker. Backup feature allows you to undo corrections in a paragraph. Works only with MacWrite 4.5. \$39.95. Champion Software, 5201 South Hill Dr., Madison, WI 53705. NCP (Oct 86)

Spellswell is an effective and powerful standalone spelling checker. It has many advanced features such as capitalization and homonym checking and comes with a large, well-chosen dictionary. Very good dictionary, god value. \$74.95. Working Software, Inc., 321 Alvarado, Ste. H, Monterey, CA 93940. NCP (Oct 86)

Thunder! is one of the best spelling checkers around. Has a 50,000-word dictionary. Features Learned Words (a superb glossary) and statistics. A very fast DA, it works interactively and in selection mode. Requires 512K+. \$49.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. NCP (Dec 86)

Word 3.0 is the most feature laden word processor now available. Has a spelling checker, hyphenation, some page layout, style sheets and more. Also has Microsoft's somewhat unusual view of what the Mac interface is. Requires 512K+ and 1200K+ of storage. \$395. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. NCP (Mar 87)

WriteNow for the Macintosh has many of the features of MacWrite and then some, including the ability to work in columns. Has built-in spelling checker with 50,000-word dictionary. \$175. T/Maker, 1973 Landings Dr., Mountain View, CA 94043. NCP (Mar 87)

ORGANIZATIONAL TOOLS

Acta is an outline processor in desk accessory format. It has practically all the power of a standalone program, and then some. Can save files as Acta outlines, MacWrite or text files. A must-have for those who do outlining. \$59.95. Symmetry, 761 E. University Dr., Mesa, AZ 85203. NCP (Jul 86)

Callope is a new type of outlining program. Chunks of information are manipulated as small "light bulbs" containing text. Related elements can be graphically connected, and their text information viewed in hierarchical order. Text files can be created for MacWrite editing. \$99. Innovation, PO Box 1317, Los Altos, CA 94023. NCP (Sep 86)

DecisionMap organizes data to facilitate decision making. Unique weighting abilities make this a powerful tool. The decision analysis process is long and sometimes complex, but never difficult. \$145. SoftStyle, 7192 Kalaniano'le Hwy., Honolulu, HI 96825. CP

Design is a powerful organizational tool. It goes beyond mere flowcharting. Complex, detailed program aimed at software pros. \$200. Meta Software, 55 Wheeler St., Cambridge, MA 02138. NCP (Apr 87)

Guide allows you to "cross reference" from within a document using hypertext. You can set up words or sections of the document so that double-clicking brings up explanatory material, graphics and other useful items. The word processing and formatting functions, however, are limited. \$135. OWL International, 14218 NE 21st St., Bellevue, WA 98007. NCP (Apr 87)

MacProject allows a user to plan and track a project from beginning to end. Uses CPM to produce schedules with start and finish dates for each task. Can report on resource interdependencies and generate all needed printed reports. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Mar 86)

MacSpec is a specification writing tool, a cross between word and outline processors. Can automatically number and indent headings, and renumber everything when lines are moved. Text under headings is handled and formatted as though in a

MINIFINDERS



simple word processor. HFS-compatible. \$199.95. LM Software, PO Box 93, Belmont, CA 94002. NCP (Oct 86)

Micro Planner Plus is a great project management system. **★★★★** Outstanding analysis capability. Memory based, making it much faster than the original. Includes a font menu. Even saves reports out in MacDraw format for further work. Uses standard print drivers. HFS compatible. \$495. Micro Planning International, 235 Montgomery St., San Francisco, CA 94104. NCP (Dec 86)

MORE is an incredibly powerful outline processor with gobs of **★★★★** great features: instant charts, math capabilities, multiple windows, font and style control, templates and more. Prints outlines in any of several standard formats, even in color. Requires 512K+. \$295. Living Videotext, 117 Easy St., Mountain View, CA 94043. NCP (Sep 86)

PowerPoint is a comprehensive presentation creation tool. Handles 35mm slide and overhead transparency formats. Good graphics and text editing capabilities. Requires 512K+. \$395. Forethought, 250 Sobrante Way, Sunnyvale, CA 94086. NCP (Aug 87)

ThinkTank 512 is a very fast and intuitive organizational tool. Full **★★★★** keyboard control is possible. Can store and paste graphics into outlines. Slide show features allows high-quality presentations to be created. Good report formatting and printing capability. \$195. Living Videotext, 2432 Charleston Rd., Mountain View, CA 94043. CP (Jan 86)

Vollal is a full-featured outliner in desk accessory format. Headlines can be edited like normal text. Reads and writes text files, Word, MacWrite, ThinkTank and MORE documents. An excellent value. Requires 512K+. Mac XL not supported. \$99.95. Target Software, 14206 SW 136th St., Miami, FL 33186. NCP (Mar 87)

DESK MANAGERS

BatteryPak is a set of 9 handy desk accessories including **★★★★** scientific and RPN calculators, a background text file printer and a 250-page note pad with search and phone dialing capabilities. \$49.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. NCP (Dec 85)

Executive Office is a jack of all trades office application. Good **★★★★** data base, word processing, graphics and minispreadsheet. Available on 400 or 800K disks; get the 800 if you can. \$249.99. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP (Mar 87)

Front Desk lets small businesses and offices easily keep track of **★★★** personnel schedules, activities and payments. The program can keep track of up to 15 employees, functioning as a day-, week- and month-at-a-glance calendar. \$149.95. Layered, 85 Merrimac St., Boston, MA 02114. NCP (Dec 85)

My Office lets you handle your files and papers in much the same **★★★★** way you did before you got a computer. Excellent use of graphic symbols makes this program the easiest to use of its type. \$129.95. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP (Prem)

Quickset is a set of desk management and organizational tools **★★★** that can be used as desk accessories or applications. Functions include note filer, card filer, calendar, phone dialer, financial and statistical calculators and a file encryptor. \$49.95. EnterSet, 2380 Ellsworth, Berkeley, CA 94720. NCP (Dec 85)

SideKick 2.0 beefs up original SideKick DAs and adds two major **★★★★** new ones—MacPlan, (formerly Click-On Worksheet) and Outlook, a full-featured outliner. Also comes with seven applications to support the desk accessories. \$99.95.

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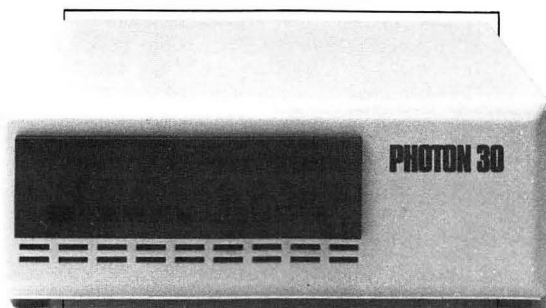
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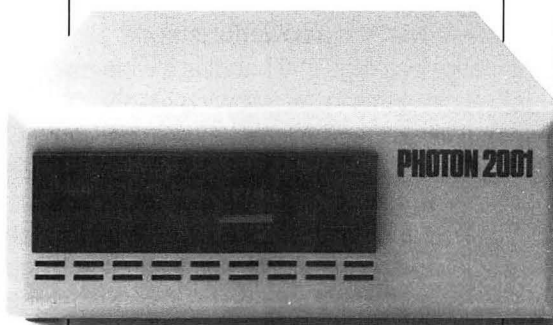
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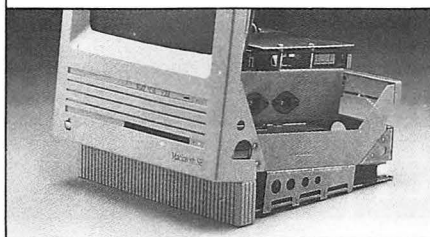
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MINIFINDERS



Borland International, 4585 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Jun 87)

Smart Alarms is the best reminder system for the Mac. Easy to use, versatile, and, well, smart. This self-running DA automatically reminds you of anything you enter into its Reminder file, giving you a wide range of useful advance warning options. \$49.95. Imagine Software, 19 Bolinas Rd. Fairfax, CA 94930. NCP (Oct 86)

Top Desk is a set of 7 self-installing (and self-removing) DAs. Menu Key adds Command key sequences to programs. View allows looking at and moving data between up to 8 MacWrite documents, BackPrint, Touch 'n' go, Blank, Encrypt, and Launch. \$59.95. Cortland Computer, PO Box 9916, Berkeley, CA 94709. NCP (May 86)

UTILITIES

Accessory Pak 1 is a set of useful applications and utilities. Paint Cutter alone is worth the price. That program allows users to browse and manipulate full page MacPaint documents. \$39.95. Silicon Beach, PO Box 261430, San Diego, CA 92126. NCP (Nov 85)

Copy II Mac does efficient sector and bit copies and in its latest version can back-up virtually all Mac software. Features graphic displays of copy progress. Comes with MacTools, a multi-use utility. \$39.95. Central Point Software, 9700 SW Capitol Highway, Portland, OR 97219. NCP (Apr 86)

DiskExpress unfragments disk volumes by reorganizing data into continuous sectors and arranging files to slow down further fragmentation. Works with MacServe, floppy drives and most hard drives. Requires 512K+. \$39.95. ALSoft, Box 927, Spring, TX 77383. NCP (Feb 87)

DiskFit is a utility for backing up and restoring hard disk files. Creates a "SmartSet" of floppy disks so incremental back ups only update files modified since the last back up procedure. Backs up to floppies or another hard disk. Requires 512K+. \$74.95. SuperMac Software, 295 N. Bernardo Ave., Mountain View, CA 94043. NCP (Jun 87)

Disk Librarian is an easy to use shareware cataloguing program. Criteria selection option for generating subcatalogs. Requires 512K+. \$20. Little Bit, 469 Edgewood Ave., New Haven, CT 06511. NCP (Apr 87)

Disk Ranger is a speedy cataloguing program that doubles as an efficient labelmaker. Works with regular and hard disks. Can catalog HFS systems. \$49.95. Mainstay, 5311B Derry Ave., Agoura Hills, CA 91301. NCP (Mar 86)

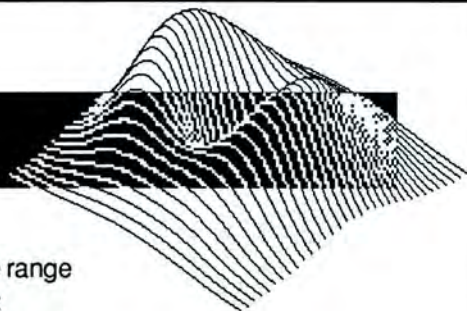
DiskTop 2.0 is a desk accessory Finder replacement of extraordinary power and ease of use. Comes with the useful Laser-Status DA and Widgets application. The extras alone are worth the price. Requires 512K+. Upgrade from version 1.0, \$7; \$10 with new manual. \$39.95. CE Software, 801 73rd St., Des Moines, IA 50312. NCP (Aug 87)

Dubl-Click Calculator Construction Set lets users design personalized calculators with a variety of standard and special functions. Finished calculators can be saved as installable desk accessories or as clickable applications. \$59. Dubl-Click Software, 18201 Gresham St., Northridge, CA 91325. NCP (Apr 86)

Fedit Plus is the file and disk editor for everyone, from newest Mac owner to oldest. It can do more for your disks and files than any other application. Can recover deleted MFS files. If you own a Mac, get it. HFS-compatible. \$49.95. MacMaster Systems, 939 E. El Camino Real, #122, Sunnyvale, CA 94087. NCP (Sep 86)

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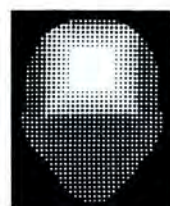


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FlashBack is a utility to backup HFS hard disks onto floppies. A unique graphic display of the HFS directory facilitates file selection. The program can handle files larger than 800K. \$59.95. Mainstay, 5311B Derry Ave., Agoura Hills, CA 91301. NCP (Nov 86)

Glue adds a print-to-disk capability to many programs. *ImageSaver* installs as printer driver. *Viewer* allows copying and printing of *Glue* files. Handy utility for desktop publishers. \$59.95. Solutions International, Box 989, Montpelier, VT 05602. NCP (Dec 86)

Hard Disk Util uses patch files to allow users to mount and run specified programs on their hard disks. The list of patches is constantly expanding. \$89.95. FWB Software, 2040 Polk St., San Francisco, CA 94109. NCP

HFS Backup ranks as one of the preferred hard disk backup utilities. Backup by file/folder or last changes. Backup specifications can be saved as templates. Good graphic interface. Reliable program. \$49.95. PCPC, 6204 Benjamin Rd, Tampa, FL 33614. NCP (Dec 86)

HFS Locator Plus is the essential HFS desk accessory. It can search for a file by name or date of creation, create folders, move files from one folder to another, set a program to launch while in an application. \$39.95. PBI Software, 1163 Triton Dr., Foster City, CA 94404. NCP (Sep 86)

LabView automates the repetitive task of controlling laboratory instruments. Rich icon-based language allows flow chart type programming, but response is slow. Requires 512K+. \$1995. National Instruments, 12109 Technology Blvd., Austin, TX 78727. NCP (Aug 87)

LaserServe is a printer spooler for AppleTalk networks. After installation all operations done via a desk accessory. Works with both MacServe and TOPS. Requires 512K+ and 800K

drive or hard disk. \$95 per node. Infosphere, 4730 SW Macadam Ave., Portland, OR 97201. NCP (Feb 87)

Mac Disk Catalog II is a utility that will quickly organize a moderate size disk library. Easy to use with powerful reporting and label-making features. \$49.95. New Canaan MicroCode, 136 Beech Rd., New Canaan, CT 06840. NCP (Dec 85)

MacFlow is a design tool created for programmers. Traditional flowcharting symbols are linked together, and a symbol can be connected to a separate flowchart file. Symbols can't be edited, precluding using *MacFlow* for other applications. \$125. Mainstay, 5211-B Derry Ave., Agoura Hills, CA 91301. NCP (Apr 87)

MacInUse tracks time spent in applications and saves info as text files. Installs on any disk, works in background. MFS, HFS compatible. Extremely valuable for tax purposes, client records, etc. \$49. SoftView, 4820 Adohr Lane, Camarillo, CA 93010. NCP (Jan 87)

MacLabeler lets users instantly index and print labels for all the disks in a burgeoning collection. Choose border type and orientation of your label; index by folder or document. Starter set of labels is included. \$49.95. Ideaform, PO Box 1540, Fairfield, IA 52556. NCP (Prem)

MacNosy is a global disassembler. A very advanced user can use this program to look into the code of virtually any program. This advanced tool can take you places no other Mac program could dream of going if you have the skill to guide it. The documentation is sparse. For pros only. \$90. Jasik Designs, 343 Trenton Way, Menlo Park, CA 94025. NCP

Mac II lets you run Apple II software on the Mac. Emulation speed is only 35 to 45 percent of a real Apple II, so graphics especially suffer. Games also run slow. Runs AppleWorks

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MINIFINDERS



(Apple II integrated software). Good for ex-Apple II owners who have large software collections. \$149.95. Meacom, PO Box 272591, Houston, TX 77277. CP

MacSafe is a data file security program that allows you to place multiple files into a "safe," and then you can further protect them through two types of encryption (including DES). Flexible and very easy to use. Allows for installation on hard disk. \$69.95. Kent Marsh Limited, Inc., 1200 Post Oak Blvd., Houston, TX 77056. CP (Mar 87)

MacServe converts a Mac and a hard disk into a disk and print server. Uses the AppleTalk network and is easily hooked up. Users can partition the hard disk into multiple volumes. Runs in the background, so users can work on all machines in the network. \$250. Requires 512K+ or Mac XL. Infosphere, 4730 SW Macadam, Portland, OR 97201. CP

MacZap is a three-part disk and memory utility. It can be used to recover some damaged files and disks, compare disks, analyze disk structure and make back-up copies of most disks. \$60. Micro Analyst, 2505 Roxmoor, Austin, TX 78723. NCP (Jan 86)

Menu Fonts displays the names of fonts in the actual font instead of standard Chicago. Won't work with programs that have a nonstandard Font menu or no Font menu. Comes with LockOut, a utility that gives password access to your Mac, and FastFormatter, a utility for formatting multiple blank disks. Requires 512K+. \$15. Beyond Software, 3865 N. Oracle Rd., Tucson, AZ 85705. NCP (Jul 87)

myDiskLabeler is an excellent label maker. It can read directories, and use large or small icons or anything desired. Comes with 54 precut labels. \$44.95; with color printing ability (on the ImageWriter II), \$54.95; with PostScript font capability (on the LaserWriter), \$64.95. Williams and Ma-

cias, PO Box 19206, Spokane, WA 99219. NCP (Aug 87)

Ncryptor is a simple, safe program that lets users password their files. The same program is used for encoding and decoding. This is the best product in its category. \$39.95. Mainstay, 5311B Derry Ave., Agoura Hills, CA 91301. NCP

Packit III is an essential utility. Primarily used to temporarily "glue" files together, it can also compress and encrypt. Feeware. \$10. \$10 for printed manual. Harry R. Chesley, 1850 Union St., San Francisco, CA 94123. NCP (Jan 87)

Printworks for the Mac is a comprehensive software-based dot-matrix printer control system. Optimizes printing from different applications. Easy to use. Requires 512K+. \$75. SoftStyle, 7192 Kalaniana'ole Highway, Honolulu, HI 96825. NCP (Aug 87)

Programmer's On-line Companion puts an abridged version of *Inside Macintosh* in your system for reference. Simply read the text or transfer some or all of it directly into your normal editing window. Non-Macish interface makes the program confusing, somewhat difficult to use. \$34.95. Addison-Wesley, Route 128, Reading, MA 01867. NCP (Jul 87)

Quick & Dirty Utilities, Volume One is a disk chock full of handy programs. Several desk accessories including a menu bar clock and a terminal are on the disk. \$39.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP (Nov 85)

RamSnap is a RAMdisk and disk cache in one easy to use package. Can store multiple configurations as files. Good product but a little pricey. \$59.95. Dove Computer Corp., 1200 North 23rd St., Wilmington, NC 28405. NCP (Jun 87)

Stepping Out is a software virtual screen extender. Lets you create a screen as large as memory allows. 9" screen is a "view" to larger screen. Also has reduction features. Amaz-

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ing. \$95. Berkeley System Design, 1708 Shattuck Ave., Berkeley, CA 94709. NCP (Jun 87)

SmartScrap and The Clipper are two useful desk accessory utilities for graphics work. *SmartScrap* is a major enhancement to the standard Scrapbook DA. *The Clipper* provides you with a transparent Clipboard window, allowing you to resize or crop a graphic. \$59.95. Solutions International, PO Box 989, Montpelier, VT 05602. NCP (Jul 87)

Switcher is Andy Hertzfeld's contribution to Mac productivity. This program lets users run several programs at once (up to 8 on a 1-megabyte or larger machine). Switching between the programs is near instantaneous. Requires 512K+. \$19.95 from Apple, free from BBSs, included with some third-party applications. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

SuperLaserSpool is a LaserWriter spooler. Very fast because it does conversion to PostScript in the background, but doesn't print a faithful rendition of *PageMaker* documents as a result. \$149.95 single user, \$395.95 for up to five users on one network. SuperMac Software, 950 N. Rengstorff Ave., Mountain View, CA 94043. NCP (Jun 87)

Tempo is a desk accessory that allows most Mac commands to be intelligently recorded and played back. Capabilities include pausing, conditional branching and macros that work between applications. \$99. Affinity Micro Systems, 1050 Walnut St., Boulder, CO 80302. NCP (Jul 86)

TMON is the debugger for the Mac. This isn't open to question. *TMON* is simply the best. Comes with the latest version of Darin Adler's Extended User Area. \$100. ICOM Simulations, 626 Wheeling Rd., Wheeling, IL 60090. NCP

TurboCharger is a RAM cache utility for 512K and larger. Works on most hard disks and Mac XLs. Dramatically improves any

program you use that heavily accesses the disk, like *MacPaint*. \$69.95. Nevins Microsystems, PO Box 1249, Capitola, CA 95010. NCP (Jan 87)

Turbo Download is a desk accessory designed specifically to increase the speed of Xmodem data transfers from national databases to your Mac. Speed increases range upward from 50% to over 300% at 2400 baud. \$39.95. Mainstay, 5311B Derry Ave., Agoura Hills, CA 91301. NCP

Twelve-C Financial Desk Accessory brings all the power and functionality of a Hewlett-Packard 12C programmable calculator to your desktop. Can be programmed. \$39.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP

II in a Mac is a graphically oriented Apple II emulator with unique features, such as text and graphics copy from Apple screen to Mac Clipboard. Suffers speed problems associated with "virtual machine" emulation. \$69. Micro-W Distributing, 1342B Route 23, Butler, NJ 07405. CP

TypeNow is a desk accessory that allows the Mac and ImageWriter to function as an electronic typewriter. Type can be placed into blanks in complex forms easily. Typing can be recorded and played back. \$39.95. Mainstay, 5311B Derry Ave., Agoura Hills, CA 91301. NCP (Jan 86)

LANGUAGES

AAIS Prolog is a fast standard Prolog with excellent debugging and error handling. Good for serious program development. Documentation is not as good as the program. \$150. Advanced AI Systems, PO Box 39-0360, Mountain View, CA 94039-0360. NCP (Mar 87)

Aztec C is a C language that will appeal to users with a UNIX background. It uses many UNIX conventions and in the more

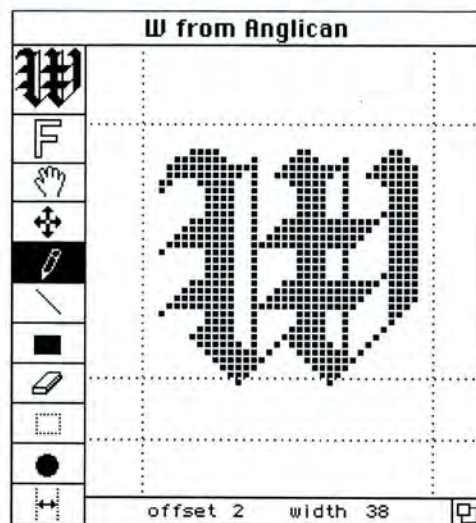
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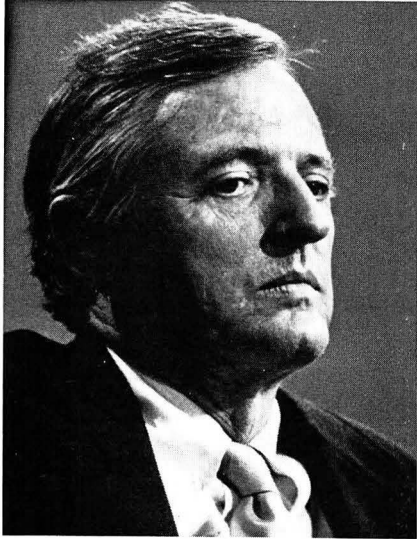


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expensive versions comes with standard UNIX utilities, including the VI editor. \$75 beginners, \$199 basic system, \$299 development system, \$499 commercial system. Manx Software Systems, PO Box 55, Shrewsbury, NJ 07701. NCP (May 86)

Basic Compiler is the long awaited compiler for Microsoft BASIC.

⚡⚡⚡ The interface is unfriendly, but it gets the job done. Compiled programs run faster, but you can still tell they are written in BASIC. \$99. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. NCP (May 87)

ExperCommon Lisp is a LISP development system. Not fully ⚡⚡⚡ Common LISP compatible, but creates good compiled code and standalone applications. Requires 1M+. \$995. Expertelligence, 559 San Ysidro Rd., Santa Barbara, CA 93108. NCP (Aug 87)

ExperLISP is a useful, programming language for high-level ⚡⚡⚡ programmers. The more you use it, the more you'll figure out about it. \$495. Requires 512K+. Expertelligence, 559 San Ysidro Rd., Santa Barbara, CA 93108. CP

ExperLogo is a version of the popular teaching language, Logo. ⚡⚡⚡ Features three-dimensional graphics using "bunnies" rather than usual "turtles." Very speedy, smooth program. Comes with an excellent manual. \$149.95. Expertelligence, 559 San Ysidro Rd., Santa Barbara, CA 93108. CP

ExperProlog II is a Prolog based on the new Prolog II standard. ⚡⚡⚡ Has the ability to handle infinite trees and allows user-defined functions that operate conditionally. Documentation is not the best and Mac interface is nonstandard. \$495. Expertelligence, 559 San Ysidro Blvd., Santa Barbara, CA 93108. NCP (Mar 87)

Lightspeed C provides an integrated environment for the develop- ⚡⚡⚡ ment desk accessories, applications and code resources in

C. The editor works with the compiler for searches and file management. Can get awkward if you need something outside the environment. \$175. Think Technologies, 135 South Rd., Bedford, MA 01730. NCP (Apr 87)

Lightspeed Pascal is a fast, powerful development system for ⚡⚡⚡ Pascal programming. Fully integrated Mac-like environment. Requires 512K+. \$125. Think Technologies, 135 South Rd., Bedford, MA 01730. NCP (Feb 87)

LPA MacProlog is a flexible program that supports several Prolog ⚡⚡ syntaxes, producing a rich programming environment. However, the program's implementation and documentation are both poor. \$295. Programming Logic Systems, 31 Crescent Dr., Milford, CT 06460. NCP (Mar 87)

MacAsm is a software development system that allows programs ⚡⚡⚡ to be written in assembly language. Programmers can assemble, edit and test software, and an integrated resource compiler lets independent applications run from their own icons. \$125. Mainstay, 5311B Derry Rd., Agoura Hills, CA 91301. NCP

Mac C is a good, highly Mac-oriented implementation of this ⚡⚡⚡ popular development language. Assembler and linker included. \$425. Consulair, 140 Campo Dr., Portola Valley, CA 94025. NCP

MacExpress is a development environment or shell. Programmers ⚡⚡⚡ use it to save time and effort when developing standalone applications for the Mac. \$195. ALSoft, PO Box 927, Spring, TX 77383. NCP (Feb 86)

MacForth Plus is an excellent implementation of the popular Forth ⚡⚡⚡ programming language. New, reduced price, \$199. Creative Solutions, 4701 Randolph Rd., Rockville, MD 20852. NCP

Mach II is a multitasking implementation of Forth that allows local ⚡⚡⚡ variables and text files. Can create standalone applications.

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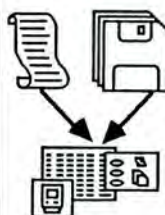


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Several windows can be up with different operations in each, operating concurrently. Execution is fast. \$99.95. Requires 512K. Palo Alto Shipping, PO Box 7430, Menlo Park, CA 94026. NCP (Apr 86)

Macintosh 68000 Development System is a fairly traditional assembly language package. The two-disk set provides an editor (*Edit*), an assembler, a linker, an executive and a resource compiler. \$195. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

Macintosh Pascal is Apple Computer's version of this very popular programming language. Loaded as it is with innovative teaching features, this interpreter is an excellent introduction to Pascal. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. CP

MacScheme + Toolsmith is a Mac version of Scheme, a LISP dialect. Beautiful implementation, marred only by relative slowness compared to similar products. Get *Toolsmith*. Requires 1M+. \$250. Semantic Microsystems, 4470 S. W. Hall, Beaverton, OR 97005. NCP (Aug 87)

Megamax C is an easy to use, full version of C. Has a compiler, linker, disassembler, editor and much more. Good for beginners. Excellent documentation. \$299.95. Megamax, PO Box 851521, Richardson, TX 75085. NCP

Microsoft BASIC was the Mac's first programming language. This interpreter (it's not a compiler) now supports the Toolbox and the whole Mac interface can be implemented in your programs. For nonprogrammers there are lots of programs available to run. \$99. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. NCP

MIDIBasic is a library of simple, but highly useful routines for writing MIDI software. Good stuff. Sketchy documentation. Works with both *Microsoft* and *ZBasic*. Requires 512K+ plus

Basic. \$49.95. Altech Systems, 831 Kings Highway, Shreveport, LA 71119. NCP (Aug 87)

Object Logo is an object-oriented programming language with access to the Toolbox. Good product, but can't produce standalone applications. Requires 512K+. \$79.95. Coral Software, PO Box 307, Cambridge, MA 02142. NCP (Aug 87)

Personal Prolog is an inexpensive and well-documented program. Has no debugging or search and replace facilities, making it a more appropriate tool for learning than development. Documentation and use of Mac interface are excellent. \$64.95. Optimized Systems Software, 1221 B Kentwood Ave., San Jose, CA 95129. NCP (Mar 87)

Prolog/m is a solid Prolog following the Edinburgh standard. Has extensive debugging facilities, but you'll need separate *Toolbox* disk with 58 additional predicates. Drawback: no true editing or printing facilities. \$99.95. Chalcedony Software, 5580 La Jolla Blvd., La Jolla, CA 92037. NCP (Mar 87)

QUED (Quality Editor for Developers) is the ultimate source code editor. Loaded with useful and well thought out features, it will make any programmer's life much easier. It is not a word processor, however. \$65. Paragon Concepts, 4954 Sun Valley Rd., Del Mar, CA 92014. NCP (Mar 86)

TML Data Base Toolkit is an ISAM type data base that provides fast and efficient administration of large data files in applications developed with *TML* compiler. Supports multiple open index files. \$89.95. TML Systems, 4241 Bay Meadows Rd., Jacksonville, FL 32217. NCP (Dec 86)

TML (MacLanguage Series) Pascal is a good Pascal compiler, capable of producing standalone programs. Can use most existing Lisa Pascal programs with only slight modification. Requires 512K. \$99.95. TML Systems, 4241 Bay Meadows Rd., Jacksonville, FL 32217. NCP (Jun 86)

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TML Source Code Library shows how to write programs that use **1111** custom definition routines, speech, serial drivers, split bars and other topics. Provided on three 400K diskettes. Requires TML Pascal. \$79.95. TML Systems, 4241 Bay Meadows Rd., Jacksonville, FL 32217. NCP (Dec 86)

Turbo Pascal is the very fast, very efficient Mac version of one of **1111** the most popular PC languages. Good job, although the editor needs some more work. \$99.95. Borland International, 4585 Scotts Valley Rd., Scotts Valley, CA 95066. NCP (Jul 87)

Visual Interactive Programming is a unique visual programming **1111** system for creating simple Macintosh applications. Programs are constructed in a flowchart-type manner. Easy access to most toolbox routines. Poor printing control. \$124.95. Mainstay, 5311-B Derry Ave., Agoura Hills, CA 91301. NCP (Jun 87)

ZBasic is a fast, interactive compiler capable of creating stand- **1111** alone applications that takes advantage of Mac's unique features and abilities. Includes *Edit*, *RMaker*, and *MacIn-talk*. Requires 512K. \$89.95. Zedcor, 4500 E. Speedway Blvd., Tucson, AZ 85712. NCP (Dec 86)

is a nice introduction to musical notes. Sparse documentation. \$49.95. Great Wave Software, 5353 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Oct 86)

MacEdge and **MacEdge II** each contain 8 reading or math drill **1111** programs for basic skills. Programs follow one of three formats, a bit contrived. Contrivances are design flaws. \$49.95 each. Think Educational Software, 16 Market St., Potsdam, NY 13676. CP

MacType offers structured typing instruction. Can teach both **1111** standard and Dvorak keyboards. Features include certificates for reaching certain levels. Can be used in a multistudent environment. \$49.95. Palantir Software, 12777 Jones Rd., Houston, TX 77070. CP

MasterType is proof that learning to type can be fun. In this **1111** arcade-style action game words descend from four corners towards the center ship; the user must type them correctly. Features 18 skill levels, tracks errors, recommends lessons and provides comparison scores. \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP

EDUCATION

ChipWits is a combination game and teaching tool. Players create **1111** programs to maneuver robots through a set of 8 mazes. The programs are written in *ChipWit's* built-in icon-based programming language (IBOL). \$49.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP

KidsTime is a package of five quality educational programs for **1111** children between the ages of 3 and 12. The programs all have adjustable difficulty levels. Some use speech and one

ENTERTAINMENT

A Mind Forever Voyaging is a departure in text adventure games. **1111** It has a more extensive vocabulary and a more involved story than most of the genre. The story here is gripping, but there are only a few puzzles to solve. Requires 512K+. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (Apr 86)

Alter Ego simulates the entire lifetime of a fictional character. The **1111** player's reaction to each multiple-choice event shapes the character's future relationships, job, health, etc. Spectacular the first time you play; after that there are too many

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similarities to previous characters. \$59.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (June 86)

The Ancient Art of War gives users a chance to refight some famous campaigns on both strategic and tactical levels. Campaigns can also be designed from scratch. Very playable, addicting game. Requires 512K+. Mac. \$44.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP (Apr 86)

Archon pits the forces of Light against Dark in a quest to gain control of five Power Points on a checkerboard grid. The shifting cycles of squares' colors keeps the balance of power ever-changing. One or two players. \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Oct. 86)

Balance of Power is the world's first computer peace game. This simulation allows players to become either the President of the United States or General Secretary of the Soviet Union. Extraordinary artificial intelligence routines and general play make this a classic. \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60022. CP (Prem)

Battle Stations is a deceptively simple game based on the pen and paper game of *Battleship*. Requires strategy on several levels. Makes excellent use of Mac sound and graphics. Fun, casual game, especially when the Mac is one of the players. Requires 512K+. \$30. Timeline, PO Box 60, Ypsilanti, MI 48197. NCP (Jun 87)

Borrowed Time casts players as detectives who have to solve their own murder—before it happens. This game requires players to think and act like a detective to solve the game. Good sentence parser, sketchy Mac interface. \$44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (May 86)

Bridge 4.0 provides three other players and the cards for a game of rubber bridge. It's an average (Goren) bidder and a less than good card player. Good if it's the only game in town. Plays slowly since it's written in BASIC. \$29.95. Artwork Software, 150 N. Main St. Fairport, NY 14450. CP (Sep 86)

Bureaucracy is a paranoiac text adventure that dares you to move to a new house and job and still maintain some degree of sanity, not to mention a low blood pressure. Written by Douglas Adams of *Hitchhiker's* fame \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (Aug 87)

The Chessmaster 2000 is a masterful chess program that will appeal to both novices and master. You can view the board from 2- or 3-D perspective and turn the board for a better look. Play is smooth and easy, and the program responds by voice. You may get tired of hearing "Gotcha," though. \$39.95. The Software Toolworks, 13557 Ventura Blvd., Sherman Oaks, CA 91423. CP (Jul 87)

Dark Castle is an outstanding achievement in action games which integrates RealSound with superb animation and graphics. You'll need better-than-average hand/eye coordination, but it's well worth the effort. Requires 512K+. \$39.95. Silicon Beach, PO Box 261430, San Diego, CA 92126. NCP (Apr 87)

Deja Vu: A Nightmare Comes True is a graphic adventure that breaks new ground. Innovative use of the Mac interface in truly playable and exciting game. A great introduction to graphic adventure games. \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (Jan 86)

Dinner at Eight is a useful recipe filing system that includes a collection of recipes from a nationwide sampling of restaurants. Users enter number of diners and program scales recipes accordingly. \$49.95. Rubicon, 2111 Dickson Dr., Austin, TX 78704. NCP (Jan 86)

Enchanted Scepters is a surround sound graphic adventure game. It has a limited vocabulary and virtually no story. Offers extensive and varied scenes and utilizes the Mac interface to the fullest. \$39.95. Silicon Beach, PO Box 261430, San Diego, CA 92126. CP (May 86)

Ferrari Grand Prix is an exciting race car simulation game. Mastering it takes quite a bit of time and effort. Startup course and four other courses are built into the program. You can also design your own courses and backgrounds. Requires 512K+. \$59.95. Bullseye Software, PO Drawer 7900, Incline Village, NV 89450. CP (Jul 87)

Flight Simulator puts you at the controls of a small plane (prop or jet) and lets you roam North America. As difficult as real flying. Mac version has features not found on earlier versions, including spotter aircraft. Not all features available on 128K. \$49.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. CP (Nov 86)

Fokker Triplane is about as near to flying as you can get seated in front of a computer. Very realistic simulation and excellent graphics. Well designed and implemented. \$59.95. Bulls-eye Software, PO Drawer 7900, Incline Village, NV 89450. CP (Feb 86)

Gato puts players in command of an American submarine in World War II. This superb simulation game uses all of the Mac's graphic capabilities to really make you feel that "you are there." \$49.95. Spectrum HoloByte, 2061 Challenger Dr., Alameda, CA 94501. CP (Nov 85)

Grand Slam is an absorbing and realistic tennis simulation game. Practice or play tournament against Mac-controlled players with different styles and abilities on four different surfaces. 512K or Mac Plus. \$49.95. Infinity Software, 1331 61st St., Emeryville, CA 94608. CP (Nov 86)

HardBall is a baseball simulation game complete with umpire's calls and crowd sounds. Great graphics and a lot of fun for fans. \$44.95. Accolade, 20813 Stevens Creek Blvd., Cupertino, CA 95014. CP (Feb 87)

Hollywood Hijinx substitutes a modern Hollywood estate for the famous Underground Empire, but otherwise represents a return to *Zork* gameplay and feel. There's even a maze to navigate. Simplistic, but good, "finely wrought and good-hearted game." \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (Jun 87)

Leather Goddesses of Phobos is another in the long line of witty and entertaining Infocom text adventures. This one lets you choose your sex and comes with a 3D comic and a scratch 'n' sniff card. It has three levels of play: tame, suggestive and lewd. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (Feb 87)

Lode Runner is a 150-screen action-strategy challenge. Move around a grid of ladders and platforms collecting treasure; dig a hole to trap pursuers. Build your own challenges. \$39.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP

MacCourses adds four very challenging new courses to *MacGolf*. Courses are swapped on the original *MacGolf* master disk two at a time. Nice add-on for a good game. Requires *MacGolf*. \$34.95. Practical Computer Applications, 1305 Jefferson Hwy, Champlin, MN 55316. CP (Apr 87)

MacGolf is a dynamic simulation of real golf. Players have a choice of courses and difficulty levels. Superb playability makes this a must for all golfers and gamers. Requires 512K+. \$59.95. Practical Computer Applications, 1305 Jefferson Highway, Champlin, MN 55316. CP (May 86)

MacMan is a two-part package. The software portion is a decent *PacMan*-like game. The hardware part is a tiny converter that lets you use a joystick with a Mac or Mac Plus. \$39.95. Nuvo Systems, 225 Tank Farm Rd., San Luis Obispo, CA 934401. CP (Aug 87)

Mac Pro Football is a terrific sports simulation that gives you the chance to pit any combination of 38 Super Bowl teams against each other and direct team play. It comes with excellent, detailed (and necessary) documentation. Play selection can get a bit Byzantine. \$49.95. Avalon Hill, 4517 Harford Rd., Baltimore, MD 21214. CP (Mar 87)

Make Millions is a fascinating business simulation in which the player competes against the computer to take control of five companies, then run them profitably. Appeals to the closet capitalist in all of us. \$49.95. Scarborough Systems/Mindscape, 3444 Dundee, Northbrook, IL 60062. CP

Maze Survival challenges players to destroy maze walls before roving bugs squash themselves against it. Bugs lay eggs to spawn a new generation. Repetitive. \$34.95. Oluvai Software, 830 NE Pop Tilton's Pl., Jensen Beach, FL 33457. NCP (Aug 87)

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MINIFINDERS



MazeWars+ is an interactive, multiplayer game to be played on **ttt** AppleTalk or through a modem link. Chase opponents through a four level maze. Requires 512K+, AppleTalk or Hayes compatible modem. \$49.95. MacroMind, 1029 W. Wolfram, Chicago, IL 60657. NCP (Nov 86)

Mind Over Mac features five games. Entertainment for the whole **ttt** family. Good graphics paired with synthesized sound and on-screen help. \$49.95. Think Educational Software, 16 Market St., Potsdam, NY 13676. CP (Feb 86)

MoonMist is Infocom's latest introductory level text adventure **ttt** game. This is a typical haunted English castle story, not quite up to Infocom's best. It has four versions, so it's good for more than one play. \$39.95. Infocom, 125 Cambridge-Park Dr., Cambridge, MA 02140. NCP (May 87)

NewGamon is animated backgammon that will challenge even **ttt** good players. Features include variable skill levels and strategies and options to play the Mac or watch the Mac play itself. An arcade-like high speed mode is included. \$39.95. Newsoft, PO Box 3046, Newport Beach, CA 92663. CP

NFL Challenge simulates coaching and watching professional **ttt** football. Comes on two disks, one with program and system, the other statistical data. Play against either human or computer coaching. Plays are selected from pre-defined playbooks. \$99.95. XOR Corp., 5421 Opportunity Ct., Minnetonka, MN 55343. NCP (Jun 87)

Orbiter puts a real space shuttle on the Mac screen. A multitude of **ttt** controls, intelligent on-board computer with speech capabilities, real-time graphics and 16 distinct missions help this program succeed as both a game and a simulation. \$49.95. Spectrum HoloByte, 2061 Challenger Dr., Alameda, CA 94501. NCP (Jul 86)

Orbquest is a fantasy role-playing adventure with better-than-**ttt** average puzzles and an excellent sense of humor. Not as sophisticated as some, but a good value. \$49.95. QWare, PO Box 850415, Richardson, TX 75085. CP (Dec 86)

Patton vs. Rommel is traditional-style strategic wargame. It **ttt** covers events in Normandy in 1944. While complex, it's well designed and very playable. \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Apr 87)

The Pawn is an unusual British interactive adventure game with **ttt** text and graphics. The unique interface has some drawbacks, but *The Pawn* has humor, social satire, is entertaining and is challenging. \$44.95. Requires a Mac+. Firebird, PO Box 49, Ramsey, NJ 07446. CP (Mar 87)

Pinball Construction Set lets users create their own pinball **ttt** games, as elaborate or as easy as desired. Uses MacPaint for backgrounds and has lifelike sounds (on 512K+ Macs). \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Jan 86)

Puppy Love is a combined game and teaching tool. As you teach **ttt** your puppy tricks and routines, you learn the basics of programming logic. Great fun for all ages. Does not run from a hard disk. \$29.95. Addison-Wesley, Route 128, Reading, MA 01867. CP (Mar 87)

Real Poker is five-card draw against five other players with Old **ttt** West names, distinct personalities and playing styles, in a saloon setting. Dealing and play are very fast. Game evaluates your hand. \$39.95. Henderson Associates, 980 Henderson Ave., Sunnyvale, CA 94086. CP

Seven Cities of Gold is an educational program masquerading as **ttt** an adventure game; and is practically unique in being equally good in both respects. You are to land in the New World and attempt to placate the natives, seed a few missions and collect gold. \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Jun 87)

Shanghai challenges players to clear a board of all 144 tiles, by **ttt** matching pairs of mah-jongg tiles and removing them. Terrific strategic options plus the ability to randomly generate new game boards keep this one fresh. \$44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (Oct 86)

Skyfox is a sophisticated 3D shoot-em-up. You're fighting tanks, **ttt** planes, and enemy cities floating in the sky. Fast graphics,

good sound, slick, on-board attack computer and many levels of difficulty will keep fans of this genre happy for hours. \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Oct 86)

Smash Hit Racquetball is an accurate and entertaining simulation **ttt** of a day on the courts. Digitized sound adds to the realism. Includes a hard disk install, unusual for a game. The low price makes this the perfect Mac gift. \$19.95. Primera Software, 650 Cragmont Ave., Berkeley, CA 94707. CP (Dec 86)

Sub Battle Simulator is a superior naval combat game. Sixty **ttt** different missions and the ability to link missions keep it from ever getting boring. Requires 512K+. \$39.95. Epyx, PO Box 8020, Redwood City, CA 94063. CP (Aug 87)

Strategic Conquest is large scale, strategic conflict on the Mac. **ttt** This very involved war game will be enjoyed by those who like this genre. \$59.95. PBI Software, 1163 Triton Dr., Foster City, CA 94404. CP (Dec 85)

Tass Times in Tone Town is a slightly off-the-wall graphic **ttt** adventure in which you need a flashy hairdo and a jumpsuit before you can get anywhere, and you pay for things with guitar picks. Decent puzzles, with a sense of humor. \$44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (Jan 87)

The Toy Shop is a construction kit for building 20 different working **ttt** model toys. Some parts can be customized. Manual gives clear instructions, but many toys are too complex for a child to build. \$49.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP (Nov 86)

Ultima III allows up to four characters to cooperate to explore the **ttt** vast wilderness of Sosaria. \$59.95. Origin Systems, 340 Harvey Rd., Manchester, NH 03103. CP

Uninvited is an icon-based adventure game set in an extremely **ttt** haunted mansion. Since you access the parser by double-clicking, command choices are always visible—you don't waste time trying to figure out which words the program understands. It has animation and sound. \$49.95. Mindscape, 3444 Dundee, Northbrook, IL 60062. CP (Sep 86)

Winter Games lets up to eight players compete against each other **ttt** in Olympic events including figure skating, bobsledding, biathlon and ski-jumping. Excellent animation, good graphics, good theme music. \$39.95. Epyx, 600 Galveston Dr., PO Box 8020, Redwood City, CA 94063. CP (Mar 86)

Wizardry is an outstanding dungeon exploration adventure pitting **ttt** a party of up to six characters against the guardian monsters of the evil wizard Werdna. Capture his amulet to earn your reward. Even after solving the game, you'll want to go back into the dungeon. \$59.95. Sir-Tech, 6 Main St., Ogdensburg, NY 13669. CP

WordPlay is a word game with over 50 crossword puzzles for **ttt** different levels of expertise. User friendly, it offers on-screen Help menus. A Work mode allows development of new puzzles for the creative. \$49.95. Palantir, 12777 Jones Rd., Houston, TX 77070. NCP (Mar 86)

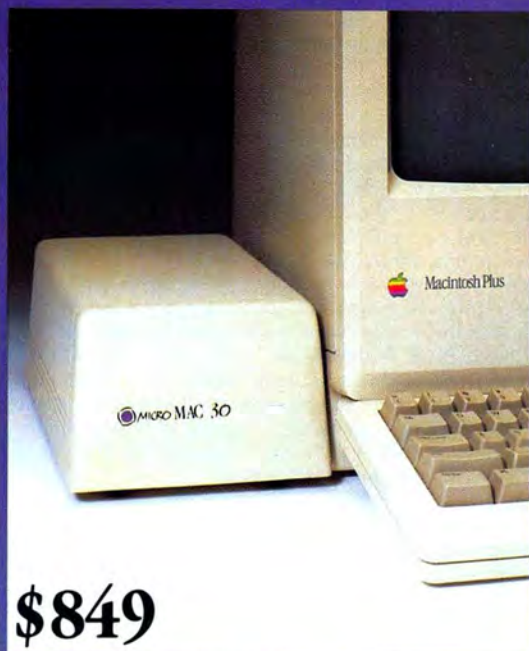
World Builder is an adventure game construction set with what **ttt** amounts to its own programming language. The whole program (language including) is easy to learn and produces commercial quality games. No support for the programming language, though. \$79.95. Silicon Beach Software, PO Box 261430, San Diego, CA 92126. NCP (Apr 87)

Xyphus is a role-playing game pitting four characters (fighters or **ttt** wizards) against multiple scenarios that grow increasingly harder. Excellent Mac interface and icon control. \$39.95. Penguin, PO Box 311, Geneva, IL 60134. CP

Your Personal Post creates personalized greeting cards on the **ttt** Mac. Comes complete with four greeting cards and matching envelopes. Does not run when connected to a LaserWriter. Requires 512K+. \$9.95. Door Openers, 775 Greg St., Sparks, NV 89431. NCP (Jun 87)

Zork II is where the adventure continues in the underground **ttt** empire. A wandering wizard keeps things interesting, though there's a way to beat him if you persevere. \$44.95. Infocom,

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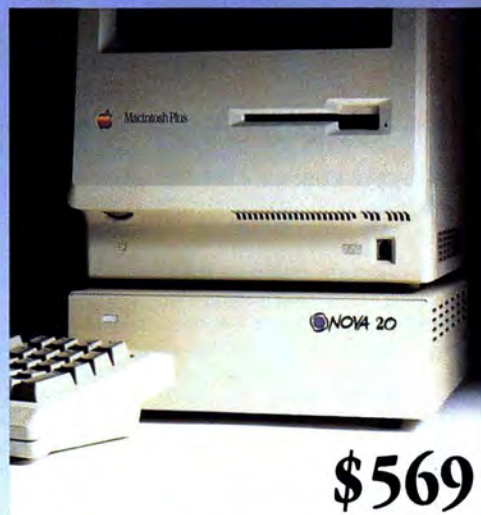
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Listen is an educational tool for ear training. It has both a piano keyboard and a guitar fretboard for the student to input notes, and offers a wide range of exercises. It also produces some beautiful sounds. \$69. Imaja, PO Box 638, Middletown, CT 06457. CP (Jan 87)

MIDIBasic is a simple, but highly useful routine for writing MIDI software. Good stuff. Sketchy documentation. Works with both *Microsoft* and *ZBasic*. Requires 512K+ plus *Basic*. \$49.95. Altech Systems, 831 Kings Highway, Shreveport, LA 71119. NCP (Aug 87)

Music Mouse is a music program in a genre all its own. Called an "intelligent instrument", *Music Mouse* gives you instant musical feedback as you move the mouse and type on the keyboard. \$59.95. OpCode Systems, 444 Ramona St., Palo Alto, CA 94301. NCP (May 87)

Performer is a strong contender for the high-end of the MIDI sequencer market. Only those experienced with MIDI should get this. Files can be transported to *Professional Composer* for editing. No direct track or segment looping. \$295. Mark of the Unicorn, 222 Third St., Cambridge, MA 02142. CP

Professional Composer is aimed at music professionals. Produces performance-quality sheet music; has only limited playback facilities. \$495. Mark of the Unicorn, 222 Third St., Cambridge, MA 02142. CP (Prem)

Studio Session consists of two programs, an Editor and a Player, that produce music with six voices of digitized sound. Excellent program plus good manual make this a good buy. \$89.95. Impulse, 6870 Shingle Creek Pkwy, Minneapolis, MN 55430. CP (Dec 86)

HARDWARE & ACCESSORIES

CMS S-140 SCSI Hard Disk is a very fast, high-capacity SCSI hard disk with a unity interleave and average access time of 18 msec. Holds 140 M. Help, file transfer and tape backup commands built in. *Hard Disk Partition* is a useful DA that comes with a 6 ft. SCSI cable. \$2995. CMS Enhancements, 1372 Valencia Ave., Tustin, CA 92680. (Jul 87)

DASCH is an external RAMdisk available in half, 1 and 2M sizes. Connects to a serial port. Speeds up operations 200 to 300%. Can be used as a printer buffer. Works with all Macs. 512K, \$395; 1M, \$450; 2M, \$545. Western Automation Laboratories, PO Box 3438, Boulder, CO 80307. (Feb 87)

Data Frame 40XP is a very fast, very quiet 40-meg external SCSI hard drive. Comes with a good and complete set of utility software. About as fast as a SCSI drive can be. Requires SCSI port, 512K+, new ROM. \$1899. SuperMac Technology, 295 N. Bernardo Ave., Mountain View, CA 94043.

Ergotron is a Mac (and external drive) holder that allows a full range of swiveling and tilting. Very strong, this well made unit is also very easy to use. \$99.95. Ergotron, PO Box 17013, Minneapolis, MN 55417.

FX-20 is a good 20-meg external hard drive. Good utility software. Reliable, and reasonably quiet. Sits next to Mac, has a large, oddly shaped case. Requires SCSI port, 512K+, new ROM. \$1199. General Computer, 215 First St., Cambridge, MA 02142. (Feb 87)

Hard Disk 20SC is Apple's 20-meg SCSI hard disk. Reliable, fairly noisy unit. Good utility software, but no backup yet. Requires

cable and terminator (\$80). Requires SCSI port, 512K+, new ROM. \$1299. Apple Computers, 20525 Mariani Ave., Cupertino, CA 95014. (Feb 87)

MacBottom HD21 is a very low (about 2 inches high), external 20-meg hard drive. Fits under the Mac. Very quiet, very reliable. Good utility software, including *HFS Backup*. Requires SCSI port, 512K+, new ROM. \$1195. PCPC, 6204 Benjamin Rd., Tampa, FL 33614. (Feb 87)

MacCharlie's components slip around the Mac and convert it into an IBM PC clone. Amazingly, it works well. \$995. Dayna Communications, 50 S. Main St., Salt Lake City, UT 84144. (Dec 85)

Macintizer is a graphics tablet and absolute positioning device that replaces the mouse. Various scales are possible. \$599. GTCO Corp., 7125 Riverwood Dr., Columbia, MD 21046.

MacNifty Sound Digitizer turns ordinary analog sound input into digital waveforms which can then be manipulated using the *SoundCap* software it comes with. Capable of truly stunning effects. Requires 512K+. \$129.95. Impulse, 6870 Shingle Creek Pkwy., Minneapolis, MN 55430.

MacSnap Plus 2 is a 2M memory upgrade for the Mac Plus. The board has 256 kilobit chips. User installable. Not compatible with existing big screens or internal hard disks, and can't be expanded further. \$399. Dove Computer Corp., 1200 North 23rd St., Wilmington, NC 28405. (Jun 87)

MacTablet is a stylus-driven graphics tablet. Users can easily sketch or trace art using this absolute-positioning device. Has a working area the size of the Mac screen. Allows concurrent use of the mouse. \$495. Summagraphics Corp., 777 State St. Extension, Fairfield, CT 06430. (Jan 86)

MacVision is a digitizer that uses an ordinary video camera for input. Capable of extremely fine results and special effects. Easy to use and well documented. \$349.95. Koala, 269 Mt. Hermon Rd., Scotts Valley, CA 95066.

Magic Digitizer is a hardware digitizer that works with video cameras. With *LaserMagic* software you can generate 300 dpi images (in PostScript). Requires 512K+. Digitizer with *Magic* software, \$399.95; *LaserMagic* software, \$49.95. New Image Technology, 10300 Greenbelt Rd., Seabrook, MD 20706. NCP (May 87)

Mouse Mover is a mouse pad-type surface that snaps on to the bottom of the mouse like a roller skate, freeing it up to glide over desk or mouse pad with ease. 99 tiny ball bearings at three strategic points. Mouse glides faster and saves on mouse wear and tear. \$19.95. Magnum Software, 21115 Devonshire St., Chatsworth, CA 91311.

Moustrak is a fabric covered foam mousing pad. It will increase the efficiency of your mouse while helping to keep it clean. Pad comes in a variety of colors. Particularly useful in the typical office desk top environment. \$10. Moustrak, 3047 St. Helena Hwy., St. Helena, CA 94574.

NoLabelSystem is a plastic permanent labeling system in which users slide new tabs into a transparent plastic case on the disk. The tabs stick out of the case slightly, making them easier to read while in the drive. \$19.45. Weber & Sons, 3468 Hwy 9, Freehold, NJ 07728.

One Plus One is a user-installable memory upgrade for a Mac Plus. Adds 1 megabyte of RAM to the 1M already there. Simple one-evening project. Includes MacBreeze, an excellent small fan. Requires Mac Plus. \$395. Levco, 6160 Lusk Blvd., San Diego, CA 92121. (Aug 87)

PhoneNET is an AppleTalk-compatible network. Network can be up to 3000' in length. In-place, unused phone cabling can be used for network, and can be combined with AppleTalk on same network. \$49 per node. Farallon Computing, 2150 Kittredge St., Berkeley, CA 94704. (Dec 86)

ThunderScan replaces the ribbon cartridge in an ImageWriter, which is required to use it. Laser scans art that can be run through the ImageWriter, producing high-quality digitized images. The images can be manipulated as they are created or afterward. \$229. Thunderware, 21 Orinda Way, Orinda, CA 94563.

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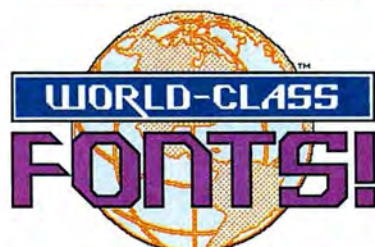
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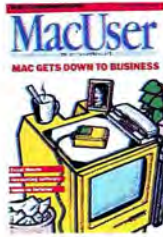
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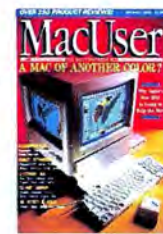
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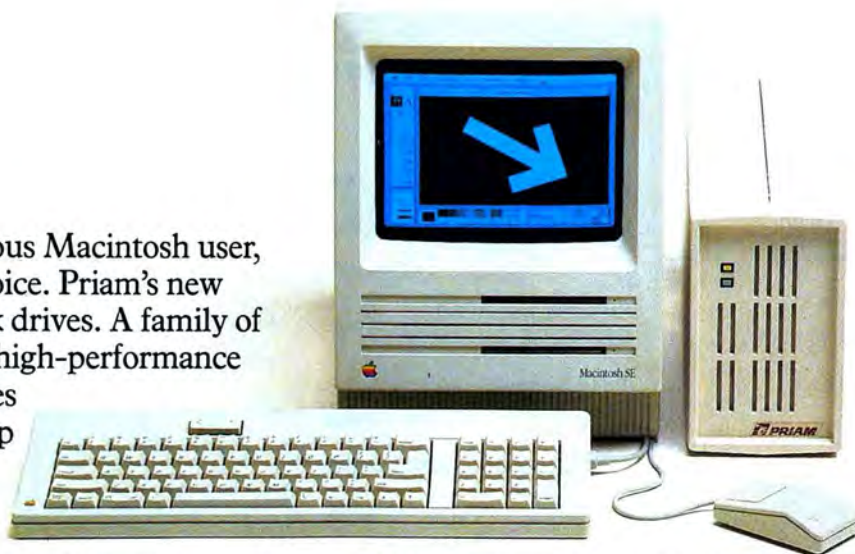
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by John C. Dvorak

The Last Men's Club

The microcomputer scene is dominated by men. Based on statistics provided by major magazines we can say that in the IBM world there are about 95 percent men to 5 percent women interested in the machines. In the Mac world the ratio is 90 percent to 10 percent.

Over the years I wondered about these statistics and realized that we're running a men's club and don't even know it.

This was recently made clear after I did a local talk show to promote an upcoming keynote at the West Coast Computer Faire. On the keynote panel would be Jim Warren, Steve Wozniak, Lee Felsenstein, Gary Kildall, Don Lancaster and David Bunnell. All of them males (as far as I can tell). Myself, Warren and Felsenstein did the radio spot. The show's host, a male, asked us a lot of dorky questions about the good old days and then took phone calls. All the calls were from men. All the questions were the same old questions about what computer to buy. We all yukked it up and had a great time.

So we go to the show and do the keynote. I check out the audience. Ninety-five percent males minimum. I counted only a few women in the crowd of about 1000 onlookers.

That's when it finally dawned on me that the men are somehow excluding women from their club. It's a last bastion—a men's club. Sure, sure, a female can join if she really wants to. But the guys dominate the conversation and promote the dorkiest side of the scene. This makes any woman with any sense roll her eyes and grimace.

At the keynote, for example, David Bunnell, a guy with lots of dough, felt like wearing a bunch of the dorkiest old badges and buttons and looking like an original nerd. We all ooohed and ahhhed over some of the obscure buttons he wore.

In certain circles, like amongst the DEC/UNIX crowd, the level of nerdism reaches heights only duplicable in the most horrid of bad dreams to us in the semi-normal world of the Mac. There the guys wear ponytails and Portuguese fishing hats and are covered head to toe with dumb buttons. The guys are real fat

or anorexic. Hairly, too. All that is missing is a swarm of flies buzzing around their heads. Exactly *why* the swarm is missing is a mystery. I figure some of these guys spray their hair with Raid.

In this woolly world of UNIX, there are no women as far as I can tell. That is, except for Jean Yates and her crowd of UNIX consultants who promote the operating system to big corporations who don't know what they're in for. Soon Yates leaves and the big nerds pour in with their Cokes and cold pizza and a million pens in their pocket. The mostly female secretaries and clerks and female execs all see these guys as computer types to be avoided. Soon the computer itself is associated with them and it, too, is determined to be some vile device to elude. Good work, Jean.

Men aggressively keep women out of the scene. Women aren't welcome as hobbyists, experts, nothing. If they want to, they can do COBOL coding for a bank or they can host parties or pretend to be friendly as PR persons. That's about it. If they insist on becoming members of the club they are usually forced to become dorks, too, and never taken seriously. The attractive females, when seen at a users group, are considered dumb. Their job is to shut up.

I'm aware of one or two exceptions to these axioms. Sue Currier, the President of SoftSynch, is an ex-Vogue model and she hangs out with the boys. But she's an Australian with the Australian penchant to cuss like a teamster at anyone in her way to the top. This confuses the nerds more than a buried infinite loop. She gets categorized as an exception that doesn't count. Besides that, everyone figures her husband does the real work.

The husband-who-does-all-the-real-work syndrome permeates any notion that a woman can be successful in this industry.

The real issue, though, is whether women can even be allowed to participate long enough to attempt success. In other words, are they allowed in the clubhouse? While unwritten, the answer is obviously a resounding "No WAY! We don't want any girls in here!"


Let's face it, it's hard to code with some female hanging around all the time complaining about what a mess you've made. Besides that, there is no place for a guy to go anymore where they can pal around with other guys like in the old days of the exclusive men's club.

This is the NEW men's club and it has to be protected from women trying to sneak in. The sure-fire way to keep the women away is to be a complete slob.

Here are Dvorak's men's club tips: Never bathe. Wear your hair in a ponytail and only wash it when bugs get in it (and only if they are biting bugs and only if you don't like to be bitten by bugs). Never exercise. Avoid eye contact with women and never talk to them. If they insist on a conversation then stare at their breasts while talking—they hate that. Wear Earth Shoes. Wear glasses that don't fit. Carry a lot of pens. Slouch.

Dining tips are important. When any group that includes a woman insists on going someplace to eat, always be the first to say, "I know a great place." Then take them to the worst roach-infested pizza joint in town and order an anchovy pizza with onions. Make sure to get pizza goo on your face and smile a lot with a mouthful of chewed pizza. Always chew with your mouth open and make noises, too. Always do your eating with both hands and hunched way over the plate. Once in awhile wipe your mouth with the back of your hand which you then rub on your jeans (top of the thigh area). If you can do it, I recommend belching every so often. This is especially effective if you can do it with some food still in your mouth and while chewing.

If we men are diligent and use these and other tips (just look around for ideas) we can probably stem any further encroachment. Remember the IBM world is 95 percent men to 5 percent women and we're 90 percent to 10 percent. If this continues they'll soon take over!

Then again, you sometimes have to wonder, who wants to be in a club like this? 



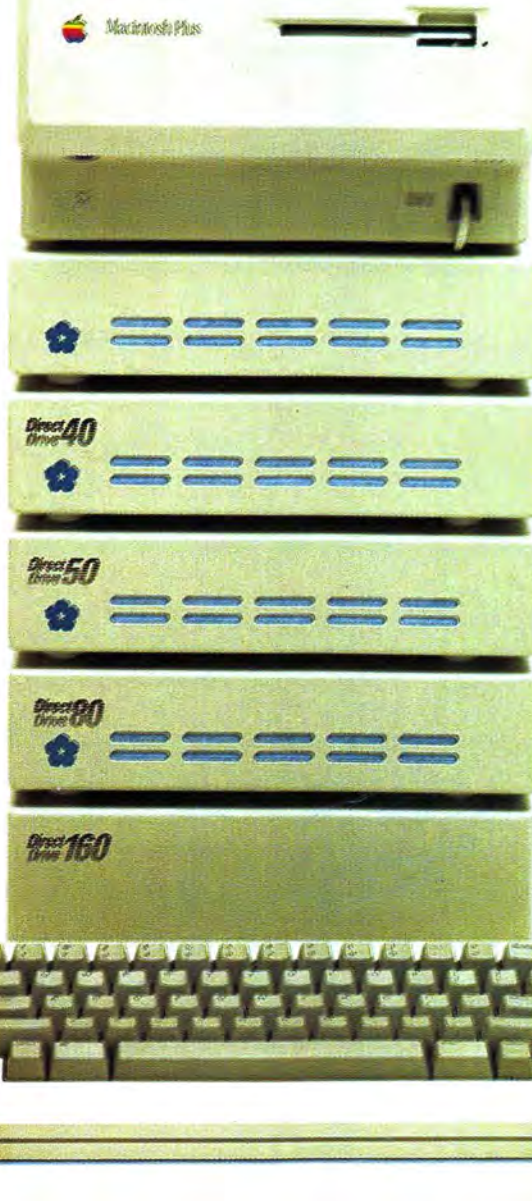
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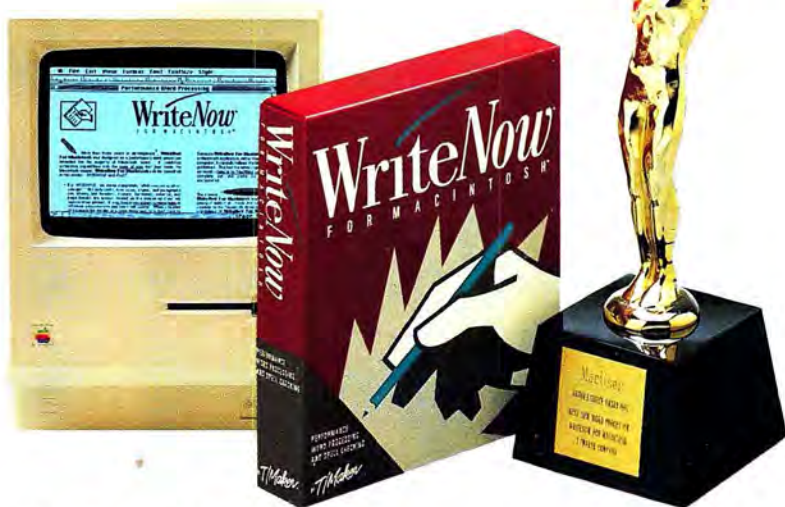
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