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The Macintosh™ Magazine

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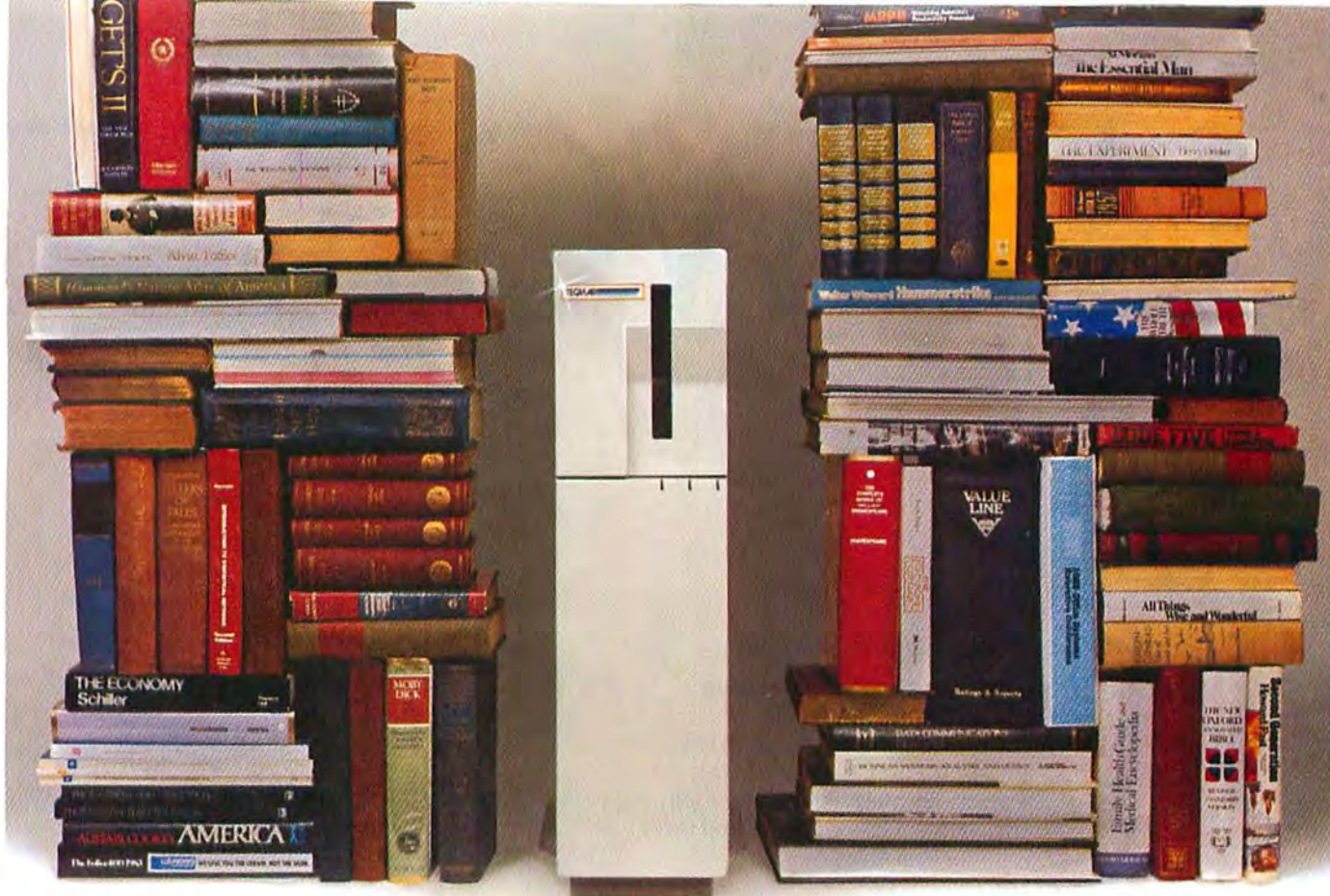
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THE POWER BEHIND THE PC

MACWORLD

March 1985

The Macintosh™ Magazine

Getting Started

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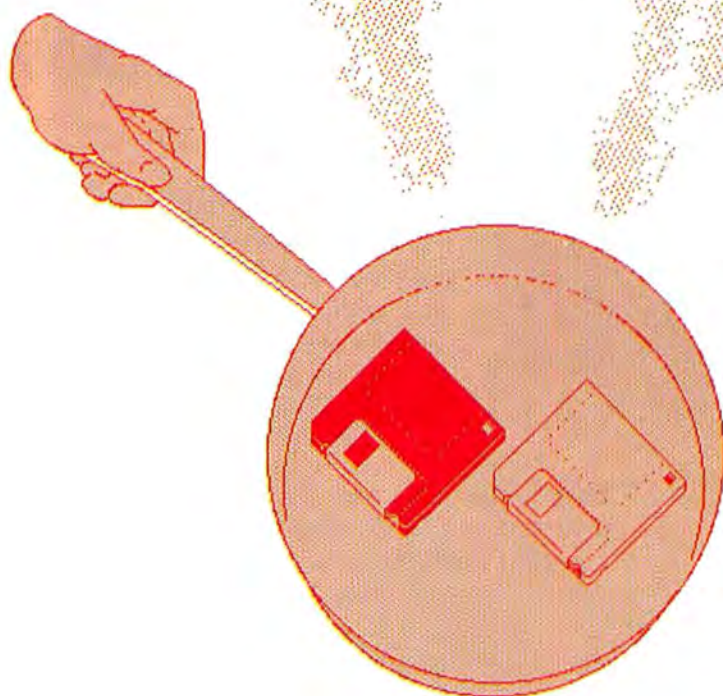
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Conveniently accessible from within any application, Macintosh desk accessories make your computing environment less cluttered and make you more productive.

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David Bishop, cover (background), 130-131 (background); John Hersey, 34, 36-37, 72-73; Ed Kashi, 131-133; Jeffery Newbury, 106-107; George Steinmetz, 9, 35, 59; Fred Stimson, cover (inset), 44-45.



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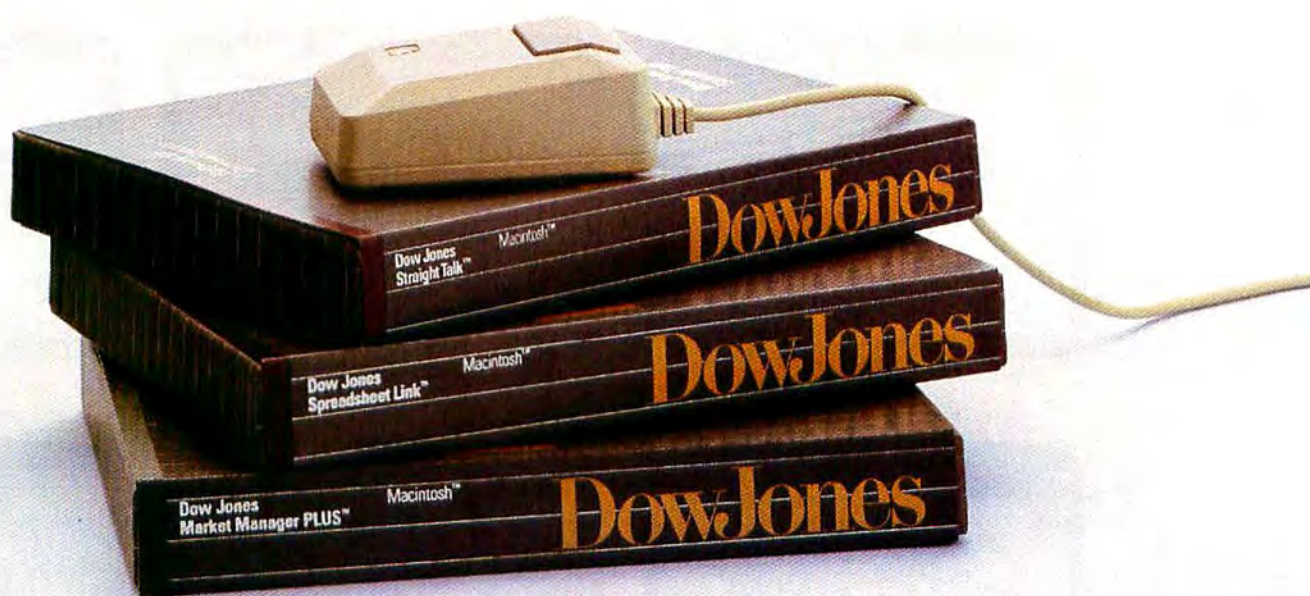
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The screenshot shows a Lotus SmartSuite spreadsheet with a bar chart titled "Central Sales Region Sales Performance vs. Quota". The chart compares sales for five individuals across two years: FY 1994 (dark bars) and FY 1993 (light bars). The x-axis represents sales in thousands of dollars, ranging from 00K to 130K. A vertical line at 120K indicates the quota. J. Green and F. Harris are below the quota, while K. Evans, D. McCabe, and C. Imperio are above it.

Individual	FY 1993 (K)	FY 1994 (K)
J. Green	~105	~100
F. Harris	~100	~95
K. Evans	~115	~125
D. McCabe	~110	~115
C. Imperio	~105	~110

The screenshot shows the Lotus 1-2-3 application window. The menu bar at the top includes File, Edit, Select, Format, Options, and Calculate. The 'Calculate' menu is currently open, displaying options: Calculate Now (with a checkmark), Automatic Calculation, Manual Calculation, Iterate, and Don't Iterate. The spreadsheet below has a grid with columns labeled F12 through J12 and rows labeled A13 through J13. The data in the spreadsheet is as follows:

	F12	G12	H12	I12	J12
1	Blumsworld Inc.	Quarterly Budget			
2	Revenue	\$32,450			
3	Cost of Goods Sold	(\$10,154)			
4	Gross Profit	\$14,296			
5	S & A Expense	(\$2,456)			
6	Franchise	(\$6,000)			
7	Operating Income	\$770			
8	Avg % of Revenue	2.39%			
9	Avg % of Gross Profit	5.44%			

File Edit Chart Task Layout Dates Fonts Style

Xenon Project

Xenon

Review Product Market → Project Structured (0/7) → Product Marketing Plan (0/14) → Basic Architecture (0/14) → Costs Flow Analysis (0/12) → Select Architect (0/4) → Select Lead Platform (0/7) → Select Third Engineer (0/10) → High Performance (0/23) → Depth Construction (1)

[illegible]

The screenshot shows the 'Continentals' software interface. At the top is a menu bar with options: File, Edit, Types, Tinker, Text, Symbols, Lines, Shades. Below the menu is a toolbar with icons for various drawing tools. The main window displays a map of the 'Continental United States' with states outlined and filled with different patterns. A status bar at the bottom shows 'Prev', 'Next', 'State: (48 total)', 'Info', and 'Link'.

[illegible]

File Edit Search Format Font Style

Health

DATE: JULY 9, 1984
TO: S. HAYDEN, L. CLOW
FROM: G. HOLT

FINANCE MEETING AGENDA

Here are my comments on your proposed agenda for the Finance Group meeting next week.

1. Moving Date: We're well awhile. Discussing the moving date seems unwarranted since there are so many unknowns.
2. Technical Presentation: I'm concerned about John giving the technical presentation. I think Frank has a better handle on the current status of manufacturing developments. See what you can to make this happen.

File Edit View Sort/Select Field Find

HAYDENBASE

Student	Classes	Instructor
Local ID Number	Location	Name
S.F. #	Class Exam	Student ID
Name	Prerequisites	Instructor ID
Student ID	Comments	Class Code
Class Code	Class Code	
	Student ID	
	Instructor ID	

Students

Name	Class Code	Location	Instructor ID
Adams, Jane	HIST 100	T10 TCA4	Adams, Jane
Johnson, Tony	Conversational Games	LAB A	Rossett, Duffie
Lander, Cathy	Psychology 101	Psychology Bldg	
	Introductory Calculus	PHS 202	
	Psychology 101	PHS 202	
	Psychology 101	PHS 202	

File Edit Search Character Paragraph Document

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PREPARING A HOME FOR SALE

The seller can understand that showing a home the buyer wants to purchase quickly and it is best tested up to get the stage for a profitable sale.

Improvement Gains
 reported in the study

Comparison

Neighborhood H

Neighborhood J

Location **Advantages**
 Francis Street location

Page 63 Great, new! for all

Estate II Appointment

Time	Hour
1:00 AM	Arranged By: [Name]
2:00 AM	Confirmed
3:00 AM	Confirmed
4:00 AM	Confirmed
5:00 AM	Confirmed
6:00 AM	Confirmed
7:00 AM	Confirmed
8:00 AM	Confirmed
9:00 AM	Confirmed
10:00 AM	Confirmed
11:00 AM	Confirmed
12:00 PM	Confirmed
1:00 PM	Confirmed
2:00 PM	Confirmed
3:00 PM	Confirmed
4:00 PM	Confirmed
5:00 PM	Confirmed
6:00 PM	Confirmed
7:00 PM	Confirmed
8:00 PM	Confirmed
9:00 PM	Confirmed
10:00 PM	Confirmed
11:00 PM	Confirmed
12:00 AM	Confirmed

Appointment Details

Day/Date: Monday, Jan 11, 1993
 Time: 11:50 AM
 Name: Geoffrey Jones
 Phone: [Number]
 Service: Title Search
 Status: [Status]
 Revenue: 125.00
 Comments/Notes: [Text]

[illegible]

IBM PC disk unit - B:
Get file from IBM PC

File Name: SBMPLE.DKS

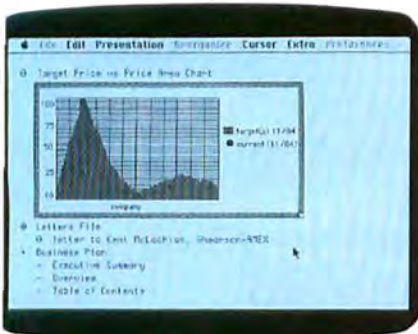
Contains: 1-2-3 worksheet

Get file Cancel

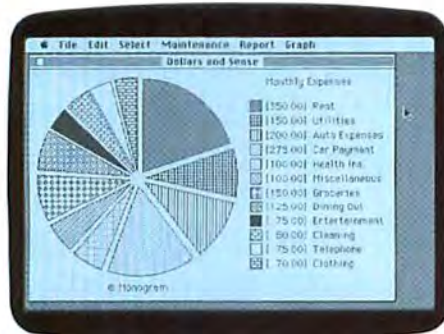
SAMPLE (Mac 110)

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some important programs.



*ThinkTank,
idea processor.*



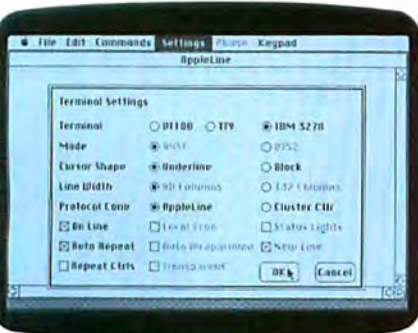
*Dollars and Sense,
personal finance.*



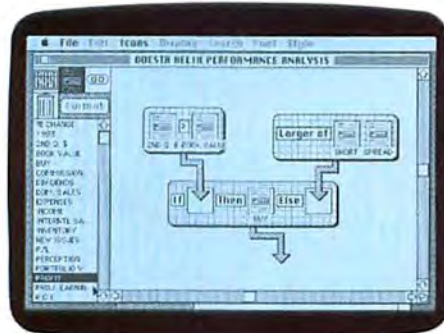
*Lotus Jazz,
integrated business software.**



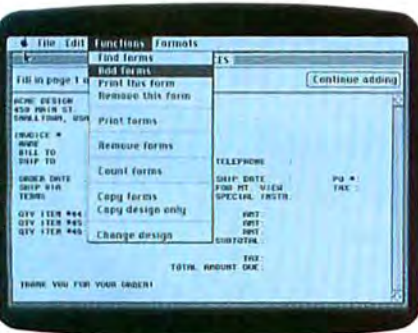
*Microsoft File,
database management.*



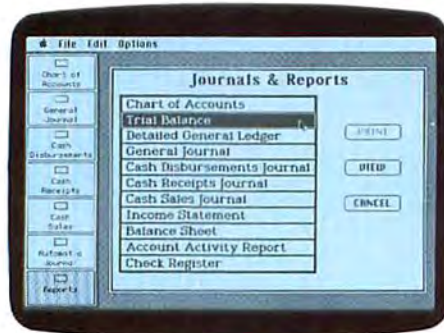
*MacTerminal,
data communications.*



*Helix,
relational database.*



*PFS: File,
database management.*



*Peachtree's Back to Basics,
accounting package.*

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Does the Mac Mean Business?

Though there's little room at the top, the business market is big enough for both IBM and Apple



For the average consumer, close to \$3000 is a high price to pay for a computer system, so if Apple Computer intends to sell millions of Macintoshes, the Mac will have to make significant inroads into the business market. Apple is aware of the importance of the white-collar crowd and has begun to court the corporate realm with sales teams and slick advertising campaigns. Chances are slim that the Mac will become the personal computer of choice on Fortune 1000 desks; however, it has the ability to become a major competitor in the remaining business market.

Despite the IBM Personal Computer's apparent dominance in the corporate world, Apple still has the opportunity to present the Macintosh as a viable alternative to the PC. Although the Fortune 1000 companies, which appear to be on first-name basis with Big Blue as they buy thousands of PCs in a single order, make the headlines, these companies represent only the tip of the business pyramid. As Steve Jobs reportedly said, "How many Fortune 1000 companies are there?" IBM doesn't have a monopoly in the business market yet, but it does have a strong software base, which gives it the edge.

Apple sent the Macintosh into IBM's traditional territory armed with some impressive ammunition. The Mac's unique user interface lends a new appeal to application software. Its latest programs are often more flexible and easier to learn than IBM's standards. With this solidifying software base and the promise of even more outstanding software, such as *Jazz* from Lotus, the Mac could start to enchant the business market away from Big Blue.

Most of the Mac's hardware advantages are obvious. Unlike the PC, it has a small footprint and is truly portable. It doesn't require special furniture or additional space to adapt to an office environment. With its announcement of the Macintosh Office, Apple is putting all the pieces together—business software, the 512K Mac, a laser printer, and a network capability—to give the Mac the corporate clout it needs to be taken seriously as a business machine.

Apple's advantages could be short-lived, however, as IBM maintains its long-standing reputation and upgrades its PCs. While Apple split its family tree with the Mac, IBM has kept its PC family together and compatible. IBM also has the advantage of an immense array of software, hardware accessories, networks, and links between mainframe and personal com-

puters. Most IBM accessories have been around for a while; their developers have already paid the price of pioneering. What people give up in creativity and originality when they opt for IBM, they make up for in stability.

Since the Macintosh is hampered by both its inchoate introduction and the IBM PC's three-year head start, Apple has several battles to wage in the corporate market for both symbolic and strictly business reasons. While vying for the executive hand, some of Apple's marketing tactics seem less than honorable. In the long run, harassment is not the way to win friends and influence people.

Apple may want to foster anti-IBM feelings through derisive advertising, but it's a risky move. PC users are legion, particularly in the corporate world. They are already committed to IBM and are very satisfied with the PC. The ads showing frustrated users smashing IBM PCs because of repeated syntax errors were tasteless and surprisingly vindictive. The Macintosh has enough style; Apple shouldn't have to stoop to petty name-calling. Even so, Apple doesn't have enough security to protect itself from retaliation. Many people probably have similar frustrations with the Macin-

tosh's slow disk drives. IBM could counter Apple's attack very easily.

The merits of derisive advertising are questionable. If Apple continues to irritate IBM with its ads, IBM might eventually sink another few million dollars into their research and development budget to initiate the Mac's replacement. Since IBM's R&D budget is greater than Apple's gross revenues, the challengers in Silicon Valley are playing with fire.

Apple has everything it needs to share success in the business market with IBM without resorting to tacky advertising. The keys lie in the development of better Macintoshes and more application software. The Mac is an amazing computer; with a few changes it could be excellent.

For instance, the Mac's hard disk configuration moves data through a serial, instead of parallel, port, which slows down data transfer considerably. Since speed is a primary advantage of a hard disk, the Mac doesn't rate well in this regard. The recent jump to 512K from 128K was important but took too long. Annual upgrades in memory are not going to be sufficient in this industry. The Mac also needs to be able to run several applications concurrently. Finally, the machine needs its first great program to give it the notoriety that *VisiCalc* gave the Apple II and *1-2-3* gave the IBM PC. Developing these attributes would give the Mac far more charm than a derogatory advertising campaign.

In many ways Apple is simply recasting the Lisa with the Mac, giving a good idea and a good machine a second chance. And if the company can continue to romance the market, the Mac will survive. Although the Macintosh is not fated for the Fortune 1000, it will be popular among smaller businesses, professionals, and students. All in all, that's not a bad following. □



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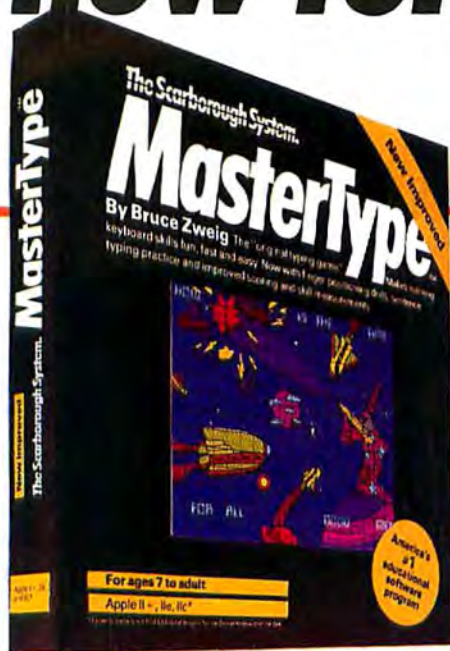
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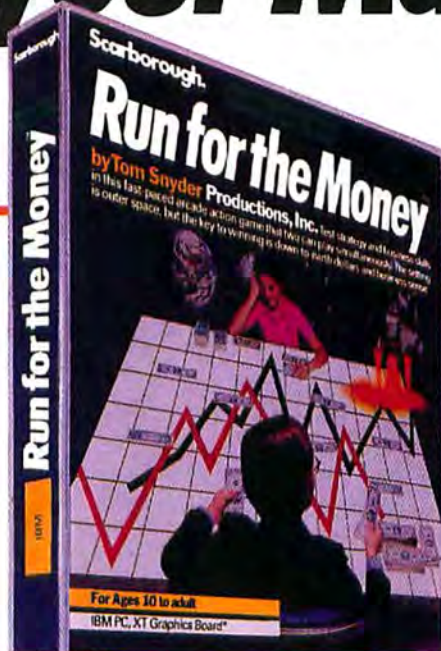
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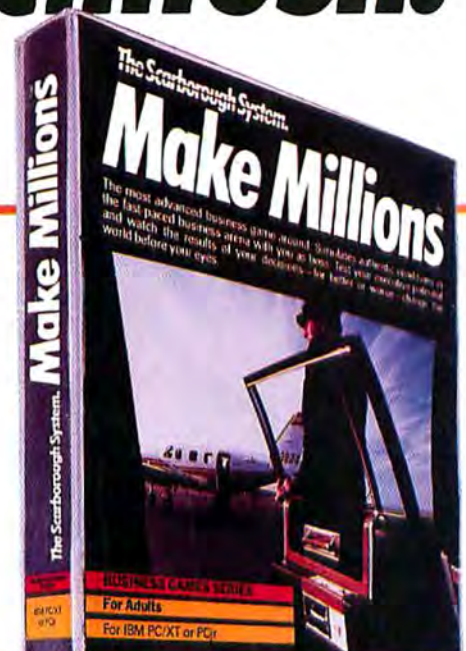
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- 1) The eligible categories for this contest are:
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 - B. ENTERTAINMENT: Applications that entertain. This category will include video games and simulations.
 - C. EDUCATION: Applications that teach. This category will include educational software aimed at all ages.
 - D. UTILITIES: Applications that make it easier to develop or maintain systems.
- 2) Your program must be written in Microsoft BASIC for the Macintosh. You may use any version of Microsoft BASIC you wish.
- 3) All programs submitted must be the original work of the author(s), and must be placed in the public domain. Neither the author nor Microsoft will claim copyright or any other rights.

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- 4) Programs may not have been previously published anywhere. *Macworld* magazine will publish the winning programs. Authors may submit programs to other publications after the conclusion of the contest.
- 5) All entries must be submitted on disk. Entries must include documentation (when necessary) and must indicate which contest category you are entering (education, recreation, productivity or utility).
- 6) Your entry must include the following materials:
 - 1) Disk containing the program you wish to enter,
 - 2) Your name, address, and phone number,
 - 3) The documentation for the program (if needed),
 - 4) An indication of which category you wish to enter. Please include this *both* on the outside of your envelope and inside with your name and address.

Send these materials to: MICROSOFT BASIC PROGRAMMING CONTEST, P.O. Box 82243, St. Paul, MN 55182. Entries must be postmarked no later than June 30, 1985 and received no later than July 7, 1985.

- 7) Entries will be judged by an independent group of judges selected by *Macworld* and Microsoft. Entries will be judged on the following criteria:
 - 70 percent for creativity, i.e. definition originality, implementation originality and use of Mac features.
 - 30 percent for implementation, i.e. programming elegance and bug free.Limit one prize per person or household per category. All prizes will be awarded.
- 8) There will be a First, Second and Third prize awarded in each category, along with a Grand Prize for the best overall program submitted. The prizes for each category are:
 - First—512K RAM upgrade and 4 Microsoft packages.
 - Second—Your choice of one of the following: external disk drive or a printer or a modem and 4 Microsoft packages.
 - Third—Mac carrying case and 4 Microsoft packages.The Grand Prize is—Corvus 11MB hard disk drive.
- 9) A list of the major prize winners is available by sending a stamped, self-addressed envelope to: MICROSOFT BASIC PROGRAMMING CONTEST WINNERS LIST, P.O. Box 82217, St. Paul, MN 55182. Requests must be received by July 7, 1985. Do not send entries to this address.
- 10) All entries become the property of Microsoft and none will be returned. Winners will be notified by mail on or about August 30, 1985. There will be no substitution of prizes. Any taxes on prizes shall be the sole responsibility of the winners. Microsoft reserves the right to secure a certificate of eligibility from winning entrants.
- 11) Miscellaneous: No special form needed to enter. Enter as often as you wish, but each entry must be mailed separately. Disks will not be returned. Decision of the judges is final. Contest open to all residents of the USA except employees and their families of Microsoft and *Macworld*, their affiliated companies and agencies and Carlson Marketing Group. Contest void wherever prohibited or restricted by law.

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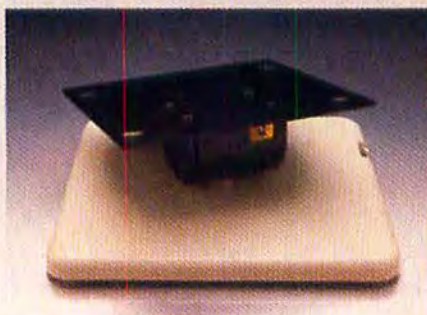
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Macs Are for Kids Too

Why should Macintosh computing be one of life's deferred pleasures?

The other day I was sitting in a computer store amusing myself with some of the long-awaited Mac software when a woman walked in with her daughter and announced she was interested in buying a first computer for her family. For the next few moments the salesclerk sized up the family (and the family pocketbook) and asked a few critical questions in order to lead the family to one or another of the computer carrels in the store. Was this to be an IBM or an Apple II family? Or would the family be more likely to settle on an Atari or a Commodore?

The clerk began with some obvious questions. "Do you have any particular computer in mind? Do your children have computers at school?" The answers to both questions were negative, but the mother added with some conviction that she would like to look at the Macintosh because she had heard it was the newest thing.

"Well, it does have new technology," replied the clerk, "but it's really a business computer. If you want a computer for kids, then the Mac is out. I think you might be interested in the Apple IIe or perhaps the IIc." The mother looked a little disappointed but dutifully followed

the clerk over to the Apple IIe, where a colorful game was running ad infinitum. "This computer," the salesman announced proudly, "will meet all your family needs. It runs lots of educational software as well as games, and you can program it, too. Besides, it has color and costs much less than the Macintosh.

"The Mac is newer," he conceded, "but Apple has committed itself to maintaining the II series as the computer of choice for schools. After all, there are already thousands of programs for the Apple II."

Pity, I thought to myself as I opened *MacPaint* to take a look at a new clip art disk. I had yet to meet a child who didn't fall in love with the Macintosh, and this family was not going to be given a chance. I considered inviting the child over to play with *MacPaint* while the mother looked at the IIe but decided I wanted to preserve my welcome in the store. Eventually mother and daughter left, promising to come back on Saturday with Dad for the final decision. I wondered whether they would have gotten to see the Mac if Dad had been along on this trip. After all, the clerk might have thought that the father would have an appropriate business use for it. No, I decided, in that case they would have been steered to the IBM PC.

I didn't feel I could really blame the clerk for his advice that the Macintosh is primarily a business computer; it's been promoted that way all along. You don't find the likes of Charlie Chaplin cavorting in Macintosh ads. Ironically the Mac is being recommended for business because it's easy to use but not for school or home, where a computer's ease of use would be appreciated as much as in business if not more so. Isn't the whole idea behind the mouse and the pull-down menus to make the Mac more accessible to beginners than a computer with lists of commit-to-memory commands? Why indeed should adults and college students get to celebrate the virtues of the "fun" computer and leave kids with the "kid stuff"?

It seems as if Apple is carefully ignoring the potential of the Macintosh for education, and more the pity. Some adults may not mind that a machine as exciting and easy to use as the Macintosh is not being made available to kids. After all, there are supposed to be deferred pleasures in life, such as staying up late or not having to do homework. As a teacher, however, I'm disturbed that such a marvelous tool is being kept out of the classroom.

A few computer experts argue that good reasons exist for keeping Macs out of schools. They contend that the Mac is too expensive compared to the competition, that the computer has a capability that goes beyond what children need, and that kids fail to appreciate it in the absence of color and fancy games.

Some store owners and Apple marketing personnel argue that so far they have been unable to meet the adult demand for the Macintosh and are waiting for the interest in it to "trickle down" from the heavily subsidized college market. A third group insists that the Mac is too easy and that children who play with the Mac fail to appreciate how a computer works because so much of the computing process is sealed from view. Are these the same people who still argue for learning to drive a stick shift or beating egg whites by hand?

There is certainly some truth to all of these arguments, though I think they miss the point. A black-and-white screen may be a drawback for particular applications, but it is largely offset by the high resolution of Macintosh graphics. The waiting list for Macs, a reality last spring, is no longer a serious problem as the automated plant churns out more and more machines by the hour.

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The argument that the Mac is too easy is more subtle. I was told by a friend who developed programs for an earlier generation of computers that the Macintosh really isn't a computer in the traditional sense because you can't get inside it, switch the interface boards around, or otherwise interact with the hardware. As he reminisced about the "golden days of the 1970s" when a personal computer could only be assembled from a kit, I was reminded of the admonitions I heard in my childhood against using a ski tow instead of climbing the hill to get the exercise.

For naught I tried to explain how to many people (myself included) getting inside a computer seems even less attractive than overhauling a car engine and that children would better appreciate taking a computer (or a car) apart after they have had the fun of being in the driver's seat.

As an educator I want to see the best possible equipment in schools. I want to support kids in every way while they learn, not so they can be lazy but so they can learn more and feel greater success as they go along. I believe that the Mac has tremendous potential in the teaching and learning process as a way to build confidence and enhance creativity.

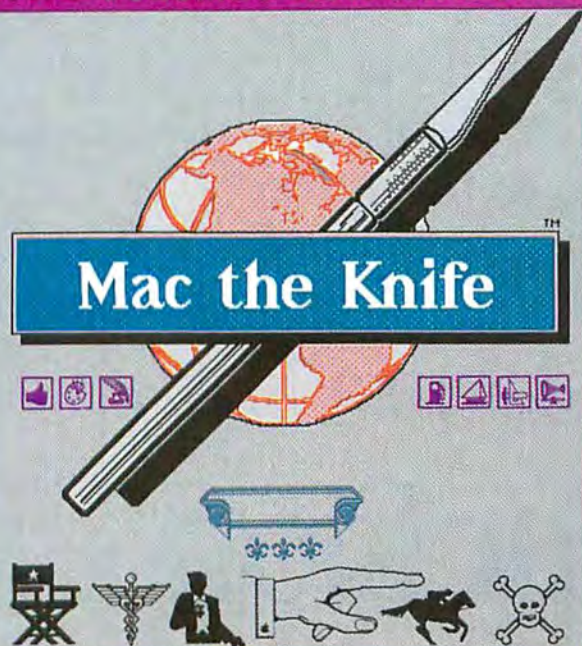
It would be absurd for schools to dump perfectly good Apple II equipment in an attempt to keep up with the ever-evolving state of the art. As long as the Apple II and its programs serve educational purposes, they should be valued and maintained in the schools. But the fact that a school has already invested in an Apple II orchard is no reason to ignore the possibility of planting some Macintoshes as well.

While I don't usually subscribe to the conspiratorial view of history, I believe that Apple has been purposefully recalcitrant about promoting the educational value of the Mac for young students. The company's marketing strategy may stem from the fear that the Mac might get a reputation as a kid's computer because it is so embarrassingly easy to use. Of greater concern to Apple must be the dilemma of competing against itself in a market that it has dominated for the last five years. The Apple II series is by far the dominant computer in schools; any suggestion that the Apple II is not forever might water down its market by scaring school districts into questioning computer purchases or delaying decisions.

But with or without Apple's blessing, I am convinced that the marvelous qualities of the Mac—the mouse, the menus, the large type sizes, the magnificent graphics capabilities—make it a natural for young students. In time, either Macintoshes or the inevitable Mac compatibles are going to find their rightful place in schools.

Neale McGoldrick is the author of Applications for MacPaint, forthcoming from Addison-Wesley. □

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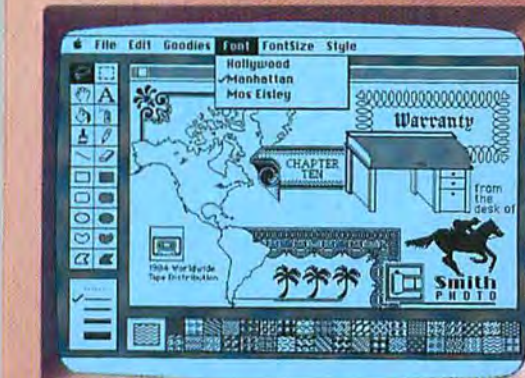
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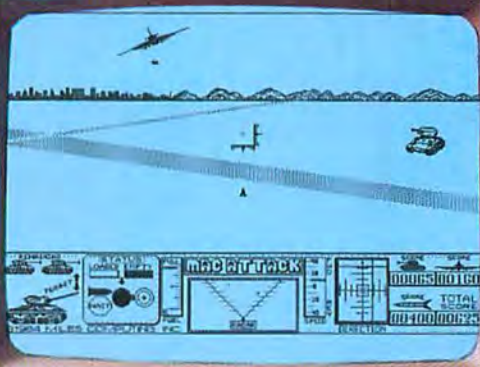
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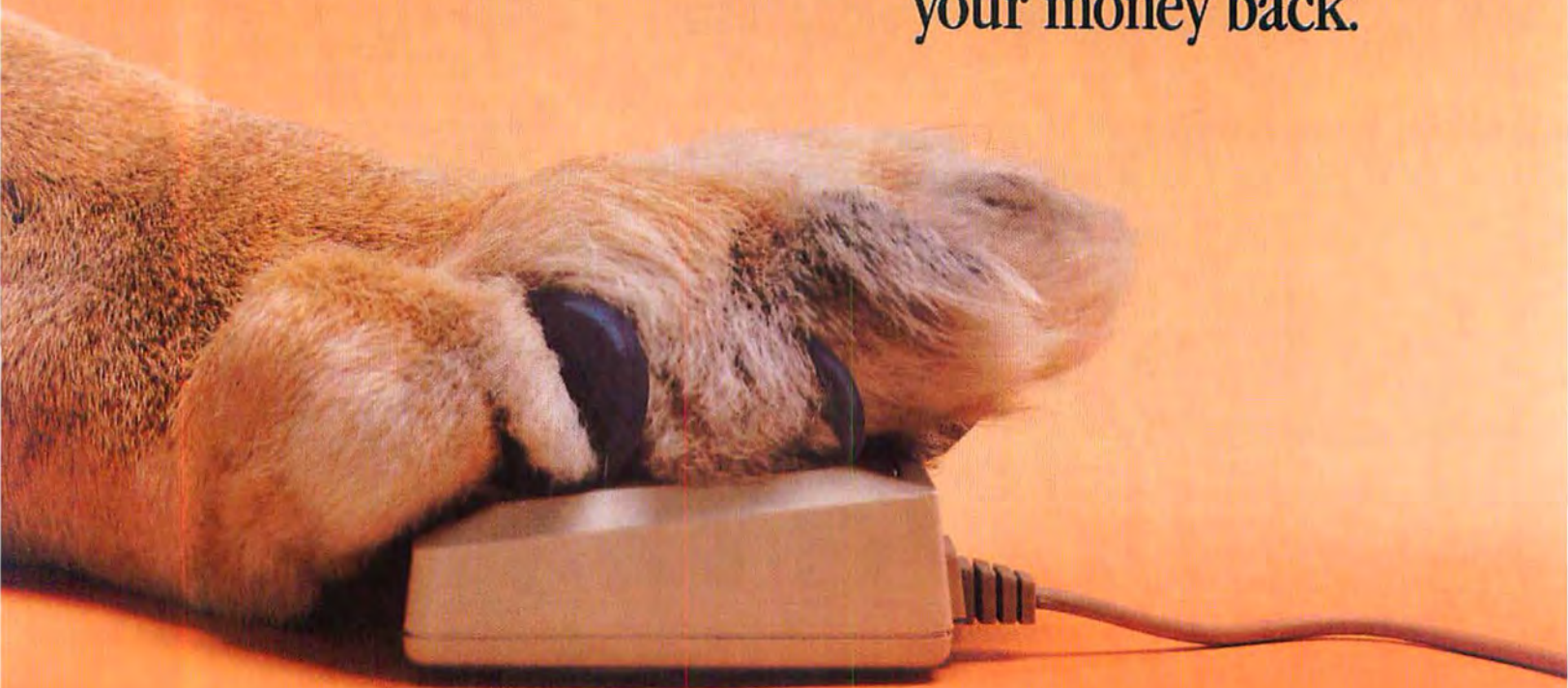
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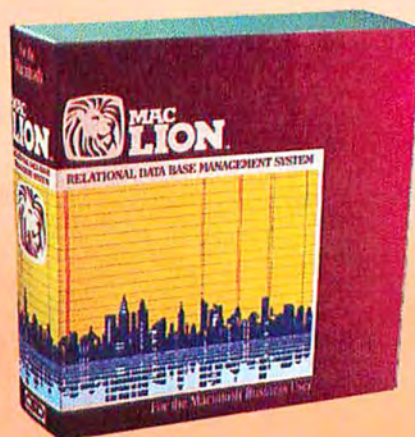
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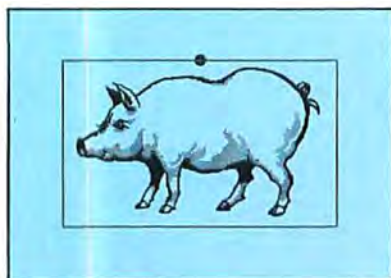


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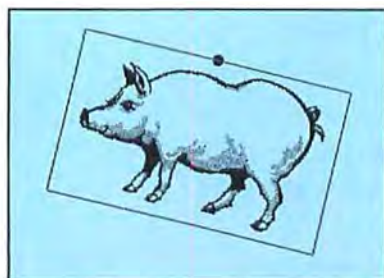
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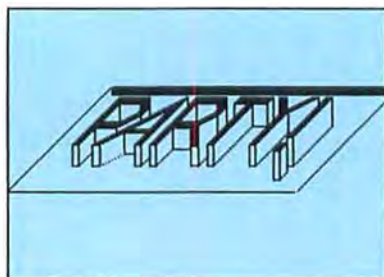
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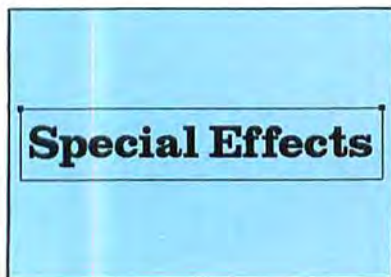
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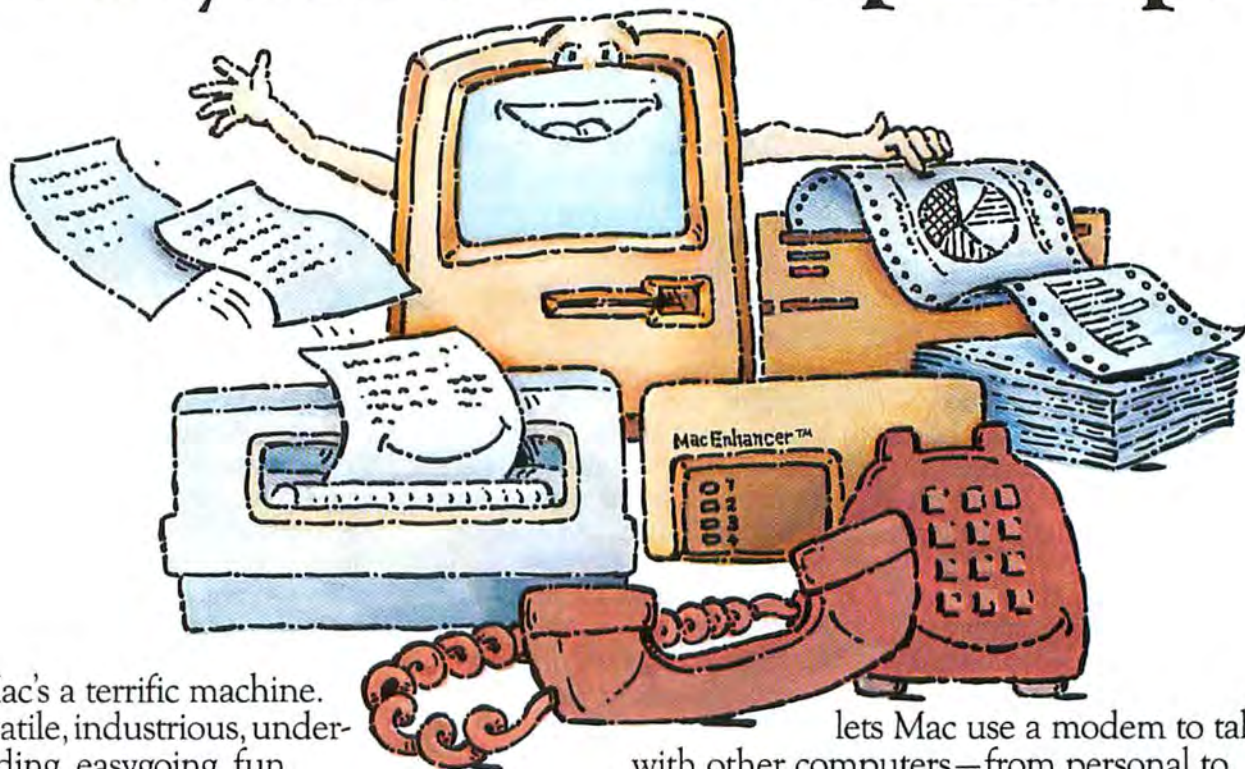
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Letters

Greek Roots

I read "The Macintosh Family Tree" [*Macworld*, November 1984] with great interest. It appears to me that Ted Nace did not go back far enough in tracing the ancestry of the Mac's user interface. The Mac's genealogy does not begin with PARC, ARPA, or even the idea of a "memex." Icons, overlapping windows, and the desktop metaphor as ways of intuitively organizing information are not just 20 years old but in some respects more than 20 centuries old. We've been wrestling with the best way to deal with small computers, both natural (the brain) and now artificial (the personal computer), since we began to think.

To take one example, memory was in the past considered an art to be learned much as one learns computer literacy today. Cicero reported that Simonides "inferred that persons desiring to train (memory) must select places and form mental images of the things they wish to remember and store those images in the places, so that the order of the places will preserve the order of the things, and the images of

the things will denote the things themselves, and we shall employ the places and images respectively as a wax tablet and the letters written on it."

Simonides' technique for a "user interface" between memory and intelligence was used through classical antiquity and the Middle Ages. It died out only when the printed book reduced the need for mnemonic athleticism. How ironic that the Mac's advanced form of memory manipulation, which has been rightfully hailed as opening the doors of computing to the average person, is really nothing more than an updated version of an ancient rhetorical device.

*Leland Gallup
Panama City, Panama*

Reward to Those Who Didn't Wait

How far we've come in a few short months. The Macintosh is an unqualified success. You can even buy software.

Who made the Mac a success? There is the brilliant team in Cupertino. I trust Apple has rewarded it. Then there are the advertising and marketing people who, of course, are always taken care of.

But there's another, very important group that Apple has ignored: those of us who bought the first Macs. We took a

big chance paying full price for this funny-looking machine with no software available. We took it home and showed it to our friends. I can claim personal responsibility for selling eight Macs.

Don't get me wrong. I'm glad I bought the Mac when I did. But I had to wince when I convinced my employer to buy a Mac for the office six months after I bought mine for \$1000 more. Now comes the long-awaited Fat Mac. In a few months it'll be selling for as much as we paid for the first Macs.

Had I waited, I would have been well rewarded. Had everyone waited, however, the Mac would have been a big flop.

Here's my idea: In recognition of our contribution to the Mac's success, Apple Computer should offer a free or generously discounted 512K upgrade to those who bought a Macintosh before, say, March 20, 1984. Apple took a big risk with the Mac and won. We took a big risk, too, but as things stand, we would have been smarter to wait.

How about it, Apple?
*Kurt Wanfried
Newville, Pennsylvania*

What Price Upgrade?

In "The Macintosh Deluxe" [*Macworld*, November 1984], Danny Goodman states categorically that there is no price difference between the upgraded and the 512K Mac that comes from the factory. Not so. A dealer upgrade involves replacing the original 128K logic board with a 512K model. The dealer receives a \$300 core rebate for each 128K logic board returned to Apple. Why is this not reflected in the \$1000 swap at the consumer level? Technician time to change boards and run a diagnostic is certainly not worth \$300. Actual dealer cost for the 512K board from Apple is probably in the area of \$500. Is the real "Two-Model Strategy" to rip off current Macintosh owners?

*G. Norton
Walnut, California*

Randy Battat, Macintosh product manager at Apple Computer, tells us that the amount given to dealers for each 128K board they return is not a rebate but rather the dealer's profit margin on the 512K board it purchased for the upgrade. The amount is withheld, in effect, to encourage the return of the used board. Apple wants the 128K boards back to use as service spares.—Ed.

"Ahh... Safe at Last!"

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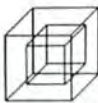


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Mac Attack

I read David Bunnell's column ["The Macintosh Is Here to Stay," *Macworld*, December 1984] and feel that you have swept a number of important issues under the rug concerning the Macintosh. Let's cut the fat and get down to the beef.

Apple Computer has always stated that it developed the Macintosh as a business machine. One wonders how Apple ever expected the Mac to be a business computer, given some of the design limitations. A business computer must have a hard disk capability, period. Big Blue found this out the hard way and had to rewrite its DOS to allow the efficient use of a hard disk. As the Mac is, any hard disk has to move data through a serial port. In order to maximize data transfer rates, a parallel port is required. No matter how fast a serial port is, a parallel one is faster. Present Macintosh hardware and software do not support hard disks efficiently. The sad fact is that Apple has designed the Mac with planned obsolescence.

After reading the reviews of the Tecmar, Davong, and Corvus hard disks, I have decided not to buy a hard disk. I would prefer a 256K Mac with a hard disk that is user-friendly to the 512K Fat Mac that isn't. I shouldn't need to boot my hard disk with a floppy; the system should boot directly from the hard disk.

Apple has failed to give Macintosh owners any sort of documentation on the machine. Where does the ROM lie in the memory map? What routines are in it? Where does the Mac store its system variables? What is in the System folder? How do you program the beast? I don't want to hear any rebuttal about how it's not a hacker's machine. If that is really the case, the Macintosh should accept only cartridge software, à la Atari. The point is, after paying \$2750 for the computer, why should I have to pay \$150 for a photocopy of its memory map or pay \$500 to become a "certified developer"? The machine is mine, not Apple's. I want to be able to control it.

I don't like having to pay \$200 to get a language for the machine, yet *Macworld* has yet to drag Apple publicly over the coals on this point. I can program my \$49 Timex Sinclair 1000 as is, a feat that my Macintosh cannot match. If Apple can give us *MacWrite* and *MacPaint*, why can't it give us BASIC?

The Macintosh is slow. When you print a *MacWrite* document, the Macintosh saves the document to disk first. Why can't it simply start dumping the print data to the printer from the memory? If you use the draft mode, the printer flies, but the output looks like junk, not a draft.

Please don't think that I am anti-Macintosh. I bought one in June 1984. I love my Mac and have no regrets about buying it, but I also recognize its limitations. Apple needs to get off its high horse and listen to its customers, or it will not survive the next 15 years.

*Anthony J. Oresteen
Fort Knox, Kentucky*

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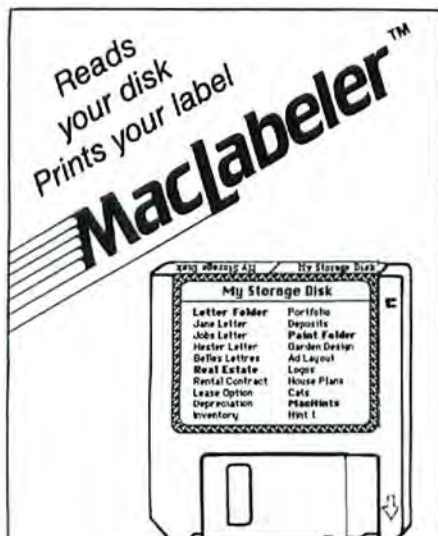
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Second Thoughts on Second Drives

I've been reading your magazine since its first issue, and until recently I've been very pleased. The article about Apple's external disk drive ["Double-Disk Strategies," *Macworld*, November 1984] was very annoying.

Daniel Farber states, "If you're tired of juggling disks, adding an external disk drive is a practical, economical way to manage your information."

I take issue with this remark on several counts. First, there is nothing economical about a \$500 disk drive that stores only 400K of information. At work we use IBM PCs extensively, and we have no difficulty buying a disk drive that holds nearly as much information for about \$200.

Second, the disks are as overpriced as the drives. They do not hold much more than 5¼-inch floppy disks yet cost almost twice as much.

Third, Mac owners are paying for new technology. This would not be objectionable if premium prices bought premium performance. Do Macintosh disk drives deliver such performance?

Mr. Farber reports that between 50 and 60 percent of Mac owners are buying the external disk drive. He takes those figures as an indication that consumers regard the disk drive as worth its cost. But those figures might as well imply that the internal disk drive is not sufficient to run Mac software.

Aren't consumers, then, coerced into buying an Apple external disk drive? (There are no third-party vendors.)

Apple leaves us with three choices: suffer through eight disk swaps when we start up applications lacking the operating system, buy an Apple external disk drive, or throw away the Mac altogether.

Robert P. Goldman
New Haven, Connecticut

Ready for Takeoff

Is anyone working on a version of Microsoft's *Flight Simulator* for the Macintosh? It seems that the Mac's screen would produce a great simulator, though I can see how the lack of color would discourage software companies.

Daryl P. Friedman
Santa Cruz, California

At press time Marty Taucher, public relations manager at Microsoft, said that there were no plans to introduce a Macintosh version of Flight Simulator, Microsoft's best-selling game, in the near future.—Ed.

Font Utility Overdue

The versatility of the Mac in font adaption is well established. It is disappointing, however, that the promised utility to design one's own fonts for use with the Font Mover (as opposed to the unfriendly reprogrammability feature of the Imagewriter) has not been made available. As evidenced by the proliferation of font software, there seems to be some sort of conspiracy between Apple and these software outfits to withhold this capability from the rest of us. This forces us to buy expensive font packages that include fonts we may not need or to negotiate for costly custom fonts. What is the prospect of Apple releasing a friendly font generation utility for the Mac in the near future?

We read your magazine from cover to cover and find most of the information quite useful.

Nissan Graham-Mayk
Eatontown, New Jersey

According to Randy Battat, Macintosh product manager at Apple Computer, a font utility that allows you to design your own fonts is already

available from Apple as part of a Macintosh software supplement. The supplement consists of various programs and accompanying manuals and is not restricted to certified software developers. To receive the supplement, send \$100 (plus sales tax in California) to Apple Computer, Macintosh Software Supplement, 467 Saratoga Ave. #621, San Jose, CA 95129. Mr. Battat also says that another font utility, easier to use than the one included in the supplement, is under development and scheduled for release late this year.—Ed.

Master-Slave Relationship

I found Daniel Farber's "Double-Disk Strategies" [*Macworld*, November 1984] informative and well written. I have had my external drive for about a month now, and I am extremely happy with my purchase. I have changed my entire operating method to maximize the effi-

ciency in working with two drives. Mr. Farber has given me additional insights into other methods I intend to try.

One statement in his article is misleading. He indicates that, when using copies of copy-protected applications, you have to insert the master disk only once during a work session unless you turn off the computer. I recently explored a demonstration copy of *Filevision* and found a dramatic difference between its copy-protection scheme and *Multiplan*'s.

When I use a copy of *Multiplan*, I insert the master once when starting up the application. I am then free to switch back and forth between that application and the copies of *MacWrite* and *MacPaint* that I have included on the same disk. I never have to insert the master again unless I turn off the computer.

On the other hand, when I quit *Filevision*, I had to insert the master each time I tried to restart it, even if I had not turned off the computer. In fact, I wasn't even offered the choice of canceling. This turned out to be a critical deficiency, coupled with the fact that *Filevision* has no Save As option. Each time I created a new document, I was required to save it to the same disk. Since *Filevision* consumes 159K of disk space, I had to quit and move the new document to a data disk to allow room for new documents. Of course, I had to insert the master each and every time I went through this tiresome process.

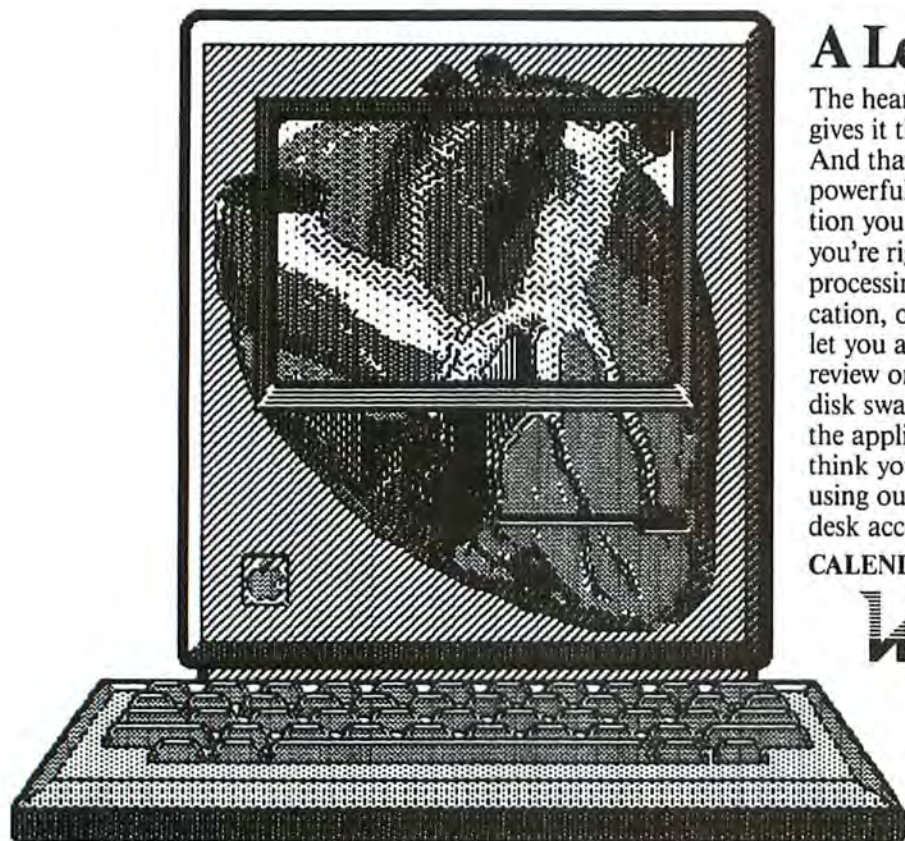
With the exception of those difficulties, *Filevision* was easier to use than I ever dreamed. I look forward to purchasing a copy once those significant bugs are worked out.

Mitch Cooper
Topeka, Kansas

Correction

In "Mac on the Audit Trail" (*Macworld*, February 1985), Brad Boaz and Debra Frank of Peat Marwick's Tampa, Florida, office were incorrectly identified as supervising manager and managing auditor, respectively. Actually, Mr. Boaz is a supervising senior, and Ms. Frank is a senior accountant. Our apologies for any confusion that may have resulted.

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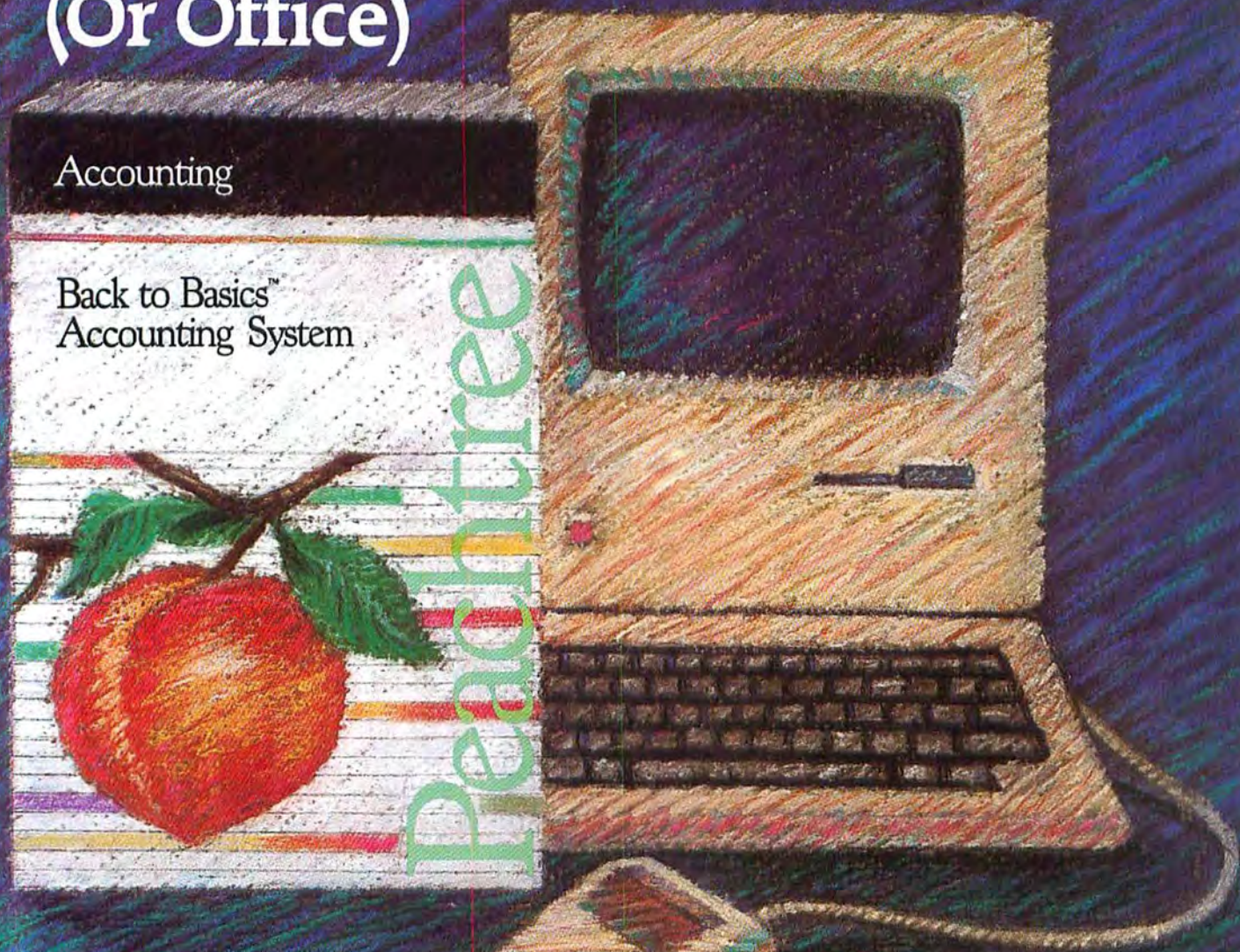
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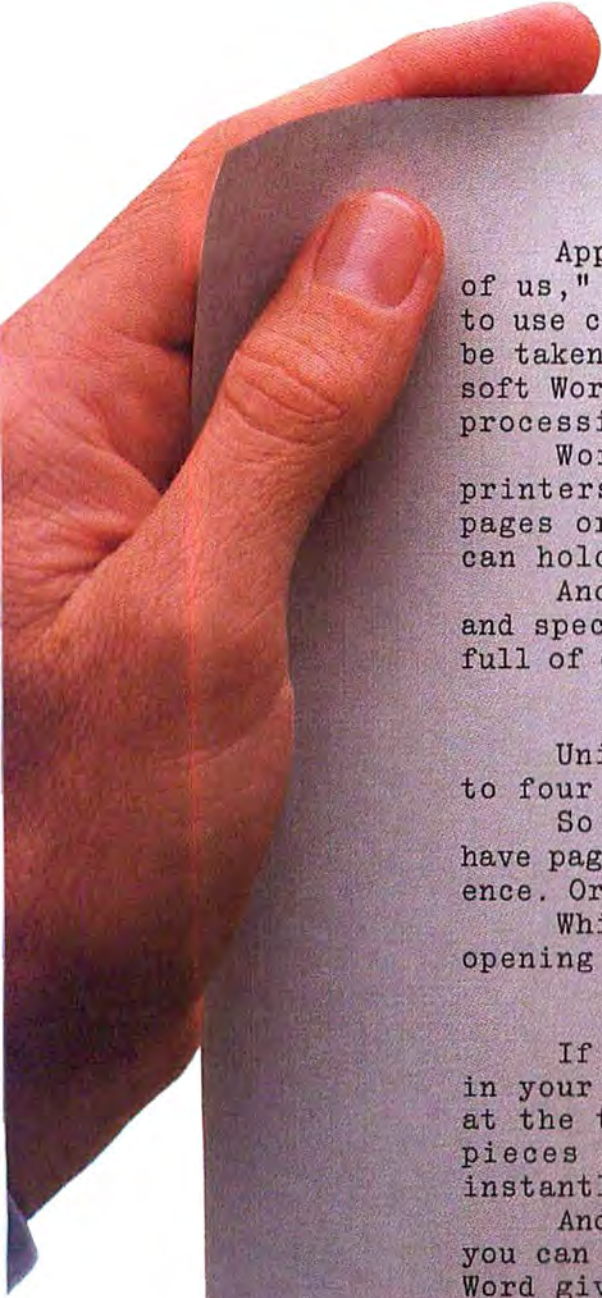


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Now the can do some

A close-up photograph of a person's hand, with fingers visible, holding the left edge of a piece of paper. The paper is slightly wrinkled and has a light beige or off-white color. The background is a solid, light gray.

Apple's Macintosh, "the computer for the rest of us," is probably the most advanced and easiest to use computer on earth. But until now, Mac couldn't be taken seriously for word processing. Enter Microsoft Word for the Macintosh. Mac's professional word processing program.

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A hand is shown from the bottom right, holding a large, dark, three-dimensional block letter 'W'. The 'W' is part of a larger word, 'WORD', which is also made of block letters. The hand is positioned as if it's about to place or has just placed the 'W' into the 'WORD'.

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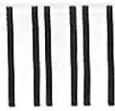
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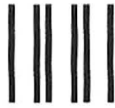


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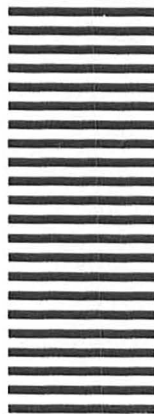
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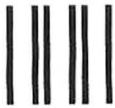


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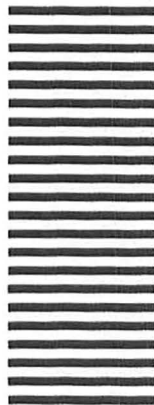
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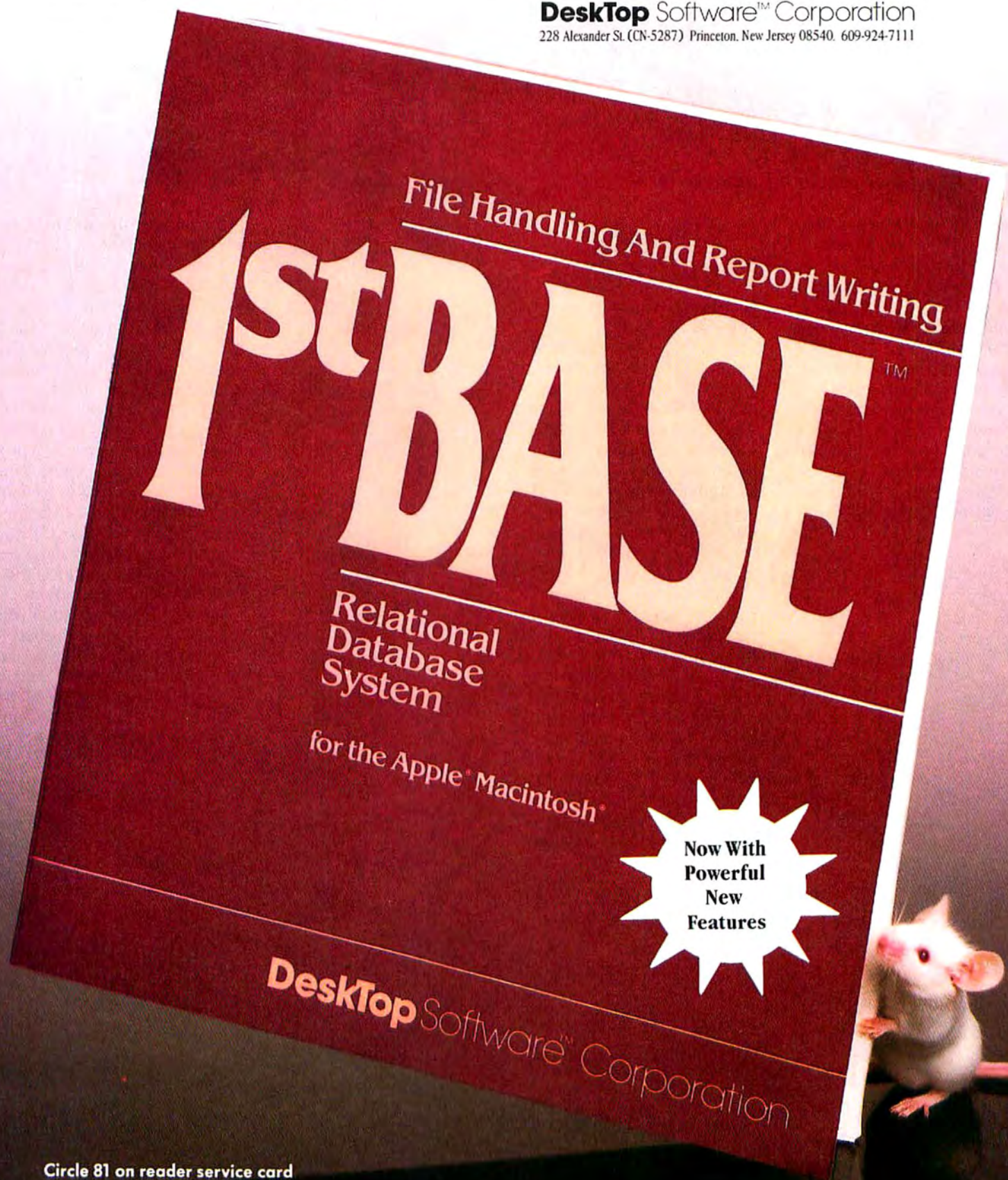
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Macworld View

News and notes for the Macintosh community

Edited by Janet McCandless

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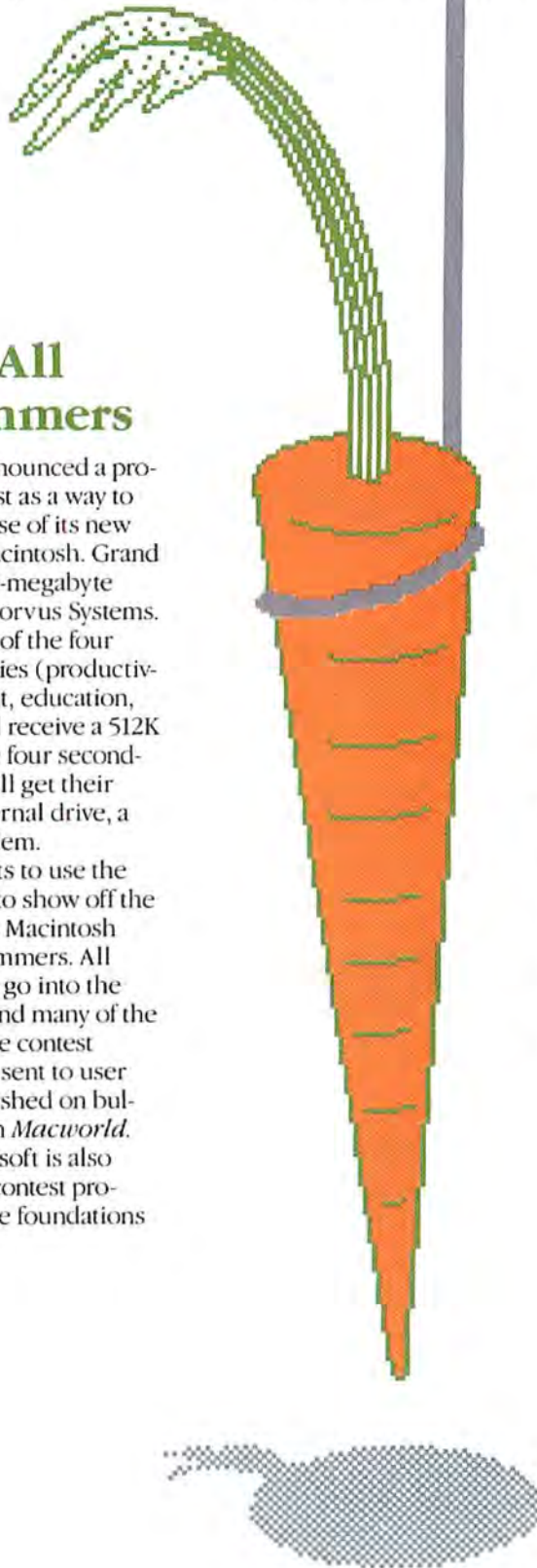
Calling All Programmers

Microsoft has announced a programming contest as a way to kick off the release of its new BASIC for the Macintosh. Grand prize will be a 10-megabyte hard disk from Corvus Systems. Winners in each of the four software categories (productivity, entertainment, education, and utilities) will receive a 512K upgrade, and the four second-place winners will get their choice of an external drive, a printer, or a modem.

Microsoft wants to use the contest as a way to show off the capabilities of its Macintosh BASIC to programmers. All submissions will go into the public domain, and many of the programs that the contest brings in will be sent to user groups and published on bulletin boards or in *Macworld*. Of course, Microsoft is also hoping that the contest programs will lay the foundations

for a library that will help the company's BASIC for the Mac circumvent the Catch-22 that faces all new languages: developers are reluctant to write applications in a language that no one uses, but no one uses the language because no applications are written in it.

Because the submissions will go into the public domain, it's unlikely that professional programmers will compete. However, Rob Dickerson, Macintosh product manager for languages, says he expects the chance for publicity and prizes to attract a wide variety of serious Macintosh programmers—"everyone from 14-year-old kids to some very good hackers." Dickerson notes that "a lot more people are creative than are programming wizards, and we're trying to get creative people to enter this contest."



In line with this goal, the judges, who will include *Macworld* editors as well as Microsoft representatives, will emphasize originality (70 percent) over implementation (30 percent). They will consider more how creatively the programmer has used the Mac's special capabilities than how bug-free or efficient the code is. Look for Microsoft's announcement in this issue.—Joe Matazzoni

Sleight of Hand

Until now art directors preparing multimedia presentations for their companies had no way to determine at an early production stage whether the presentations would achieve artistic and corporate goals. Dudley Ackerman, consultant to Automotion, an animation production company located in San Francisco, and its founder Andy Fahrenwald have invented an

interesting solution. They have designed electronics and software for the Macintosh that will give art directors a clear idea of what their final product will look like. Automotion's simulation system includes a camera that digitizes images onto a Mac disk. An art director uses a three-axis joystick to manipulate the digitized images and simulate camera movements. Once the information is stored on disk, the performance can be repeated and edited easily. When the art director has

finished the multimedia show simulation, the disk is sent to Automotion along with the original artwork and sound track. The information on disk is relayed via microprocessors to cameras that replicate the sequence of camera movements over the artwork.

Ackerman believes that a portable robotic animation sys-

■■■■■■■■■■

Dudley Ackerman, Automotion's chief programmer (foreground), and company cofounder Andy Fahrenwald use their simulation system to create animation effects for an audiovisual production.



tem will significantly alter current film and video production methods. Fahrenwald says, "What we're doing is breaking the mold. We're filmmakers and electronics people. When we're done, scripting, producing, and editing an audiovisual production in any medium will be done in one sitting."

For the Mac owner who wants to create a slide show that does not require high production quality, *Slide Show Magician*, released by Magnum Software, is available. Special effects options can be used on any text or graphics that you can display on the Mac screen. The visual effects include barn-door, checkerboard, window shade, venetian blind, iris, and arrowhead wipes. Text can be superimposed and displayed as a block or word by word. The designer can set the timing of each frame, interrupt a frame, or jump to another frame.

The introduction of both these products and services further strengthens the Mac's position as a tool in the production of computer-generated audiovisual presentations.



Hot List

Macintosh products have hit the charts. Softsel Computer Products, a software distributor in Inglewood, California, compiles a Hot List from its sales to approximately 9000 retail outlets located in the United States and abroad. Over a sample period of three weeks, the company tracks the sales and reorders on the software it distributes. Softsel categorizes each program under headings such as business, recreation, and education. The program's position on the chart relative to other programs is determined from its total sales for all personal computers on which it runs. Programs that are slipping from the charts, such as *Murder by the Dozen*, often bounce back onto the Hot List when Mac versions are released. Bob Leff, president of Softsel, states that at first Mac software was so scarce that almost any Mac product could be expected to sell well, but the phenomenal sales figures will not continue through 1985. He does expect that software such as Peachtree's General Ledger

package and Lotus's *Jazz* for the Mac will bring more business customers into retail stores.

With the release of the 512K Mac, it is likely that more software developers will design integrated programs. Many products that run on other personal computers and were converted for the Mac in 1984 will be modified to take better advantage of the Mac's user interface and hardware such as the laser printer. We should see more specialized programs, such as music and sound-generating programs, and vertical applications for professionals. Applications that integrate the Mac's sound, graphics, and networking capabilities may require Softsel to invent new categories for the Hot List.

A Contest of a Different Color

While the Microsoft contest favors people with creativity and practical computer skills, another contest, sponsored by MacConnection, a Macintosh product mail-order house, is being aimed at what is probably a much larger constituency within the Mac community: people who are creative but who lack practical computer skills.

The MacConnection contest was spawned by an experience that usually inspires only frustration—a telephone company screw-up. MacConnection placed an ad for themselves listing a phone number that wasn't hooked up by the time the ad ran. According to partner David Hall, the complaints that came in weren't what the company expected. "We started getting letters asking, 'Hey, where are you guys?' The letters didn't sound mad; they were interesting. They were written on the Macintosh, had graphics, and showed a lot of wit." The company's managers decided that Mac owners are a different breed of computerist—odder than the owners of other computers, according to advertising coordinator Kate McVey—and the managers dreamed up this contest to test that theory.

The contest announcement begins with the headline "We'd like to think you're a little strange" and goes on to offer \$500 worth of hardware and software for strange-but-true Mac stories. These tales of Mac magic or misadventure will be used in a series of "Real People"-style ads that MacConnection is planning. The stories can be on any subject—"Has your Mac ever saved your life? Did you canoe solo down the Amazon with only a

Mac for company?"—as long as they're unusual and interesting. Don't worry if you're not a writer; just tell your tale, and a copywriter will take care of the style.

At press time Hall said that the contest field was still wide open. "We've had a few letters, but nothing really bizarre—that's what we're looking for." So if you think you might have the stuff and don't mind admitting it, look for contest details in MacConnection's advertisement in *Macworld*. The worst you could do is find out you're not as strange as you think.
—Joe Matazzoni

Libraries and Computer Literacy

What better place for adults to overcome a resistance to computers than a library? After all, not everyone has a 13-year-old computer expert available to teach them all about personal computers. Now that computer literacy is as important as the three Rs, many adults can go to their local library and get acquainted with computers in a familiar setting.

Library programs for familiarizing adults with computers are coordinated in California by the Adult Computer Literacy Program, funded by the California State Library. A variety of personal computers is already in use throughout the state. One library where the Macintosh will be used is the Pinole Branch Library of the Contra Costa County Library. Only adults will be able to reserve the computer and the several

available programs, some of which were donated by Macintosh software developers. The library will also be collecting public domain software. One of the branch librarians, Steve Cisler, will be on hand to help people get started.

Nationwide, the Microcomputer User's Database, a project of the Public Library Association of the American Library Association, has 300 members. The project is intended to help people form or join personal computer user groups. Its main effort is to identify the areas of expertise of each member so that members can exchange skills. The group has nationwide meetings and communicates updates to its database. No membership fee is required, but send a stamped, self-addressed envelope when asking for information and an application. Write to Carol Liu, Queens Borough Public Library, 89-11 Merrick Blvd., Jamaica, NY 11432.

Students at Drexel University in Philadelphia can reach the library by modem. They receive training from the university librarian and have access to public databases. In a Livermore, California, library the Macintosh is being used by the public for information and referral services. Perhaps in the future all personal computer owners will use library information and referral services from home. They will go to the library only for books and, of course, computer training.

An interesting sidelight to Macintoshes and adult computer literacy was reported by David Swain, a computer consultant and trainer in Alameda, California. He is frequently called on to train workers who have no computer experience. These people use IBM PCs and other types of personal computers at work, and when they have problems, they are trained by David on a Macintosh. He reports that Macintoshes are less

threatening, easier to use, and more fun to play with than other computers. The Mac helps people feel comfortable with computers in general. After learning applications on the Macintosh, people can then move on to try other machines. The question is, will they want to?—Heidi Mitchell

Softcasting

Radio Free Software? Well, not quite. For \$70 you should now be able to buy a device called a *shuttle communicator* (it was in beta test at press time) that attaches to an FM or AM radio receiver and lets you download software to the Macintosh and other personal computers. The communicator was designed by Microperipheral Corporation to accommodate a radio show the company is producing. Tentatively titled "Download," the weekly, half-hour show will broadcast public domain computer programs along with computer news and information.

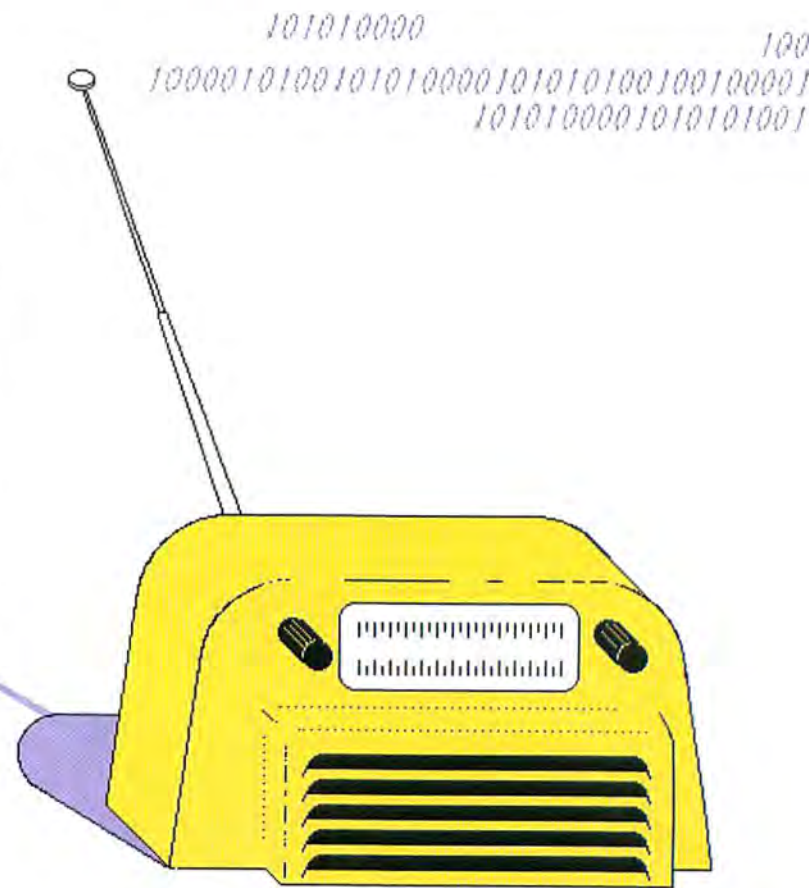
Microperipheral will be the first company to take advantage of a recent FCC ruling allowing the use of normal AM and FM airwaves for computer communications. Previously, banks and other institutions that used radio for computer communications transmitted over FM subcarrier channels that can't be picked up by ordinary radios. Other software distribution schemes in the works, such as that of Electronic Publishing Systems of Sunnyvale, California, will also use subcarrier channels. These software distribution systems are similar to public television in that they will be supported by subscri-

ers, who in this case will be charged a fee. "Download," on the other hand, will be paid for by the show's sponsors.

The shuttle communicator works like a modem, translating analog radio signals into the digital form required by the computer. Because it receives information at a rapid 4800 bps (bits per second), radio stations can transmit a program in a burst lasting only seconds. According to Don Stoner, Microperipheral's vice president of engineering, the error rate on FM channels is comparable to phone line communications at 300 bps; AM error rates have been less satisfactory. Of course, since communication is in one direction only, there's no opportunity to retransmit garbled data. However, each program uses a checksum system (in which the computer compares the number of bytes

a program is supposed to have with the number actually received), so you can at least get some idea of whether the program was received intact before you run it.

According to Stoner, the show's producers intend to include the Macintosh audience. Microperipheral has already experimented with downloading Mac graphics, and in a move resembling videotex applications, the company is looking at the possibility of using the Mac's high-resolution screen to display such things as weather maps that Mac owners could study while listening to the weather report. For more information, contact the Microperipheral Corporation at 265 152nd Ave. NE, Redmond, WA 98052, 206/881-7544.—Joe Matazzoni □



ODESTA HELIX

An Interactive Information System
For Individuals With A Need To Know

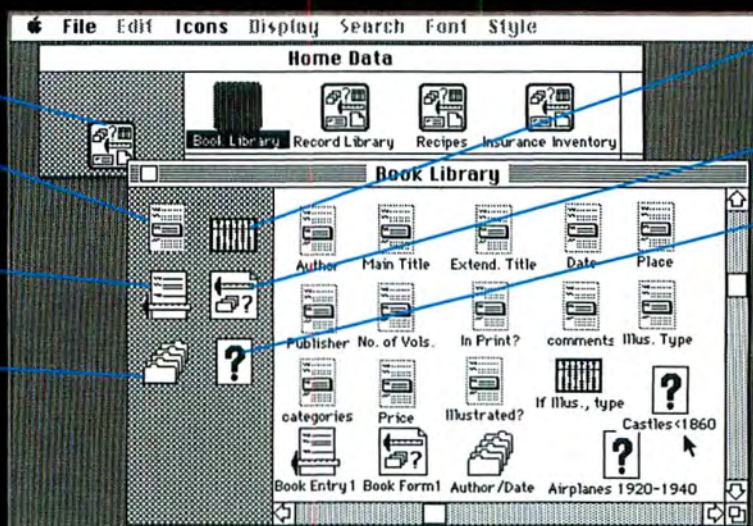
With Odesta Helix, you can model worlds of ideas, things, and relationships, and watch them live and interact upon your desktop. Odesta Helix is a new program – not an old program made to work on a new machine. It takes a new approach – letting you define and control the shape and form of information according to your own needs and style. Odesta Helix gives you a rich and powerful set of visual tools that lets you begin working immediately, without having to learn a programming language or battle with the restrictions of “spreadsheet” type thinking.

Relation icon
to set up different
“data bases”

Field icon represents
types of information

Template icon for
constructing and
changing forms

Index icon lets you get
at things in whatever
order you want



Abacus icon for
setting up calculations
and relationships

Form-view icon pulls
everything together

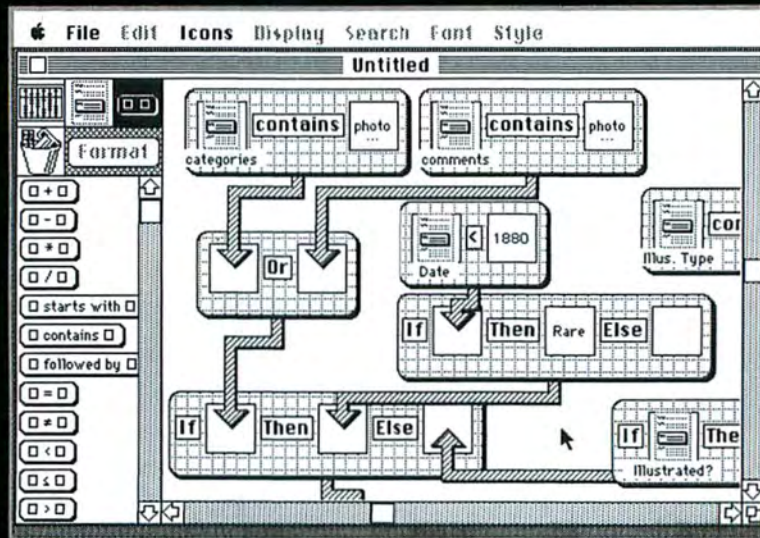
Query icon lets
you do interactive
searches

Odesta Helix uses icons (visual symbols) to represent ideas, relationships and functions as objects that you can easily manipulate. Create them by clicking on the icon-wells on the left, and dragging them to your desktop. Each opens to reveal deeper and deeper operations and values that may be invoked and shaped with the click of a mouse button.

Odesta Helix™ & Macintosh™

The Next Step.

Tiles act as arithmetic, text, Boolean and date operators, functions and values.



Visual building blocks let you set up even the most complicated statement or calculation and use it whenever you want to. Drag tiles out from the list at the left. Drop icons into the tile holes, or type in numbers or text. Connect the tiles by pulling arrows around. This whole calculation is represented by a single abacus icon that may be used on any form, and you may make up as many as you feel like.

Book Form 1

Author: Billings, Robert William
Main Title: Antiquities of Scotland
Extended Title: The Baronial and Ecclesiastical Antiquities of Scotland
Place: Edinburgh **Date:**
Publisher: William Paterson **No. of Vols.:**
Categories: Scotland Castles Abbeys
Illustrated? Yes **What Kind?**
Comments: quarto, a.e.g.; full polished calf, with elaborate gilt designs and red & blue labels on spine. Abt. 60 full page plates per volume.
Price: \$225.00 **In Print?** No

Search **Font** **Style**

Find Next
 Find Previous
 Find First
 Find Last
 Find All
 Replace
 Delete
 Clear Form
 Show Selection

Date: Date < 1860
Categories: categories contains castle
Comments: comments contains leather calf morocco sheepskin

Here is a form-view being used in conjunction with an interactive search form (query icon titled "Castles < 1860"). One aspect of the radically innovative design of Odesta Helix is that you can enter, query, edit, and print information all from one window – without having to shift from one mode or application to another. Another reflection of this dynamic design is that if you make a change in one window, you see the result pop-up in any open related window.

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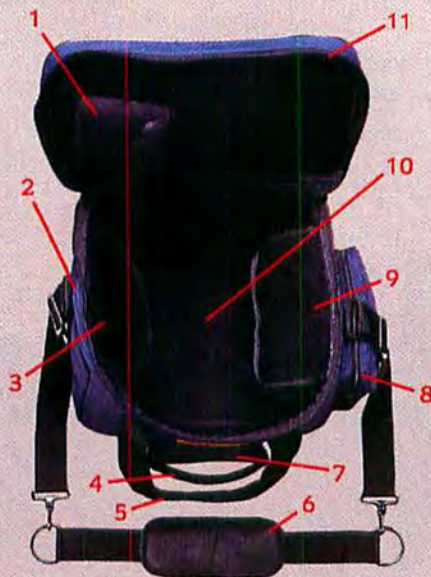
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5. Padded, Velcro handle (no snaps);
6. Padded, non-slip shoulder strap;
7. Velcro pouch for disks or accessories on side of case;
8. Zippered padded pouch for disk drive;
9. Padded pouch for accessories, modem, cords, etc., and extra padding to protect Macintosh's screen;
10. Reinforced bottom fully supports and distributes weight of Macintosh;
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~~tip~~ ~~bored~~ ~~innerface~~ ~~retre~~
~~Write~~

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Put Mac·Spell·Right or The·Right·Word to work for you. You may even find yourself with a little extra time on your hands to expand your vocabulary.

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Mac·Mouse·Tracks™, a customized shortcut to mouse-driven commands. List price \$29.

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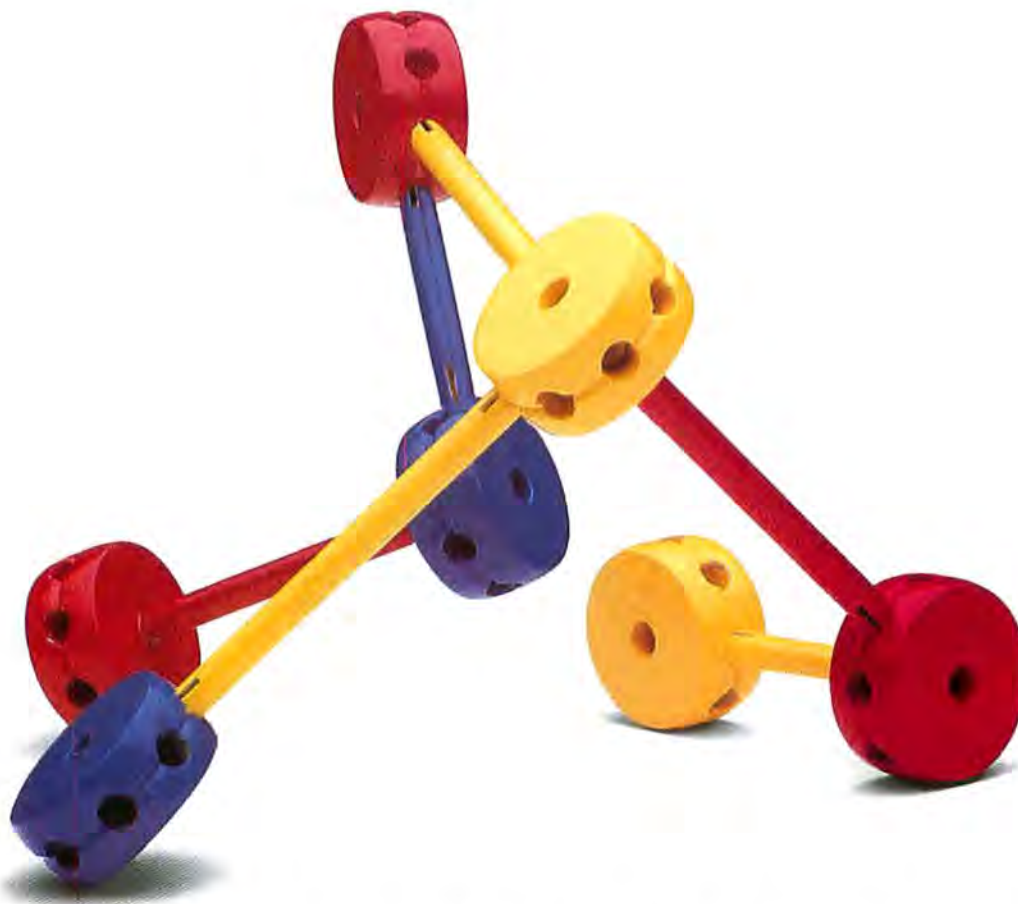


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MegaMerge is THE mail merge program for MacWrite! With MegaMerge, you can use MacWrite to create form letters, print mailing labels and more! You can even overcome MacWrite's limited document size by "chaining" several documents together and printing them as one, long document!

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You can also design your own files using MegaFinder's fun-to-use design file! You can also print lists, tables, mailing labels and MegaMerge mailing lists. You can even incorporate them into MacWrite and other Macintosh applications!

Here's what else MegaFinder can do:

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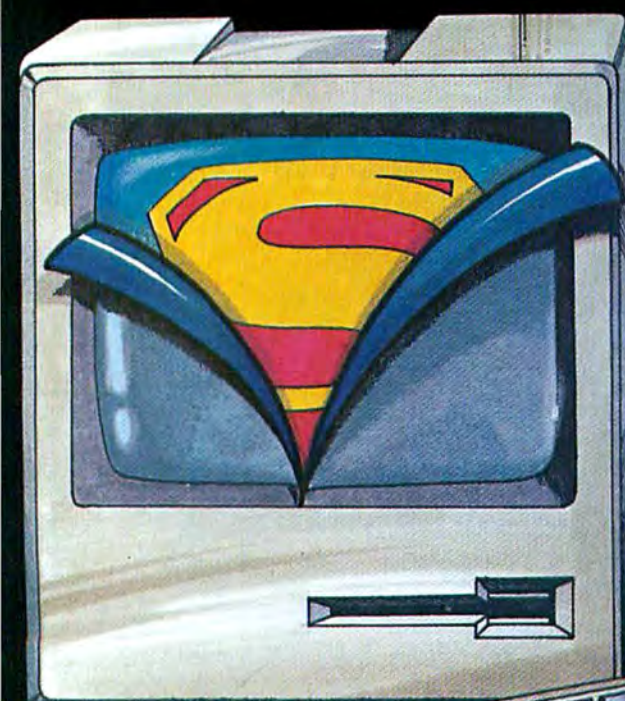
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Decking Out the Mac's Desktop

Gordon McComb

No desktop, whether it's made from the wood of an oak tree or the glow of an electron beam traveling through a cathode tube at the speed of light, is complete without accessories—handy gadgets that make work easier and more productive. On the Macintosh desktop, accessories include electronic versions of many items ordinarily found on a traditional desk, such as a calculator, notepaper, and a calendar.



With a Macintosh atop your desk you can clean up the clutter created by calendars, clocks, calculators, and even cockroaches. Like their real-world counterparts, the Mac's desktop accessories take up space (usually from 3K to 5K) and can disappear beneath your current work.





Like any good desk tool, the Mac's accessories are always ready for work. Choose an accessory from the Apple menu, and it appears on the screen. What's more, you can have more than one desk accessory on screen at once, and they can be called up from within any Mac application program. As with other aspects of the Macintosh, such as fonts, you have some control over desk accessories. You can delete accessories you no longer need, giving you more storage space on your disks. Dozens of new desk accessories are available that you can add to your disks (see "Desk Accessory Sampler" for descriptions of new desk accessories and "Desk Accessory Catalog" for a list of products and manufacturers).

Inside Desk Accessories

The Macintosh's graphics capabilities and high-resolution screen are well suited to desk accessories. A desk accessory is basically a miniapplication that performs a simple function and can be run concurrently with an application such as *MacWrite*, *Multiplan*, or the Finder.

When you pull down the Apple menu and choose the Alarm Clock, for example, the clock appears on screen in its own window, which you can move around the screen like any other Mac window (see Figure 1). Closing the accessory right after you finish using it is good practice because every accessory on screen takes up valuable memory.

However, keeping an accessory on screen is often useful while you work with an application. You might want to use the Note Pad with *Multiplan* or the calculator with *MacWrite*, for example, while you enter a list of totals provided in a report (see Figure 2). Keep in mind that Mac desk accessories can be lost behind other windows, in the same way that real calculators, notepads, and scrapbooks can get lost under mounds of paper on a desk. The active window, the one you're currently working with, always becomes the topmost window. When you want accessories to remain in view while you work with an application, resize and relocate the windows on screen as necessary (see Figure 3).



Getting Started

With some applications, such as *MacPaint*, you must close the accessory before you can go back to work on your document. Other applications let you keep no more than one or two accessories open at one time.

The number of desk accessories you can have open at once depends on the amount of memory available. You know that you're trying to open too many accessories when you get the "not enough memory" alert box. You have to close one of the accessories displayed on screen before you can open another.

An Accessory's Habitat

All desk accessories are stored on disk, tucked within the Macintosh System file, which is usually found in the System Folder. Most of the desk accessories that appear in the Apple menu are from 3K to 5K in size. Some accessories are as large as 18K, however, which is less than $\frac{1}{20}$ the size of a regular Macintosh application such as *MacPaint*. The compactness of desk accessories is dictated by the need to leave as much space as possible in memory and on disk for application programs and documents. For 128K Macs Apple programmers recommend that individual desk accessories take up 8K or less. Larger accessories may not work with some applications on a 128K Mac. For a 512K Mac the recommended maximum size is 32K.

In many ways the Macintosh works with desk accessories as it does with fonts. The Mac doesn't retrieve an accessory from disk until it's needed, which explains the short delay between the time you select an accessory and when it appears on screen. Like fonts, accessories can be removed from the System file or new ones added to suit your needs.

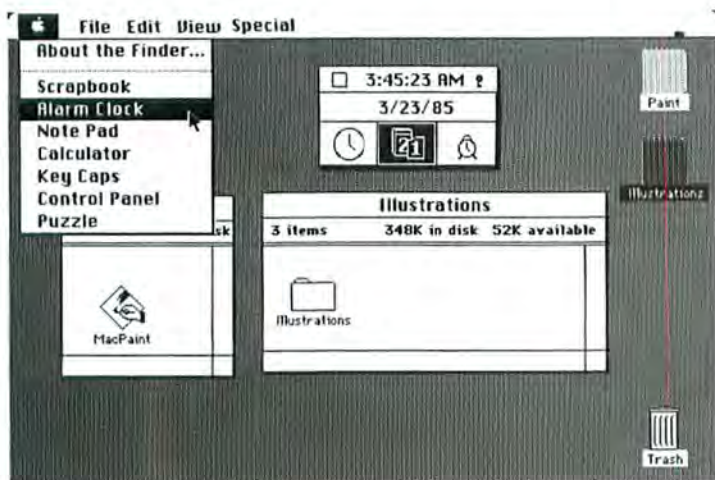


Figure 1
The Apple menu contains desk accessories, which can be used from the desktop or within an application. Accessories provided on most Mac disks are shown in this figure.

Juggling Desk Accessories

To the Macintosh, desk accessories are like manila folders, full of information and instructions. To call up a desk accessory, the Mac opens the folder, reads what's inside, and follows the instructions. Since each desk accessory is in its own folder, it can be easily removed from the System file as a discrete entity the way an entire folder can be removed from a filing cabinet.

Why would you want to delete the Mac's desk accessories? To free disk space. The seven desk accessories that come on most Mac disks—the Scrapbook, the Alarm Clock, the Note Pad, the Calculator, the Key Caps, the Control Panel, and the Puzzle—take up 17K on disk. When space is in short supply on your work disks, pruning desk accessories is a good way to start creating more space.

You need to use a special program to delete a desk accessory. A few available programs make deleting accessories a simple chore. The Resource Editor, a utility developed by Apple for program developers, is the easiest program to use for that purpose. Desk accessories, fonts, icons, dialogs, and other programs that make up the Macintosh environment are called system resources. The Resource Editor is designed to let you modify those resources even if you haven't any programming experience. Another benefit of the Re-

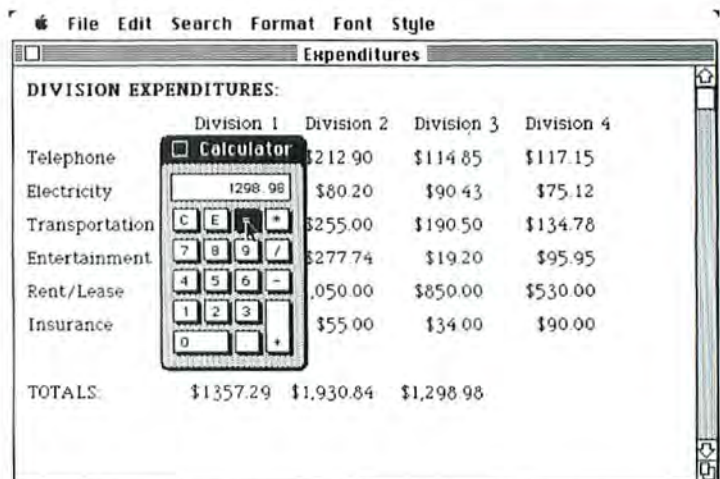


Figure 2
The Mac's desk accessories take advantage of the Mac's graphics capabilities and high-resolution display. You use them as you would their real-world counterparts.

source Editor is that it is free. You can obtain the Resource Editor from a variety of sources, including Mac user groups that offer public domain software and the MicroNet Apple User's Group (MAUG) special interest group on CompuServe (see "Into the Mouth of the MAUG," *Macworld*, December 1984, and "Backstreets of the MAUG," *Macworld*, January 1985, for a tour of CompuServe and the MAUG).

To use the Resource Editor, place it on the system disk you want to modify. As usual, double-click the Resource Editor icon to open it. The Resource Editor loads and displays a single open window in the upper-left corner of the screen. Double-click the entry marked System. This procedure opens a window that displays the name of the resources in the System file, including the desk accessories. If necessary, scroll the window contents to reveal the entry labeled DRVr, which stands for *device driver*. (A device driver is a program that exchanges information between an application program, like *MacWrite*, and a desk accessory.) Double-click DRVr to open it (see Figure 4).

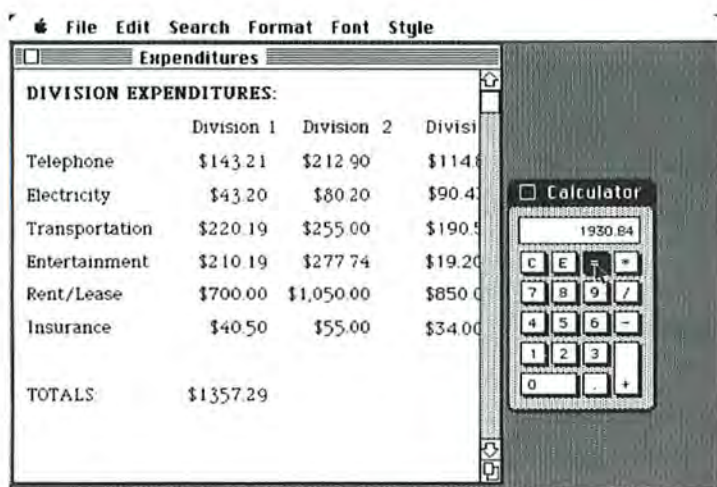


Figure 3
Because the active window always goes on top, small desk accessories can be lost under the pile. You can resize and reposition the windows and accessories as necessary.

Within the DRVr window are all the desk accessories contained in the System file. To delete an accessory, select it and choose the Clear command from the Edit menu (see Figure 5). Repeat the procedure for each accessory you want to remove.

The Resource Editor also allows you to rename desk accessories. First select the appropriate accessory name in the DRVr window. Then choose the Get Info command from the File menu to bring the information window on screen. Select the text within the Name box (it becomes highlighted) and enter the new name. Once you finish, choose the Save command from the File menu, close each window in turn, and choose the Quit command.

The Desk Accessory Mover

Another handy program for removing accessories is the *Desk Accessory Mover* from CE Software. This program is sold under the MacHonor system, which allows you to try the program and send \$15 to CE Software if you like it. In addition to deleting accessories, the *Desk Accessory Mover* lets you transfer accessories from one System file to another and add desk ac-

(continued from page 50)

Figure 4
The Resource Editor allows you to delete or rename desk accessories. This Resource Editor selection window displays the names of the resources in the System file.

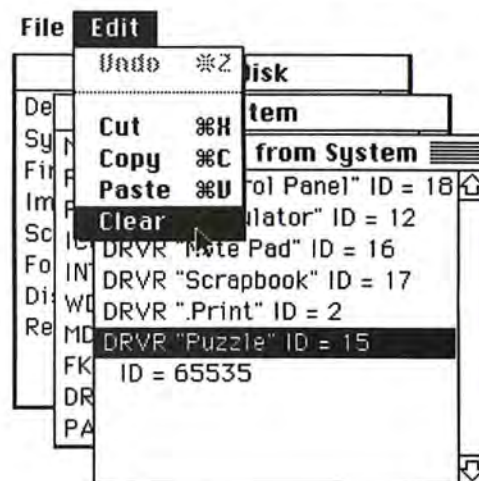
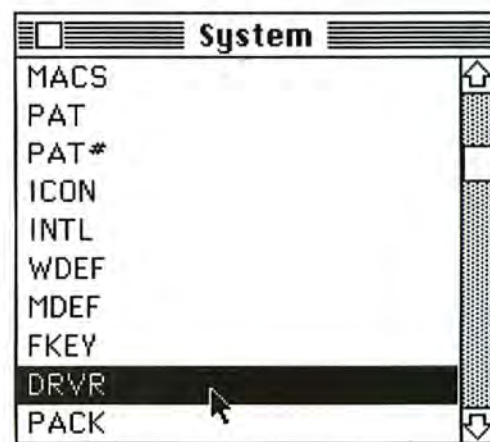
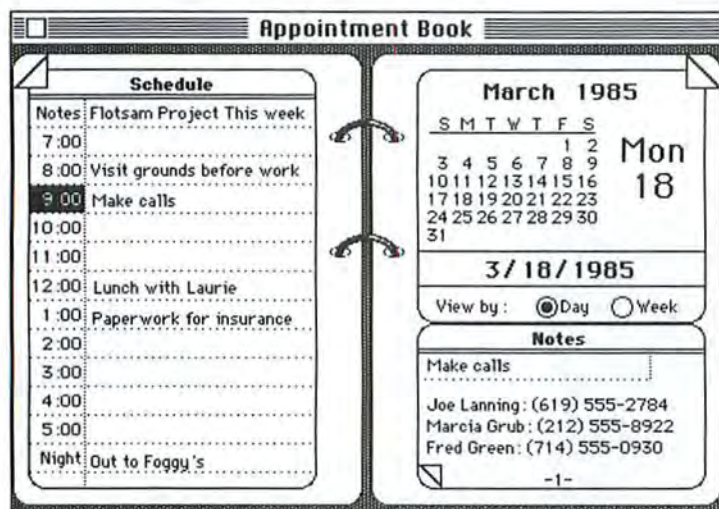


Figure 5
The DRVr resource includes all the desk accessories. To remove a desk accessory, you select the accessory and choose the Clear command.

Desk Accessory Sampler

The business of designing desk accessories has become a small cottage industry. Several types of desk accessories are available, including calendars, calculators, clocks, phone directories and dialers, terminal programs, music programs, and games. Most of the new desk accessories are more elaborate

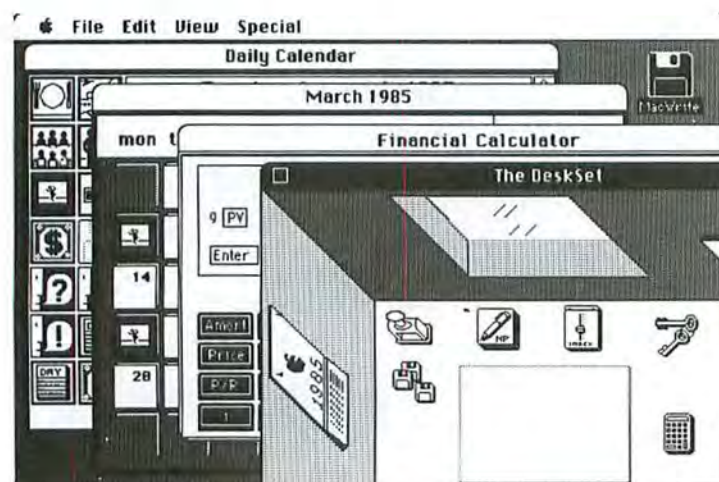
than the original set provided by Apple. They often combine several functions in one accessory. An integrated desk accessory might combine an appointment calendar with an alarm clock, a telephone dialer, and a calculator. See "Desk Accessory Catalog" for a list of products and manufacturers.



MegaDesk Appointment Book

MegaHaus's MegaDesk Appointment Book looks and acts like a standard desktop calendar. MegaDesk lets you view your appoint-

ments by day or by week and provides a notepad for memo writing.



The DeskSet

EnterSet's integrated desk accessory combines a calendar and an appointment book, a Rolodex file, a notepad, and a calculator. It also includes a protection scheme that

lets you prevent unauthorized people from using the files. Since the DeskSet takes up about 20K, it works best on a 512K Mac.



Executive Decision Maker

You can idle hours away with this unique game. Press the Think button, and the game gives you an answer. Some people insist that this desk accessory helps them make better decisions.



MacCalendar

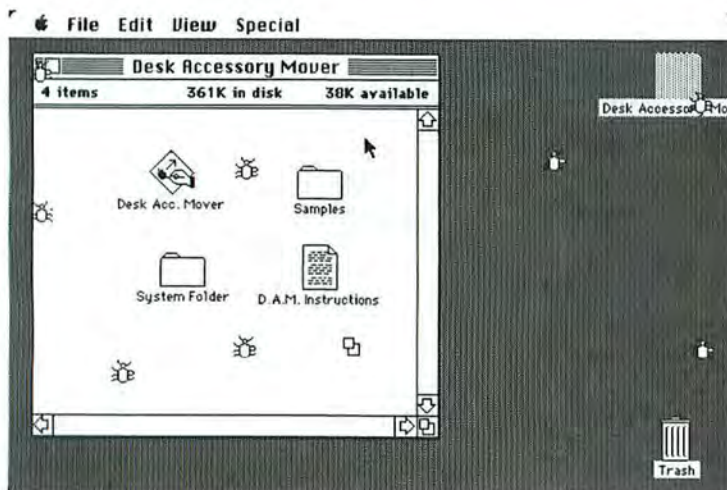
MacCalendar from Videx lets you keep appointment notes for each day of the year. MacCalendar has its own alarm clock, which you can set to go off at a time months in the future.



MockTerminal

CE Software's MockTerminal lets you communicate with almost any computer if you have a modem attached to the Mac's communications port. MockTerminal acts as a

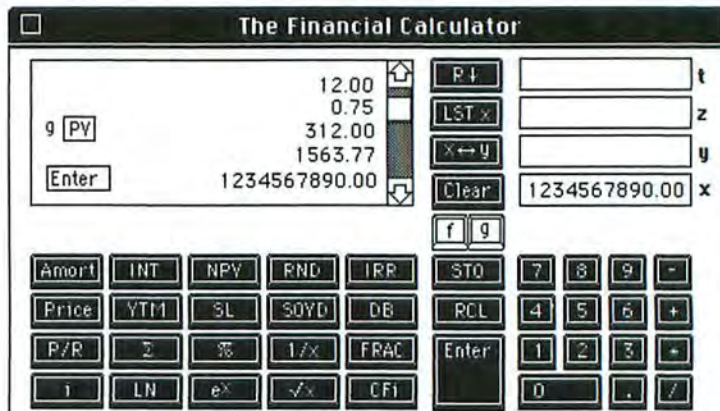
semismart terminal emulator and provides downloading capability so you can permanently record data you receive.



System Bugs

The most bizarre accessory to date is the work of Burt Sloan of Apple. When you click the Bugs option, evil-looking cockroaches crawl up the screen. You can't get rid of the roaches once they've infested a Mac

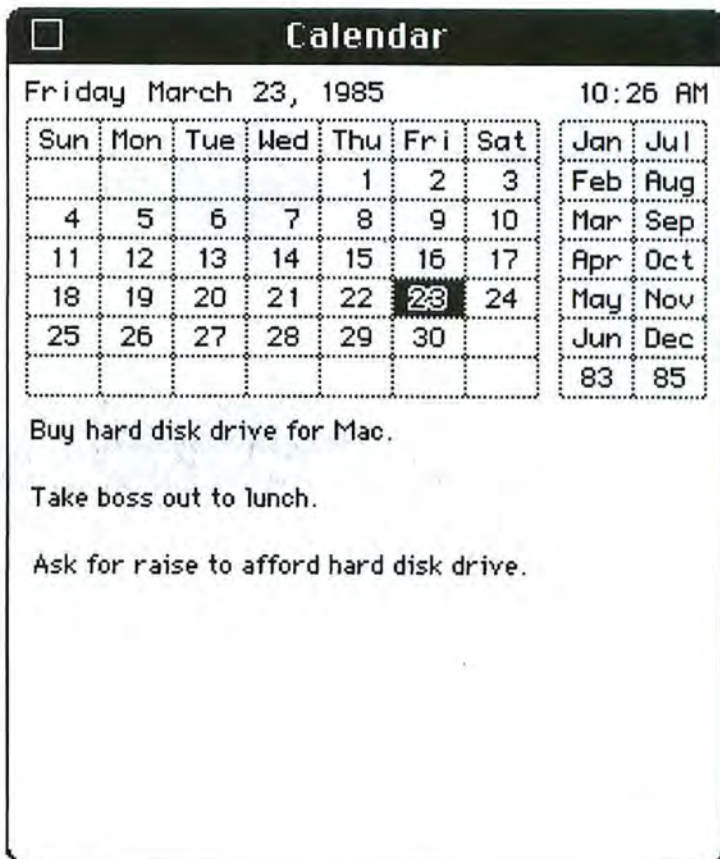
without turning the machine off. You can get the Bugs accessory with the Videx FunPak game or from CompuServe.



Financial Calculator

EnterSet's DeskSet accessory includes a financial calculator, which resembles Hewlett-Packard's 12c hand-held calculator. The calculator has its own memory; per-

forms financial functions, and allows you to chain up to 100 program steps.



Calendar

The Calendar desk accessory, designed by Mike Schuster, is available on CompuServe. It lets you store up to 13 lines of notes for any day of the month of any year. The Calen-

dar takes up about 18K, so it doesn't always work well on a 128K Mac.

(continued from page 47)

cessories to a System file. Always be sure to leave at least one accessory in the System file; otherwise, the System file gets corrupted. When a System file is corrupted, the Macintosh screen goes black and displays an unhappy Mac icon, or the Mac crashes as it starts up.

Like the Resource Editor, the *Desk Accessory Mover* lets you change the name of an accessory. Actually, being able to rename an accessory has limited usefulness unless you install two accessories with the same name. When the Mac encounters two accessories with the same name, it replaces the first accessory with the second one.

The *Desk Accessory Mover* and the Font Mover work similarly. Say you want to put an accessory such as MockTerminal, a terminal emulator desk accessory from CE Software, on your *MacWrite* disk. MockTerminal enables you to communicate with other computers without quitting the application program you are using. The program also lets you capture the data from a telecomputing session and save it in a *MacWrite* or *Microsoft Word* document.

To install MockTerminal, place the *Desk Accessory Mover* and the MockTerminal file on a *MacWrite* disk. Double-click the MockTerminal document icon to start the *Desk Accessory Mover*. MockTerminal is preloaded into the Holding Area and is then ready to

install. Select it, click the Install in System Section button, and the program handles the rest (see Figure 6). While you're at it, you can delete some accessories from the System file. Select the ones you don't want, and click the Delete button.

One useful feature of the *Desk Accessory Mover* is that it lets you save accessories that you take out of the System file. You can remove the saved accessories and place them on another disk for storage. Later you can reload accessories into the System file of any disk. Because of the way the program works, you can store any number of accessories as individual files or all in one file (see Figure 7).

Some Macintosh desk accessories come with their own installation utility program and don't require the *Desk Accessory Mover*. One such accessory is MacCalendar from Videx. To place MacCalendar on any disk, just start the Install program and follow the instructions. A few other accessories do away with installation programs and automatically load themselves into the System file.

Desk Accessory Management Tips

With such a variety of desk accessories available and limited disk space, you may have to create disks with desk accessories suited for particular applications. For example, you might want to put a financial calculator on the disks you use to track stocks or real estate holdings but not on your *MacPaint* disks. Think about how you use a particular disk's applications, such as word processing, data management, or graphics, and then decide which accessories fit best.

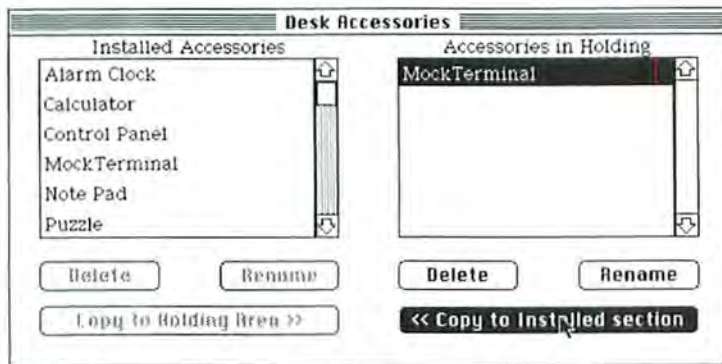


Figure 6
CE Software's Desk Accessory Mover does for desk accessories what Font Mover does for fonts: you can add, delete, and rename accessories quickly and easily.

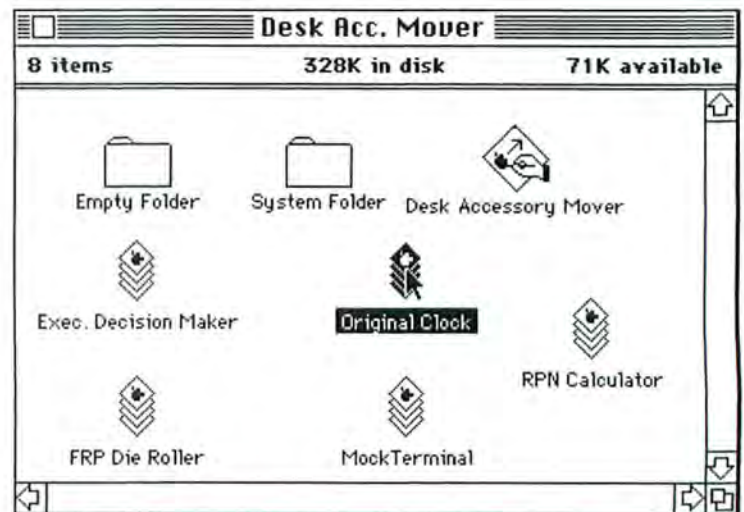


Figure 7
The Desk Accessory Mover lets you store the accessories you take out of the System file. Any number can be tucked away in an accessories file.

Desk Accessory Catalog

Desk accessory products and their publishers are listed here. Check your dealer, user group, or information service such as CompuServe for up-to-date information.

■ **CE Software**
801 73rd St.
Des Moines, IA 50312
515/224-1995

Desk Accessory Mover, RPN Calculator, Executive Decision Maker, FRP (Fantasy Role-Playing), Die Roller, Clock \$15 for license fee, \$20 for license fee and disk; MockTerminal, MockWrite, MockPrinter, and Desk Accessory Installer \$25 for license fee, \$30 for license fee and disk. Send a blank disk and a stamped, self-addressed envelope to CE Software.

■ **Club Mac**
735 Walnut
Boulder, CO 80302
303/449-5533

Public domain library; call for disk distribution fees.

■ **CompuServe Information Service**
5000 Arlington Center Blvd.
Columbus, OH 43220
800/848-8199

Calendar, Bugs, and *Desk Accessory Mover* (with CE Software accessories) can be downloaded from the MAUG database.

■ **Creighton Development, Inc.**
16 Hughes #C-100
Irvine, CA 92714
714/472-0488

HomePak with Financial Calculator, Improved Alarm Clock, New Puzzle, Desk Accessories Editor \$39 (\$49 after March 1); MacOffice with Financial Calculator, Scientific Calculator, Calendar, Desk Accessories Editor \$39 (\$49 after March 1).

■ **EnterSet**
410 Townsend #408B
San Francisco, CA 94107
415/543-7644

DeskSet \$99.95.

■ **Haba Systems, Inc.**
15154 Stagg St.
Van Nuys, CA 91405
818/989-5822

Window Dialer \$49.95, Window Calendar \$49.95, Quick Finder free with purchase of HabaDisk Drive.

■ **Harvard Associates, Inc.**
260 Beacon St.
Somerville, MA 02143
617/492-0660

DeskToppers, including calendar, phone book, music maker, and sketchpad \$49.95.

■ **Macadam**
4700 S.E. Macadam Ave.
Portland, OR 97201
800/547-4000 ext. 203

WindoWare Phone Book \$49, WindoWare Calendar \$49.

■ **Megabaus Corp.**
5703 Oberlin Dr.
San Diego, CA 92121
800/358-8882, 800/451-1230
in California

MegaDesk (appointment book); call for price.

■ **Videx, Inc.**
1105 N.E. Circle Blvd.
Corvallis, OR 97330
503/758-0521

MacCalendar \$89, FunPak (includes Bugs, Magnifying Glass, RPN Calculator, Hex Calculator for programmers) \$39.

■ **Warner Software, Inc.**
666 Fifth Ave.
New York, NY 10103
212/484-3070

The Desk Organizer \$149.

■ Getting Started

Nothing is particularly complex about juggling Macintosh desk accessories, but some tricks and suggestions might be helpful. Close all accessories before deleting them or adding new ones, or you could damage the System file. The possibility always exists when you delete or add accessories that the System file will become corrupted, rendering it useless. For this reason, make a backup of the System file before you add or subtract accessories, in case the computer loses power or you run into a software bug.

If you want to make the same desk accessory changes to several disks, you can alter one System file and copy the file to other disks. Copying the System file to another disk deletes the System file that exists on the destination disk. Make certain then that the replacement System file also contains the fonts used by the Mac; you'll lose any special fonts stored on your disks unless the replacement file contains those fonts.

If you delete either the Scrapbook or the Note Pad, remember to get rid of the Scrapbook and Note Pad files, which are usually located in the System Folder. Without their accompanying desk accessories, the files are useless and waste valuable disk space. If you reinstall either the Scrapbook or the Note Pad, the Mac automatically recreates the Scrapbook and Note Pad files the next time you use the accessory.

Figure 8

You can fit up to 18 desk accessories into one System file. That limit is based on the number of slots for names in the Apple menu.



Since the Mac uses only the desk accessories residing on the startup disk, you can't easily toggle from one set of desk accessories to another. You can switch to a different set of accessories by turning the Mac off and then on again using a disk with another set of accessories in its System file. This technique, however, erases any information you may have temporarily stored in the Clipboard.

If you want to preserve the contents of the Clipboard, you can switch to a different set of desk accessories by ejecting the startup disk, inserting another disk in the drive, and starting an application to make the second disk the startup disk. You may need to juggle disks as the Mac transfers control from one System file to the other. With an external disk drive this procedure is easy. Insert the disk containing the alternate set of desk accessories in the second drive and open an application residing on that disk.

To switch to a disk that holds a different set of desk accessories without turning off the Mac or opening an application, you can use a shortcut. Insert the disk with the set of accessories you want and locate the Finder icon, which is usually in the System Folder. Hold down the Option and **⌘** keys and double-click the Finder icon. Once the word *Finder* appears at the top of the screen, let go of the Option and **⌘** keys. Keeping the keys depressed too long deletes any folders on the disk, which isn't disastrous but can still be annoying, since you have to remake them.

The Tower of Desk Accessories

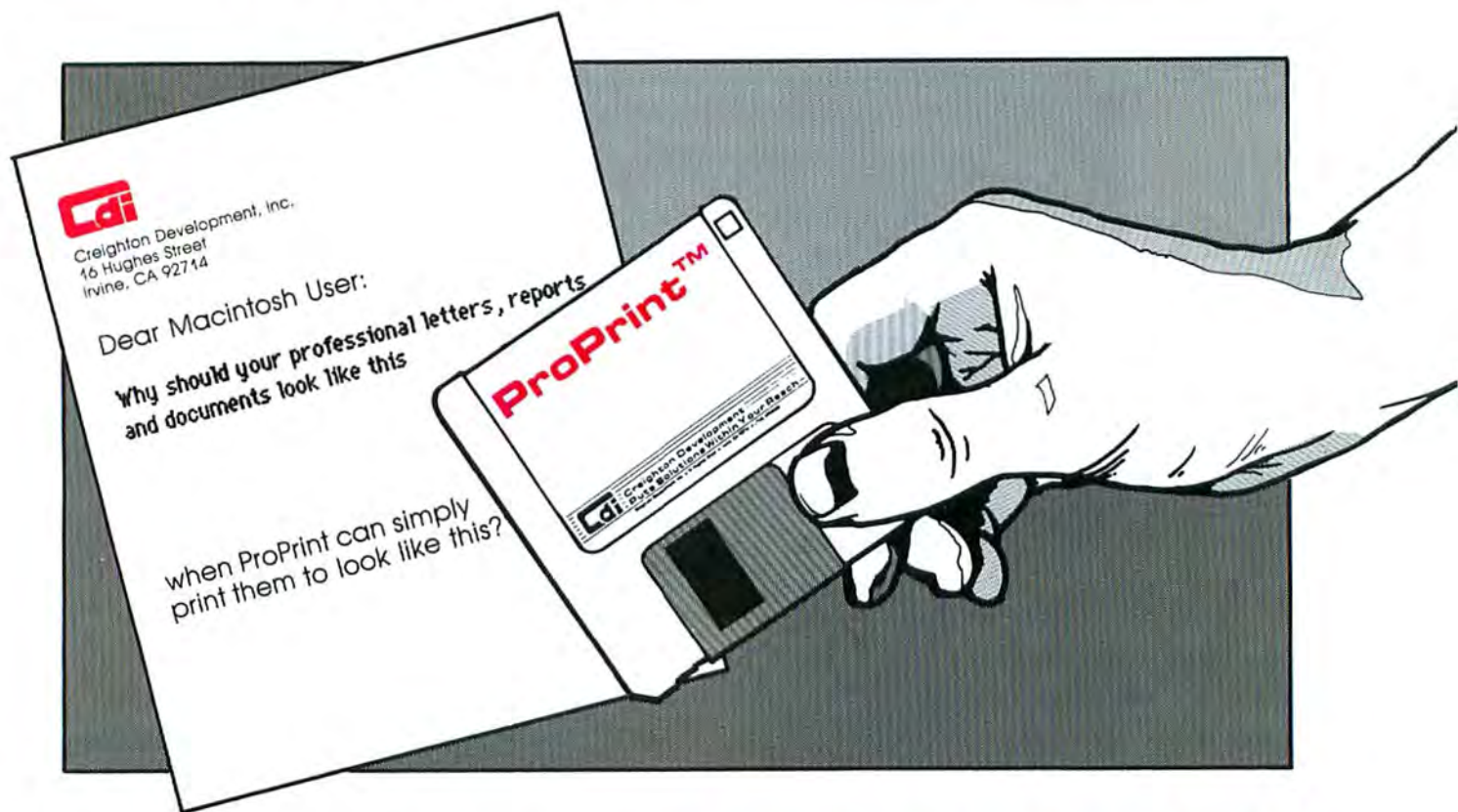
If you wanted to have a lot of gadgets on your electronic desktop, you could create a disk that has only desk accessories on it. The Mac lets you load up to 18 accessories into the System file; the Apple menu can't display any more (see Figure 8). Most likely, you'll run out of disk space before you can cram 18 accessories into the System file.

If you choose to enhance your computing with Macintosh desk accessories, you'll probably come to rely on them. Whatever way you use the accessories, you'll undoubtedly find that filling your Mac desktop with calculators, calendars, notepaper, or games gives you quick access to programs and removes the clutter from your real desk top. □

■■■■■■■■■■ Gordon McComb is a Contributing Editor of Macworld and the author of *The Macintosh User's Guide* (Howard H. Sams & Co., 1984).

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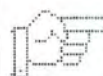
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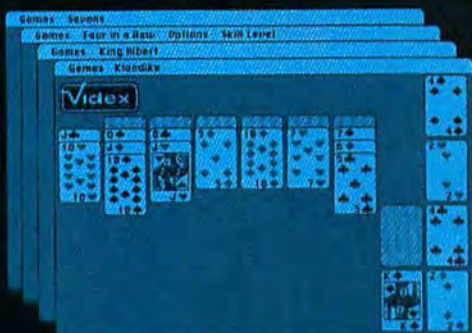
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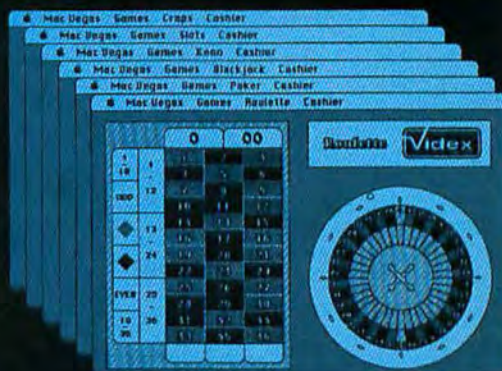
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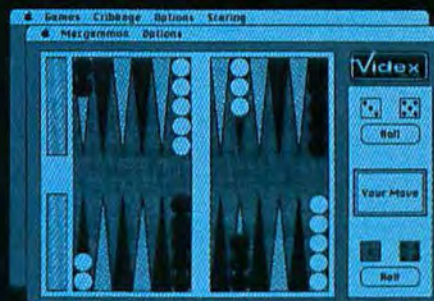
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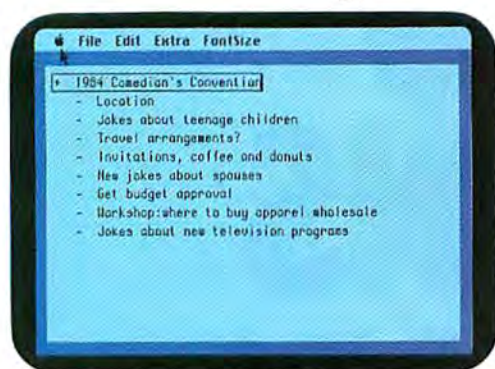
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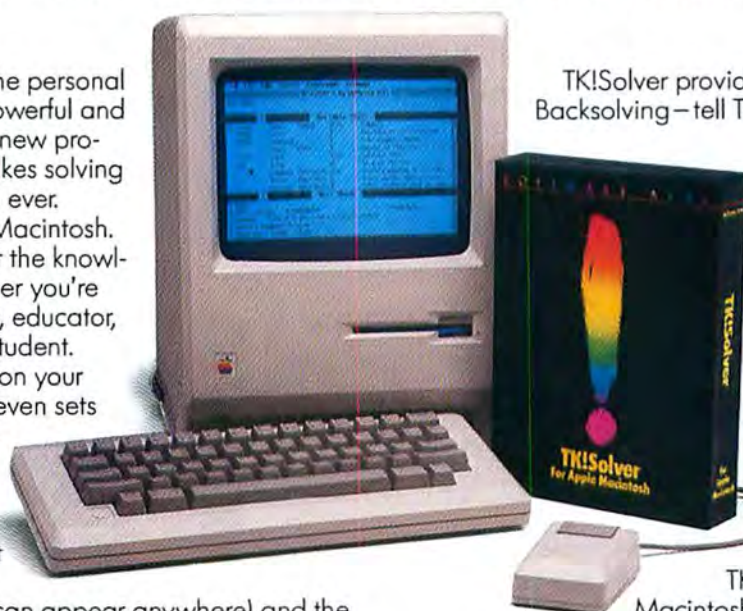
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Get Info

Macworld's tutor answers questions about using the Mac

Lon Poole



Get Info answers questions about the Macintosh and how it works. Most inquiries deal with application programs, but no topic is too elementary or too advanced. Discussions range from setting up the Mac to programming in BASIC and Pascal. When you need advice about using the Mac, drop me a line. I cannot respond to individual letters, but I will answer the most representative questions.

This month's column answers four questions. One reader is looking for the ideal programming language for developing games. Another wants to know how to change the style of the page number, time, and date text in a *MacWrite* header or footer. Several readers have expressed the desire for Macintosh batch files—special documents that store lists of commands in a file and execute them one after another when you type the file's name. Finally, one reader needs some advice about printing *MacWrite* documents.

A Game Language

Q. I am interested in developing professional-quality games for the Macintosh, both graphics-oriented combat games and text adventure games. Which programming language should I use?
*Rana Pennington
Alexandria, Virginia*

A. No language is ideal for programming computer games, but some considerations should influence your choice. First, the language must give you access to the Macintosh Toolbox, which lets you create pull-down menus and dialog boxes, as well as use the Mac's QuickDraw graphics routines. Some languages, such as Creative Solutions' MacFORTH, add graphics features beyond those provided in QuickDraw, such as rotation and scaling, that are valuable in graphics-oriented games.

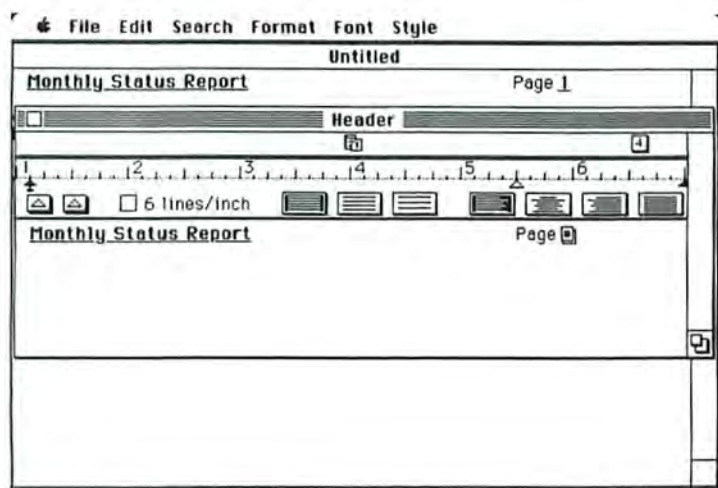
If you intend to sell your finished masterpieces, you'll have to decide whether to require your customers to purchase the language in which the game is written or whether to make the game a stand-alone application, which requires no additional software to operate. The second approach will probably mean more sales, since prospective buyers will not have to buy a separate

product just to use yours. This approach means that the language you choose must be able to produce stand-alone applications. Finally, remember that the producer of the language may charge you for the privilege of selling an application developed with it. The actual financial arrangements can vary from a royalty on every copy you sell to a flat licensing fee.

Stylish Heads

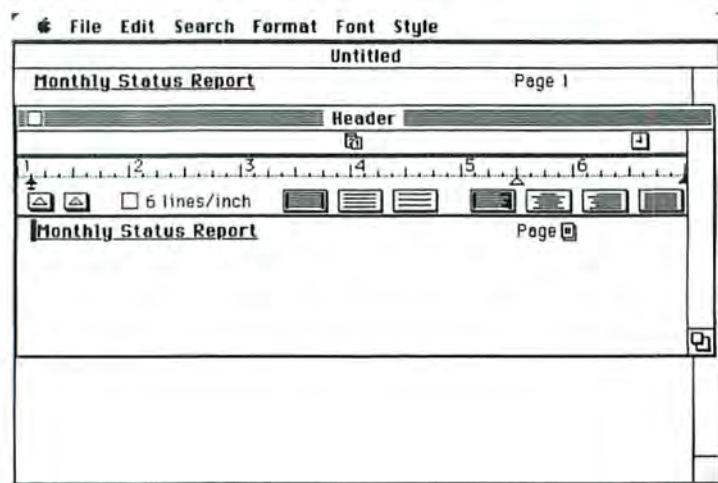
Q. When I set up a *MacWrite* header or footer, page numbers, dates, and times appear in whatever format the first text in the header or footer window appears. This makes it impossible, for example, to have a report title in bold and page numbers in plain text. Is it possible to change the style in which page number, date, and time text appears?
*Maryellen Kelly
Pittsburgh, Pennsylvania*

A. When you create a header or a footer containing page number, date, or time icons, *MacWrite* formats the page number, date, and time text in the same style as the first character that appears in the



Headers with Style (Before)

MacWrite formats page number, date, and time text in headers and footers in the same style as the first character in the header or footer window, which often leads to unexpected results. Here, the page number is bold and underlined even though the word Page is in plain text.



Headers with Style (After)

To work around MacWrite's formatting quirk, make the first character in the header or footer window a blank space, then change the style of the blank space.

header or footer window. To change the style, make the first character in the window a blank space, then change the style of the space (see the two figures entitled "Headers with Style").

This trick won't let you specify a different style for each item, however. If your document requires bold page numbers and underlined dates, for example, you might consider putting the page numbers in the footer window and the date in the header window, or vice versa.

Batch Files Wanted

Q. When I use the Macintosh applications, I like to have the Note Pad, Alarm Clock, and Calculator desk accessories open. I find it time-consuming and annoying, however, to have to open each desk accessory myself every time I start an application. The operating systems on computers like the IBM Personal Computer let you put repetitive command sequences in batch files. You can then execute an entire set of commands by simply typing the batch file's name. Is there any way to create similar files on the Mac?

Margaret Baker
Tiverton, Rhode Island

A. Unfortunately, there is no way to produce batch files with the current Macintosh Finder. Furthermore, batch file capabilities would be difficult to implement on the Mac, because the stored commands could not be typed but would be combinations of mouse movements and button clicks.

Perhaps a creative software developer could design an application that would let you store commands such as Start MacWrite and Open Note Pad in a document file. Then, when you want to execute the commands, the application would trick the Macintosh operating system into thinking that the commands were issued normally, using the mouse, rather than taken from a batch file. Ideally, the application would be a desk accessory, since you might sometimes want to start a batch file from within an application, perhaps to save a document, print it, close it, and then open another document.

Printing Problems

Q. I've encountered a problem with MacWrite when I try to print large documents. If free space on the disk is insufficient to hold the printed copy, MacWrite displays either "Insufficient Disk Space, Delete Some Documents" or "Printer Error, Please Save and Try Again." If I follow MacWrite's message and try to save, it displays the first message again. The only way to get out of the loop seems to be to quit MacWrite and lose your document (or at least any changes made since the last successful save). Is there a way out of this loop? How can I tell how much disk space I need before I attempt to print a large document?

Bangs L. Tapscott
Salt Lake City, Utah

A. When you print a document with MacWrite, the program creates a picture file containing commands that tell QuickDraw, the Macintosh's built-in graphics procedures, how to recreate the document on paper (see "The Imagerwriter and Beyond," *Macworld*, September/October 1984). The messages described above appear if there isn't

enough space on an application disk to store the picture file. (You may also see the message, "The disk is full. Please try again.") The following steps will help you get out of the loop without losing your document:

- Get rid of the error message by clicking the OK button.
- Choose Save As from the File menu.

• If you have an external disk drive, insert a disk in the drive. Make sure the disk's name appears above the Eject button. If the name of the disk in the internal drive appears, click the Drive button to switch to the external drive. Next, type a document name if your document is still untitled, then click Save.

• If you don't have an external drive, click the Eject button. Insert a different disk (one with some free space on it), type a document name if your document is still untitled, then click Save. You'll be asked to swap disks several times during the save process.

• To print your document, use a MacWrite disk that has enough free space on it to hold the picture file, using the guidelines below to estimate the space required.

MacWrite version 2.20 and earlier versions require approximately 6K of free disk space per page for pages that contain only text. (Earlier versions have version numbers smaller than 2.20; choose the About MacWrite command from the Apple menu to see which version you have.) A page containing simple pictures requires about 8K of free space, while a page containing an extremely complex, full-page picture can require up to a whopping 32K of free space.

To estimate how much disk space you need, multiply the number of pages in your docu-


ment by the approximate amount of space required for each page. A ten-page document containing no pictures requires approximately 60K of free space to print (ten pages times 6K per page).

For MacWrite versions beyond 2.20, your job is somewhat easier because picture files are created and printed one page at a time; that is, a picture file for page 1 is created and printed, then a picture file for page 2 is created and printed, and so on until your entire document has been printed. Ed Ruder, one of MacWrite's programmers, recommends leaving about 40 to 50K free on your MacWrite disk. That way you'll have no trouble printing even documents containing complex pictures.

If you use an early version of MacWrite on a 512K Mac, you may encounter the full-disk problem often, since the documents you create can be much larger than on a 128K Mac. To avoid the problem, print large documents in pieces by choosing Print from the File menu, then typing beginning and ending page numbers in the Page Range boxes. A better solution is to obtain the most recent version of MacWrite from your dealer.

Send your questions to Get Info, Macworld, 555 De Haro St., San Francisco, CA 94107.

Lon Poole is a Contributing Editor of Macworld and the author of several computer books including The Apple II User's Guide and MacWork/MacPlay. □




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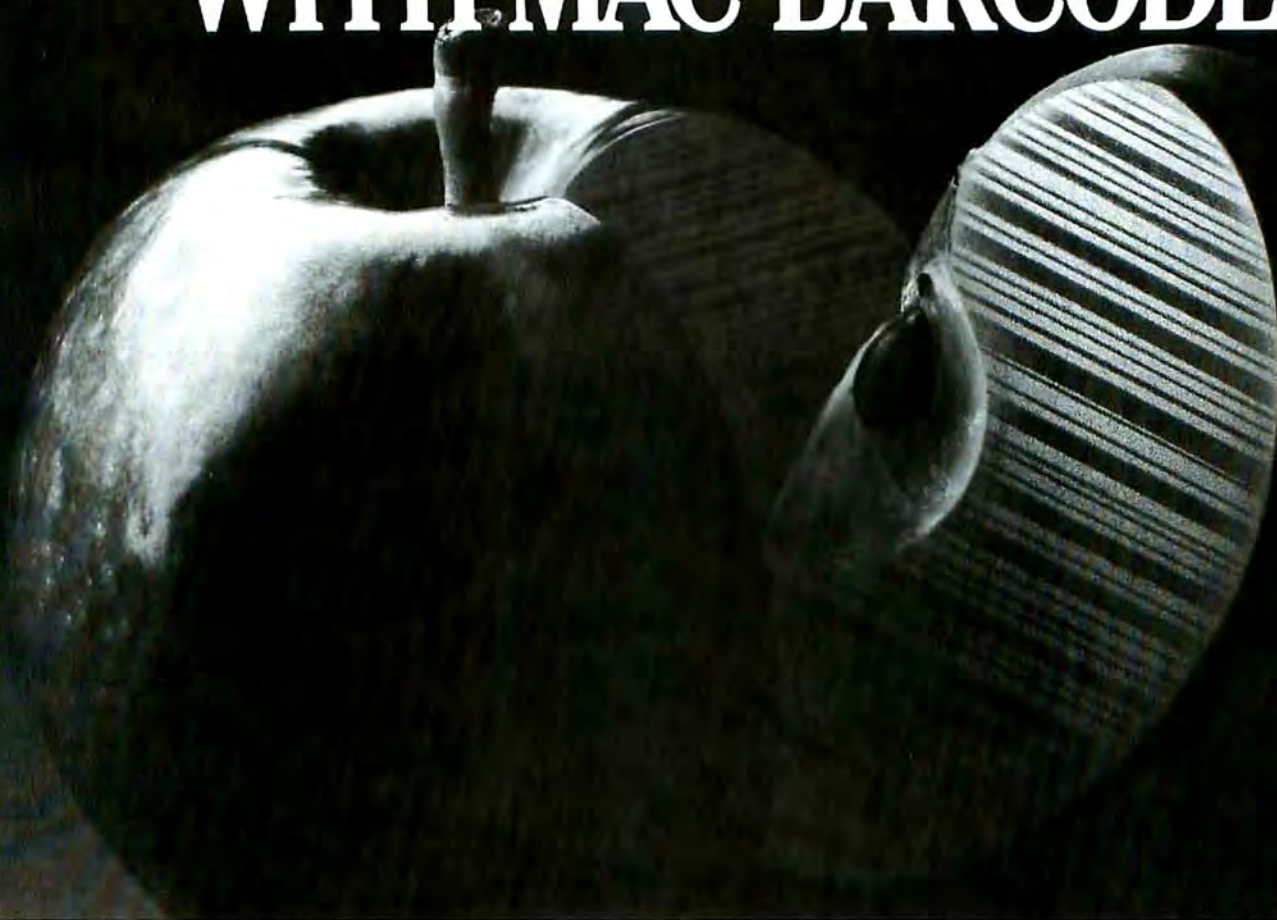
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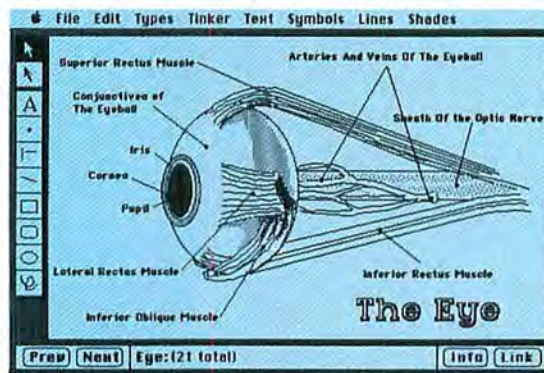
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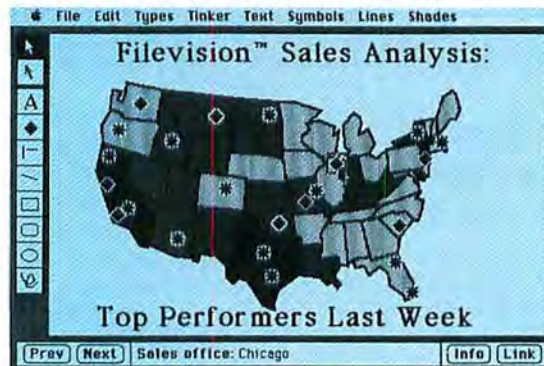
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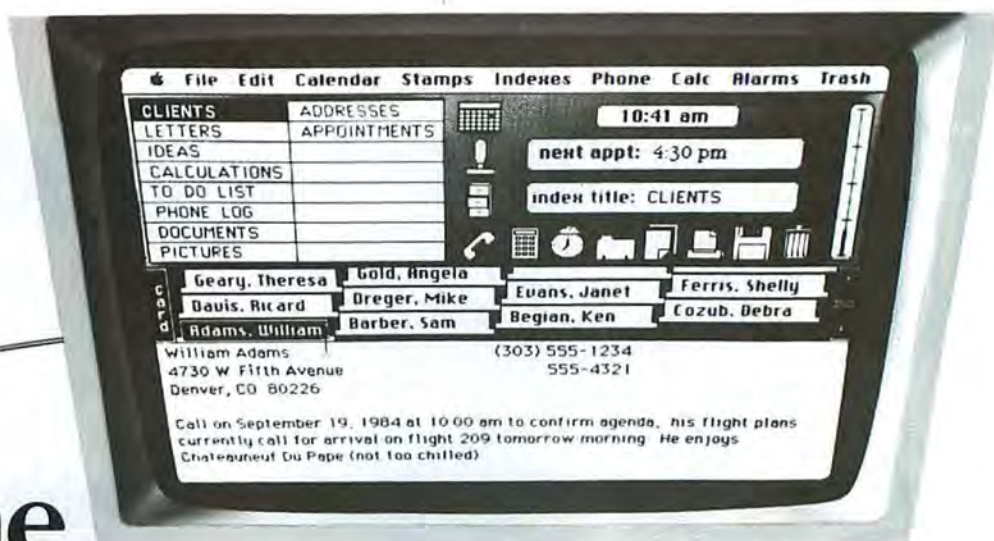
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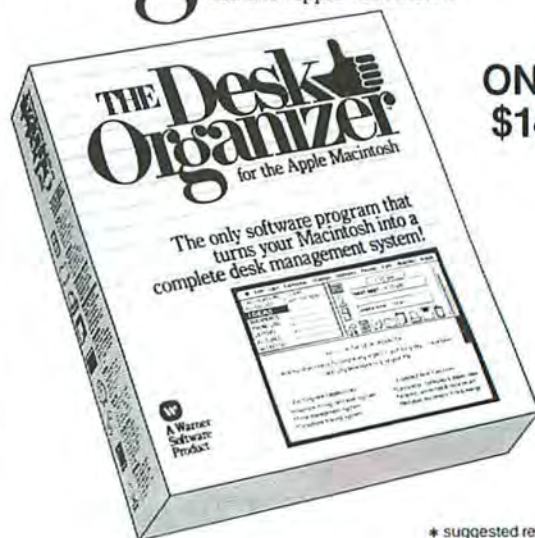
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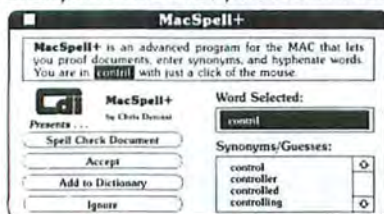
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Over 50% of all hardware and software complaints received by manufacturers have nothing at all to do with product quality. To the contrary, most damage reported is caused by surges in household or business current.

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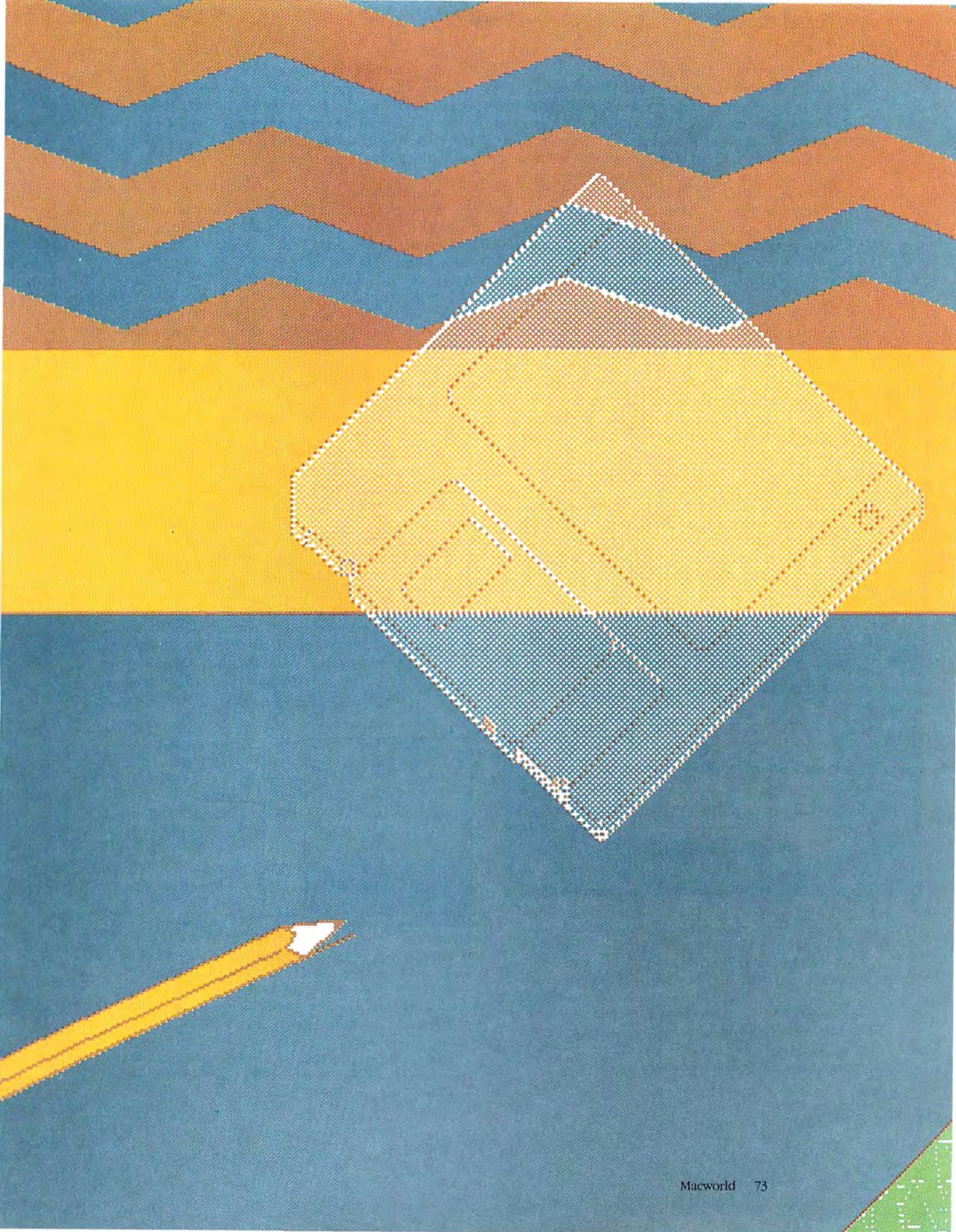
The Invisible Disk

Danny Goodman

Have you ever taken on a project—like building a red-wood deck or painting the kitchen—only to discover, once you got underway, that the job became a chore rather than the pleasant pastime you had anticipated? A project that looks promising on paper, once realized, often fails to live up to your expectations.

A similar situation arises when you own a 512K Macintosh and add a RAM disk, which is specialized software designed to fulfill Mac owners' dreams of zipping in and out of programs. A RAM disk helps you avoid waiting for a mechanical disk drive to turn as the computer stores and retrieves information. But when you use one awhile, as I did during a test of the *Mac Memory Disk* by Assimilation, you may find it doesn't live up to your expectations.

Before I proceed, I want to make clear that my reservations are with RAM disks for the Macintosh in general and not with the Assimilation product, which is well designed. The problem is that the Macintosh System Folder takes up so much room that it seriously limits the usefulness of a RAM disk.



An Electronic Disk

For those who have not heard of RAM disks, a little background is in order. A RAM disk is a program that fools the computer into operating as if an extra disk drive were attached (see Figure 1). The extra disk, however, consists of part of the computer's random access memory that a RAM disk program formats to appear to the computer as an actual floppy disk. When the computer stores or retrieves information, instead of changing magnetic information on a floppy disk, a RAM disk reorganizes information in the computer's memory. Since a RAM disk uses electronic circuitry to store information, it is sometimes called an *electronic disk*.

A RAM disk speeds up work because information can be transferred many times faster electronically than mechanically, which is how any disk drive—hard or floppy—operates. No matter how much memory you set aside for a RAM disk, most programs running on the Macintosh require at least 128K of RAM. When you open an application from a RAM disk, the program still loads into available RAM, just as if it were opened from a floppy disk. A running program, therefore, is actually twice in memory—once on the RAM disk and once in active memory (see Figure 2).

Using a RAM disk requires more caution than using a floppy disk. Unlike the Mac's 3½-inch floppy disk, a RAM disk isn't a form of permanent information storage. The instant you turn off the machine, everything in a RAM disk is lost.

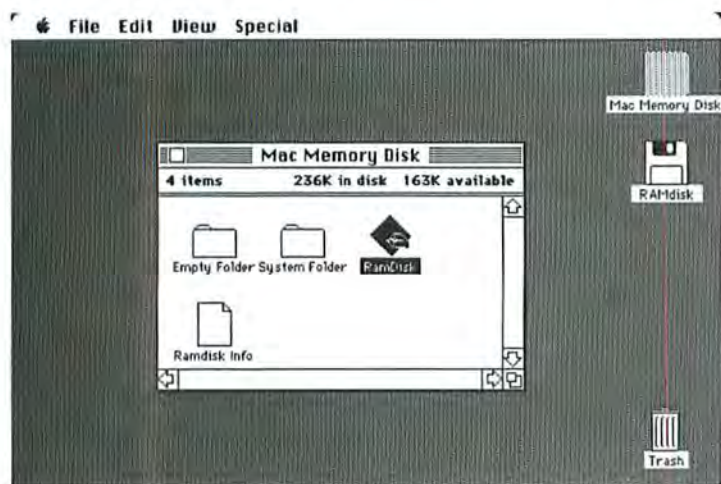


Figure 1

The desktop shows two disk icons: one for the Mac Memory Disk startup floppy disk in the Mac's internal drive and one for the RAM disk created in the Mac's memory. To set up and remove a RAM disk you open the *RamDisk* application program from the startup floppy disk and make choices from a series of dialog boxes. Note the *Ramdisk Info* document, which stores information about the size and the files you want loaded onto the RAM disk when you select the automatic creation choice from the initialization dialog box.

If you use a RAM disk to store documents you're working on, you have to copy those documents to a floppy disk or a hard disk before you turn off the computer. Storing documents in progress on a RAM disk is risky because an unanticipated power outage could result in the loss of hours of work.

Speed Trials

A RAM disk should be used as a temporary repository for programs you regularly use. When a program is stored on a RAM disk, the computer can retrieve portions of it from the RAM disk much faster than from a floppy disk, improving productivity.

To examine the performance of the *Mac Memory Disk*, I timed how long it took to open and quit the disk-based version of *MacWrite* announced with the 512K Macintosh from the RAM disk with a startup floppy disk in the Mac's internal drive. I set up the *Mac Memory Disk* in three ways: with *MacWrite* only, with *MacWrite* and the System Folder, and finally with *MacWrite* and the System Folder but without the startup floppy disk.

When I stored only *MacWrite* on the RAM disk, the application took 11 seconds to open and 15 seconds to quit. On a floppy disk *MacWrite* took 25 seconds to open and 16 seconds to quit. The 14-second improvement in opening the application is significant, but because quitting the application took about as long with the RAM disk as it did with a floppy disk, speed is not improved enough to seriously increase productivity.

When the System Folder was added to the RAM disk, performance improved significantly. *MacWrite* took only 8 seconds to open and 8 seconds to quit. When the floppy disk that started up the RAM disk was ejected, *MacWrite* took only 5 seconds to open and 4 seconds to close. The last configuration, however, is

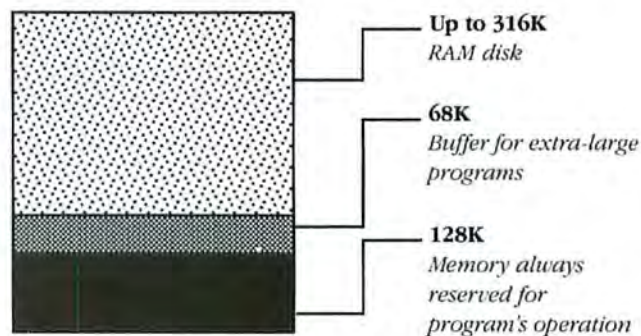


Figure 2

When you run a program on the RAM disk, it is stored in memory twice, once on the RAM disk and once in active memory. The diagram illustrates how memory is divided when you set up a RAM disk. The Mac always reserves 128K for a program's operation whether you use a RAM disk or not. A variable amount of memory, up to 316K, is reserved for the RAM disk, depending on how much memory you choose in the size control dialog box. Finally, a 68K buffer is set aside for some programs that require extra room.

not useful because you should always work from documents stored on floppy disk to avoid the danger of losing them if your power supply is interrupted.

Out of Room

For optimum RAM disk performance, the System Folder should be on the RAM disk with the applications. A 316K RAM disk—three-quarters the size of a 400K floppy disk—is simply too small to accommodate the System Folder and desired applications. Once you add up a 46K Finder file, a 17K Imagewriter file, and a modest-sized 130K System file, you don't have room on a 316K RAM disk for even two relatively small applications like *MacWrite* and *MacPaint*, which together occupy 129K (see Figure 3). A System Folder and *Microsoft Chart* on a RAM disk don't leave room for a Clipboard file, with which to cut and paste charts between documents, unless you strip additional fonts from the System file with the Font Mover.

With a RAM disk in a Mac, you expect a certain quick rhythm in your work that can be accomplished only when the System Folder is on the RAM disk. If you try to save room on a RAM disk by leaving the System Folder files on a floppy disk, you'll sometimes have to wait for the computer to store and retrieve information from the floppy disk, defeating the purpose of a RAM disk.

Unfortunately, the Mac's dependence on the Finder and System files in the System Folder doesn't leave enough room on a RAM disk to make it a powerful tool. The Mac insists on maintaining at least one copy of the Finder and System files on a disk immediately accessible by the computer, whether it is a floppy disk, a hard disk, or a RAM disk. The Mac needs those files because they contain critical instructions to maintain the desktop and files. In contrast, a computer such as the IBM Personal Computer doesn't need to store information for maintaining files once it's turned on because the necessary instructions of the PC disk operating system (DOS) are in the same portions of memory as those reserved for running programs.

An alternative to storing applications on a RAM disk is to keep them on a single floppy disk without a System Folder, which is then stored in the RAM disk. Each application uses the System Folder from the RAM disk. While this scheme reduces swapping application disks, it presents a major problem because the RAM disk has to be the startup disk. When you set up the RAM disk, the *Mac Memory Disk* (which has its own System Folder) remains the startup disk on the desktop.

The only way to make the RAM disk the startup disk is to start an application that is on the disk. This operation removes the *Mac Memory Disk* from the

startup disk position and allows you to eject it. You can then insert the floppy disk storing only applications and open an application from it. But this procedure is too elaborate for a tool that should make work smooth and easy. Instead, the procedure adds steps to your work.

Quick-Change Artist

Having used the 512K Macintosh for some time, I've discovered that a RAM disk, capable of holding only one program and a System Folder, doesn't speed up programs much. Programs written to run on a 128K Mac almost always perform better on the 512K Mac anyway, because more of the program is stored in memory, giving the same speedy access to functions that a RAM disk is meant to offer.

For example, when you load *MacWrite* into a 512K Mac, the same portion of the program is initially placed in memory as on a 128K Mac. Some parts of the program, such as those used when you change fonts, insert rulers, and open headers, are kept on the disk

(continues on page 79)

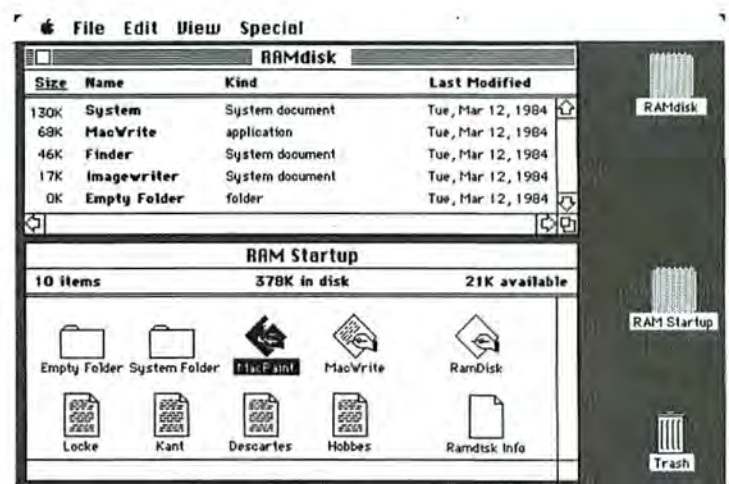


Figure 3

The desktop shows files stored on a RAM disk and a floppy disk. The number of bytes in the System Folder and in one application, such as *MacWrite*, usually leaves insufficient room on the RAM disk for a second application. If you want to use more than one application, you must store it on floppy disk, impairing the ability to switch quickly between application programs. Note how all working documents in the figure are stored on the floppy disk to reduce the risk of losing them in a power outage.

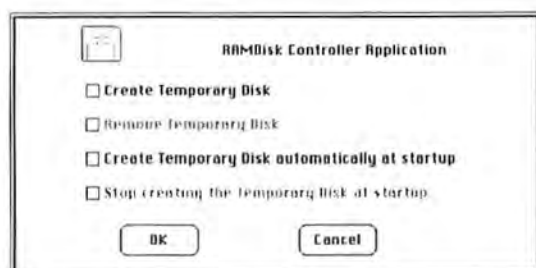
Committing a RAM Disk to Memory

Setting up a RAM disk with the *Mac Memory Disk* is simple. Copy the RAM disk program to any floppy disk storing applications or documents you want to use with the RAM disk. When you open the *Mac Memory Disk*, an initialization dialog box appears with four choices (see "Initialization Dialog Box"). Two choices are active and are used to create a RAM disk. The two dimmed choices are used to dissolve RAM disks after their creation.

If you want to create a RAM disk for only a single work session, select the Create Temporary Disk choice and click OK. The program presents you with another dialog box in which you adjust an elevator control to indicate the amount of memory to devote to the RAM disk (see "Size Control Dialog Box"). You can set up a RAM disk with as few as 35K and as many as 316K. The 316K maximum is considerably less than the 384K that you might imagine should be available. Gary Croucher, one of the program's authors, explains that you can't calculate the amount of memory available for a RAM disk by subtracting the 128K set aside for pro-

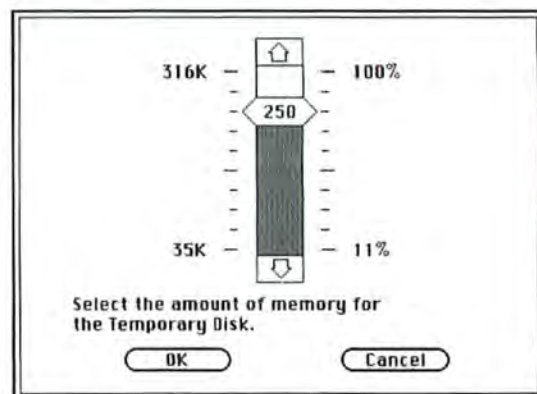
grams from the 512K total memory; extra room is reserved for application programs that need more than 128K.

After you determine the size of the RAM disk, the program returns you to the desktop, where a disk icon labeled RAM Disk appears below the *Mac Memory Disk* icon. The appearance of the icon indicates that the Mac considers a portion of its own memory as another disk drive. Add files or programs you want to work with by dragging them to the



Initialization Dialog Box

When you open the *RamDisk* program, a dialog box presents you with two active choices indicated in boldface. You can set the program up so that it creates a RAM disk for the current work session only or for every time you turn on the Mac.



Sizing Dialog Box

After you click OK in the initialization dialog box, you set the size of the RAM disk with an elevator control like the one used to set the sound volume on the Mac's Control Panel desk accessory. You choose the size by dragging the hexagonal indicator up or down the bar.

RAM disk just as you would copy files between floppy disk drives.

You should not store work on the RAM disk because you could lose it in a power outage. If you do store work in progress on the RAM disk, be sure to save it on a floppy disk before you turn the machine off.

To take advantage of the RAM disk's speed, you must establish the RAM disk as the startup disk by opening an application that is on the RAM disk.

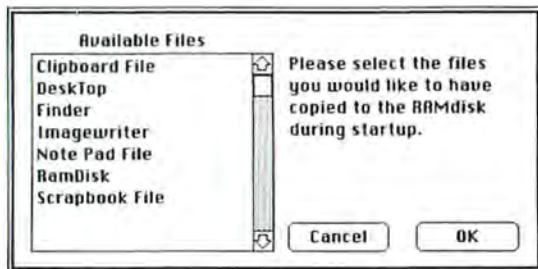
Another choice from the RAM disk's initialization dialog box lets you set up the program so that it automatically creates a temporary RAM disk whenever

you insert the floppy disk. When you select this choice, the dialog box for sizing the RAM disk appears. When you click OK, another box appears that lets you choose the files you want the program to load automatically into the RAM disk at startup (see "File Selection Dialog Box"). The files must be on the floppy disk before the program can load them. You must also make sure that the RAM disk has enough space for all the files.

When you want to remove a RAM disk, you reopen the RAM disk program and choose one of the two removal options from the initialization dialog box. You can restart the Mac without choosing either option

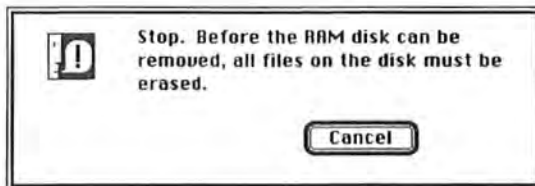
if you have created a RAM disk only for the current work session or if you haven't stored information on it that you want to keep.

Before you can remove the RAM disk, however, the program prompts you with an alert box that asks you to erase all programs and documents on the disk. But be sure you copy updated documents to a floppy disk (see "File Removal Alert Box.") The alert box offers you some protection against inadvertently deleting important files.



File Selection Dialog Box

If you choose to set up the Mac Memory Disk so that it creates a RAM disk automatically at startup, the File Selection dialog box appears. This dialog box lets you choose the files you want automatically loaded onto the RAM disk when you turn on the Mac.



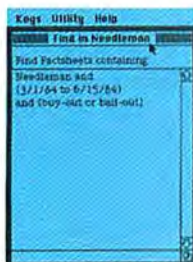
File Removal Alert Box

The alert box prevents you from losing updated documents before you copy them to floppy disk. You can't use the initialization dialog box to remove a RAM disk without first erasing the files stored on it. However, you'll receive no warning if you restart the Mac or turn it off without attempting to remove the RAM disk through the initialization dialog box.

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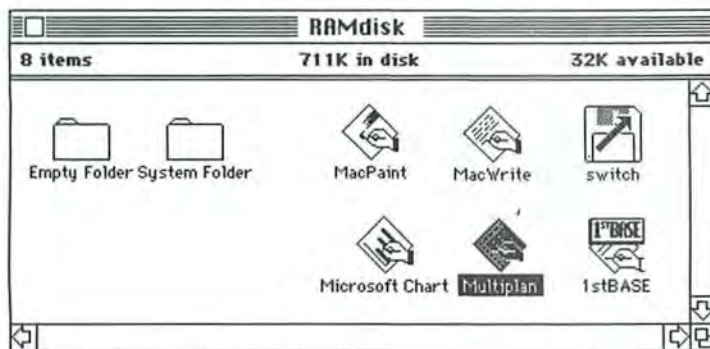


Figure 4

You can store over 700K of programs and documents when you create a RAM disk on the Apple Lisa 2. With so much memory you can store multiple applications, improving work productivity if you frequently switch between application programs.

(continued from page 75)

until you choose those functions from the pull-down menus. Those parts of a program are considered displaceable because they are not fundamental to the program's operation. On a 128K Mac, in which memory is at a premium, a displaceable part of the program held in RAM is replaced by another section of the program if the new section needs the space. On a 512K Mac, however, plenty of room exists in RAM for all sections of a program. Therefore, when you summon a program section from the disk, the 512K Mac retrieves it only once. Thereafter, that section is on standby in memory.

I ran a second set of tests to evaluate how much a RAM disk improved the speed of storing and retrieving displaceable portions of a program. I compared the time it took a floppy disk and the *Mac Memory Disk* to perform various operations with the disk-based version of *MacWrite* on a 10K document. Storing only *MacWrite* on the RAM disk or including the System Folder with *MacWrite* made little if any difference to the speed of using portions of the program, such as nonsystem fonts like Athens and Geneva, that are held on disk until you use them. No matter how I configured the RAM disk, it took about 5 seconds to change the font of a short paragraph from Geneva to Athens, which had not been loaded from the System file into memory. Changing the font back to Geneva took only 2 seconds, demonstrating how the program runs more quickly when you reuse a portion of the program that has already been retrieved from storage once before.

Unimproved Productivity

My final judgment on the RAM disk for the 512K Mac is that there isn't much reason for it unless you're thrilled at the sight of a single program on the RAM disk loading and quitting in several seconds. Most 128K Mac software works at RAM-disk speeds in a 512K Mac anyway. The *Mac Memory Disk* doesn't significantly improve work productivity even if it can sometimes increase the speed of opening and quitting programs. Storing the System Folder necessary for a dramatic speed improvement on the RAM disk leaves insufficient room for several application programs. This eliminates one of the major benefits of a RAM disk on the Macintosh, the ability to switch quickly between applications.

The *Mac Memory Disk* should be a smash on a 1-megabyte Lisa running *Macworks*, which lets you run Mac software on the Lisa. With a megabyte of RAM to play with, the *Mac Memory Disk* lets you set up a RAM disk with more than 700K of storage (see Figure 4). A RAM disk of this size leaves plenty of room for a well-stocked System Folder and five or six programs. Copying so many files to the RAM disk when you start a work session might be a bit tedious; the *Mac Memory Disk* program allows you to copy files only from a single floppy disk when you set up a RAM disk automatically. To minimize copying time, you could leave the Lisa on or copy the files once in the morning, knowing you'll be zooming around the desktop all day.

It's unfortunate that the usefulness of a well-designed program like the *Mac Memory Disk* is ultimately impaired by the Mac's limitations. On the plus side, the program is inexpensive, so it won't put you out too much if you're tired of waiting for documents to open and close or if you want to experiment with it. But don't expect it to substantially improve your productivity. □

▲▲▲▲▲▲▲▲▲▲ *Danny Goodman is a Contributing Editor of Macworld and the author of several personal computing books. He has appeared as a product reviewer on the Public Broadcasting System television series "The New Tech Times."*

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Mac Memory Disk
 Assimilation, Inc.
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 408/446-0797
 List price: \$29

Everybody

Mouse tales.

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Through a Glass Lightly

A peek into Through the Looking Glass, Apple's first game for the Mac

Erfert Nielson

Alice soon came to the conclusion that it was a very difficult game indeed.

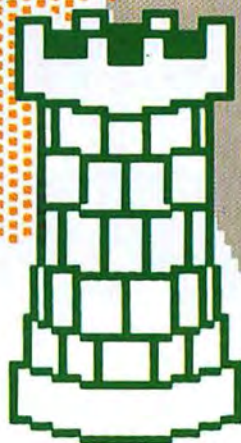
—Lewis Carroll, *Alice in Wonderland*

I saw an early version of *Through the Looking Glass* nearly a year ago. It's an animated game in which your playing piece, Alice, evades and captures hostile chess pieces that move in actual chess patterns. I thought *Alice*, as the game was informally called at the time, was clever, but my standard reaction to animated computer games held true: This is fun for a while, but then it gets old. True, the graphics were exceptional, and the fast-paced game certainly provided an entertaining way to develop eye-mouse coordination, but you can be chased by chess pieces for only so long before the thrill is gone. I was pleased, therefore, to see that a number of features have been added to the final version of the game.

When you buy *Through the Looking Glass*, the first thing you notice is the game's attractive packaging. The box, which resembles a cloth-bound book, has a reproduction of a fifteenth-century woodcut of a chess player on the cover. When you open the book, however, you find that it offers little in the way of reading material. The brief instructions, which also appear on the screen when you start up the game, are enough to get you started, but they make no mention of the game's special features. Perhaps Apple feels that tips from dealers, publications, and Mac owners will be sufficient to get the word around, but I find scanty documentation annoying.



▲▲▲▲▲▲▲▲▲▲
Alice, who moves as
the chess piece of your
choice, gets you on
board and in the game.
With five playing modes
and the ability to design
your own pieces, the
game has the same
spirit of playful imagi-
nation as the book that
inspired it.



To fill in some gaps in the game's instructions, I talked to Steve Capps, the Apple programmer who developed *Through the Looking Glass*. Capps wrote the program in Pascal, using only QuickDraw routines; there is no custom assembly language. He also designed and drew the game's two fonts, Alice-12 and Cartoon-12.

Let's begin at the beginning. When you insert the program disk, the familiar "Welcome to Macintosh" greeting is displayed in one of Capps' fonts. Then a disk icon named Games appears on the screen. The disk's window contains eight items: Amazing, a game in which you move through a series of mazes; Through the Looking Glass, represented by a Cheshire cat icon; Clock, an unusual digital clock display; Stuff, a folder containing the System and Finder files; Fonts, a file containing the game's two fonts, which can be transferred to other applications with the Font Mover; a document called X, which contains graphics files for *Through the Looking Glass* and can't be opened by the player; and two *MacPaint* documents, Pieces and Masks, which I'll discuss later.

Entering the Looking Glass

You double-click on the Cheshire cat to start up *Through the Looking Glass*. While the game is loading, the screen displays the woodcut graphic from the package (the image was captured by means of a video digitizer). After a short time the basic instructions—the same ones as on the inside cover of the package—are displayed. The game sounds very straightforward: as Alice, you capture as many chess pieces as possible while avoiding capture yourself. At the outset you give Alice the powers of one of the pieces, giving you some control over the difficulty of the game; for example, it is easier to play as a queen, which can move any number of spaces in any direction, than as a pawn (see Figure 1).

The last sentence of the instructions reads, "Hold the mouse button down over the score to get a menu." Once you start playing the game, you will no doubt feel inclined to take a look at this mystery menu, and you are in for a delightful surprise when you do. Click the pointer on the score at the top of the screen, and a grinning Cheshire cat materializes in a sparkle of pixels. (The Cheshire cat and the figure of Alice, modeled after John Tenniel's illustrations for Lewis Carroll's books, were drawn by Capps' wife, Marge Boots.) This novel menu allows you to start a new game, change the game's speed by clicking on Fast or Slow then clicking on the score again, or quit and return to the desktop.

Mutations and Erosion

But that's not all. If playing at the fastest speed with Alice moving as a pawn is not enough of a challenge for you, you have recourse to four additional modes of play:

Mutations, Erosion, Mirror-Mouse, and Upside-Down. To activate the variations, you click the pointer on the Cheshire cat's left eye, right eye, nose, and mouth, respectively.

When you select Mutations, your opponents change into different chess pieces at random, making it impossible to predict their movements. Selecting Erosion causes the black "hole" that moves about the chessboard during the regular game to multiply, eating away the board and restricting Alice's movements. I found Mirror-Mouse to be the most difficult of the special modes. When you click on the cat's nose, the pointer moves left when you move the mouse right, and vice versa. The Upside-Down mode, as its name implies, inverts the board and the playing pieces.

After playing in each of the modes for 20 minutes or so, I was getting scores in the 400s or better, which I thought were pretty good. So I decided, as they say, to go for it. I selected Mutations, Erosion, Mirror-Mouse, and Upside-Down, all at the same time. I got a score of 5. That experiment shows that you can combine different modes to set a skill level that suits you.

Figure 1

At the beginning of the game you choose whether Alice will play as a queen, king, rook, bishop, knight, or pawn. To move Alice, click on any square that is a legal move for that piece. Any of the pieces, including Alice, will drop through the board into oblivion if it lands on the randomly moving black square.

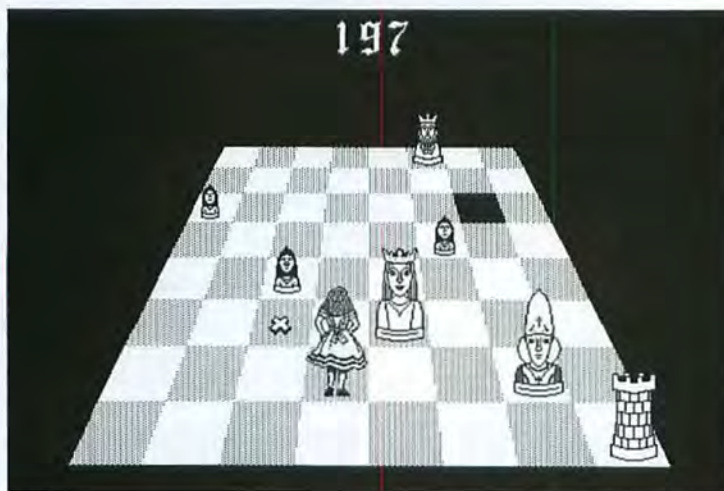
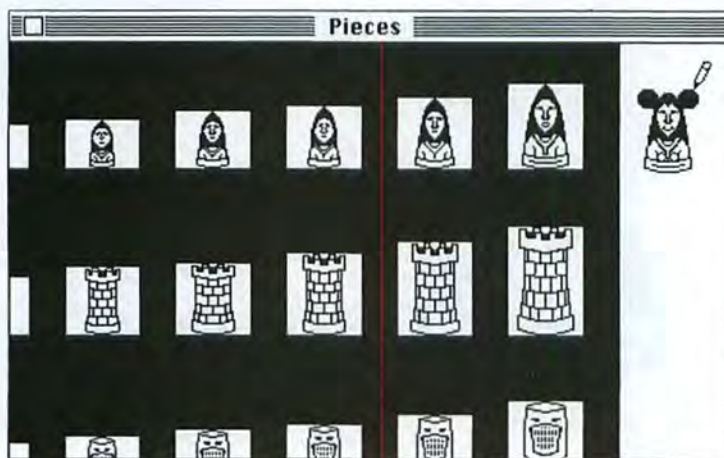


Figure 2

You can draw your own playing pieces in the margin of the Pieces document. If you don't want to start from scratch, you can simply modify the game's existing pieces, as shown here.



Make Your Pieces

In addition to giving you the four playing modes just described, *Through the Looking Glass* lets you draw your own playing pieces. This is by far my favorite feature. Again, the instructions are somewhat terse. At the bottom of the *MacPaint* document called Pieces are the following four lines: "The player bitmaps can be changed. The black area MUST be preserved, so the pieces can get no wider or taller. After you edit the players, copy the file over the Masks file. Then, lasso each piece and fill with black pattern." That's the general idea, but a more detailed description of the process is in order. Here are step-by-step instructions for creating your own pieces.

- First make a copy of the *Through the Looking Glass* disk. Even if your pieces are masterpieces, you'll probably want to keep an original version of the game.

- Copy the Pieces document onto a *MacPaint* (version 1.3) disk. You can now throw away the Pieces file and the Masks file on your Games disk. The Masks file contains black silhouettes that block out, or mask, the space taken up by the pieces so the background doesn't show through them (Capps compares the Masks file to a cookie cutter that "punches out" holes for the pieces to occupy). Since the silhouettes match the shapes of the pieces in the Pieces file, you'll need to make a new Masks file later.

- Open the Pieces file, which contains eight versions of each of the chess pieces in gradually increasing sizes. Use Show Page to move the drawing window as far to the right as possible. A $\frac{3}{4}$ -inch strip of white space in the right margin provides a place to work on new pieces. As the instructions say, you should not change the size of the white rectangles in which the pieces are centered.

- Using *MacPaint*'s tools, draw a new piece in the margin, or lasso and copy one of the existing pieces and modify it however you like (see Figure 2). I found it easiest to make a copy of the rightmost piece in order to establish the size of the new piece.

- When you have finished drawing the largest piece, surround it with the marquee, hold down the Option key, peel off a copy, and release the Option key. With the marquee still selected, hold down the \mathbb{H} and Shift keys and move the pointer inward to shrink the drawing so it will fit in the next-smallest rectangle. Drawings this small tend to become somewhat distorted when you shrink them, so you'll have to do some cleanup work in *FatBits*.

- Make another copy of the large drawing and repeat the above procedure to shrink it to the next-smallest size, and so on until you have eight pieces of different sizes.

- Lasso the new pieces and place them over the old ones. Remember to save your document periodically.

- When you have modified or drawn as many pieces as you need, quit the Pieces document.

- From the desktop click on the Pieces document to select it, then choose Duplicate from the File menu. Give the copy of Pieces the name Masks, and open the Masks document. You must use the names Pieces and Masks for these documents, or a system error will occur when you start the game.

- Once you are in the Masks document, you must convert all the pieces into solid black shapes. You use what Capps calls "a simple but tedious procedure": lasso each piece and choose Fill from the Edit menu (you must have version 1.3 of *MacPaint*, since the earlier version doesn't have a Fill command). Include some of the black background at the top and the bottom of the piece when you lasso it (see Figure 3). When you have filled in all the pieces, save the Masks document and return to the desktop.

- Copy the Pieces and Masks documents to your Games disk.

Now you are ready to begin playing with your new pieces. Double-click on the *Through the Looking Glass* icon to start the game (see Figure 4). Modifying the pieces gives you a chance to add personal touches to the game. If you don't consider yourself an artist, you can use *MacPaint* images from some of the clip art disks

available for the Mac. Or if you have access to a video digitizer, you can paste digitized pictures into the Pieces document. Giving players a chance to use their imagination makes *Through the Looking Glass* more than just another video game. □

▲▲▲▲▲▲▲▲▲▲ Erfert Nielson is
Macworld's Editorial Assistant.

▲▲▲▲▲▲▲▲▲▲
Through the Looking Glass
Apple Computer
20525 Mariani Ave.
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800/538-9696, 800/662-6238 in
California
List price: \$39.95

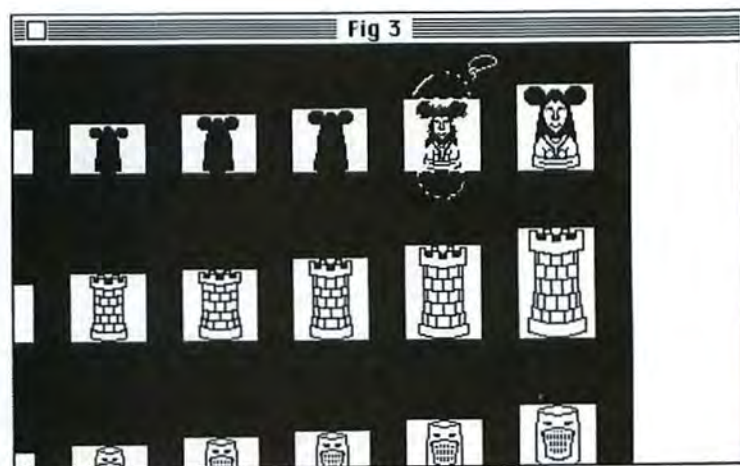


Figure 3
When you have finished drawing a new set of pieces, open the Masks document and encircle each piece in turn, including some of the surrounding black background, with the lasso. You make the pieces into solid black shapes by selecting the Fill command from the Edit menu.

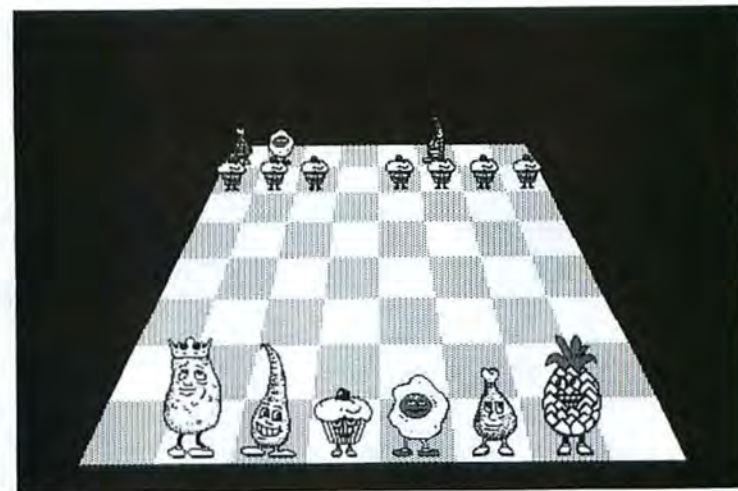


Figure 4
In this customized version of the game, which I renamed *Through the Cooking Class*, Alice is pursued by various items of food, which inexplicably move like chess pieces.

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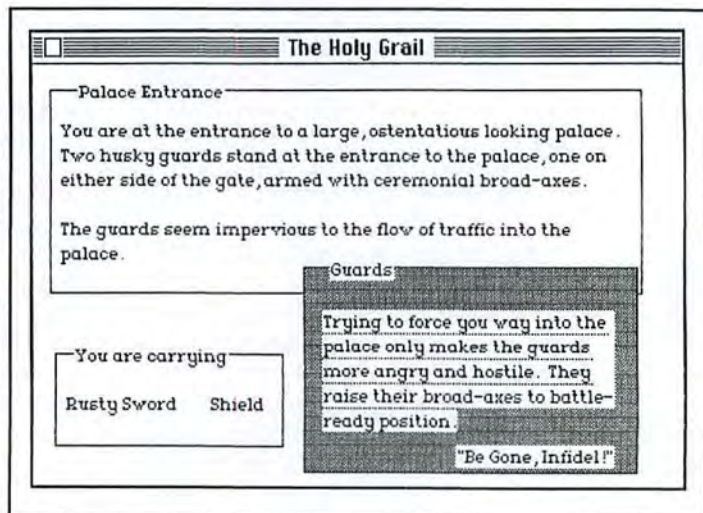
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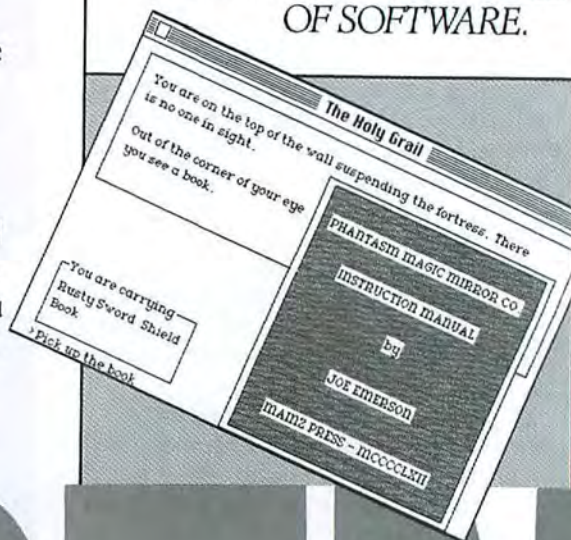
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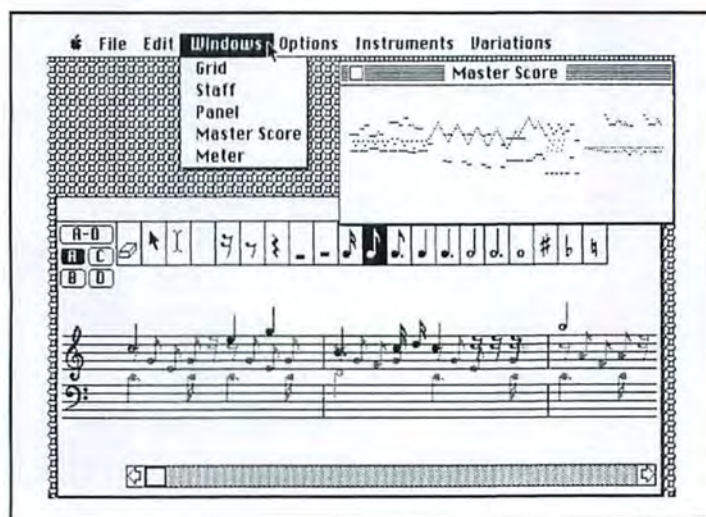
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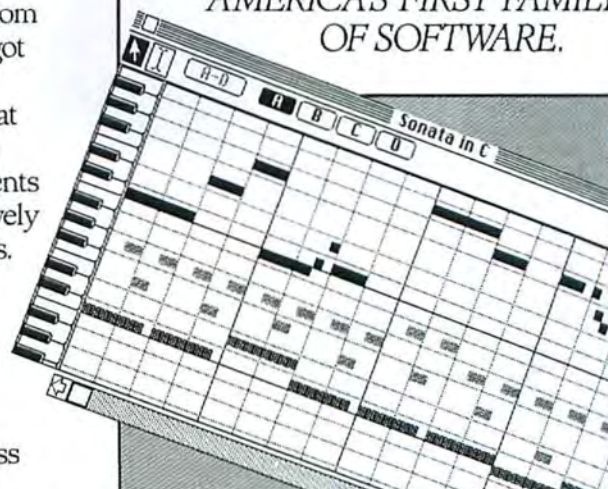
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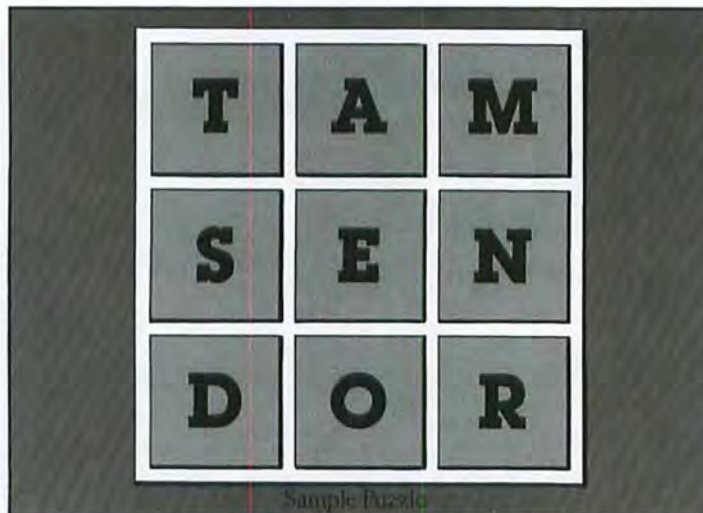
You win points for every word you found that LEX didn't. Word Challenge keeps the score.

HOW MANY WORDS CAN YOU FIND IN THIS WORD CHALLENGE GRID?

Words are legal if their letters touch in sequence on any side or corner. "TEAM" is legal, while "TEAMS" is not, since the "S" does not touch the "M." LEX, playing at a "friendly" level, found 23 words of three letters or more. At his most competitive, LEX found 110 words (see list to the right). Can you do better?

Play Word Challenge alone or with a group. See if your family or friends together are wordy enough to bring LEX to his knees. You'll have a lot of fun and learn a new word or two in the process.

Word Challenge operates on



Can you beat LEX?

Puzzle Answers

Here's what LEX found. Can you do better?

tern	saner	sepon	manes
tenor	sane	epou	panam
ten	sane	pou	enam
teas	es	stis	nam
team	es	net	esla
tea	es	nest	ela
lan	spo	neal	uo
tames	ed	es	stis
tamer	ed	es	eat
tamed	est	es	eat
tame	es	es	esop
tam	es	meson	sop
stem	ed	mesa	enop
stem	eson	men	esates
steam	eam	meas	edop
stamen	eam	meal	nod
sore	es	mean	esop
son	es	mas	esop
sod	es	mas	esop
set	es	med	den
senor	es	med	den
seat	es	med	den
seam	es	med	den
sea	es	med	den
saled	es	med	den
sale	es	med	den
sal	es	med	den



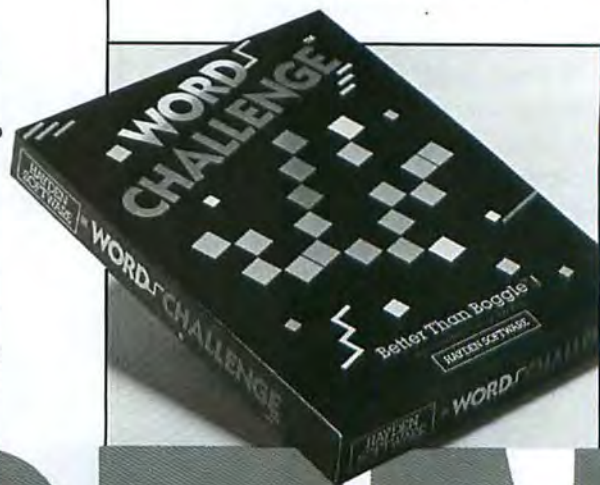
Apple™ II+, IIe, IIC, Macintosh™
Commodore 64™ IBM PC™ PCjr™
and popular compatibles.

Word Challenge is part of
Hayden's HeadStart Program which
allows schools to accumulate points
toward free computers, peripherals,
and software. Buy Word Challenge,
and your school will receive 20
HeadStart Points.

Word Challenge. Only \$39.95.
Contact your local computer software
dealer or Hayden Software, 600 Suffolk
Street, Lowell, MA 01854, phone
toll-free 800-343-1218.

Word Challenge and LEX are registered trademarks of Hayden
Software Company, Inc. Word Challenge is based on Proximity
Linguistic Technology.
Apple and Macintosh are registered trademarks of Apple
Computer Corporation.
IBM PC and PCjr are registered trademarks of International
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Commodore 64 is a registered trademark of Commodore
Business Machines.

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OF SOFTWARE.



HAYDEN

I KNOW IT'S HERE SOMEWHERE.[™] THE COMPUTER PROGRAM THAT GETS YOUR FACTS STRAIGHT.

**FOR ANYONE WHO
WANTS TO BE
ORGANIZED BUT
CAN'T SEEM TO
MAKE IT HAPPEN.**

"Why can't I ever find anything when I want it?" Does that sound familiar? If so, you need I Know It's Here Somewhere. I Know It's Here Somewhere is a simple, foolproof filing system for home, business, or school. It gives you a perfect way to catalog and store all that important information you know you have but can never seem to find when you need it most.

Users of large computer systems have been using similar programs for years. They call such programs database management systems. I Know It's Here Somewhere takes that basic, proven concept and simplifies it for everyday use.

**ANYTHING YOU CAN
CATALOG OR LIST, YOU
CAN STORE AWAY ON
I KNOW IT'S HERE
SOMEWHERE.**

To create a format, simply use your mouse to position your basic headings, or fields as they're called, where you want them. That's all there is to it. I Know It's Here Somewhere takes it from there. You supply the information, and the program provides the organization.

The screenshot shows a window titled "I Know It's Here Somewhere" with a menu bar (File, Edit, Move, Search). It contains several overlapping forms:

- credit cards**: Company: American Express, Card no.: 1234 567890 12345, If lost, call: (800) CCR-AMEX, Expir. date: Oct. 85.
- notes**: Review insurance coverage before renewal date.
- subscriptions**: Magazine: Scientific American, Expiration date: Dec 1985, Period: 1 year, Price: \$5.95.
- Insurance**: Type: Homeowner's, Insurer: Acme Insurance Co, Policy no.: ACN11114 378.
- valuables**: Category: Jewelry, Item: Diamond ring, Insured value: \$3200, Insurer: Acme Bonding, Description: Heirloom. Circa 1890. 14 carat gold with one round diamond approx. 3/4 carat. Perfect condition with no visible flaws.

Navigation buttons at the bottom: (prev) next find.

The program comes with several standard formats ready for immediate use. There are formats for filing stamps, books, slides, coins, correspondence, recipes, membership lists, names and addresses, credit card numbers, warranty information for household appliances, investments, insurance policies, financial data, capital assets, even the wine in your cellar.

But the program does much more than simply store your information away. It also lets you rearrange it or look at it in different ways.

You can do a sort. Find all the British stamps in your collection, for instance. Then you can do a second sort. Of all those British stamps, find the ones bearing a queen's picture. Or suppose you're doing a mailing, and you want it to go only to single people living within a certain ZIP code. No problem with I Know It's Here Somewhere. Two sorts, and

the information is ready for printout.

The program will find any piece of information for you even if you have nothing more to go on than a single letter within its name.

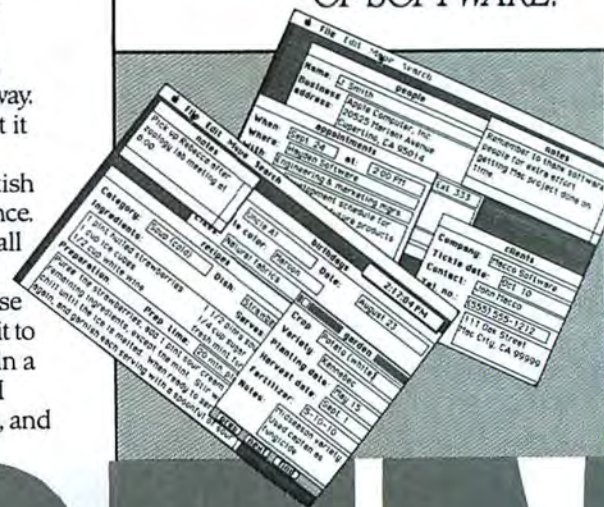
If you do a lot of bibliographies, I Know It's Here Somewhere gives you a special block at the bottom of your screen that you can use to store footnotes. You can then use the program as a word processor to correct, add, or delete your footnotes as you need.

When you see how easy it can be, isn't it time you got organized?

I Know It's Here Somewhere. Only \$59.95. Contact your local computer software dealer or Hayden Software, 600 Suffolk Street, Lowell, MA 01854, phone toll-free 800-343-1218.

I Know It's Here Somewhere is a trademark of Hayden Software Company, Inc.

**HAYDEN.
AMERICA'S FIRST FAMILY
OF SOFTWARE.**



HAYDEN

HAYDEN:SPELLER.™ MAKES MACINTOSH™ LETTER PERFECT.

TAKE THE FICTION OUT OF YOUR DICTION.

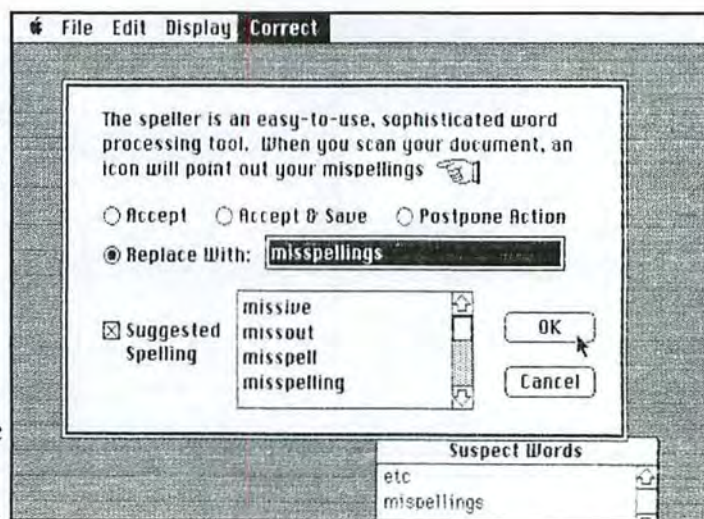
The Hayden:Speller spelling checker software program catches and corrects spelling errors and typos.

It's easy. Using pulldown menus and dialog boxes, you check your documents against a dictionary covering 97% of the most frequently used words in the English language. It's quick. Hayden:Speller can check a 5 page document in less than 10 seconds. It's complete. You can easily create your own "personal dictionary" with up to 50,000 words per disk. You can then let Hayden:Speller check these words, too.

EASY, FAST, AND SIMPLE.

Hayden:Speller either lists questionable words or points them out in context. You choose what to do next.

If the word's correct as is, let it go unchanged. If it's an



obvious misspelling, change it yourself. You can do it directly within the spelling checker program. There's no need to switch back to your word processing disk. If you don't know the correct spelling, have Hayden:Speller find it for you.

A click of your mouse makes the necessary correction.

WORKS WITH MACWRITE™ AND MICROSOFT WORD™

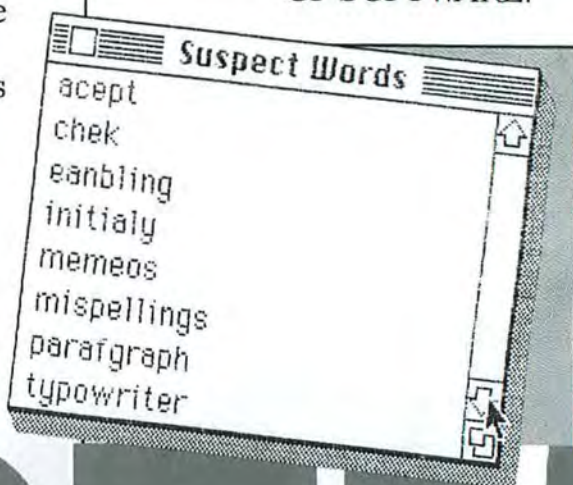
Hayden:Speller is fully compatible with MacWrite and Microsoft Word. It takes

advantage of their special Macintosh features, such as windows, menus, and of course, mice.

For more information on Hayden:Speller, contact your local computer software dealer or Hayden Software, 600 Suffolk Street, Lowell, MA 01854, phone toll-free 800-343-1218.

Macintosh and MacWrite are registered trademarks of Apple Computer Corporation.
Hayden:Speller is a registered trademark of Hayden Software, Inc.
Microsoft Word is a registered trademark of Microsoft Corporation.

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HAYDEN

Macware News

The latest developments in Macintosh software, hardware, and accessories

Edited by Erfert Nielson

Macware News announces new Macintosh products. Those listed here are available now or will be in the near future. We will keep you informed of developments as the number of products for the Mac increases.

Software

■ Brainworks, Inc.

24009 Ventura Blvd. #250
Calabasas, CA 91302
818/884-6911

ChipWits

An educational system in which you program robots to perform tasks in a variety of environments. *ChipWits* is designed to develop problem-solving skills by means of a generic, icon-based language called IBOL. Once you connect a series of programming icons, you can watch the program run and look for errors. *ChipWits* lets you slow down execution or single-step through your program to find flaws in the logic. The system includes several preprogrammed robots that you can use as models when writing your own programs. The IBOL language introduces programming concepts such as operators, arguments, branches, and subroutines by means of simple pictures. List price: \$49.95.

■ Decision Science Software, Inc.

P.O. Box 7876
Austin, TX 78713
512/926-4527

Soft Palette Fonts

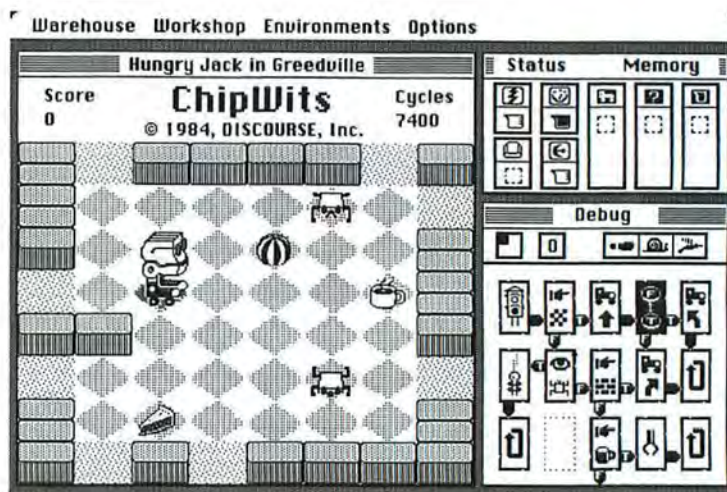
Volume 1 of the *Soft Palette* font series is a collection of 18 decorative fonts, including borders and a set of interior design symbols such as furniture, doors, windows, stairs, and appliances. The symbols, which are designed to be used with *MacPaint*, fit a standard scale of 8 *MacPaint* dots to 1 foot. List price: \$35.

■ Digital Etc.

1749 14th St.
Santa Monica, CA 90404
213/452-5636

Maccountant

An accounting package for small businesses. *Maccountant* offers a variety of functions, including income statements, balance sheets, accounts payable, accounts receivable, and general ledger. All functions have flexible reporting periods that allow you to automatically segment information to fit fiscal calendar years, seasonal highlights, and so forth. *Maccountant* handles a full year's data on one disk. List price: \$195. (Call 800/922-7500 to receive a free demo disk.)



ChipWits, Brainworks



Soft Palette Fonts, Decision Science Software

File Edit Functions Reports Month			
Income Statement			
Department Income			
Balance Sheet			
Trial Balance			
Check Register			
Daily Cash Report			
Account History			
General Ledger			
Accounts Receivable			
Accounts Payable			
Financial Ratios			
Purchases/Accounts Payable			
The Hardware House			
For the month of Nov, 1984			
Ref Account #			
0235 6010			
7777 2050/0200			
7777 1103			
7777 2050/0300			
Cash Receipts Journal			
The Hardware House			
For the month of Nov, 1984			
Ref Acc			
11/01 100.00 Cash Sales - Nuts \$\$\$\$ 4010			
11/01 245.45 Cash Sales - Bolts \$\$\$\$ 4010			
11/01 98.00 TSI Paid Bill-Disc 1220 1050			
2.00 TSI Took Discount 1220 4200			
11/01 103.00 20 Cash Nuts 1241 4010			

Macaccountant, Digital Etc.

Future Design Software

13681 Williamette Dr.
Westminster, CA 92683
714/891-9796

General Ledger

The first of five modules in Future Design's *Strictly Business Accounting System*. The General Ledger module provides balance sheet, profit-and-loss, and trial balance capabilities and incorporates *Smoothtalker* speech synthesis to draw attention to errors and to articulate commands. General Ledger also includes comparative analyses, profit-and-loss variance reports, projections for income and expense accounts, detailed journals, customized reports, and individual and consolidated balance sheets and profit-and-loss statements. Future models include Accounts Payable, Accounts Receivable, Inventory Control, and Order Entry. List price: \$395.

Great Plains Software

1701 S.W. 38th St.
Fargo, ND 58103
701/281-0550

Hardisk Accounting Series

An accounting system that requires a Tecmar hard disk drive (contact the manufacturer for information on compatibility with other hard disk drives). The initial modules are General Ledger with Financial Reporting and Budgeting, Accounts Receivable, Accounts Payable, Payroll, and Inventory Management with Point of Sale Invoicing. Job Cost with Estimating, Costing, and Pre-Billing will follow later this year. The modules, which include help screens and tutorials, can be integrated or used separately. List price: \$695 per module.

Hayden Software

600 Suffolk St.
Lowell, MA 01854
800/343-1218

Hayden:Speller

A spelling checker with a 22,000-word dictionary. The program also allows you to create a personalized dictionary that is limited only by avail-

able disk space. *Hayden:Speller* either lists questionable words or points them out in context. You can insert a correctly spelled word from the dictionary with the mouse. You need not switch between *Hayden:Speller* and your word processing program. *Hayden:Speller* is compatible with *MacWrite* and *Microsoft Word*. List price: \$79.95.

MusicWorks

A program that lets you compose, edit, and play music on the Macintosh. You use the mouse to place notes on a 7½-octave grid that corresponds to the keys of a piano. When you finish composing your tune, *MusicWorks* transforms the grid into a musical staff. You can also compose directly on the staff. You play your composition using any four of the program's ten instruments, which include piano, flute, chimes, trumpet, organ, kazoo, and synthesizer. *MusicWorks* lets you listen to individual parts or all four parts at once. List price: \$79.95.

Henderson Associates

980 Henderson Ave.
Sunnyvale, CA 94086
408/246-8939

Real Poker

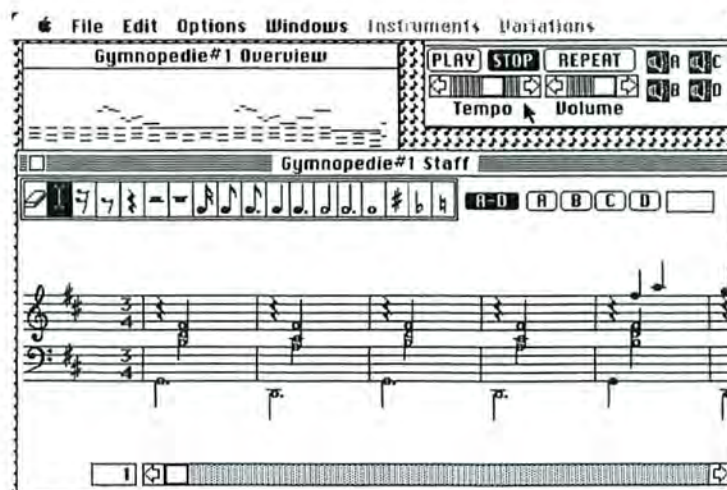
A game of five-card draw that lets you compete against five computer-simulated opponents, all of whom have distinct personalities. The game has three levels of play: in Normal mode you can follow each step of a hand; Teach mode exposes all hands, allowing a novice to observe betting strategies; High Speed mode lets experienced players play as quickly as they like. List price: \$39.95.

Ideaform Inc.

P.O. Box 1540
Fairfield, IA 52556
515/472-7256

MacLabeler

A program that enables you to create labels listing the contents of a Mac disk. You insert the *MacLabeler* disk, eject it, then insert the disk you want to



MusicWorks, Hayden Software

File Edit Goodies Font FontSize Style

Pro Type Fonts

FALT BOLD-18/24

Greetings-18/24

Futura Bold-18/24

City Bold-12/18/24

Block Bold-24

Eurostile- 12/18/24/72

label. You select any or all of the files on your disk for a label listing. A disk label holds 20 names. You can use the program's directory window to view a complete list of the contents of a disk in a few seconds. *MacLabeler* allows you to add or delete file names before printing the label. The program can also sort file names in alphabetical order or by size, date, or type of file. List price: \$49.95.

■ Kensington
Microwave Ltd.
251 Park Ave. S
New York, NY 10010
212/475-5200

Professional Type Fonts

Two disks of fonts that can be installed in an application's Font menu with the Font Mover. Several of the fonts are styled after well-known Mergenthaler and ITC typefaces such as Times Roman, Helvetica, and Optima. *Professional Type Fonts for Text* provides 16 fonts in sizes from 12- to 24-point. *Professional Type Fonts for Headlines* provides the same fonts in 24-point and larger sizes; this disk should be used with a 512K Mac. List price: *Text* \$49.95, *Headlines* \$69.95.

■ **Kriya Systems, Inc.**

505 N. Lake Shore Dr.
#5510
Chicago, IL 60611
312/822-0624

Neon

An object-oriented programming language that provides a Smalltalk-like environment implemented as a compact threaded language. Neon combines various sections of the Macintosh Toolbox into objects that let programmers build models of programs rather than list lengthy instructions. If you need to modify an object, you create a new class of objects, changing only the characteristics that need to be changed. Since you can reuse objects, Neon enables you to produce compact source and executable code.

If you need high speed, you can write portions of your program in assembly code. Neon is an extensible language; much of the Neon system is written in Neon, so you are free to modify the program. The Neon system can be "sealed" so that only the application, not the language

[illegible]

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Compuclassics

SOFTWARE	Price
ATI Mac Coach	\$ 45.00
Continental Software The Home Accountant	\$ 57.00
Desktop Software 1st Base	\$110.00
Intermatrix Mac Phone	\$125.00
Living Videotext Thinktank	\$ 85.00
Magnum Mc Pic	\$ 32.00
Mainstreet Mainstreet Filer	\$160.00
Microsoft Basic Interpreter	\$ 99.00
Chart File	\$ 85.00
Multiplan Word	\$125.00
Monogram Dollars and Cents	\$125.00
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PFS Report File / Report Combo	\$ 70.00
Telos Software Filevision	\$110.00
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it's written in, is seen; you can distribute any application you write free of additional licensing constraints. The language provides a full-featured, mouse-driven editor and an interface to QuickDraw. Source definitions for all graphics objects are included with the program. The Neon kernel is written in a combination of FORTH and 68000 assembly language; a FORTH interpreter is available as a subset of the Neon system, and a 68000 assembler will be available as an add-on. List price: \$150.

■ McCarron-Dial Systems

P.O. Box 45628
Dallas, TX 75245
214/247-5945

McTrivia

A two-player trivia game that has over 2000 multiple-choice questions. *McTrivia* gives each player or team 15 seconds to click on one of five answers. A game consists of two 9-minute halves. Bonus questions are provided if a player correctly answers three questions in a row. A single player can play against the clock for high-score records. List price: \$40.

■ MCTel, Inc.

3 Bala Plaza E #505
Bala Cynwyd, PA 19004
800/628-3584, 215/668-0983

P/C Privacy

A data encryption system that protects text or graphics files. You can decode encrypted data with a key phrase of your choice. The key can be changed each time a file is encrypted. *P/C Privacy* is compatible with public and private electronic mail systems, so you can send and receive private messages. List price: \$140.

■ Millet Software

146 West 255 South
Orem, UT 84058
801/224-6841

Learn about the Solar System

An educational package designed to teach you about the nine planets of the solar system, as well as Halley's comet. The program displays a real-time graphic simulation of the planets rotating around the sun, size comparisons of the planets, and a simulation of Halley's comet's orbit. When you click on one of the planets, a page of information about that planet is displayed. The program also includes an interactive test with three difficulty levels. List price: \$24.95 plus \$3 shipping and handling.

■ P3, Inc.

949 Parklane Center
Wichita, KS 67218
316/686-2000

The Investor

An investment portfolio management system designed to help you with financial decision making and tax preparation. *The Investor* handles stocks, bonds, funds, options, short sales, and margin accounts and produces reports such as Portfolio Status, Capital Gains/Losses, Interest Income, and Dividend Income. The program allows you to duplicate a portfolio in order to simulate changes in strategy without altering real records. You select transactions such as Buy or Sell from the Transact menu, and the program prompts you for the necessary information. If you have a modem, *The Investor* can automatically update the market values of your securities using quotes from the Dow Jones News/Retrieval service; if not, you can update prices manually. The program's Graph menu allows you to construct Portfolio Status or Profit-Loss graphs. List price: \$150.

■ PCA Software

P.O. Box 1231
Arlington, TX 76010
817/860-5498

Scientific Analysis Program

A scientific and numerical analysis program written in Microsoft BASIC. The program solves linear, nonlinear, real, complex, and sets of simultaneous differential equations. *Scientific Analysis Program* performs linear regression analysis and finds the curve that best fits experimental data. The program calculates definite integrals and solves matrix equations. You can modify it to meet your needs. The program includes two disks and requires Microsoft BASIC to run. List price: \$35.

■ Plug, Inc.

595 Royal Springs
Springboro, OH 45066
513/748-2423

Dayton Math Fonts

A collection of four mathematical fonts with over 700 characters for use in technical typing. The fonts include a Greek alphabet, fractions, standard mathematical symbols, and full Greek and Roman alphabets with bars, tildes, and carets. The disk also includes 65 special integrals, 57 special sums, and 50 other special operations. You can type roots, fractions, and two-level superscripts or subscripts. One font can be printed with the high-quality option. A list of available characters and an instruction booklet are included. List price: \$29.95.

■ Queue

5 Chapel Hill Dr.
Fairfield, CT 06432
800/232-2224, 203/335-0908

Educational Programs

Four educational programs. *Reading Adventure I* is an interactive fiction program for second- and third-graders. The program lets children choose

their own story lines while earning points and improving comprehension skills. In *World Geography Adventure I*, you learn to identify the countries, capital cities, largest cities, and major rivers of North and South America. In *How a Bill Becomes a Law*, you are a member of the United States Congress trying to get a bill passed, learning about the legislative system in the process. In *American History Adventure*, you meet characters from American history, whom you identify and locate in time and place. List price: *Reading Adventure I* \$39.95, *World Geography Adventure I* \$59.95, *How a Bill Becomes a Law* \$59.95, *American History Adventure* \$59.95.

■ Rune Software

80 Eureka Square #214
Pacifica, CA 94044
415/355-4851

Electronic PAD

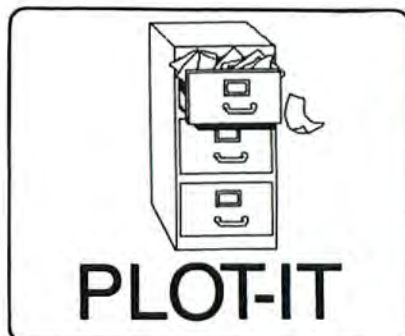
An integrated, computer-aided engineering package that turns a Macintosh or a Lisa into an engineering workstation for digital circuit design. The program enables you to produce professional-quality schematics and provides complete fault and logic simulation of the design, reducing debugging time in the prototype stage. *PAD* provides nine primitive logic functions—AND, OR, NAND, NOR, XOR, XNOR, Inverter, D flip-flop, and JK flip-flop—which you select from a "palette" and place on the screen. You can connect pins using the mouse and label the functions to reflect off-the-shelf parts, creating a parts library. Designs are not restricted to the size of the Mac's screen.



A Graphics Terminal for the Macintosh™

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Los Alamos, NM 87544

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Teleservice Telesupport

PRODUCT	RETAIL PRICE	MICRO FLASH
Ashton-Tate dBase II	\$ 495	\$ 369
Assimilation Process		
Mac Turbo Touch	129	109
Continental Home Accountant	150	119
Creative Solutions MacFORTH	149	98
Dow Jones Straight Talk	75	57
Haba Systems 3.5" HabaDisk	450	369
Hayden Publishing Sargon III	50	38
Human Edge Mind Prober	50	38
Sales Edge	250	169
Infocom Zork II	50	38
Intermatrix Macphone	199	170
Iomega Bernoulli Box 5 MB	1895	1599
Living Videotext ThinkTank	145	110
Maxell 3.5" Diskettes	65	49
Microsoft® Multiplan™	195	125
Basic Interpreter 2.0	150	99
Chart	125	89
Word	195	148
File	195	148
Miles Mac the Knife Vol. 2	49	39
Monogram Dollars & Sense	150	113
OSC Omnis 2	275	210
Omnis 3	375	285
PFS File & Report Package	195	148
Prometheus ProModem w/Mac Pac	549	425
Stoneware DB Master	195	148
Telos Filevision	195	148
Tecmar 5 MB Removable	2295	1695
T/Maker ClickArt	50	35
Videx Mac Vegas	59	49

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Telex #353199 MFLASH UD



COMPUTER SYSTEMS, INC.

1110 BURNETT AVE., SUITES J & K
CONCORD, CA 94520

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Listed: Dun & Bradstreet

PAD's logic analysis feature allows you to test part tolerances; signal generation can be modified to test for worst case, allowing you to flag potential problem areas. Waveforms produced by probing the circuit at any location show logic errors that can be traced back to their source by probing earlier levels of the design. List price: 128K Macintosh (does not include macro library feature) \$395, 512K Macintosh \$595, Lisa (under *MacWorks*) \$595, 128K to 512K software upgrade with macro library \$225.

■ Screenplay

1095 Airport Rd.
Minden, NV 89432
800/334-5470

Caesars Guide to Gaming—Blackjack

A game that simulates blackjack as played at Caesars Palace in Las Vegas, Caesars Tahoe, and Caesars Atlantic City. You can occupy one or more seats at a casino table, set table limits, and play alone against the house or with a variety of characters who have different playing styles and strategies. The program includes instructional drills that present different game scenarios; incorrect moves are stored and later played back in a drill focusing on your areas of weakness. List price: \$69.95.

■ Smith Micro Software, Inc.

P.O. Box 7137
Huntington Beach, CA
92615
714/964-0412

Stock Portfolio System

A program that lets you manage a portfolio consisting of stocks, bonds, options, mutual funds, money markets, and certificates of deposit and other cash

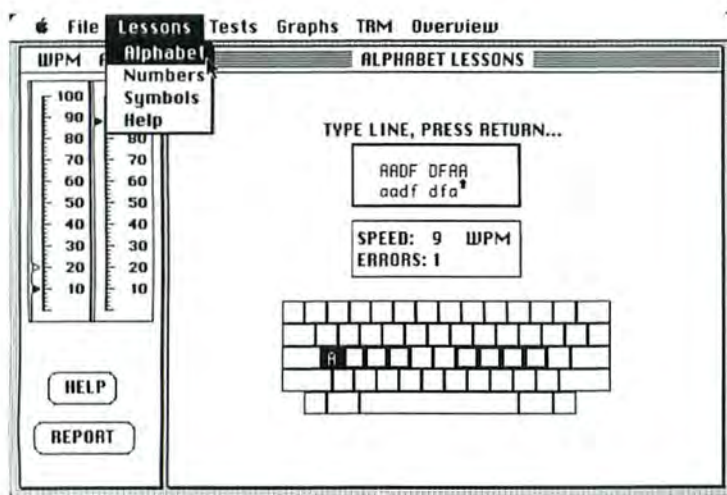
investments. The system allows you to retrieve quotes from the Dow Jones News/Retrieval service or enter them manually. The *Stock Portfolio System* generates nine reports, including Current Portfolio Status of unrealized gains and losses, Profit and Loss Statement, Dividend Income Statement, and Interest Income/Expense Statement. The system incorporates 1984 tax laws and includes features such as timing notices, margin accounting, option writing, and return-on-investment calculations. The system requires a 512K Macintosh. List price: \$225, extended service contract entitling buyer to all upgrades and enhancements \$65 per year.

■ SoftDesign

P.O. Box 161377
Miami, FL 33116
305/253-5521

TimeBase

A program designed to centralize your application software by combining several business applications and a time-management system. The program allows you to link information from a word processor, a database, an accounting program, or a spreadsheet into specific appointments in your schedule, eliminating the delay caused by inserting the application program, waiting for it to load, and opening the file you need. You can maintain several schedules at once. *TimeBase* includes appointment reminders, automatic entry of standing appointments, priority scheduling, and a simple project manager. The program's Tracking, Maintaining, and Planning feature enables you to track deadlines, call-backs, and accounts payable and receivable. The Project/Event Manager helps you with short- and long-term planning. File Cabinet is a fixed-field, limited database that has search and print capabilities. *TimeBase*



Typing Tutor III, Simon & Schuster

also provides an on-disk folder of standard business forms and letters that can be transferred to *MacPaint* for editing and customizing. List price: \$149.95.

■ Software Masters

P.O. Box 570417
Houston, TX 77257-0417
713/266-5771

inTouch

A communications program that includes both Xmodem and Crosstalk protocol file transfers, multiple terminal emulations, and programmable function and cursor keys. The program's Communications Command language allows you to automate tasks for unattended operation. List price: \$149.95.

■ Simon & Schuster, Inc.

Electronic Publishing Group
1230 Avenue of the Americas
New York, NY 10020
212/245-6400

Typing Tutor III

An advanced touch-typing instruction program that can be adapted to an individual's typing skills and learning needs. The program updates lessons in response to your progress throughout the course. An im-

age of the keyboard appears on the screen along with explanatory prompts, optional help screens, and test results in the form of bar charts showing speed and accuracy improvements for each key. An arcade-style game, Letter Invaders, helps you develop typing speed and accuracy. List price: \$59.95.

■ Superex Business Software

151 Ludlow St.
Yonkers, NY 10705
800/862-8800, 914/964-5200

MacFinance

A program that answers up to 26 financial questions, from corporate worth to the future value of an investment. A dialog window asks you to enter financial data. *MacFinance*'s built-in formulas calculate liquidity ratios, activity ratios, market ratios, cost analysis, return on investment, depreciation, break-even analysis, value of investment, mortgages, loans, and bond yield analysis. The program has three menus: Balance Sheet, which deals primarily with a company's current financial status; Invest-

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Macware News

ments, which performs calculations on business or personal investments; and Capital & Loans, which allows you to calculate the market value of a company, installment payments of a loan, monthly deposits, annuities, and the future value of an investment. List price: \$99.95.

Hardware

General Computer Company

215 First St.
Cambridge, MA 02142
617/492-5500

HyperDrive

A 10-megabyte hard disk drive that is built into the Macintosh. Memory expansion to 512K RAM is available. A Mac equipped with HyperDrive loads and starts programs three times faster than does a standard Mac, transfers programs and data up to 20 times faster (and up to 7 times faster than a Mac with an external hard disk drive), and stores 25 times more data than a 3½-inch floppy disk. Because HyperDrive's disk interface logic board is directly connected to the Mac's main circuit, the Mac's serial ports remain free for modems, printers, or other devices. You can boot the system from either the hard disk or a 3½-inch disk. The software provided with HyperDrive allows the hard disk to be divided into many "virtual disks," which resize themselves to accommodate files. List price: with 512K memory expansion \$2795, without memory expansion \$2195.

Kensington Microware

251 Park Ave. S
New York, NY 10010
212/475-5200

Accessories Portable Modem

A 7½- by 3½- by 1½-inch portable 300-bps modem that is powered by a 9-volt battery. The modem comes with a telephone cable, an interface cable to attach the modem to the Macintosh, a carrying case, and a manual. List price: \$140.

Microsoft Corporation

10700 Northup Way, Box 97200
Bellevue, WA 98009
206/828-8080

MacEnhancer

An expansion system that provides one parallel and two serial ports, printer driver software, and terminal emulation software. MacEnhancer adds one IBM-compatible parallel port and two IBM-compatible serial ports to the Macintosh without taking up any of the Mac's existing ports. When installed, MacEnhancer is listed as a desk accessory in the Apple menu, allowing you to switch ports from within an application. MacEnhancer also provides software that enables you to use a variety of letter quality and dot matrix printers with the Mac, including the Epson LQ-1500, FX-80, FX-100, MX-80, and MX-100; the Toshiba P1351 and P1340; the C. Itoh ProWriter; the Hewlett-Packard ThinkJet; the IBM Graphics; and the Okidata Microline 92 and 93. MacEnhancer's terminal emulation software allows you to communicate with mainframes and other personal computers. List price: \$249.

■ **Winterhalter Inc.**
3853 Research Park Dr.
P.O. Box 2180
Ann Arbor, MI 48106
800/321-7785, 313/662-2002

DataTalker/MAC

An intelligent data communications processor that allows the Macintosh to emulate IBM 3271/3277, 3274/3278, 3275, and 3276/3278 interactive terminal systems. DataTalker/MAC connects to the Mac's modem port and communicates with a mainframe by means of a modem, a modem eliminator, or a limited-distance modem. You download the 3270 emulation program from the Macintosh to the DataTalker/MAC. The package includes DataTalker/MAC, a cable, a 3270 emulation program on disk, and a manual. List price: \$1095.

Accessories

■ **edTech**

108 N. Cassady Rd.
Columbus, OH 43209
614/263-3715

Diskpac 3.5

A carrying case for 3½-inch disks. Diskpac 3.5 holds up to six disks and folds into thirds, making it small enough to fit into a suit pocket. The case is made of nylon with a velcro closure. List price: \$14.95.

■ **Esoft Enterprises**

P.O. Box 179
Owasso, OK 74055
918/272-7616

ColorPrint

A system that allows you to print in up to five primary colors using Apple's Scribe printer or eight primary colors using Apple's Imagewriter printer. You can produce additional colors by overlapping primary colors. The *ColorPrint* program automates the color printing process, guiding you through ribbon changes and keeping the image aligned. The program automatically scales images and allows you to print them in full-page, half-page, or quarter-page sizes. You can also change the width-to-height proportion of your drawing. List price: \$49.95, *ColorPrint* Starter Kit (includes one red, one yellow, and one blue ribbon) \$74.95.

■ **Frontrunner**

Computer Industries
316 California Ave. #712
Reno, NV 89509
702/786-4600

MouseAround

A drawing tool that helps you trace illustrations into *MacPaint* documents with the mouse. MouseAround is a 12-by 12-inch plastic drawing



MouseAround, Frontrunner
Computer Industries

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way for health clubs to
sort their counts.*

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way for contractors to
keep their backlogs from
getting backlogged.*

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MAC PRINTERS LETTER QUALITY RS-232

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NEC 2010 20cps	799.95	Star Power Type 17cps	359.95

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Comm. Edge	149.95	Mirage Trivia	34.95
Sales Edge	179.95	Mac the Knife V.1	29.95
Mngt. Edge	149.95	Mac the Knife V.2	39.95
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Macware News

board with a sliding mechanism that holds the mouse; you attach the mouse, place a photograph or illustration on the drawing board, and trace your artwork using the cross-hairs engraved into MouseAround's clear plastic frame. The sliding mechanism keeps the mouse vertically and horizontally aligned, giving you greater control over its movement. List price: \$49.95.

MouseMat

An 11½- by 13-inch rubber mat that provides a smooth surface on which to roll the mouse. The pad also helps keep the mouse clean and reduces wear. MouseMat includes an 8-foot snap-on cord and a 1-megohm resistor to dissipate static charge. List price: \$29.95.

MouseMedic

A cleaning kit for the Macintosh mouse. The kit contains foam-tipped swabs and a cleaning solution for the mouse's rubber rollers, a pair of tweezers, lint-free towels soaked with the cleaning solution, an antistatic cloth, a small airbrush, and a can of compressed air. You can also use the kit to clean the Mac's screen, keyboard, and printer. List price: \$19.95.

Hoglund-Triordinate Corporation

343 Snyder Ave.
Berkeley Heights, NJ 07922
201/464-0200

PaintMate

A reflective screen that allows you to superimpose the image of a flat or three-dimensional object on the Macintosh screen. You can trace the image

onto a MacPaint document with the mouse. The PaintMate screen attaches to the top of the Mac and projects at an angle over the Mac's screen. List price: \$39.95.

Mouse Systems Corporation

2336 H Walsb Ave.
Santa Clara, CA 95051
408/988-0211

A+ Mouse

An optical mouse that operates by means of a light sensor rather than with moving parts. The mouse, which includes a pad you can place on a desktop or other surface, is used like the Mac's standard mouse but has no tracking ball or mechanical parts to clean. List price: \$150.

Moustrak Inc.

1 Weatherly #503
Mill Valley, CA 94941
415/383-2477

Moustrak

An antistatic foam rubber pad on which to roll the mouse. Made of a rayon and nylon blend, the pad helps keep the mouse clean and reduces wear on the mouse's moving parts. Moustrak I measures 9¼ by 7⅞ inches, and Moustrak II measures 11¼ by 9¼ inches. The pads are available in red, green, blue, gray, or brown. List price: Moustrak I \$9.95, Moustrak II \$10.95.



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■ **Ring King
Visibles, Inc.**
2210 Second Ave.
P.O. Box 599
Muscatine, IA 52761
319/263-8144



Lockable Disk Tray, Ring
King Visibles

MIT050 Tray

A lockable, high-impact plastic storage case that holds up to 50 3 1/2-inch disks. The smoke-tinted case has a hinged lid, built-in handles, and indexing dividers. List price: \$26.95.

MIP02 Protective Panel

A plastic and vinyl storage panel that holds two 3 1/2-inch disks and can be inserted in either 8 1/2- by 5 1/2-inch or 9 1/2- by 6-inch software binders. List price: \$1.75 each.

Notes

■ A Megabyte of Memory

MicroGraphic Images Corporation recently announced MegaMac, an upgrade that gives the Macintosh 1024K of memory—512K of core memory and a

512K RAM disk. The upgrade board is mounted inside the Mac and is compatible with software designed to run on the 128K or 512K Mac. The software sold with the upgrade enables you to load files or application programs from the RAM disk into core memory three to six times faster than from a disk drive. The suggested retail price of the upgrade, which is available from Apple dealers, is \$1595 with a trade-in of the original 128K board or \$1895 without the trade-in. The suggested retail price of the software is \$90. A complete MegaMac system, including a Macintosh, is available from MicroGraphic Images Corporation, 19612 Kingsbury St., Chatsworth, CA 91311, 818/368-3482.

Macware News *uses information provided by manufacturers; it does not evaluate products or corroborate manufacturers' claims. Send a description of your product and a photograph or sample disk to Macware News, Macworld, 555 De Haro St., San Francisco, CA 94107, 415/861-3861.* □

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way for accounting
firms to keep account
of their CPA's.*

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appointments for an office
full of psychiatrists.
Then analyze them.*

NOW THERE'S FRONT DESK™

If the way Front Desk schedules appointments for your doctors and your facilities doesn't excite your neurons, the way it analyzes time use in terms of hours spent and dollars generated per service will. These reports can help you modify your office's behavior for the better.

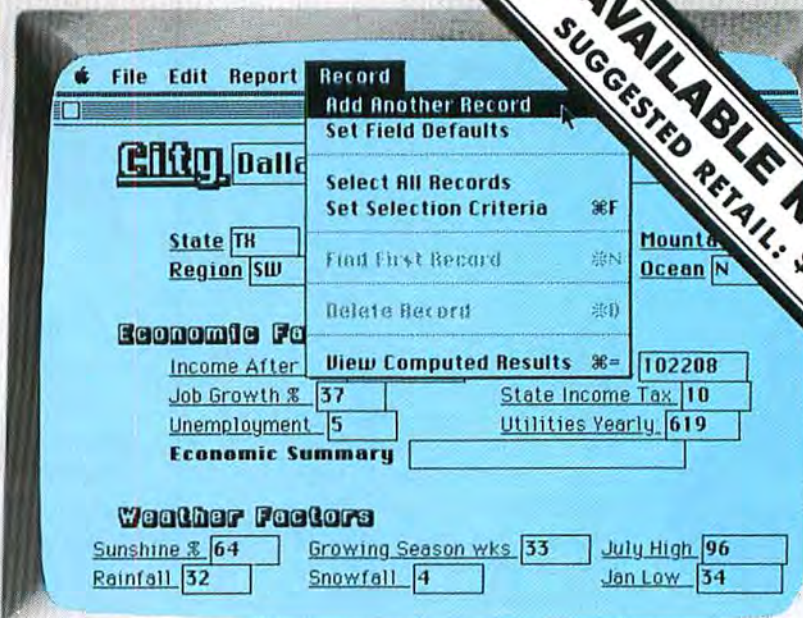


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At first glance, it looks like a snazzy electronic appointment book. But Front Desk is no mere calendar. Not only does it organize *how* time is spent, it analyzes *how well* time is spent.

When you click open the simple appointment entry

form and select the service that's going to be performed (from a menu that you create), Front Desk automatically calculates the proper fee or rate. Then at any time you can print out an analysis report for last month showing how many hours

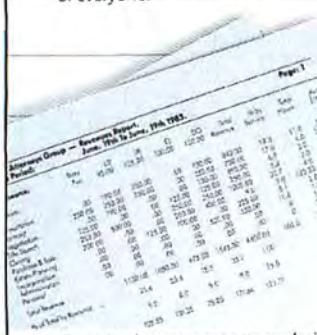
you or your staff spent—or how many dollars you brought in—by holding consultations, or selling wickets, or playing golf. And you can project how much you'll bring in on those services in the coming weeks or months.

This lets you see where your profits are coming from. Where your time is going. You can spot trends. Nip unprofitable ventures in the bud. And decide who gets bigger Christmas bonuses. In short, you'll get more done. In less time.

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The Tax Man Cometh

Yabe Guzelimian

When the tax man cometh, he usually taketh away. You can fight back by enlisting the Macintosh and *Microsoft Multiplan* to help prepare your tax forms. There's no guarantee that doing your taxes with the Mac will save you money, but the Mac can make this dreaded but unavoidable task easier.

This article shows you how to create a *Multiplan* template that calculates most of the information required on the 1984 Form 1040. While it isn't an exact representation of the 1040 and shouldn't be mailed to the Internal Revenue Service, the template provides totals for income, adjustments, tax credits, payments, and miscellaneous taxes. After completing the template, you transfer the resulting tax figures to the official form for mailing. The template also requires you to look up your tax, according to your tax bracket and filing status, in the tables provided with Form 1040. You might further automate tax

☐ Schedule G
39 Additional Taxes. (See page 14 of Instructions.) Enter here and check if from ☐ Form 4970,
☐ Form 4972, ☐ Form 5544, or ☐ section 72 penalty tax **39**

40 Total. Add lines 38 and 39. **40**

Credit for the elderly (attach Schedule R&EP)

Non-refundable credit

43

44

Form 2439

45

48

49

50

51

52

53

54

55

Add lines 49 through 55 **56**

Income tax withheld. **57**

Estimated tax payments and amount applied from 1982 return **58**

Earned income credit. If line 33 is under \$10,000, see page 16 **59**

60 Amount paid with Form 4868 **60**

61 Excess social security tax and RRTA tax withheld (two or more employers) **61**

62 Credit for Federal tax on special fuels and oils (attach Form 4136) **62**

63 Regulated Investment Company credit (attach Form 2439) **63**

64 Total payments. Add lines 57 through 63 **64**

65 If line 64 is larger than line 56, enter amount OVERPAID **65**

66 Amount of line 65 to be REFUNDED TO YOU **66**

67 Amount of line 65 to be applied to your 1984 estimated tax **67**

68 If line 56 is larger than line 64, enter AMOUNT YOU OWE. Attach check or money order for full amount payable to "Internal Revenue Service." Write your social security number and "1983 Form 1040" on it **68**

(Check ☐ if Form 2210 (2210F) is attached. See page 17 of Instructions.) \$

Under penalties of perjury, I declare that I have examined this return and accompanying schedules and statements, and to the best of my knowledge and belief, they are true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

Please Sign Here
Your signature _____ Date _____ Spouse's signature (if filing jointly, BOTH must sign) _____

Paid Preparer's Use Only
Preparer's signature _____
Firm's name (or yours, if self-employed) and address _____
Check if self-employed ☐ Preparer's social security number _____
E.I. No. _____
ZIP code _____

calculations by entering tax schedules on the template and using *Multiplan*'s LOOKUP function to find and display your tax liability automatically. Since entering the tables requires a good deal of effort, however, looking up your tax liability manually is probably more efficient and requires less work. Note that this article was prepared with a preliminary IRS Form 1040. Be sure to compare your 1040 form with the one presented here.

Set Up Columns

Design your form so that all the cells across the width of the form are visible in a single *Multiplan* window. As shown in Figure 1, use narrow cells for Form 1040 line numbers (column 1) and wide cells for the figures you will enter (columns 6 and 7). To change a column's width, select the column head, which displays the column number, then choose Column Width from the Format menu and specify the desired width.

You can also set the width of several columns at once by dragging the pointer to select adjacent column heads. For the 1040 template, make column 1 three characters wide; columns 2 to 5, nine characters wide; and columns 6 and 7, ten characters wide.

Since *Multiplan*'s default column width is ten characters, you don't have to change the width of columns 6 or 7. Next, set the template's formatting to display numbers with commas and no decimal places. Choose Commas from the Format menu to insert commas in large numbers. The No Decimal option rounds off figures to the nearest dollar.

Enter Labels

To create the first label for the 1040 form, click cell RIC4, type **IRS FORM 1040 1984**, and press Return. Don't worry about typing more characters than can be contained within a cell. When you press the Enter key after making an entry, *Multiplan* displays all the text you type in, spilling text into cells to the right of the selected cell if they are empty. Type the page number into RIC7 and then the Filing Status labels into rows 3 and 4 as shown in Figure 1.

To make your 1040 template easy to read, mark off sections with straight lines across the entire form. To create the first line in row 5, click cell R5C1 and enter 12 underline characters. Select the seven cells that make up the entire row (see Figure 2) and choose Fill Right from the Edit menu to copy the contents of the first cell to all the other cells in the row. While all these cells are selected, choose Align Center from the Format menu to center the lines in each cell. Next, copy the line in row 5 to rows 11, 35, 56, 68, 76, and 86.

Enter the rest of the information on the 1040 template as shown in Figure 1. Type the line numbers in column 1. Start the entire text of each line in column 2. The text spills over into columns 3 through 5. Indent section headings such as Exemptions and Income by pressing the space bar five times. Column 7 and sometimes column 6 contain formulas or are left empty so figures can be entered.

In the section on exemptions (rows 6 to 10), put each label in an individual cell. Notice in Figure 1 that text lines end with strings of periods leading to column 6 or 7, where you enter tax figures. The periods make the form easy to read. Instead of counting the

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periods required to fill a line, hold down the period key until a row of periods reaches the center of the column. To fill the line up to the seventh column, for example, hold down the period key until a period aligns with the 7 that is centered in the column head. You'll find that you can gauge the number of periods to enter with your eye and erase or add a period or two when you edit the cell contents.

Prescribe Formulas

Now enter the appropriate formulas into the cells that will perform calculations. You enter three types of formulas, the SUM and MAX functions and IF conditional statements (see Table 1). *Multiplan* makes it easy for you to type in formulas that refer to multiple cells of the spreadsheet. For example, rather than typing **R15C6** to refer to a cell, you click the cell, and *Multiplan* puts a relative cell reference into your formula (relative to the location of the cell into which you're entering a formula or cell reference). The formulas for the two pages of the form are listed in Table 1 by cell coordinates and Form 1040 line numbers. You can type the formulas shown in the Formula column of Table 1 into the correct cells, or you can use *Multiplan*'s relative cell referencing feature to enter formulas by dragging and clicking. If you use relative cell referencing, your final formulas will read like those shown under the Relative Formulas column in Table 1.

The SUM function is used in several places to compute totals of two or more cells. The syntax for the SUM function is

SUM(starting cell:ending cell)

In line 23 (total income), for example, a column of numbers—your income from various sources—is summed from cells R13C7 to R33C7.

The MAX function allows you to choose the largest value from several target values. The syntax for the MAX formula is

MAX(list of cells or values to compare)

On line 65 (row 87), amount overpaid, you want the formula to enter the value 0 or the difference between line 64 (row 85), total payments, and line 56 (row 75), total tax, whichever is larger. When you put **0,R85C7-R56C7** in the formula, *Multiplan* chooses the larger of the two values. Negative numbers cannot be entered in this cell.

The IF function lets you define a condition and then choose which of two values to put in the cell, based on whether the condition has been met or not. The syntax for the IF formula is

IF(condition, value if the outcome is true, value if the outcome is false)

On line 46 (row 63), taxes less credits, the IF formula determines whether the value in line 45 (row 62), sub-total of credits, subtracted from the value in line 40 (row 55), total tax responsibility, is greater than zero. If the difference is greater than zero, then the formula enters the difference into line 46; if the difference is not greater than zero, then a zero is entered.

(continues on page 112)

Cell	1040 Line #	Formulas	Relative Formulas
R17C7	9C	= R15C6 - R16C6	R[-2]C[-1] - R[-1]C[-1]
R34C7	23	= SUM(R12C7:R33C7)	SUM(R[-21]C:R[-1]C)
R44C7	31	= SUM(R37C7:R43C7)	SUM(R[-7]C[-1]:R[-1]C[-1])
R45C7	32	= R34C7 - R44C7	R[-11]C - R[-1]
R47C7	33	= R45C7	R[-2]C
R50C7	35	= IF(R49C7 = 0, R47C7 - R48C7, R47C7 - R49C7)	IF(R[-1]C = 0, R[-3]C - R[-2]C, R[-3]C - R[-1]C)
R51C7	36	= 1000*(R8C3 + R9C3 + R8C5 + R9C5 + R8C7 + R9C7 + R10C7)	1000*(R[-43]C[-4] + R[-42]C[-4] + R[-43]C[-2] + R[-42]C + R[-41]C)
R52C7	37	= R50C7 - R51C7	R[-2]C - R[-1]C
R55C7	40	= SUM(R53C7:R54C7)	SUM(R[-2]C:R[-1]C)
R63C7	45	= SUM(R58C6:R61C6)	SUM(R[-4]C[-1]:R[-1]C[-1])
R63C7	46	= IF(R55C7 - R62C7 > 0, R55C7 - R62C7, 0)	IF(R[-8]C - R[-1]C > 0, R[-8]C - R[-1]C, 0)
R66C7	49	= R64C6 + R65C6	R[-2]C[-1] + R[-1]C[-1]
R67C7	50	= MAX(0, R63C7 - R66C7)	MAX(0, R[-4]C - R[-1]C)
R75C7	56	= SUM(R67C7:R74C7)	SUM(R[-8]C:R[-1]C)
R85C7	64	= SUM(R78C6:R84C6)	SUM(R[-7]C[-1]:R[-1]C[-1])
R87C7	65	= MAX(0, R85C7 - R56C7)	MAX(0, R[-2]C - R[-12]C)
R88C7	66	= R87C7	R[-1]C
R90C7	68	= MAX(0, R75C7 - R85C7)	MAX(0, R[-15]C - R[-5]C)

Table 1

The formulas for the Form 1040 template are listed here by cell coordinates and line numbers. You can type the formulas into the correct cells or use *Multiplan*'s cell-referencing feature to enter relative formulas with the mouse.

R4C7	R8C3:R9C3	R8C5:R9C5	R8C7:R10C7
R13C7:R14C7	R15C6:R16C6	R18C7:R24C7	R25C6
R26C7:R24C7	R25C6	R26C7:R28C7	R29C6
R30C7	R31C6	R32C7:R33C7	R37C6:R43C6
R48C7:R49C7	R53C7:R54C7	R58C6:R61C6	R64C6:R65C6
R70C7:R74C7	R78C6:R84C6	R89C6	

Table 2

Listed here are the cells, including ranges of cells, that should be left unprotected when the other cells in the Form 1040 template are protected. You enter dollar figures in the unprotected cells without the risk of accidentally altering the labels and formulas in the protected cells.

1	2	3	4	5	6	7
1	IRS FORM 1040 1984					page 1 of 2
2						
3	FILING STATUS:					
4	1-5 1=single 2=joint 3=separate 4=head 5=widow(er)					
5						
6	EXEMPTIONS:					
7	Enter a "1" for each category below that applies to you					
8	6	Yourself	65 or over:	Blind	
9		Spouse	65 or over:	Blind	
10		Number of children plus other dependents				
11						
12	INCOME:					
13	7	Wages, salaries, tips, etc.				
14	8	Interest Income (Schedule B if over \$400)				
15	9a	Dividends (Schedule B if over \$400) ... 9a				
16	9b	Exclusion 9b				
17	9c	Eligible Dividend Income				
18	10	Refunds of State and local income taxes				
19	11	Alimony received				
20	12	Business income (loss) from Schedule C				
21	13	Capital gain (loss) from Schedule D				
22	14	40% capital gain distribtns. not reported on line 13				
23	15	Supplemental gains (losses) from Form 4797				
24	16	Taxable pensions, IRA distribtns., annuities not in 17 ...				
25	17a	Other pensions and annuities 17a				
26	17b	Taxable amount (from worksheet)				
27	18	Rents, royalties, partnerships, estates, trusts				
28	19	Farm income (loss) (attach Schedule F)				
29	20a	Unemployment comp. received 20a				
30	20b	Taxable amount (from worksheet)				
31	21a	Social security benefits 21a				
32	21b	Taxable amount (worksheet)				
33	22	Other income				
34	23	TOTAL INCOME				
35						
36	ADJUSTMENTS TO INCOME					
37	24	Moving expense (Form 3903 or 3903F) .. 24				
38	25	Employee business expense (Form 2106) 25				
39	26	IRA deduction (from worksheet) 26				
40	27	Payments to a Keough (H.R. 10) plan ... 27				
41	28	Penalty on early withdrawal of savings . 28				
42	29	Alimony paid 29				
43	30	Deduction, married couple, both work . 30				
44	31	TOTAL ADJUSTMENTS				
45	32	ADJUSTED GROSS INCOME				

Figure 1

The template provides a facsimile of the 1984 Form 1040. Line numbers corresponding to the official form are entered in column 1. Descriptions begin in column 2 and automatically spill over into columns 3 to 6. Dollar figures are entered in column 7.

1	2	3	4	5	6	7
46	TAX COMPUTATION					page 2 of 2
47	33	Adjusted gross income				
48	34a	Itemized deductions from Schedule A				
49	34b	Allowable charitable contributions (from worksheet) ..				
50	35	Adjusted income				
51	36	Total exemptions from line 6				
52	37	Taxable income				
53	38	Tax				
54	39	Additional taxes (Forms 4970, 4972, 5544, or penalty)				
55	40	Total tax responsibility				
56						
57	CREDITS					
58	41	Dependent care expenses (Form 2441) .. 41				
59	42	Elderly and disabled (Schedule R) 42				
60	43	Residential energy (Form 5695) 43				
61	44	Political contributions 44				
62	45	SUBTOTAL OF CREDITS				
63	46	TAXES LESS CREDITS				
64	47	Foreign tax credit (Form 1116) 47				
65	48	General business credit				
66	49	GENERAL TAX CREDITS				
67	50	NET TAXES AFTER CREDITS				
68						
69	OTHER TAXES					
70	51	Self-employment tax (Schedule SE)				
71	52	Alternative minimum tax (Form 6251)				
72	53	Tax from recapture of investment credit (Form 4255) ..				
73	54	Social sec. tax, tips not reported to employer (4137) ..				
74	55	Tax on an IRA (Form 5329)				
75	56	TOTAL TAX				
76						
77	PAYMENTS					
78	57	Federal income tax withheld				
79	58	1984 est. tax paid & amnt. from 1983 .. 58				
80	59	Earned income credit				
81	60	Amount paid with Form 4868				
82	61	Excess a.s. tax and RRTA withheld 61				
83	62	Credit tax on special fuels (Form 4136) 62				
84	63	Regulated Invsnt. Co. credit (Form 2439) 63				
85	64	TOTAL PAYMENTS				
86						
87	65	AMOUNT OVERPAID				
88	66	AMOUNT OF REFUND				
89	67	Amount applied to 1985 estimated tax .. 67				
90	68	AMOUNT YOU OWE				
91						

Tax-Time Tools

The following are application programs that help you figure your taxes. Some of them, like the template described in the article, work with *Multiplan*.

■ **Apropos Software, Inc.**

**64 Hillview Ave.
Los Altos, CA 94022
415/948-7227**

Tax Planner

A comprehensive tax preparer that works with the Macintosh version of *Multiplan*. The program links Form 1040, Schedules A through F, as well as Schedules G, W, and SE. Complete tax tables are included in hidden cells and accessed by the LOOKUP command. List price: \$49.95.

■ **Gamma Productions, Inc.**

**817 Tenth St. #102
Santa Monica, CA 90403
distributed by Software
Resource
800/851-9010, 800/851-9009
in California**

Tax Wizard

An application that permits you to complete over 20 IRS forms, including 1040; Schedules A, B, C, D, E, G, W, and SE; and Forms 4562, 2106, 2119, 2441, 3903, 3468, 4137, 4255, 5695, and 6251. The program features help drawn from the IRS manual, "Instructions for Preparing Form 1040." List price: \$64.95.

■ **EZ Ware Corporation**

**17 Bryn Mawr Ave.
Bala Cynwyd, PA 19004
215/667-4064**

Tax-Prep

Personal income tax preparation templates designed for use with *Microsoft Multiplan*. *Tax-Prep* incorporates all new tax laws and IRS regulations for the 1984 tax year. The program includes 22 IRS schedules and forms, which are presented on the screen as working templates; any information you enter is automatically applied to all other appropriate forms and schedules. *Tax-Prep* can also be tied to other *Multiplan* templates, such as checkbook, ledger, and expense records, to simplify year-end computations. List price: \$99.95.

■ **MicroLab**

**2699 Skokie Valley Rd.
Highland Park, IL 60035
312/433-7550**

Tax Manager

A tax planner and preparer that calculates, prepares, reviews, and prints federal income tax forms. The program helps you determine which forms to file and which deductions to claim. It automatically selects the tax method that saves you the most money. When you change an entry, the program automatically adjusts related information. This feature allows you to examine different tax strategies. List price: \$180.

■ **SoftWeave Company**

**400 Mobil Ave., Bldg. D,
Ste. C
Camarillo, CA 93010
805/388-2626**

MacInTax

A federal income tax program for individuals. You use the mouse to move to the appropriate sections of the displayed form, then enter information. Calculations are performed automatically. *MacInTax* includes the complete IRS instruction book on disk; double-clicking an item gives you access to the instructions and worksheet for that item. Information can be printed on a standard IRS form, or the program's form, including your calculations, can be printed on a blank sheet of paper. List price: approximately \$75.

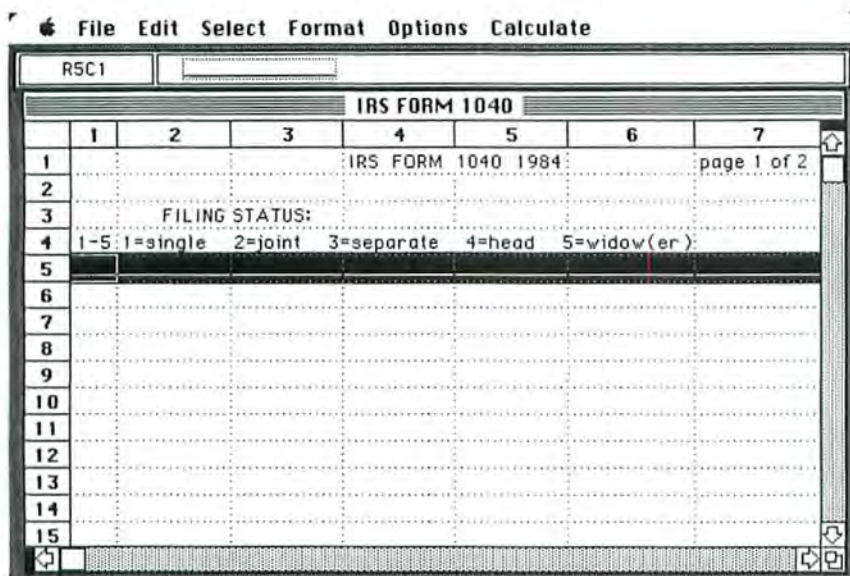


Figure 2

To create a solid line across the Multiplan screen, you select cell R5C1 and type 12 underline characters. You then select a cell range from R5C2 to R5C7 and copy the underlines in R5C1 into the selected range. After creating this line, you can copy it to other parts of the template.

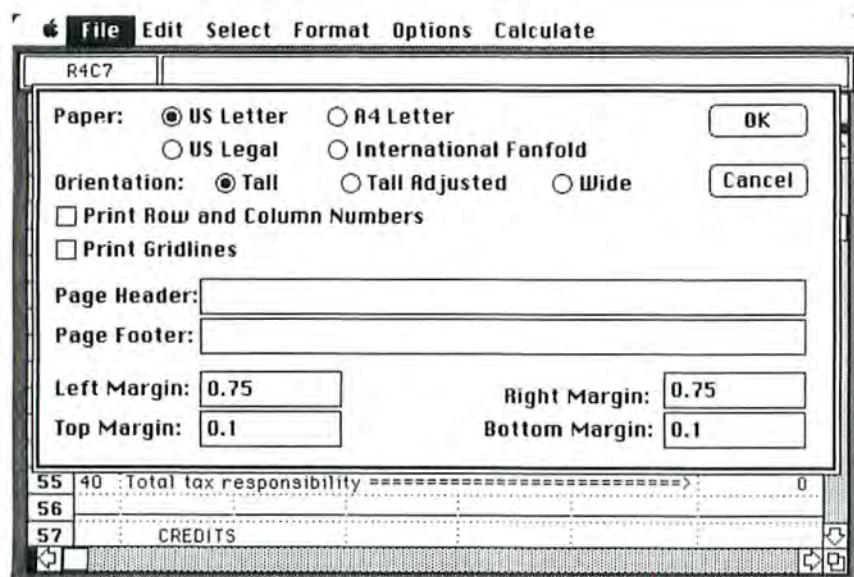


Figure 3

Since the 1040 template is long, you must print the sheet with narrow top and bottom margins. The Page Setup menu has been changed to call for top and bottom margins of 0.1 inch.

(continued from page 109)

In order to have both sides of Form 1040 fit on two sheets of paper, choose Page Setup from the File menu and reduce the top and bottom margins to 0.1 inch as shown in Figure 3. To set the page break for the completed form, click cell R46C1 and choose Set Page Break from the Options menu. A broken line appears to indicate where the page will break when the form is printed.

Protect the Template

Multiplan allows you to protect your document, preventing the accidental alteration of labels and formulas. A document is protected with a password, which you must enter before you can change the document.

Some cells, however, should be left unprotected so that you can enter tax figures into them. Therefore, you must specify which cells to leave unprotected before protecting the entire spreadsheet. To leave a cell or range of cells unprotected, you select the cell or range of cells and choose the Remove Cell Protection option on the Options menu. Table 2 shows the cells that should be left unprotected. After you remove the cell protection, you can protect the rest of the document by selecting Protect Document on the Options menu.

Figure 4 is a sample of a protected 1040 template. A protected document does not display cell division lines or row and column numbers. Unprotected cells, in which you enter tax information, are indicated by dotted lines. Each time you press Enter after you type a number, *Multiplan* prompts you by highlighting the next unprotected cell, where you enter another value. Pressing the Enter key moves the selection to the next unprotected cell.

Use Your Template

Your IRS Form 1040 template is now ready. Use it to figure your 1984 taxes and to plan for 1985. Try putting in different values for deductions to see their effects on your taxes. These "what if" experiments can be useful in planning tax strategies.

If you're ready for more after your success with this 1040 template, try typing in the schedules that appear at the end of the Form 1040 booklet. You can use *Multiplan*'s LOOKUP function to incorporate the schedule information into the template. Or you might link the *Multiplan* template to other worksheets that calculate such totals as business income, capital gains, or rent and royalty figures. The more you work with it, the more you'll find that *Multiplan* can make the ides of April less taxing on the spirit, if not the checkbook. □

Vabé Guzelimian is the author of Becoming a MacArtist (COMPUTE! Publications, 1985).

IRS FORM 1040 1984		page 1 of 2
FILING STATUS:		
1=Single 2=joint 3=separate 4=head 5=widow(er) <u>2</u>		
EXEMPTIONS:		
Enter a "1" for each category below that applies to you		
6	Yourselves	<u>1</u> 65 or over <u>Blind</u>
	Spouse	<u>1</u> 65 or over <u>Blind</u>
	Number of children plus other dependents	<u>2</u>
INCOME:		
7	Wages, salaries, tips, etc.	<u>32,768</u>
8	Interest income (Schedule B if over \$400)	<u>98</u>
9a	Dividends (Schedule B if over \$400)	<u>675</u>
9b	Exclusion	<u>200</u>
9c	Eligible Dividend Income	<u>475</u>
10	Refunds of State and Local income taxes	
11	Alimony received	
12	Business income (loss) from Schedule C	<u>3,244</u>
13	Capital gain (loss) from Schedule D	<u>2,100</u>
14	40% capital gain distribns. not reported on line 13	
15	Supplemental gains (losses) from Form 4797	
16	Taxable pensions, IRA distribns., annuities not in 17	
17a	Other pensions and annuities	<u>17a</u>
17b	Taxable amount (from worksheet)	
18	Rents, royalties, partnerships, estates, trusts	<u>-769</u>
19	Farm income (loss) (attach Schedule F)	
20a	Unemployment comp. received	<u>20a</u>
20b	Taxable amount (from worksheet)	
21a	Social security benefits	<u>21a</u>
21b	Taxable amount (worksheet)	
22	Other income	
23	TOTAL INCOME	<u>37,916</u>
ADJUSTMENTS TO INCOME		
24	Moving expense (Form 3903 or 3903F)	<u>1,230</u>
25	Employee business expense (Form 2106)	<u>450</u>
26	IRA deduction (from worksheet)	<u>2,000</u>
27	Payments to a Keough (H.R. 10) plan	<u>27</u>
28	Penalty on early withdrawal of savings	<u>28</u>
29	Alimony paid	<u>29</u>
30	Deduction, married couple, both work	<u>286</u>
31	TOTAL ADJUSTMENTS	<u>3,966</u>
32	ADJUSTED GROSS INCOME	<u>33,950</u>

Figure 4
When the template is protected, the gridlines disappear. Unprotected cells appear as dotted lines. You can enter figures into unprotected cells without the risk of accidentally changing formulas or labels. After a figure is entered in an unprotected cell, the next unprotected cell is selected automatically.

TAX COMPUTATION		page 2 of 2
33	Adjusted gross income	<u>33,950</u>
34a	Itemized deductions from Schedule A	<u>1,876</u>
34b	Allowable charitable contributions (from worksheet)	
35	Adjusted income	<u>32,074</u>
36	Total exemptions from line 6	<u>4,000</u>
37	Taxable income	<u>28,074</u>
38	Tax	<u>4,500</u>
39	Additional taxes (Forms 4970, 4972, 5544, or penalty)	<u>4,460</u>
40	Total tax responsibility	<u>8,960</u>
CREDITS		
41	Dependent care expenses (Form 2441)	<u>323</u>
42	Elderly and disabled (Schedule R)	<u>42</u>
43	Residential energy (Form 5695)	<u>132</u>
44	Political contributions	<u>125</u>
45	SUBTOTAL OF CREDITS	<u>580</u>
46	TAXES LESS CREDITS	<u>8,380</u>
47	Foreign tax credit (Form 1116)	<u>47</u>
48	General business credit	<u>50</u>
49	GENERAL TAX CREDITS	<u>50</u>
50	NET TAXES AFTER CREDITS	<u>8,330</u>
OTHER TAXES		
51	Self-employment tax (Schedule SE)	<u>319</u>
52	Alternative minimum tax (Form 6251)	
53	Tax from recapture of investment credit (Form 4255)	
54	Social sec. tax, tips not reported to employer (4137)	
55	Tax on an IRA (Form 5329)	
56	TOTAL TAX	<u>8,649</u>
PAYMENTS		
57	Federal income tax withheld	<u>6,600</u>
58	1984 est. tax paid & amnt. from 1983	<u>3,000</u>
59	Earned income credit	<u>59</u>
60	Amount paid with Form 4868	<u>60</u>
61	Excess s.s. tax and RRTA withheld	<u>61</u>
62	Credit tax on special fuels (Form 4135)	<u>62</u>
63	Regulated Invsnt. Co. credit (Form 2439)	<u>63</u>
64	TOTAL PAYMENTS	<u>9,600</u>
65	AMOUNT OVERPAID	<u>951</u>
66	AMOUNT OF REFUND	<u>951</u>
67	Amount applied to 1985 estimated tax	<u>67</u>
68	AMOUNT YOU OWE	<u>0</u>

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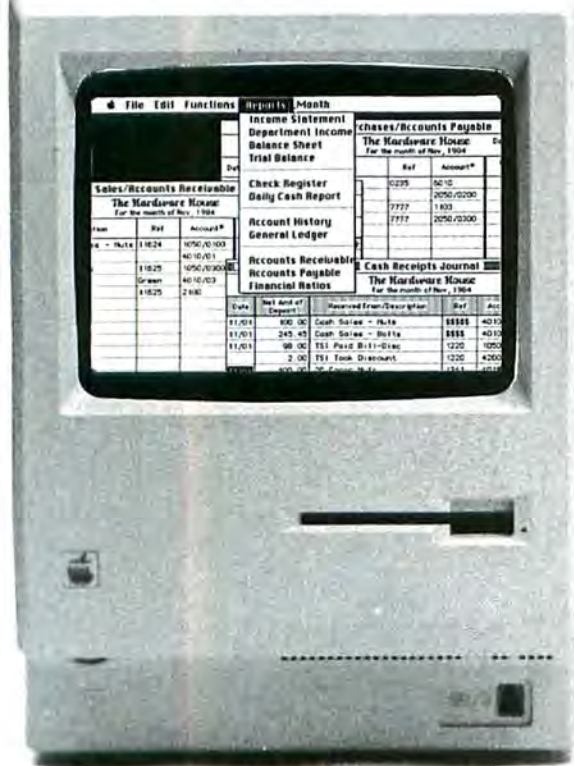
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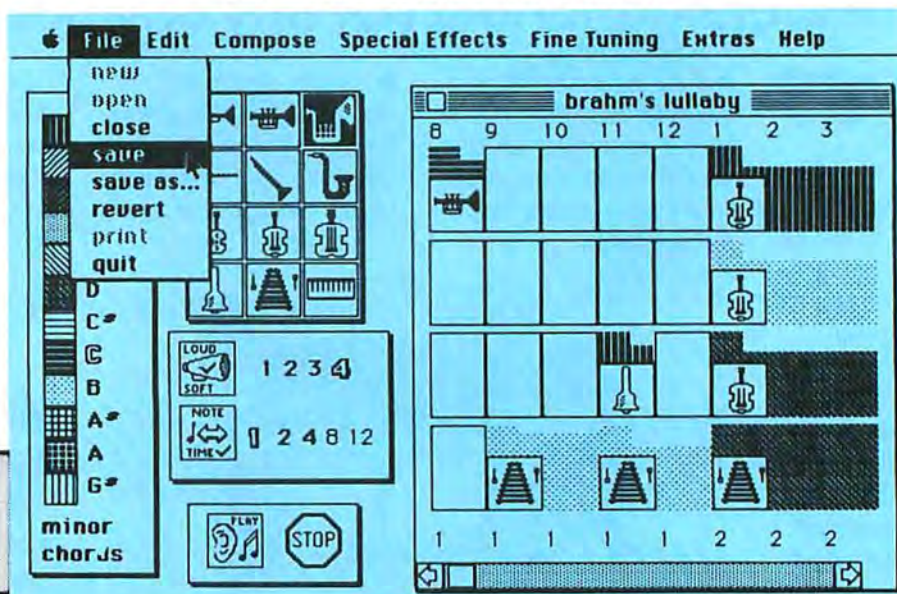
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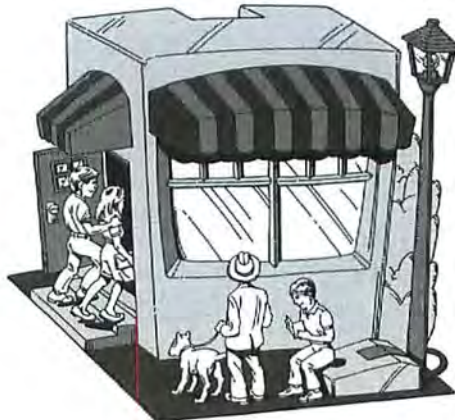
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Open Window

An exchange of Macintosh discoveries

Edited by Jim Heid

Open Window offers tips to help you use your Macintosh more efficiently. Submitted by readers, industry experts, and the Macworld staff, items in this department address all facets of Mac work, from applications to programming routines to capabilities of the Mac and software not covered in the documentation.

This month's Open Window presents a variety of tips: several methods of ejecting a disk that are faster than using the Eject command, a technique for placing text and graphics on the same line in a MacWrite header, and a way to produce shadowed text in MacPaint. For Multiplan users, we present a formula that lets you calculate the approximate difference in time between two dates. And for would-be telecommunications, we offer a simple hardware project that lets you use Anchor Automation's Volksmodem with the Macintosh.

Dating with Multiplan

Microsoft Multiplan has no built-in function that calculates the difference, in days or years, between two dates. The formula presented in the figure "Multiplan Date Calculation" does the job and is accurate to within one or two days, depending on how many leap years are involved in the calculation.

To use the formula, type it into the cell where you want the difference between dates to appear. Type the formula care-

fully, making sure not to omit any parentheses. Next place the earlier of the two dates in a cell, and name the cell DATE1 by choosing Define Name from the Select menu. Place the later of the two dates in another cell, and name that cell DATE2.

As shown in the figure, the formula returns the difference between the two dates in years. To obtain the difference in days instead of years, delete the last four characters of the formula (/365).

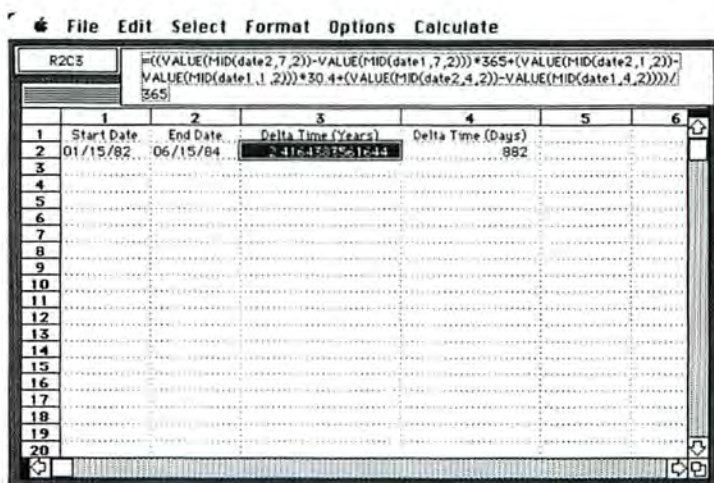
Edward J. Artz
Landenberg, Pennsylvania

Model 100 Compatibility Update

We have received several inquiries about the item concerning file compatibility between the TRS-80 Model 100 and the Macintosh (see "Model 100 Compatibility," *Open Window, Macworld*, December 1984), in which it was suggested that *MacTerminal* could be used to receive files. Unfortunately, it can't. The explanation follows.

The structure of text files on the Model 100 and on the Mac is the same; each line within the body of a paragraph terminates with a Carriage Return (CR-ASCII 13), and the last line of each paragraph terminates with a CR plus a Line Feed (LF-ASCII 10). Thus when you transfer files, you need to make an exact transfer of a text file from the Model 100 to the Mac, byte for byte, and the line and paragraph formatting of the file is preserved.

This kind of formatting task is trivial for most communications programs but not for *MacTerminal*. The only way *MacTerminal* can separately receive a file is with the Xmodem protocol, which the Model 100's TELCOM program cannot use.



The screenshot shows the Microsoft Multiplan spreadsheet interface. The menu bar includes Apple logo, File, Edit, Select, Format, Options, and Calculate. The formula bar at the top displays the formula: `=((VALUE(MID(date2,7,2))-VALUE(MID(date1,7,2)))*365+(VALUE(MID(date2,1,2))-VALUE(MID(date1,1,2)))*30.4+(VALUE(MID(date2,4,2))-VALUE(MID(date1,4,2))))/365`. The spreadsheet grid has columns labeled 1 through 6. Row 1 contains headers: '1 Start Date', '2 End Date', '3 Delta Time (Years)', '4 Delta Time (Days)', '5', and '6'. Row 2 contains data: '01/15/82', '06/15/84', '2416421961e-44', and '892'. Rows 3 through 20 are empty.

Multiplan Date Calculation

The formula shown here calculates the number of years between two dates. To calculate the number of days between two dates, delete the last four characters in the formula. When you type the formula, be careful not to omit any parentheses.

The other way to receive a file with *MacTerminal* is with its Record Lines Off Top option in the Command menu. But the success of the process depends on the text file being displayed accurately on the *MacTerminal* screen. As each line ending with only a CR is received by *MacTerminal*, the text display jumps back to the beginning of the line without moving down one line; therefore, each line is overwritten, the whole paragraph is displayed as a single line of text, and the file is saved in this corrupted form.

A New Line feature appears in *MacTerminal*'s Settings Terminal menu, which the program documentation suggests will convert CRs into CR-LF combinations. This feature is exactly what we need for file transfer; however, the feature doesn't work the way the docu-

mentation describes. Instead it converts LFs into CR-LF combinations—the opposite of what we require.

MacTerminal performs some complicated communications tasks well, but not this simple one of accurate text file transfer. My suggested solution is to use one of the public domain communications programs. *MacTep*, available free on CompuServe's MicroNet Apple User's Group (MAUG) or from your local user group, is guaranteed to work admirably.—Andrew Fluegelman

Volksmodem Goes Mac

I recently purchased an Anchor Automation Volksmodem for \$69.95 from an information service that included the modem as part of a promotion. The modem arrived late on a Friday afternoon with the wrong cable

Dark Shadows Dark Shadows

The Shadow

To obtain more closely spaced shadow text in *MacWrite*, start with plain text and shadow it by selecting it with the marquee, holding down the \mathbb{M} and Shift keys, and pressing the E key. The top line of text was shadowed this way; the bottom line is *MacPaint*'s normal shadow style.

for connecting the device to my Macintosh. Rather than wait until Monday to call the information service to complain, I visited my local electronics parts store and bought one five-pin DIN connector, one male DB-9 connector, a D sub-miniature connector hood, and a 2-foot length of four-conductor cable. After a brief bout with a soldering iron, I had the cable I needed and proceeded to join the telecommunications age. The wiring details are shown in "The Volksmodem Connection."

Stephen Dubin
Philadelphia, Pennsylvania

space between them (some may even touch) and look better (see the figure "The Shadow").

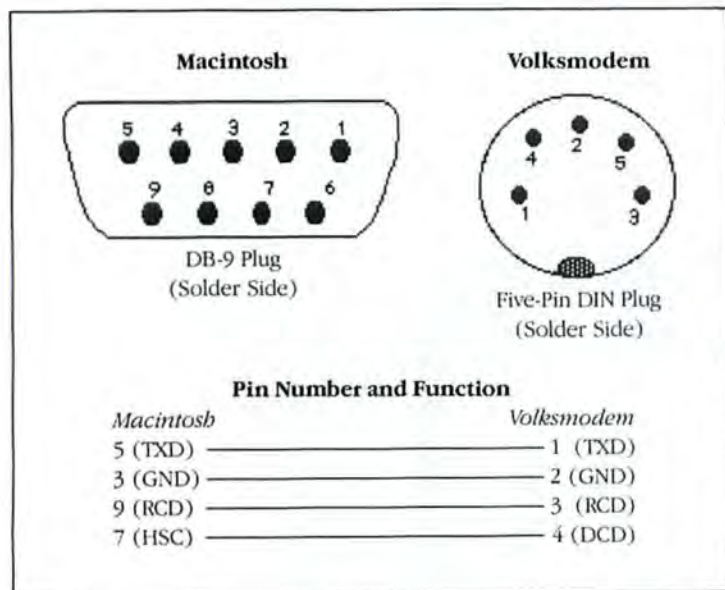
Marc Reiner
Stamford, Connecticut

Graphic Headers

When writing business letters, I like to include my company's logo in the header of each page. It's a simple matter to design the logo with *MacPaint*, then cut and paste it into the Scrapbook for later pasting into *MacWrite*.

The dark cloud in this scheme, however, is that *MacWrite* cannot mix text and graphics on the same line. This limitation means creating a rather long header when I want to include the date and page number along with my logo.

I found the solution to the problem by accident. While *MacWrite* doesn't let you place text on the same line as a picture, it does let you place the header window's date, page number, and time icons on the same line. With this information in mind, I returned to *MacPaint* and used the text tool to type "Date:" and "Time:" in the upper-right corner of the drawing window

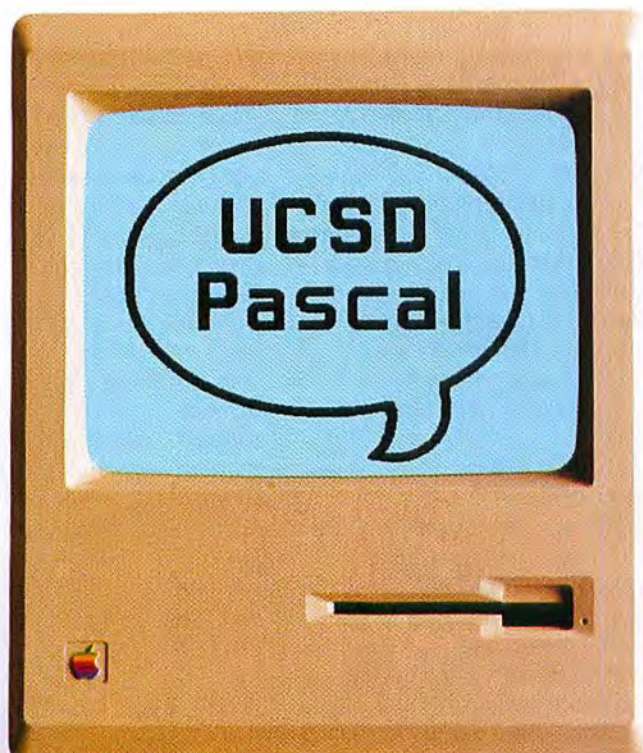


The Volksmodem Connection

You can use Anchor Automation's Volksmodem with the Macintosh by wiring a cable according to this diagram. The lines signify a connection; for example, pin 5 of the Macintosh DB-9 connector should be attached to pin 1 of the Volksmodem connector.

Better Shadow Text

I like to use shadow text in *MacPaint* graphics, but the large font sizes have too much space between letters for my taste. A better way to get large shadow text is to start with plain text (choose the Plain Text option on the Style menu) and shadow it by selecting it with the marquee, holding down the \mathbb{M} and Shift keys, and pressing the E key. The resulting shadow letters have less



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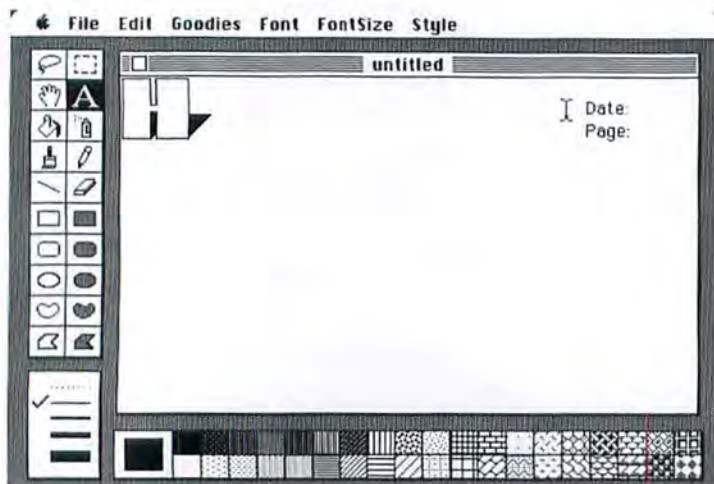
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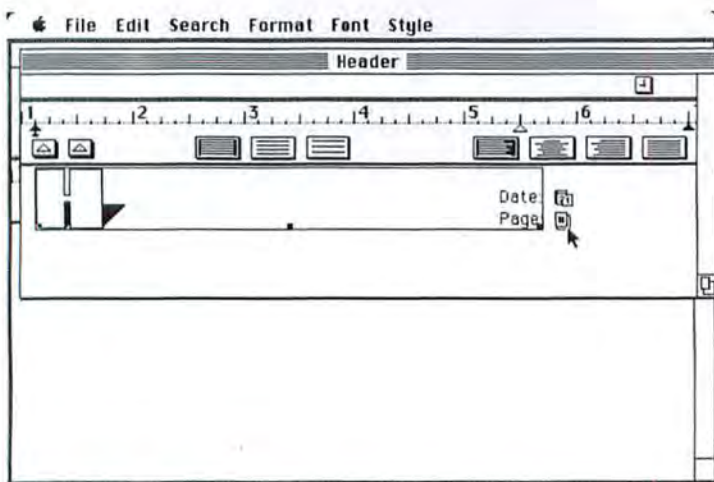
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Open Window



Graphic Headers I

To mix MacWrite date and page number text with graphics, create the graphic with MacPaint and cut it to the Clipboard or Scrapbook.



Graphic Headers II

Next paste the text into a MacWrite header or footer window, then drag the date and page number icons to the proper position.

(see the figure "Graphic Headers I"). I then pasted the new graphic into the Scrapbook, quit MacPaint, started MacWrite, and pasted the graphic into the header window. Finally, I dragged the page number and date icons into position, and voilà—text and graphics on the same line (see the figure "Graphic Headers II").

Ken Mayer

West Hartford, Connecticut

Turbo Eject

Getting a Mac to release a disk can be a time-consuming process. You have to quit the application you're using, wait until the desktop appears, then use the Finder's Eject command. To get around this long process when using MacWrite, I choose the Save As command and then click the Eject button that appears under the disk's name. An alternative is to close any open documents, choose the Open command from the File menu, then click the mini-Finder's Eject button. This technique works with any application that has an Open or Save As command.

I've also found a way to eject the disk quickly and restart my Mac when using MacPaint. Choose the Quit command from the File menu and then, just before the screen clears, hold down the \mathbb{H} key. The disk ejects, the Mac beeps, and the "where's the disk?" icon appears—just as if the Mac were turned off and on. If this trick doesn't work the first time you try it, you're not holding down the \mathbb{H} key at the right time; the exact timing comes with practice.

Doris R. Dant

Orem, Utah

The above tips work, but they leave you open to possible disk troubles. When you eject a disk the "right" way—using the Eject command from the File menu—the Mac updates the disk's Desktop file, an invisible file that contains important disk information, including the names and positions of the icons on the electronic desktop. If you eject a disk any other way, the Desktop file is not updated, which can cause problems such as lost files, folders, or applications. (See "Resurrecting Disks," Get Info, Macworld, July/August 1984, for more information about the Desktop file.)—Ed.

Perhaps you've come up with a nifty routine, gained some insight into how the Mac or an application program works, or even written a short program that performs a useful function or creates an interesting diversion. Tell us about it, and we'll pass your discovery along. We'll also pay \$25 to \$100 for each Open Window item published. Please send your Macintosh discoveries on disk (which we will return) to Open Window, Macworld, 555 De Haro St., San Francisco, CA 94107, or electronically to CompuServe 74055,412 or The Source STE908. □



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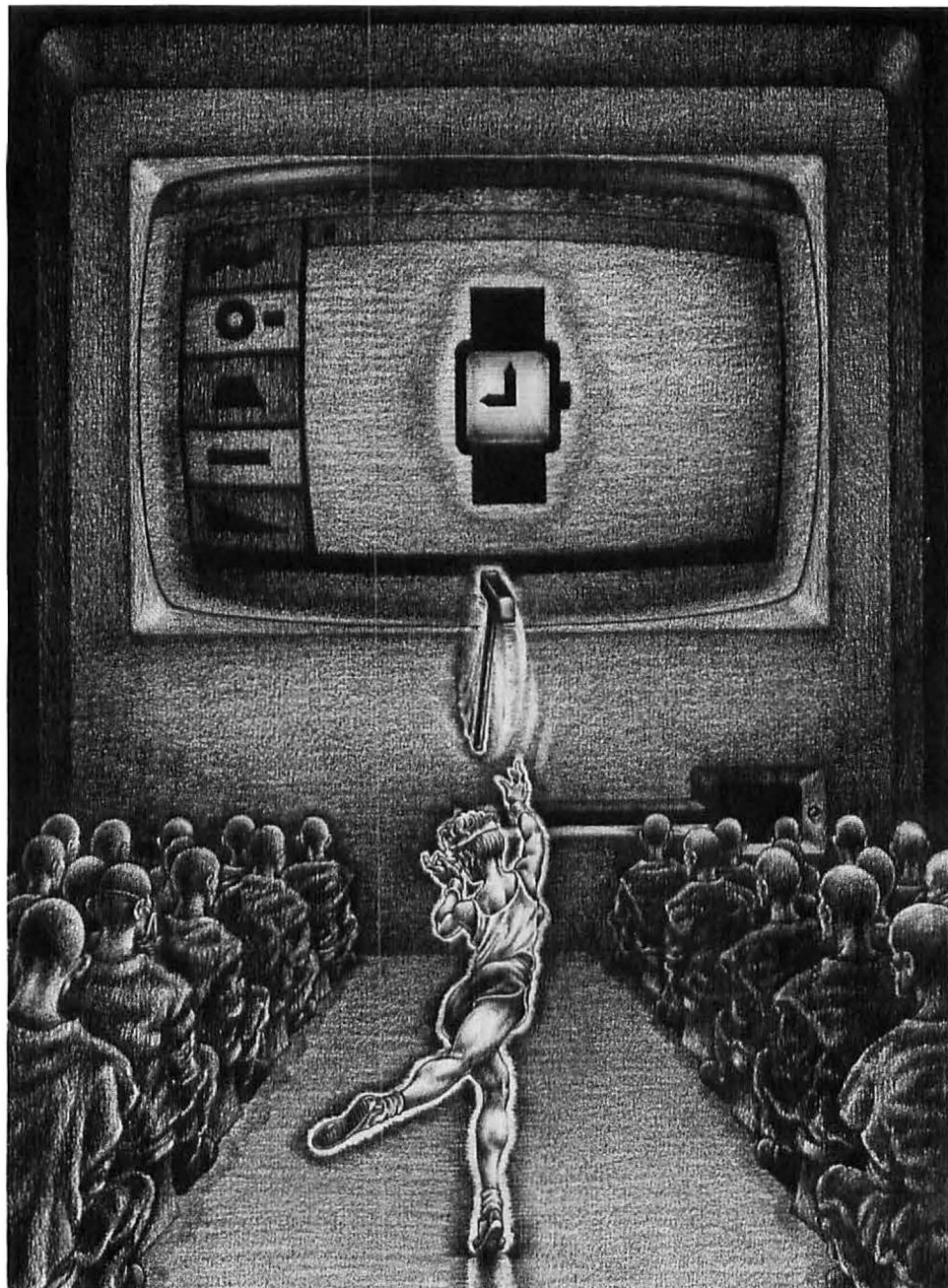
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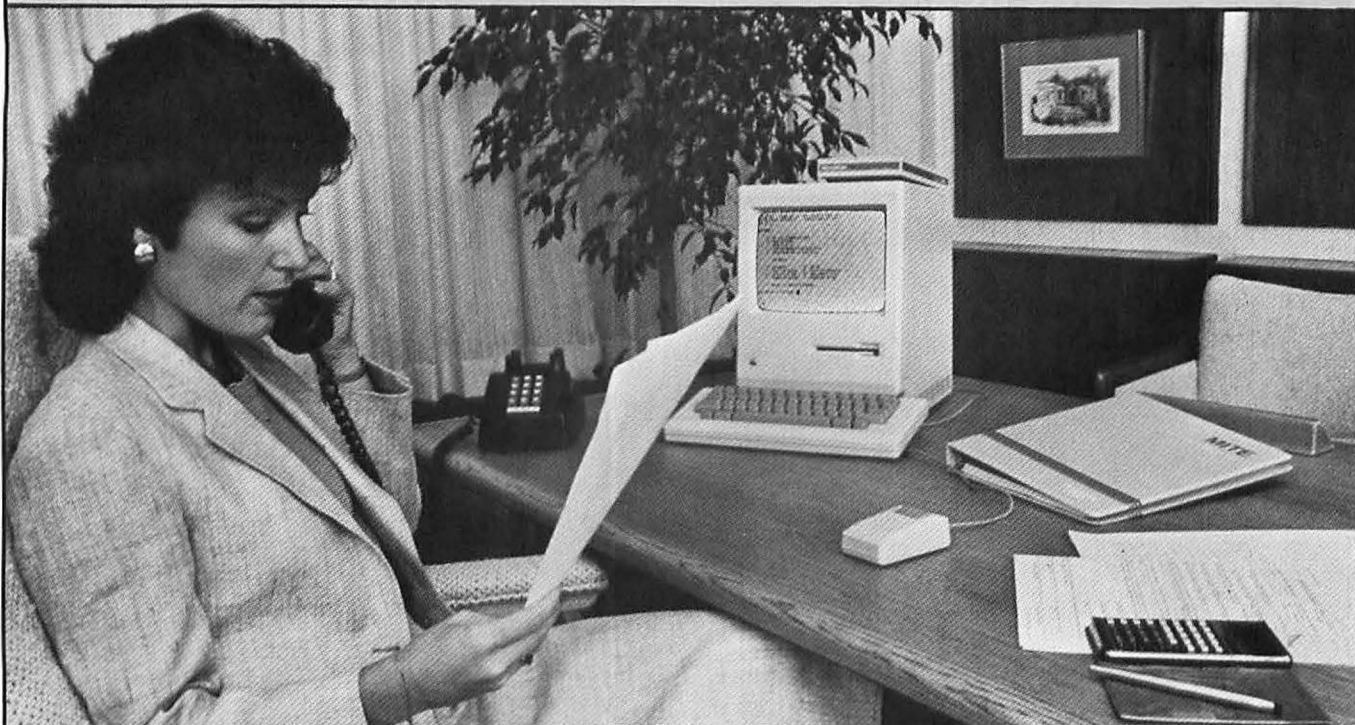


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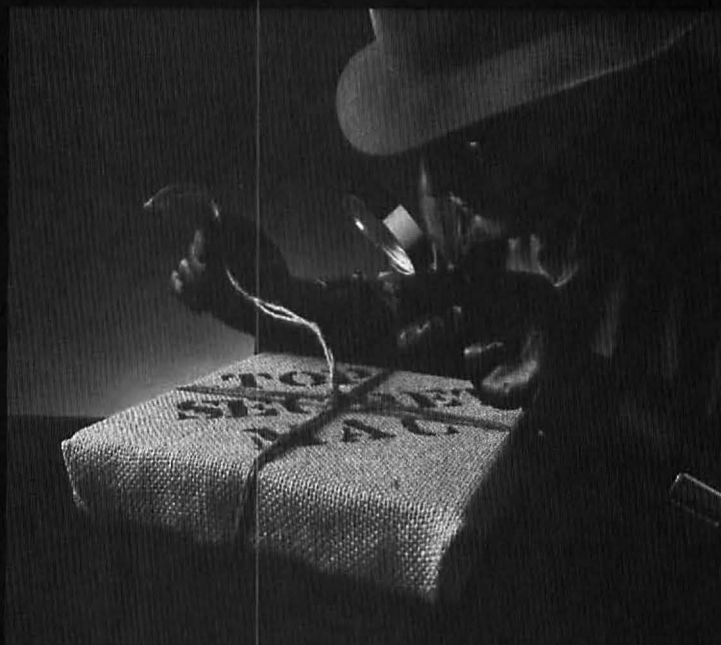
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The Mac Goes to the Movies

Anthony Reveaux

It was only a matter of time before Hollywood welcomed the Macintosh, that most visual of computers. Undoubtedly, the Mac's most important role won't be played in front of a camera but behind the scenes. Making movies is a complex undertaking; art, technology, and complicated logistics come together according to split-second timetables. Computerization has come slowly to Tinseltown, but film and television studios now use Macs in the production of feature films, documentaries, and commercials. Macs facilitate tasks ranging from writing scripts and designing sets to balancing budgets and keeping track of cast and crew.

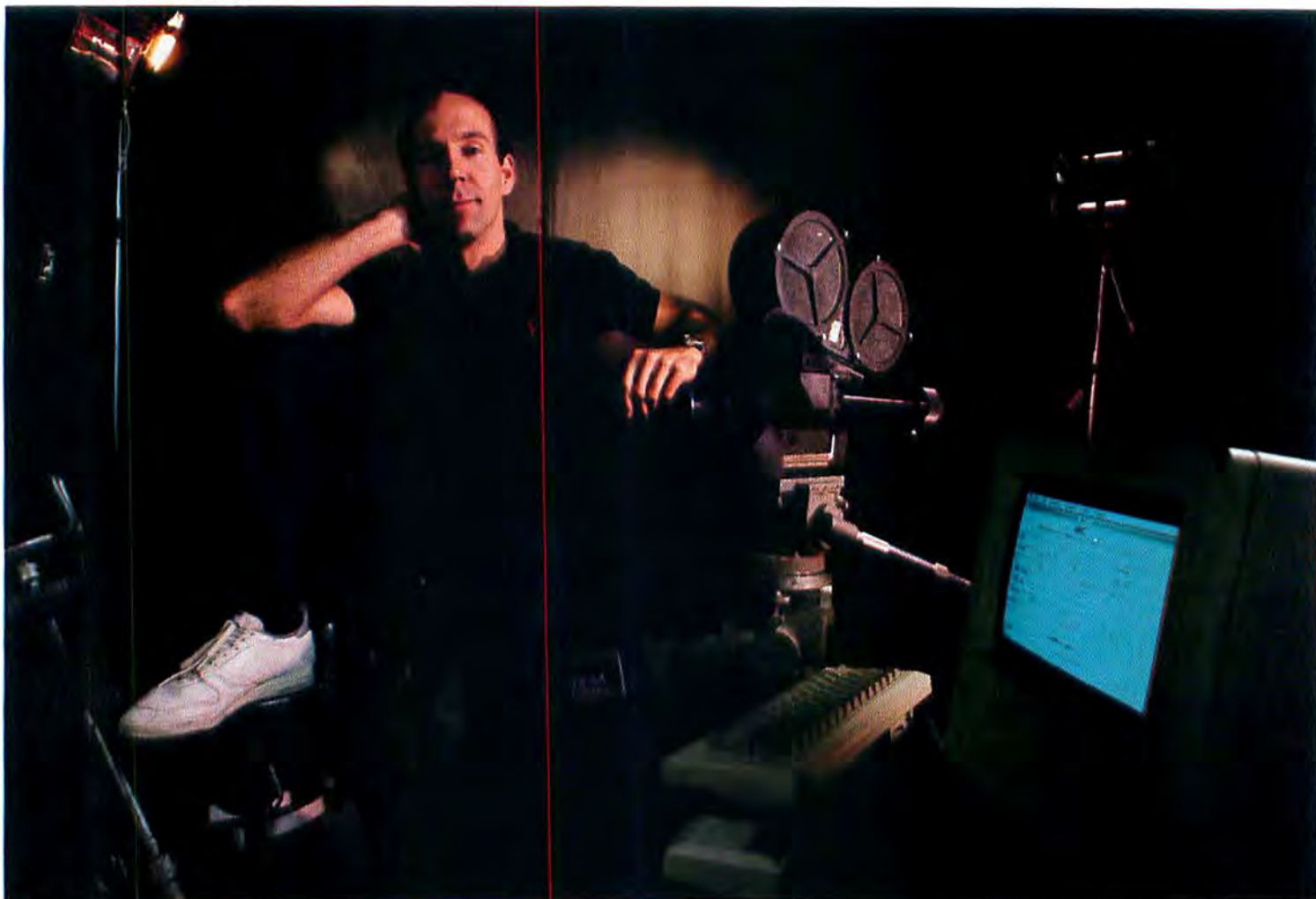
The Macintosh has successfully been integrated into the production process used by large studios to make multimillion-dollar films. The Entertainment Effects Group (EEG) of Los Angeles, the special effects company responsible for the spooks and surprises in *Ghostbusters*, started using computers with the Apple IIe. When EEG saw what the Macintosh could do, the studio bought more than 30 of the machines for its work on *2010*, the sequel to Stanley Kubrick's landmark science-fiction film *2001*. All 15 EEG departments, including camera, purchasing, optical, and models, use Macs in highly specialized areas of film production.

The camera crew of *2010* used a Mac to perform the many record-keeping requirements of cinematography. On most film productions, the crew shoots scenes according to an often complicated schedule that brings together a different combination of actors, technicians, props, and equipment for each scene. Cinematographers usually maintain an inventory of film types for different lighting conditions. Like painters, they match film and light to achieve a desired "look" throughout the movie. And editing the film would be nearly impossible without the camera reports that record each shot taken in each camera. The reports include scene, shot, and take numbers;

Stage Manager

Thaine Morris keeps apart the models of Io and Europa, two of Jupiter's moons, that were used in the production of *2010*. As stage manager at the Entertainment Effects Group in Los Angeles, Morris tracks equipment and material with the Mac. "I use it like a giant filing cabinet," he says.





Chief Camera Assistant

As chief camera assistant on the production of 2010, Pete Romano entered camera logs on the Macintosh to keep track of scenes, shots, and takes.

film type; lens used, including focal length and aperture setting; footage, or the length of each shot in feet of film; and whether the shot should be printed (shots that are obviously unusable are not printed). In the 2010 shooting schedule, stock inventory, and camera reports, the Mac replaced less efficient manual record keeping.

A large-scale production requires the acquisition of many different materials. Purchasers have to know where to find vendors who supply everything from film and lumber to automobiles and costume fabrics. For a movie like 2010, it isn't unusual for a purchasing department to deal with over 500 vendors. EEG's purchasing department uses *Habadex* to expedite purchases because the program categorizes vendors and service providers, whose telephone numbers can then be dialed automatically. Purchasers no longer have to search through lists and Rolodex cards for the phone numbers of vendors who, for example, specialize in plastics for finely detailed models.

The EEG purchasing department also handles the hiring of production personnel, from set builders to lighting specialists. For 2010, *Habadex* was also used for payroll information to cross-reference the 120 union employees who worked on the production with all the local unions and their different rate schedules.

EEG didn't put a Mac on the moon while working on 2010, but it did make the Mac an invaluable globe-trotting companion. The film crew took the computer along on location in London, Paris, Rome, and Cairo. The Mac and a simple phone call would have saved thousands of dollars if, for example, a last-minute script change made in Hollywood eliminated a desert scene. A phone call would have alerted the crew in time to prevent payments for the location, extras, props, and rent-a-camels. In countries like Italy and Egypt, the language barrier and less than state-of-the-art telephone service make international calls undependable. The Mac earned star status overseas as a reliable means of communication because the production company was able to use a modem and communications software to send and receive telexes through Western Union's EasyLink system, which bypasses local telephone service.

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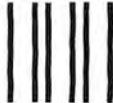
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Special Effects

The Macintosh has sped up the work of special effects departments by helping them build models and organize the superimposed images that create illusions. The model shop supervisor is responsible for creating all the models and miniatures that appear as full-size objects in the finished film.

In *2010* models of rockets, space stations, and landscapes of other worlds were built with the assistance of the Macintosh. EEG's model shop supervisor used his Mac to sketch scaled plans and to keep notes on all the needed parts and supplies. As the design for a miniature spaceship changed during the early stages of production, the supervisor could quickly modify the plans in *MacPaint* and distribute printouts to the model builders.

Special effects in movies are often the result of intricate combinations of images, called *composites*, fitted together like jigsaw puzzles in motion. A shot of a spaceship crossing the face of the moon, for example, is actually a composite of at least three shots: a shot of the spaceship model, a painting of the moon, and a star-pattern background. *2010* required 297 composites. The film's optical department, which coordinated the production of composite shots and other opticals such as dissolves and fades, used a Mac to keep

up-to-date information on the numerous shots that formed the composites. The completion of opticals must meet the production schedule to avoid extra cost. The optical department must know the components of each composite, its progress in the work flow, and any changes the director may have requested. The Mac was a great improvement over manual updating methods, which involved filling out numerous paper forms and charts in triplicate.

Independent Filmmaking

Big-budget movie studios aren't the only film producers assisted by the Macintosh. The Mac's speed and cost-saving ability are even more valuable to independent filmmakers, who usually have to produce films on a shoestring budget, than to well-financed studios. The independent production company Foresight Films is using Macs in the production of *Passing through Linden*, a public-interest project with limited funding. The feature-length film about industrial sources of chemical pollution was written by Paul Brodeur, who

Independent Producer

Based on the West Coast, Thomas Brown of the independent production company Foresight Films works with coproducer Meg Switzgale on the East Coast through Macintoshes and modems. Foresight Films is developing an electronic storyboarding system that allows real-time simulation of film or video productions, one of several software packages being designed specifically for the industry.

Storyboard

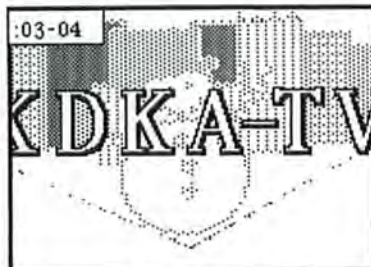
Scriptwriters and producers draw storyboards to give production personnel a clear idea of how a film or video production should look. This storyboard was created by Arthur Greenwald, the special projects producer for KDKA-TV, a Group W television station in Pittsburgh, Pennsylvania. "Recently I was assigned to help create a new animated introduction for my station's three daily newscasts. I had to gather suggestions from many departments, then submit them to the station's executives, who needed something visual to react to. The Macintosh enabled me to realize the concept well enough to arrive at a consensus storyboard, resulting in big savings in time and money for the project."

NOTE:
SCENIC STILL PHOTO
CHANGES WEEKLY

Storyboard: KDKA-TV Animated News Open



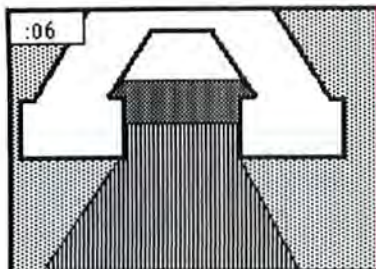
MUSIC: EYEWITNESS NEWS THEME
ANNOUNCER: From KDKA-TV2...



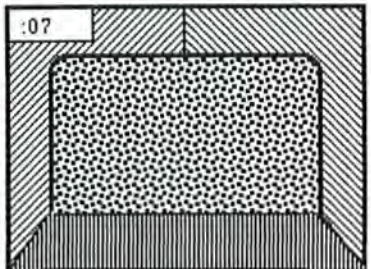
PICTURE FADES, LOGO FLIES FORWARD
ANNOUNCER: ... in Pittsburgh



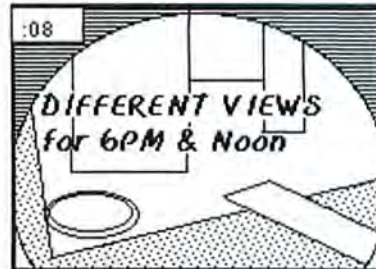
MUSIC PICKS UP TEMPO
KDKA LOGO FLIES FORWARD



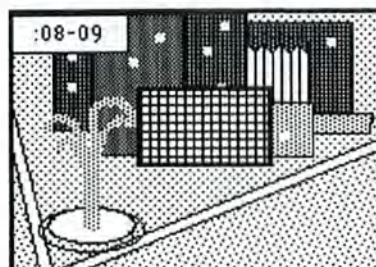
WE ARE DRAWN TOWARDS THE "A" IN KDKA WHICH BECOMES A TUNNEL... FT. PITT TUNNEL?



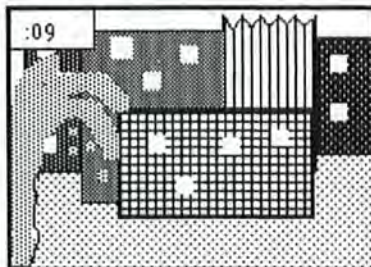
THE TEXTURE OF TUNNEL WALLS FLY BY. WE'RE ALREADY EMERGING
MUSICAL EFFECT: Wind Noise



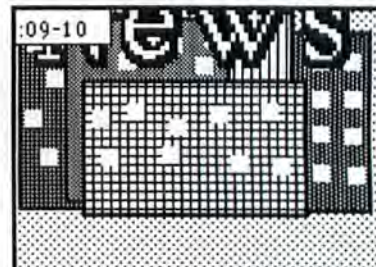
WE EMERGE FROM TUNNEL TO SEE PITTSBURGH SKYLINE. IT DARKENS AS LIGHTS BEGIN TO COME ON



SKY DARKENS MORE AND MORE LIGHTS COME ON



WE CONTINUE TO ZOOM INTO CITY. DARKER AND MORE LIGHTS



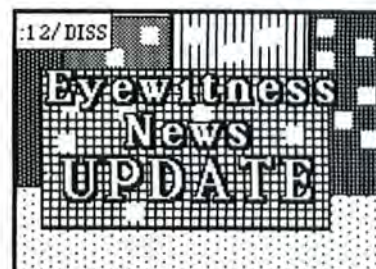
CONTINUE TO ZOOM, MORE LIGHTS
LOGO FLIES INTO PICTURE



LOGO FLIES INTO FRAME
CONTINUE ZOOM, MORE LIGHTS
ANNOUNCER: This is...



ANNOUNCER: ... Eyewitness News...



ANNOUNCER... Update
MUSIC STINGS
CONTINUE ZOOM, DISSOLVE TO MATCHING ZOOM TO TALENT

© 1984 WESTINGHOUSE BROADCASTING & CABLE, INC.

wrote the feature film *Stuntman*. All the proposals, scripts, and budgets for *Passing through Linden* were written with *MacWrite*.

Another area in which the Mac has proven itself is fund-raising. *Linden*'s producers used one Mac on the East Coast, another on the West Coast, and a third for traveling. The producers relied on up-to-the-minute information to raise funds for the film's continuing production expenses. Each Mac was equipped with a modem and Apple's *MacTerminal* communications program so that the producers could be in constant contact with each other through telexes, MCI electronic mail, and EasyLink. Scripts and storyboards, in the form of *Write* and *Paint* documents, were transmitted electronically—and immediately.

Foresight Films also experimented with *MacPaint* to prepare storyboards. Storyboards are series of simple sketches resembling comic strips; they are an economical and visual way to plan a film. The sketches represent shots and scenes so that the production can be thoroughly planned before money is spent on film, equipment, locations, cast, and crew—each of which is more expensive than either pencil and paper or Imagewriter printouts. For example, a scene that shows how chemical wastes are produced during manufacturing was planned on a storyboard. The film crew therefore knew which parts of a factory and which stages in the manufacturing process it had to film and from what angles in order to come away with the shots needed for the scene.

Commercials and Television

Commercials may not last long on a television screen, but they are difficult to make because they must capture the viewer's attention and persuade him or her to make a purchasing decision in seconds. Commercials, with their short production lead times, special effects, and intense work schedules, are prime candidates for computerization. Hartwick/Przyborski Productions of New York and Pittsburgh is a commercial production company that calculates bids with *Multiplan*, creates budgets with *Microsoft Chart*, and telecommunicates production information with *MacTerminal*.

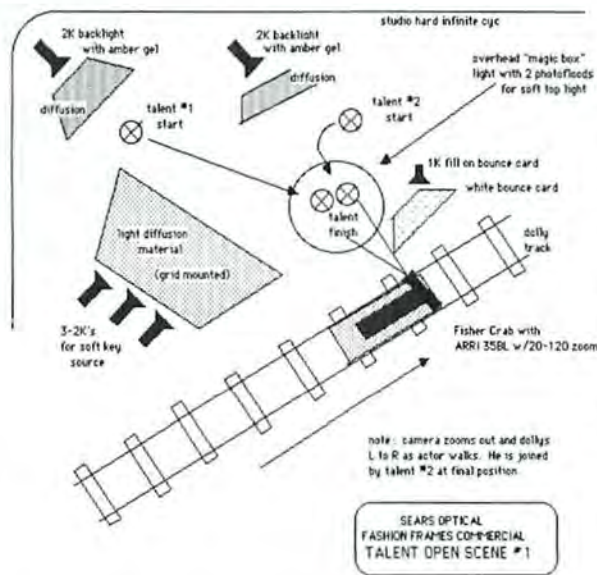
Hartwick/Przyborski also uses *MacDraw* to design sets in its three studios. Each studio's floor plan is kept as a master *MacDraw* document. Frequently used set components, such as furniture, backdrops, and lighting equipment, are copied from files that serve as image libraries. *MacDraw*'s ability to manipulate shapes and superimpose images allows set designers to rearrange a set without redrawing plans.

The Mac is used not only to make commercials but also to program and manage daily broadcast television. Art Greenwald, a special projects producer for KDKA-TV in Pittsburgh, creates elaborate storyboards for commercials and sequences in dramatic productions. Most storyboards use simple line drawings to give a quick impression of a scene. Certain storyboards, especially those used in the later phases of video or film production, have to convey details to set

designers and camera technicians, such as when part of a character's face should be in shadow. Greenwald points out that *MacPaint* permits him to provide the necessary detail with shades and textures. Final touches on the hero's moustache or the villain's get-away car give designers a clear idea of a producer's or director's expectations.

The Future

What additional help from the Macintosh can film and television producers look forward to? Specialized software is being developed for the film industry by American Intellware. Intellware product designers say that the program, called *MacFATS* (Film-Advertising-Television System), will have components for writing scripts, preparing storyboards, scheduling production, and planning budgets.



Set Design

Producers at Hartwick/Przyborski Productions design sets with *MacDraw*. The set design in the figure shows the position of cameras, lights, props, and actors for a Sears commercial. *MacDraw* permits the producers to reorient elements of the set quickly during planning without creating entirely new drawings for each change.

As surely as the next box office hit will have a sequel, the Mac will have a growing role in film production. Macs have been delivered to Industrial Light & Magic (IL&M), George Lucas's special effects group responsible for the visual razzmatazz in the *Star Wars* trilogy and *Raiders of the Lost Ark*. In the months to come IL&M and other production companies will see how the Mac can be used in special effects and other aspects of film production. Don't be surprised if soon, at a theater near you, the credits include "Computing by Macintosh." □

●●●●●●●●●● Anthony Reveaux is the editor of *Computer Publicity News*, a contributing editor for *Artweek*, and the program chairperson of the San Francisco-based *Show Page Macintosh* user group.

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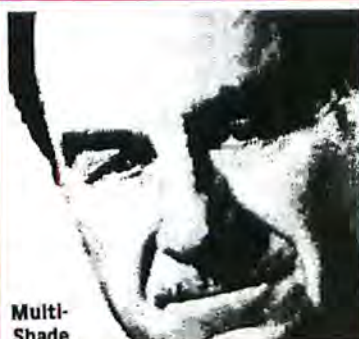
Product. The MICRO-IMAGER video digitizer lets you capture an image in your Macintosh from any B/W or color source (camera, recorder, laser disc player, etc.) which conforms to the NTSC (EIA RS-170) synchronization standard. The image is stored as a MacPaint file and it may be edited, recalled and printed.

Applications. Applications for the MICRO-IMAGER are many and varied, including graphic design, custom clip-art, word/image processing, pictures and portraits, mechanical drawings, logos, real estate listings, personnel files, etc.

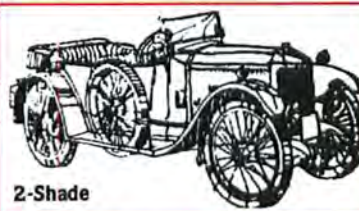
Image Capture Modes. Lines from both fields of the video frame are used to quickly digitize every dot in a 512 by 322 dot image. There are 2 capture modes: 2-Shadow (best for line drawings and diagrams) and Multi-Shadow (best for pictures and portraits). Gray shades on the Mac screen are accomplished in software by the use of fixed or random patterns. The user may arbitrarily select which type of shading pattern (fixed or random) is used when capturing in the Multi-Shadow mode. The patterns are user-definable.

Image Adjustments. The MICRO-IMAGER is very easy to use and the capture process is controlled using the menu bar commands. Contrast and brightness adjustments are made via front panel controls. A digitized video output allows the user to view the digitized image (in 2-Shadow or Multi-Shadow format) on an external video monitor (not supplied) in real-time prior to capture. Unlike other systems, this digitized output makes contrast, brightness, and camera focus adjustments quick and easy, avoiding having to make multiple scans before achieving desired results.

B & W/Color Sources. The MICRO-IMAGER video digitizer is designed to work with either a color or B & W source. For color



Multi-Shadow



2-Shadow

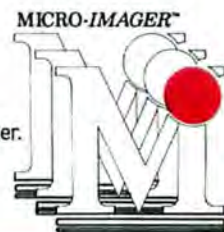
sources, the MICRO-IMAGER employs a very effective color rejection filter to remove virtually all chrominance (color) information prior to conversion. The MICRO-IMAGER features a B & W/Color Switch, allowing the user to bypass the pre-conversion color filter with a B & W signal, preserving the signal's full horizontal resolution. In short, the color rejection filter used in conjunction with the B & W/Color Switch enables the MICRO-IMAGER to obtain superior results with both B & W and color sources.

Edit Capability. The user can selectively Cut, Copy, and Clear parts of the digitized image using our Edit Menu functions. Since the entire image is saved in a MacPaint compatible file, the image can also be edited using all of the features of MacPaint.

Interface. The MICRO-IMAGER interfaces to the Mac via either serial port. The software interface, user's manual and a cable are provided. Software interface documentation is available for the user who is also a developer or an experienced programmer to facilitate writing one's own software interface if desired.

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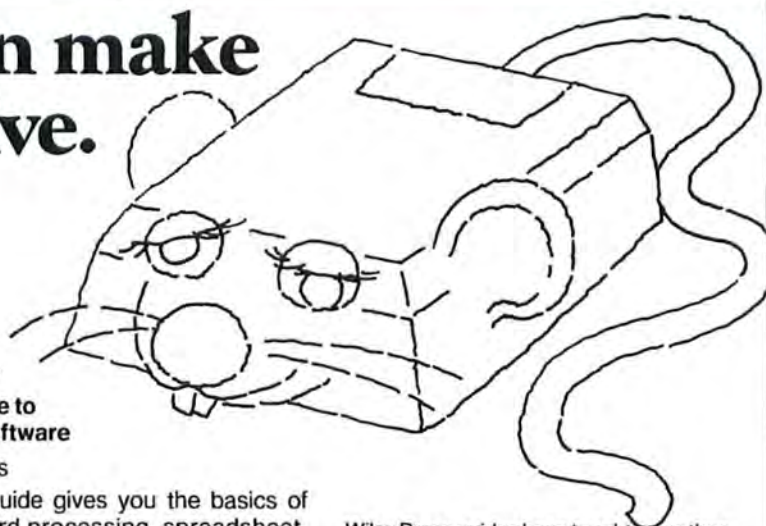
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TK! Solver	169.88
TK! Templates	44.88

LANGUAGES

MacForth Level II

CREATIVE SOLUTIONS
A great buy. Supports most tool-box and OS routines including menus, windows, dialog boxes, and controls. Also includes an assembler/debugger, floating-point math, and extended utilities. Faster than BASIC.
MacForth (Level II) \$ 169.88

MacASM (Assembler)	\$ 69.88
MacForth (Level I)	99.88
Microsoft BASIC 2.0	99.88
Softworks "C"	289.88

WORD PROCESSING

Mac Daisywheel Connection

ASSIMILATION PROCESS
Letter-quality printing is here! Works with any application using the Imagewriter file. Installs easily and supports Apple, Brother/Dynax, NEC and Qume letter-quality printers. Boldface/underlining is supported on printers that offer it. Package includes printer cable.
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Mac Epson Connection	\$ 69.88
Hayden Speller	54.88
Mac Spell Right	64.88
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MegaMerge	89.88
Microsoft Word	139.88
Palantir MacType	34.88
ThinkTank 128	99.88
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GRAPHICS

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MILES COMPUTING	
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Mac the Knife Fonts	34.88

T/Maker Click Art Series	\$ 34.88
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Hayden MusicWorks	54.88
Mind Prober	34.88
Smoothtalker	99.88
Videx MacCalendar	59.88

HARDWARE

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OKIDATA
Imagewriter compatible, with better quality in high and draft modes. A bit slower than the Imagewriter, but the final output's worth it.
Microline 92 w/cable \$ 499.88

3 1/2" Diskettes (10 pkg)	\$ 43.88
Diskette Holder	24.88
Epson FX-80 (RS232)	CALL
Epson RX-80 (RS232)	CALL
Field Pro Carrying Case	79.88
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Micron-Eye	CALL
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Infocom Zork I	23.97*	Videx Mac Gammon & Cribbage	29.40*

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Creative Solutions MacForth Level II	149.00*	Microsoft File	110.00*
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HARDWARE

(Add 2% to the member price for each item for shipping and handling.)

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Apple Macintosh Base System	1,580.00* (34.12)
Apple Apple IIc	860.00* (18.58)
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Columbia Desktop & Portable Systems	CALL
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Okidata ML-93 Mac/Apple 15" Platen 160 CPS	586.00*
Imagewriter Look-Alike	
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Innovative Concepts Flip N File Micro (25)	6.69*
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Macworld Gallery

An exhibition of Macintosh graphics

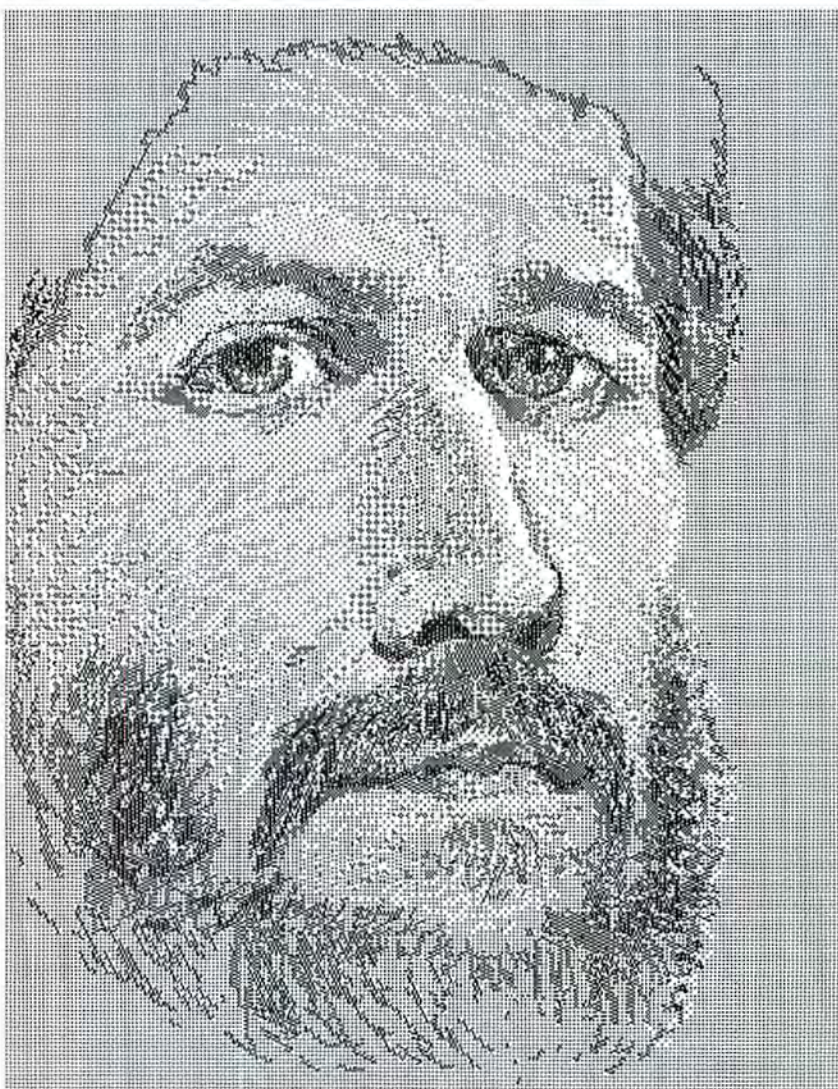
Edited by Erfert Nielson

It's hard to draw with a bar of soap. —A Macintosh artist

Since we can't respond individually to all the queries we receive about entering the Macworld Art Contest, we'll print the contest rules again here. You don't need an entry form; just send a paper copy of your original artwork and a description of how you created it to Macworld Gallery, 555 De Haro St., San Francisco, CA 94107. All drawings are eligible for the art contest.

Drawings are viewed each month by a panel of five judges, who choose one winning drawing (\$500 is awarded) and two runners-up (two \$250 prizes are awarded). Prize-winning drawings become the property of Apple Computer. In November 1985 a grand-prize winner (\$5000) and two runners-up (\$2500 each) will be chosen from among the year's winning drawings. In addition to the prize-winning drawings, several pieces are exhibited each month in the regular Gallery section; those exhibitors are paid \$25 each.

If your drawing is selected, we will ask you to send a copy of it on disk. Please include your phone number with your submission. All disks become the property of Macworld.



Self-Portrait

■ \$500—First Prize

Self-Portrait

I wondered if I could paint with the Mac as I would with a brush on canvas. As shown by this self-portrait, the answer is yes, right down to mixing paint on the palette. I started off by designing new dot patterns with the Edit Pattern function to create additional tones for the fine differences in shadows. Then I covered my "canvas" with a light half-tone and began to paint, alternating among the three smallest brushes. I find it exciting that this image could not have been created in any other medium.

*Mark Wood
Batesville, Arkansas*

■ \$250—Second Prize

Bamboo

The principal tools I used in this painting were the spray can and the eraser. I applied the darker pattern first, then spray-painted over that in white to create the characteristic streaks of bamboo. I painted the leaves with the medium-size brush and shaped them with the eraser. I drew the lighter background leaves first, then drew the darker leaves and moved them into position with the lasso. I drew the signature and the seal in FatBits.

*Wan Chi Lau
Jamaica Plain, Mass.*



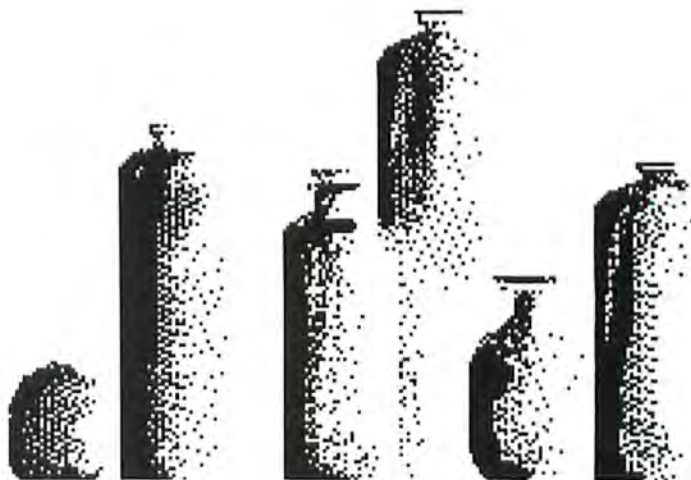
Bamboo

■ **\$250—Second Prize**

Bottles

My usual medium is oil on canvas, but my husband and my friends kept insisting that I try drawing with the Macintosh. Since I concentrate on light and detail in my drawings and paintings, I didn't think a computer would be adequate for my particular needs. When I followed their advice, however, I was delighted with the possibilities offered by *MacPaint*. I think the Macintosh offers alternatives to traditional engraving or lithography techniques. This drawing was done entirely free-hand with the pencil, the paintbrush, the eraser, and FatBits.

*Anamario Pinto
Washington, D.C.*

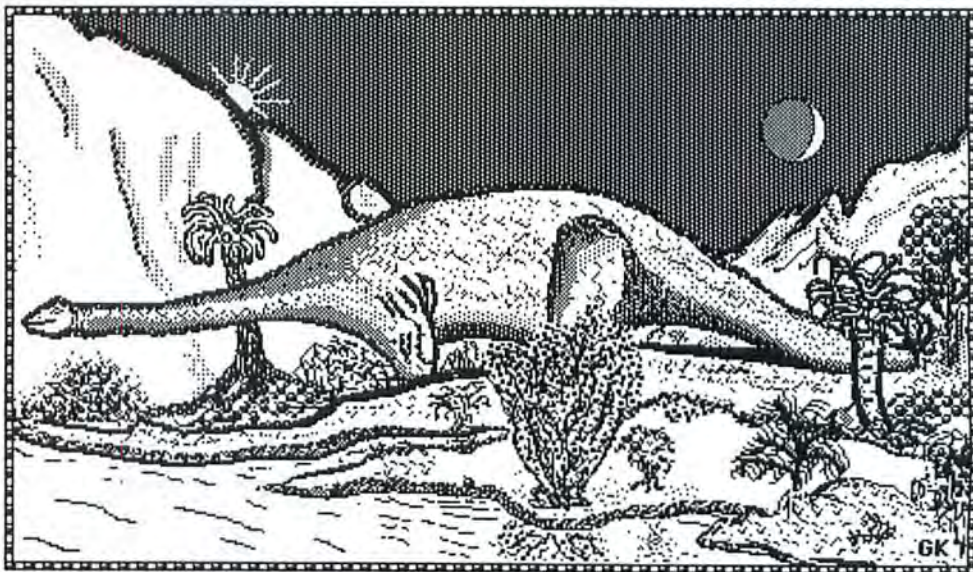


Bottles

6:30 a.m., 100 Million B.C.

I began by sketching the dinosaur with a thin paintbrush. I added texture and shading with different brushes and patterns. I used FatBits to add detail to the face and the upper neck. I added the sky, the mountains, the land, and the water with the pencil, the brush, and the paint bucket. Each plant was designed individually to add an exotic touch to this prehistoric scene.

*Gerald Katz
San Francisco, California*



6:30 a.m., 100 Million B.C.

The Laundress

While playing with *MacPaint* I became intrigued with its similarities to woodblock prints. Accordingly, I decided to experiment with this effect. I began by filling an entire page with black, filling individual screens with the paint bucket and moving around the full drawing area with Show Page. Using the pencil, I drew the outlines of the figure and the sink. I then filled in various areas with different textures, treating the paintbrush as a chisel and leaving black areas similar to those found in woodcuts.

Sarah Sullivan

La Mesa, California □



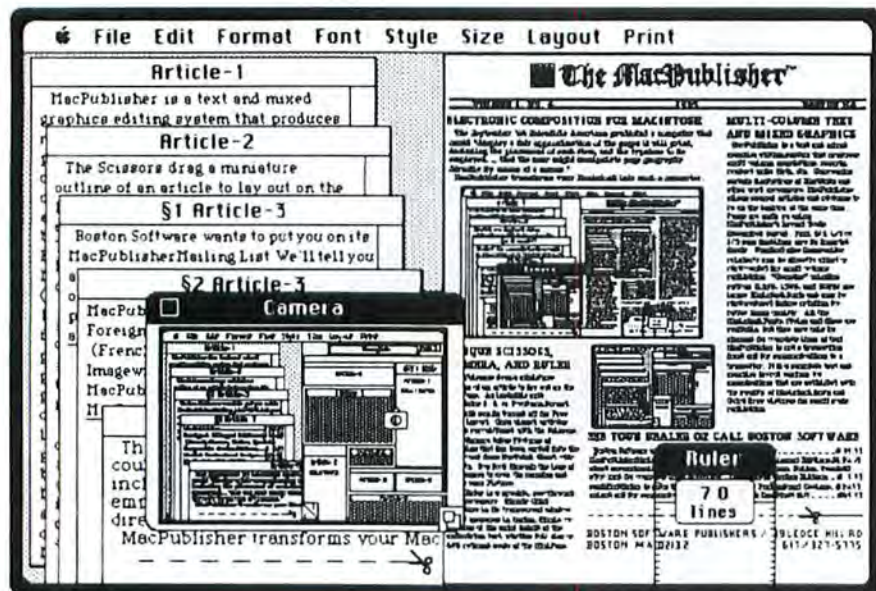
The Laundress



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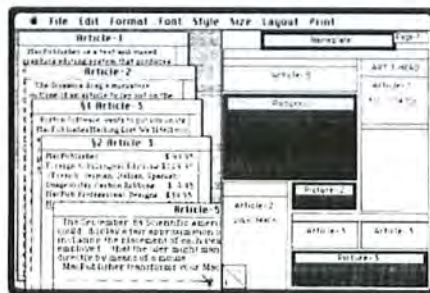


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The Camera takes pictures of anything that has been copied into the Clipboard from MacPaint, Chart, clip art, etc. You use a miniature "through the lens" Camera to crop the margins and frame your Picture.

The Ruler is a movable, see-through desk accessory. Simply Click anywhere in its transparent window and it measures in Inches, Pixels, or in Lines of the point height of the underlying text, whether full size or 44% reduced scale of the MiniPage.



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MacPublisher turns your Macintosh into a text and graphics editing, layout, and page-makeup system that produces multi-column newsletters, fliers, catalogs, ads, etc. Overcoming certain limitations of MacWrite and other word processors, MacPublisher allows several articles and pictures to be on the desktop at the same time. Articles may be clipped and carried over to other columns and/or pages. Pages are made up using MacPublisher's Layout tools. The MiniPage shows you a "What You See Is What You Get" representation of a full page layout. The Dummy Page shows articles and pictures as blocks with numbers of lines, characters, and page, column continuations. Standard size Imagewriter printouts may be directly offset or photocopied for small-volume publishing. If you are lucky enough to have access to Apple's new Laser Printer, your output quality rivals the best typesetting equipment. All the Macintosh Fonts, Styles and Sizes are available, but they may only be changed for complete lines of text. MacPublisher is not a typesetting front end for communications to a typesetter. It is a complete text and graphics layout package for organizations that are satisfied with the quality of Macintosh fonts and QuickDraw pictures for small-scale publishing.

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EXAMPLES OF THINGS YOU CAN DO WITH MacPublisher™

All of the examples on this page were done in MacPublisher, including the paragraph you are now reading, which is a Justified text Article of variable width (more than 2/3 page but not quite a full page).

To the right is the first page of the Sample News you worked on in Chapter 3.

To the lower right is an advertisement for MacPublisher in Three-Column Format; if you have sharp eyes, note that the illustration in the middle is actually a MiniPage of the ad itself being laid out, and the smaller illustration is a Dummy Page of the same thing.

To the lower left is an imaginary restaurant menu: most of the Articles on the page feature Justified text and are of standard widths (one or two thirds of a page), but all items were dropped in Free Form in order to place them at random spots on the page.

The MacPublisher™

VOLUME 1, NO. 3

1984

BOSTON MA 02132



Recent additions to the always expanding selection of Clip Art available for the Macintosh make your creation of MacPublisher publications easy, fun and ever more creative.

Mac The Knife™ by Miles Computing is perhaps the most well-known Clip Art package. Volume One, the Sampler, includes a diskette-full of MacPaint documents (desktop full). Several of them could be quite useful to newsletter creators, especially the collection of international Symbols, the Animals, the Borders, and the Fonts (two Fonts in Volume One). Volume Two of Mac The Knife is all Fonts. Mac The Knife's manual reiterates the Macintosh instructions for moving Fonts, and gives helpful tips for cutting and pasting borders, which will assist a MacPublisher user in creating fancy MacPublisher Pictures.

Click-Art™ by T/Maker (also a diskette full) includes its own borders, plus a collection of "fun" pictures, maps, houses, etc. Perhaps the nicest thing on the Click-Art diskette is an alphabet of beautiful, ornate French manuscript letters. As you can see in this Article, you can Drop a large ornate letter as a one-third page wide Picture (slightly to the left in Free Form), start your Article directly to the right of it in one-half page width, and continue it (next Carryover) in 2/3 page width directly underneath. The letter we've used isn't from the Click-Art diskette (which is copyright), but was made to order by our in-house artist for MacPublisher Designs.

Naturally, keep your eye on Boston Software Publishers for the release of clip art (MacPublisher Designs™) and Fonts especially for MacPublisher!

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VOLUME 1, NO. 4

1985

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MacPublisher turns your Macintosh into a text and graphics editor. Layout and page makeup system that produces multi-column newsletters, fliers, catalogs, ads, etc. Overcoming certain limitations of MacWrite and other word processors, MacPublisher allows several articles and pictures to be on the desktop at the same time. Articles may be clipped and carried over to other columns and/or pages. Pages are made up using MacPublisher's Layout Tools.

The MacPage shows you a "What You See is What You Get" representation of a full page layout. The Dummy Page shows articles and pictures as blocks with numbers of lines, characters, and page, column coordinates. Standard view (page view) or outline may be directly offset or photographed for small-volume publishing. If you're lucky enough to have access to Apple's new Laser Printer, your output quality rivals the best typesetting equipment. All the Macintosh Fonts, Styles and Sizes are available, but they may only be changed for complete lines of text. MacPublisher is not a typesetting front end for communications to a typesetter. It is a complete text and graphics layout package for word processors that are satisfied with the quality of Macintosh fonts and QuickDraw pictures for small scale publishing.

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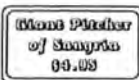
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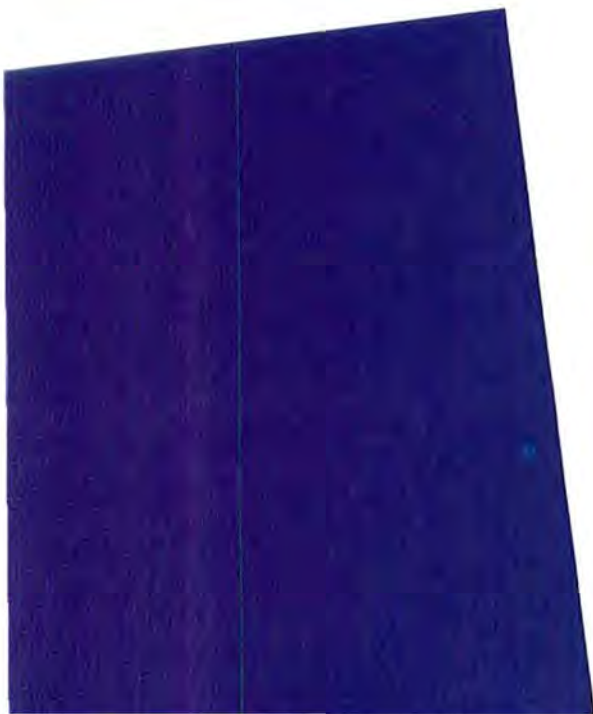
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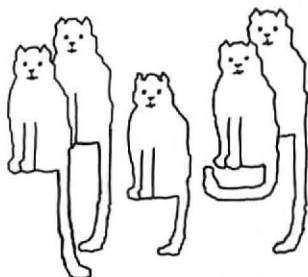
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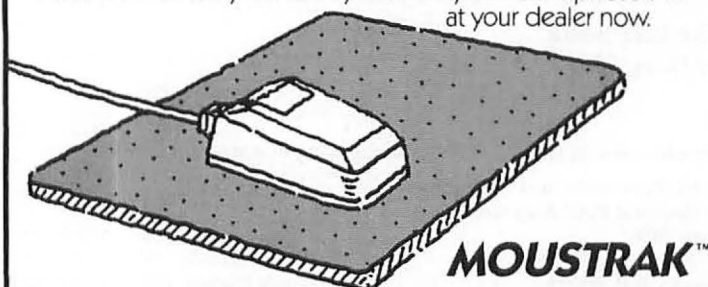
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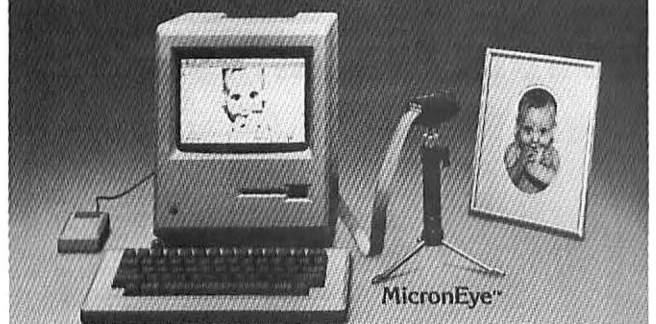
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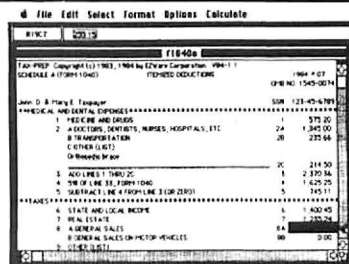
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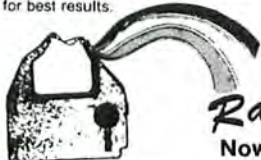
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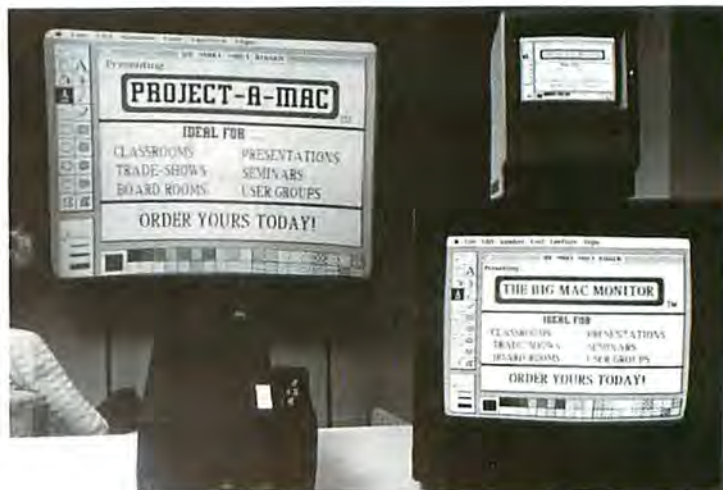
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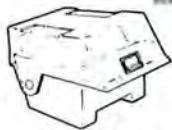
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