

MacUser

02579

THE MACINTOSH RESOURCE

PLAYING TO WIN

Using Your Macintosh
to Improve
the Bottom Line

BUILDING BETTER SPREADSHEETS
Error Free on the First Try

OUTFITTING YOUR OFFICE
Computerize Without Pain

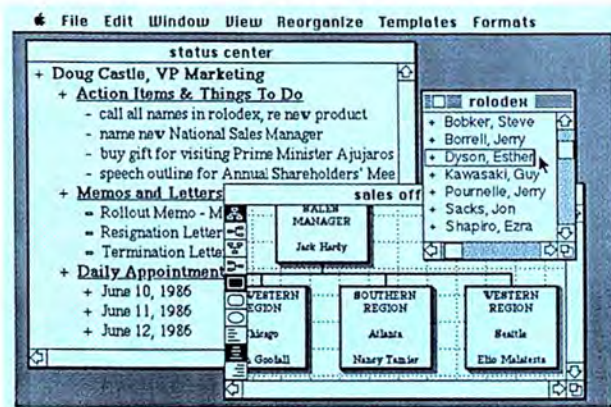
NOT THE LAPTOP MAC
A \$400 Portable Mac-Connectable

PRINT A COLOR, ANY COLOR
Silicon Press Makes It Easy

TRANSYLVANIA AND CRIMSON CROWN
Supernatural Byte-Size Terror



MORE™



Presentation to the Board of Directors

- Douglas B. Castle, VP-Marketing
- Price Wars - How they Affect American Tech
- American Tech's Strengths and Weaknesses
- What's the Competition Doing?
- Opportunities
- Why We're Vulnerable
- Recommendations

1 MORE can manage up to six 100% Mac-standard outline windows at once, so you can juggle more details, projects, more facts and ideas. Headline levels are represented **visually**, under your control, using **boldface**, *italics* and underlining (check the "status center" window). The "rolodex" window holds phone numbers which can be dialed using MORE's **autodialer**.

2 MORE opens a new **desktop publishing** frontier for Macintosh: automatic display and printing of **Bullet Charts**. Your presentations and overhead transparencies look like a professional spent **hours** tinkering with MacDraw™. This leaves you with **more time** to spend developing, reorganizing and refining your ideas.

MORE Intelligent Idea Processing

- *hoisting* - focus on one section of an outline
- *cloning* - dynamic outline cross-references, change one "view," all others change
- *mark+gather* - automatic reorganization of outlines
- *pattern matching* - context-sensitive and intelligent
- *levels* - represented visually using size and style
- from Living Videotext - the undisputed leaders in idea processing technology

MORE Desktop Publishing

- *bullet charts* - from outlines to overhead transparencies, in seconds
- *tree charts* - for timelines, project plans and organization charts
- *direct transfer to page layout programs* - Aldus Pagemaker™, ReadySetGo™

MORE Desktop Productivity

- *outline templates* - create standard outline "forms," makes routine work routine!
- *time management* - smart calendar templates, time and date stamping
- *auto dialer* - dial a phone number from any headline
- *word processing or graphics windows* can be attached to any headline

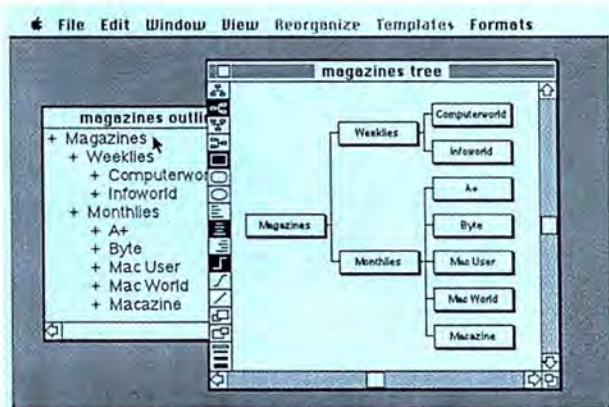
MORE Macintosh™ Power

- *windows* - up to six open at once, Macintosh standard
- *window tiling* - horizontal, vertical or diagonal
- *standard editing* - click **anywhere** to edit **any** text
- *transfer outlines to MacDraw™, MacPaint™, Microsoft Word™*

UNPRECEDENTED

From the makers of ThinkTank 512™

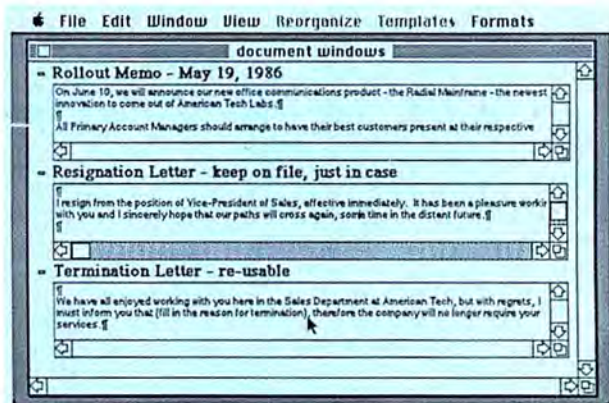
Unites idea processing technology with the desktop publishing revolution



3 MORE can instantly transform any outline into a **Tree Chart**, providing a **graphic** way to illustrate your ideas. Tree Charts are great for presentations and organized discussions. Many people find the box-diagram format much easier to follow. Other applications: timelines, project schedules, instructions and documentation, genealogy, tournaments and contests, and of course, **organization charts**. Tree Charts and Bullet Charts connect the organizational power of idea processing software to the **desktop publishing revolution**.

Not copy protected. Compatible with Macintosh 512, Macintosh Plus, Switcher, Laserwriter, HFS, prints in color with Imagewriter II.

Suggested retail price: \$295.
ThinkTank 512: \$195.



4 MORE has the **third-generation** idea processing features you'd expect from Living Videotext, the undisputed leaders in idea processing technology and the company that brought you ThinkTank 128™ and ThinkTank 512™. Cloning, hoisting, mark+gather, promote, demote, **windows within windows**, intelligent pattern matching, outline templates and calendar templates are just the **tip of the iceberg**. We've been listening to your ideas and suggestions, that's why MORE has **more** idea processing, **more** desktop publishing, **more** desktop productivity, **more** word processing and **more** unprecedented power for your 512K Macintosh or Macintosh Plus. **MORE has more of what you want!**



Call today for \$10 cash rebate coupon, redeemable with proof of purchase. Registered ThinkTank 512 and ThinkTank 128 users call for a special offer. **Limited time only.**

MORE and ThinkTank 512 and ThinkTank 128 are trademarks of Living Videotext. The names of the products above may be trademarks or registered trademarks.

 **LIVING VIDEOTEXT**
Software that people really use.

California 800-443-4310

2432 Charleston Road, Mountain View, CA 94043,

CALL 800-822-3700

For Free Information Please Circle 245 On Reader Service Card.

MacUser



POWER COMPUTING

OUTFITTING YOUR OFFICE What to buy and how to buy it. *by Robert R. Wiggins*40

UNTANGLING THE SPREADSHEET BLUES Error-free spreadsheets on the first try. *by Joseph T. Kelley*46

YOU CAN TAKE IT WITH YOU Outside work is much easier when you use Mac-connectables. *by Michael D. Wesley and Gilbert Rankin*54



M A C O F F I C E

SOMEDAY MY PRINTS WILL COME
Check out six time-saving print spoolers. *by Fred Terry*58

E D U C A T I O N

THE BEST LITTLE SCHOOLHOUSE
Homemade educational software for students at all levels. *by Mary Bowman-Kruehm*68

G R A P H I C S

PRINT A COLOR, ANY COLOR *Silicon Press* brings color to cards, labels and letters. *by Sharon Zardetto Aker* 74

TELECOMMUNICATIONS

LANDMARKS ON-LINE Your guide to the major data services. *by John J. Anderson*80



ENTERTAINMENT

THE LITTLE MAC OF HORRORS Experience the supernatural electronic terror. *by Joyce Worley and Bill Kunkel*86

RESOURCES

YOUR FIRST UTILITIES A baker's dozen of great and useful programs. *by Neil L. Shapiro*92

THE LOOK OF PASCAL The second part of our series fills in the Shell application. *by Steven Martin* ...104



DEPARTMENTS

LETTERS Readers have their say. *from the Mac Community*15

NEW ON THE MENU Version numbers, Woz, 3D art on your Mac and more.18

QUICK CLICKS Nine reviews of exciting programs.33

TIP SHEET Expanded once more! *compiled by David Biedny*111

MINIFINDERS Hundreds of capsule reviews to help you pick and choose.122

PICTURE PALETTE The best of your graphics showcased.151

ADVERTISERS INDEX136



COLUMNS

THE EDITOR'S DESKTOP The Mac, Circa 1988. *by Neil L. Shapiro*9

PINSTRIPED MAC The Real Computer Office. *by Robert R. Wiggins*25

THE MACINTOSH BOUNDARY Real Lizards Don't Buy Software. *by Doug Clapp*29

THE HELP FOLDER Answers from the Mac Team. *by Dan Cochran* ..116

THE DEVIL'S ADVOCATE New Ideas from Tired Markets. *by John C. Dvorak*152



THE MOUSE JUST MET HIS MATCH



QuickStick

The mouse was on the ball at first, until he met his match ... New QuickStick from Kraft. QuickStick does it all for Macintosh users, because it's a device that acts like a mouse and a joystick!

Flick a switch and it acts like a mouse ... but with no wasted desk space. Just point the stick and your cursor responds. Great for spread-

sheets, wordprocessing and entertainment software.

Flick the switch again, and it's a joystick for even greater software control. Great for games and graphics.

QuickStick combines versatility and value. It's one control with two functions, the smarts of a **mouse** and the speed and convenience of a **joystick**.

Model 820030 \$69.95
(2-button Model)

Model 820331 \$79.95
(3-button Model)

KRAFT Systems
450 W. California Ave.
Vista, CA 92083
(619) 724-7146

For Free Information
Please Circle 42 On Reader Service Card.

About MacUser

EDITOR IN CHIEF	Steven Bobker
WEST COAST EDITOR	Michael D. Wesley
SENIOR EDITOR	Tracie Foman Hines
PRODUCTION EDITOR	Daisy Genovese
TECHNICAL EDITOR	David Biedny
INTERN	Dawn L. Johnson
CONTRIBUTING EDITORS	Sharon Zardetto Aker Dennis Brothers Doug Clapp Dan Cochran Ian McKinnell
CONTRIBUTING ANTI-EDITOR	John C. Dvorak
EDITOR AT LARGE	Neil L. Shapiro
ART DIRECTOR	Lisa Orsini
ASSOCIATE ART DIRECTOR	Marybeth Cunniff
PRODUCTION ARTIST	Catherine Clarke
PRODUCTION DIRECTOR	Alan Jeffries
PRODUCTION MANAGER	Randi B. Kantor
NATIONAL ADVERTISING DIRECTOR	Steven J. Rosenfield
ADVERTISING MANAGERS	
EASTERN	Peg DiMarco
NORTHWEST	Noreen St. Pierre
SOUTHWEST	Gary Meyer
MIDWEST	Kevin Sullivan
ADVERTISING SERVICES & DIRECTORY MANAGER	Mindy Roland
CIRCULATION DIRECTORS:	
SINGLE COPY SALES	Jay Annis
SUBSCRIPTION SALES	Marc B. Randolph
PUBLISHER	Felix Dennis
EXECUTIVE PUBLISHER	Melvyn A. Williams
VICE-PRESIDENT	Susan Freeman
ASSISTANT TO THE PUBLISHERS	Susan Huang
RESEARCH & DEVELOPMENT	Kotwitz & Associates
ADMINISTRATIVE ASSISTANT	Cyndy DeLucia
RECEPTIONIST	Jacqueline Gatling
PRESIDENT	Robert G. Bartner
CHAIRMAN OF THE BOARD	Peter Godfrey

MacUser (ISSN 0884-0997) is published monthly by MacUser Publications, Inc. © 1986, MacUser Publications, Inc., all rights reserved. Compiled and packaged by Felden Holdings Ltd. Business and Editorial Offices: 25 West 39th Street, New York, NY 10018. Telephone: (212) 302-2626. West Coast Offices: 359 Bel Marin Keys Boulevard, Novato, CA 94947. Telephone: (415) 382-8500. Midwest Offices: 1150 Wilmette Avenue, Wilmette, IL 60091. Telephone (312) 251-2541. European Offices: 14 Rathbone Place, London W1P 1DE, England. Telephone: 01-631-1433. US subscription rates are \$27.00 for 12 issues, \$45.00 for 24 issues and \$62.00 for 36 issues. For Canada and Mexico, subscription rates in US funds are \$29.00 for 12 issues, \$49.00 for 24 issues and \$68.00 for 36 issues. For other countries add \$50 per year to the US rates for airmail. Add \$12 per year to the US rates for surface mail. Single copy price is \$3.95 (Canada \$4.95). For foreign back issue orders (subject to availability) add \$1.50 per copy for postage and handling. For subscriber service questions call 1-800-MAC-USER, 1-203-853-1858 within Connecticut or write MacUser Subscription Dept., 29 Haviland Street, S. Norwalk, CT 06854. Application to mail second-class is pending at NY, NY & additional mailing offices. POSTMASTER send address changes to MacUser, 29 Haviland St., S. Norwalk, CT 06854.

MacUser

MacUser is an independent journal, not affiliated in any way with Apple Computer, Inc. BPA membership (Selected Market Audit Division) applied for August, 1985. Printed in the USA.

"Smartcom II® (communications software) for the Mac is the best terminal program for the Macintosh..."

—*Link Up*, September 1985.

What more can we say?

Hayes®

Say yes to the future with Hayes.

Make A Fortu

The issue of Fortune magazine on the left side of this ad was painstakingly created by a large staff of editors and proofreaders and art directors and typesetters and camera operators and keyliners.

The Fortune on the right side of this ad was painlessly recreated by one person using PageMaker® software.

Because PageMaker gives anyone the ability to publish just about anything.

**PAGEMAKER
TURNS YOUR
MACINTOSH INTO
A PUBLISHING
HOUSE.**

With PageMaker you can set your own type, juggle pictures, control line spacing, enlarge or shrink graphics, create line rules, crop photos and move all the elements of a page around until you get them exactly where you want them.

Then you can print the whole thing out on a laser printer with 300 dot resolution. That means it will look so good no one will believe you did it yourself.

And you don't need to be a design genius to make PageMaker work. Because what you see on the screen is what you'll get on the page.

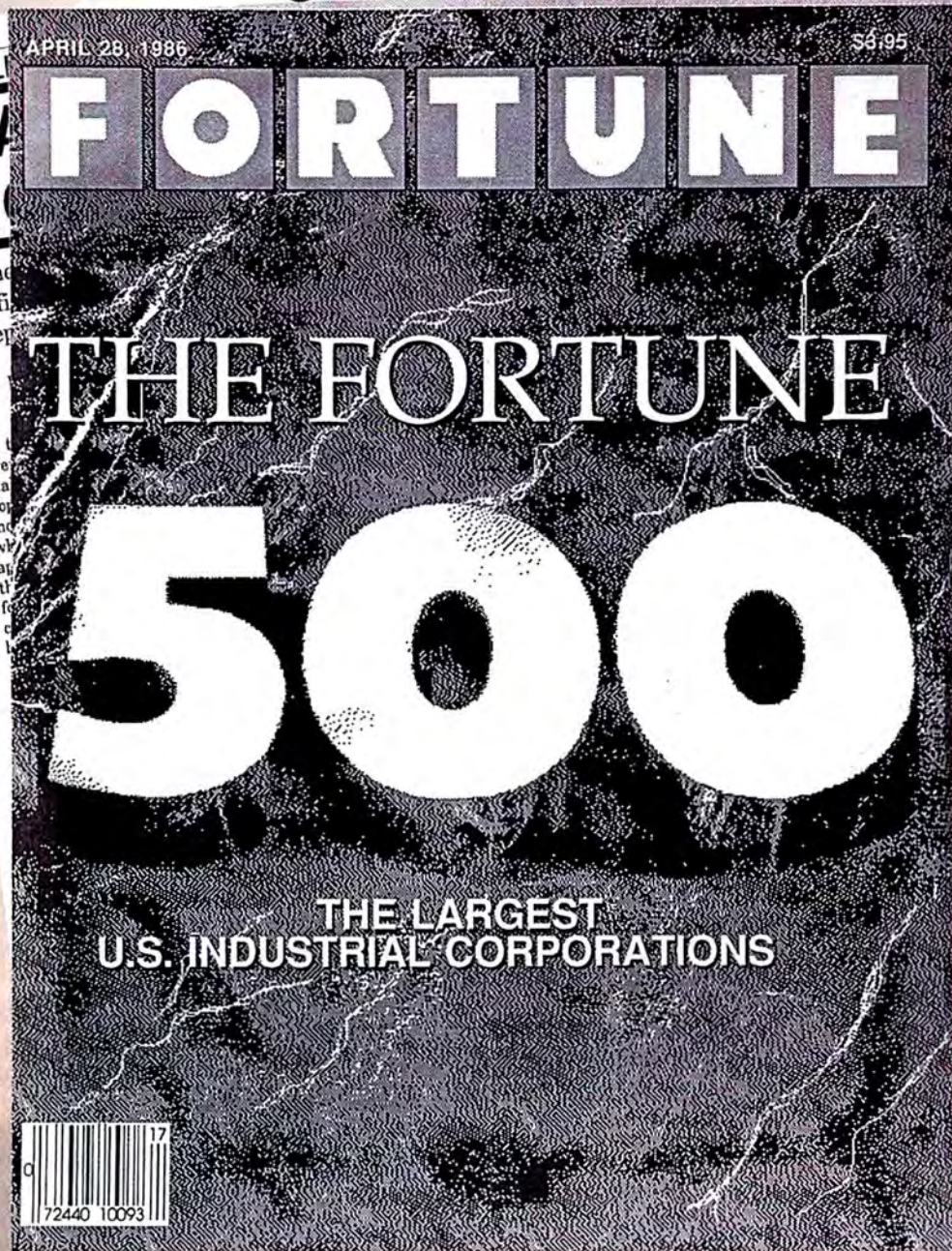


**IT CAN MAKE EVERYTHING FROM
MAGAZINES TO ROUTING SLIPS.**

It doesn't take a great deal of imagination to see that if PageMaker is capable of producing something like Fortune, it will also be able to do some pretty spectacular things with your newsletters.

Or your financial statements. Or your price lists. Or your new business proposals. Or any

ne By Yourself.



thing else you can think of.

**PAGEMAKER CAN SAVE A FORTUNE
AS EASILY AS IT CAN MAKE ONE.**

In addition to giving you control over the creative aspects of publishing, PageMaker can also help you with the financial details.

Because it will save money in typesetting and production on every piece you produce.

PageMaker runs on both Apple 512K

FORTUNE © 1986 Time Inc. used with permission.

Macintosh™ and Macintosh Plus computers and costs less than \$500.

So call or send for our free brochure or see a demonstration of PageMaker at your local Aldus dealer today.

You'll discover how easy it is to make any good idea look like a million bucks.

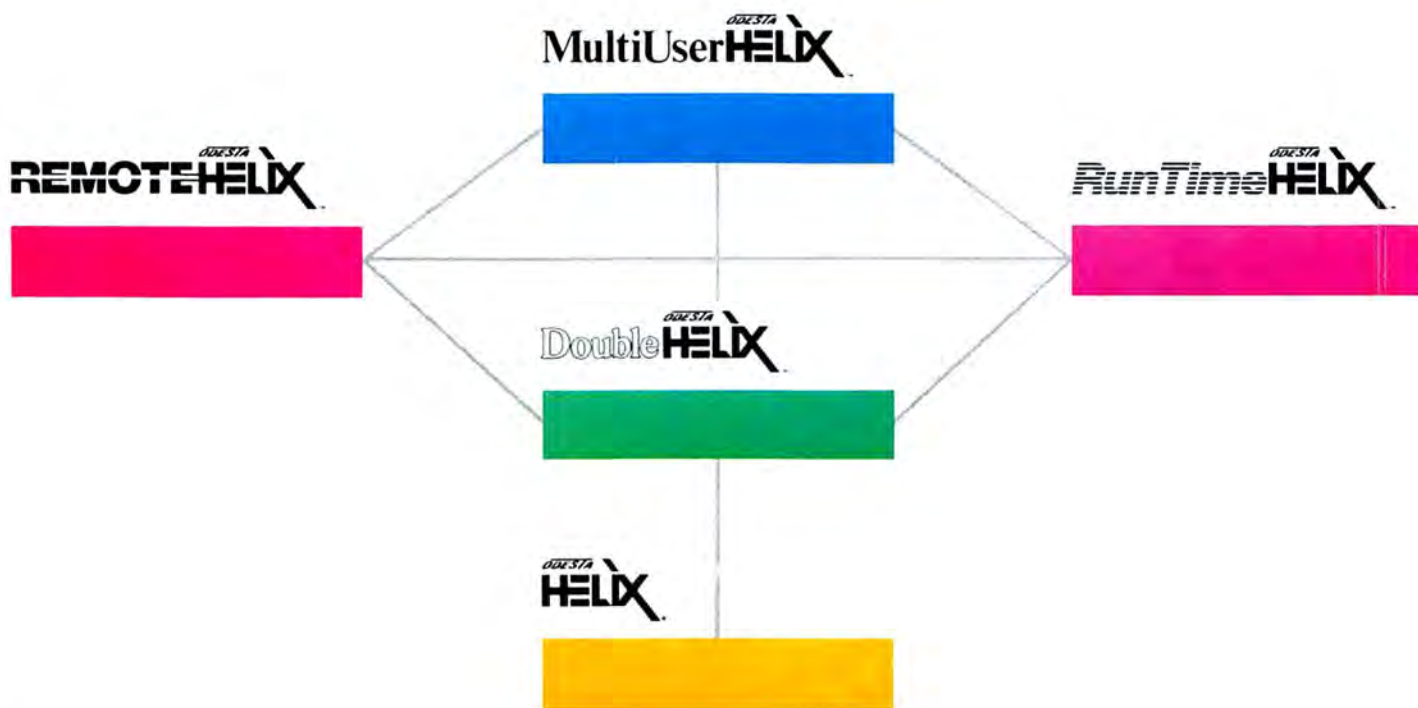


PageMaker

411 First Avenue South, Suite 200, Department F, Seattle, WA 98104 (206) 622-5500

For Free Information Please Circle 262 On Reader Service Card.

MAKE THE NATURAL SELECTION



Why choose Helix?

The Helix environment is a unique system solution addressing the full range of business needs.

Within the Helix environment you can design and develop applications, share them in a Helix-based multiuser network, publish them, and communicate with them from remote sites. This cannot be said of any other product or product line.

Whatever you built with Helix version 2.0 can be updated to a Double Helix application. The Double Helix application you work on today can be stamped out as a RunTime Helix application tomorrow, or may be used by a number of people with MultiUser Helix when you are ready. Remote Helix bundled with RunTime or Double Helix offers both log-on and local capabilities.

Why choose Helix?

The Helix approach is the alternative to the past. It takes you beyond outmoded design concepts. It takes you beyond aggravating restrictions and absurd limitations. It makes it unnecessary to know anything about schemas, data dictionaries, file servers, semaphores or protocols. It even lets you mix and match its different variations according to your changing needs.



Odesta Corporation
4084 Commercial Avenue
Northbrook, IL 60062 U.S.A.
800-323-5423 (IL: 312-498-5615)

Why choose Helix?

- Take the hands-on knowledge you have of your business now.
- Combine it with a powerful software and hardware technology that requires very little training and almost no support.
- Then receive the real benefits of computerization — efficiency, organization, and the ability to manage, share, evaluate, and communicate information.
- Now you have a system that magnifies your strengths and deflects the thousand arrows of distracting detail and lack of up-to-date information that lead to continuous crisis management and lost opportunities.
- And you can easily develop and change that Helix system faster than you can change the paper forms you now use. So that changes in products, personnel, production, procedures, projects and pricing are made as you need them.

For Free Information Please Circle 232 On Reader Service Card.



by Neil L. Shapiro

THE MAC, CIRCA 1988

Well, here I am typing away on my new Mac Plus. While I've used other "Plusii" before, this one is my own new, personal machine and I'm finding it performs even better than I had expected it would. That, and Apple's stock performance (keep in mind that I am writing this in May, so if the bottom fell out since then, don't blame me) have me feeling pretty good about Apple's future.

But what will that future be like for us as consumers? I think a lot of the clues are already scattered about so that we can look through a screen darkly into the future of the Mac marketplace. What will the new Macs be like in 1988-89?

A TWO-PART PLAN

According to many third-party reports I have heard, Apple is now working on two projects that don't appear to be connected at first, but which I feel are strongly intertwined. Both of these new projects may be unveiled by the time these words appear in print.

One project is the "slotted Mac" and the other is Rambo.

The slotted Mac is, of course, the open Mac — the Mac that you don't need a Torx screwdriver to pop open and which, once opened, will easily accept hardware add-ons internally. The slotted Mac means the end of clamshell architecture that has tied the Mac for so long, and, by itself, is an event eagerly anticipated.

Rambo is the code name (as far as I can tell) for a new machine in the Apple II line which is sometimes referred to as the IIX. The new IIX machine will probably have a 16-bit microprocessor, a Toolbox-style of ROM similar to the Mac's in some ways, fantastic color and sound capabilities.

Right away I can see the new Apple writ large in these two plans. The Apple Corporation is no longer playing one machine against the other. It is letting all machines become everything they can be.

So how does this affect the Mac?

It probably means that there will be some overlap between the technical capabilities of the two lines of machines leading Apple to differentiate between the two computers by developing the capabilities of the two machines *so as to best reflect what each machine does better than any other competing computer.*

The Macintosh is already a premier machine for everything from word processing and desktop publishing to spreadsheets and home accounting. Currently, the Apple II is the nation's most popular machine for education and entertainment.



I think we will see Apple recognize how the machines are perceived and not only aim its marketing efforts at furthering those perceptions, but also dovetail its development effort to the same effect.

In other words, I don't see such things as color screens and sound capability ever becoming the "main" Macintosh. With the slotted Mac I am sure that color will be available as an add-on. But I don't see Apple pushing for it — not when you consider that the Apple IIX is waiting in the wings with color that will blow (from what I have heard) away anything else in the marketplace.

Rather, I see Apple enhancing the things that the Mac does right now to make them things the Mac does perfectly. I think that the Macs in 1988-89 will feature expanded memory, larger screens, higher resolution, faster disk storage and an ability to easily link machines via *powerful* local and other networking.

I expect that the Macs, as they come

from the factory then, will allow for options such as screens that can show an entire tabloid-sized page at one time. I would imagine that such large screens might take advantage of the flat-screen technology that the TV industry will be well along with by then. Not everyone will want to see an entire newspaper page at one time, so the default screen will be a CRT that can show an 8 1/2" by 11" sheet of letterhead in full size. By the same time, Apple will also have developed a LaserWriter that can sell at today's dot-matrix prices. They will thus, by 1990, completely own the desktop publishing field and will, in all likelihood, be challenging such firms as Mergerthaler for a premier position in the fields of newspaper and magazine production.

A built-in 100-megabyte hard disk coupled to an expandable base of 16 meg of memory will allow for the true use of artificial intelligence routines in business-oriented software. The Cray in Cupertino is, I would guess, chugging away at the first few of these algorithms now.

By 1989, Apple will have firmly established, both in technical and marketing arenas, the Macintosh as the machine of choice for a business environment. On the other hand, I believe Apple will have deemphasized the Macintosh as a computer for education and will throw most of its corporate support in that area behind the new IIX line.

THE CLONE WARS

I also don't think that the Mac will be alone on the desktop by 1988-89. A cartridge for the Atari ST that plugs into an ST and turns it into a Mac has already been demonstrated. Many naive press reports have played this up as some sort of amazing technical achievement. But when you pop open the cartridge, what's inside? Macintosh ROMs.

Well, uh, OK.... I'm not so amazed anymore.

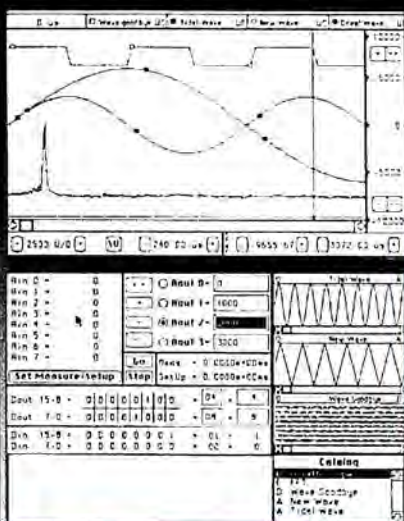
But I'm still a little excited. That means that if you could pick Mac ROMs off a tree somewhere you could turn all Atari STs into Mac-compatibles.

One columnist has even gone so far as to say, in print, that Apple should make their ROMs public domain because if they don't the "hackers" will pirate the code anyway. Well, let's leave aside the insulting use of the word "hacker."

Instead, and for some reason I feel inclined to use a science-fiction style of analogy, let's just say that your first step in terraforming a new planet is not to give away the farm. Apple, I would hazard to guess by the end of the year,

Data Acquisition

Point and click your way to data acquisition with the GW Instruments MacADIOS™ and the Apple® Macintosh™ computer.



Hardware

- 4 Voltage outputs
- 8 Voltage inputs
- 16 digital in and out
- Timer and clock
- 20 KHz sample rate

Software

- Speech Analysis
- Oscilloscope
- XY Recorder
- Spectrum Analyzer
- MacADIOS Manager™
- Control from BASIC
- Control from C
- Sonogram
- Spectrogram

Send \$10 for a demonstration diskette and documentation. Call or write for a free brochure.



GW Instruments

PO Box 2145 • Cambridge, MA 02141
(617) 625-4096

THE EDITOR'S DESKTOP

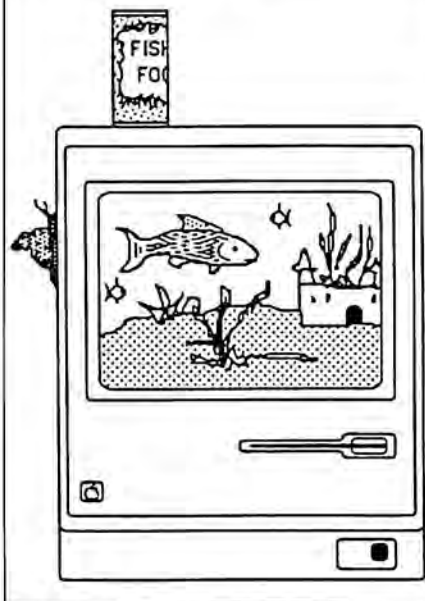
will probably decide on a licensing procedure for its ROMs and various routines used within those ROMs.

The Desktop Metaphor does deserve to become the world standard for personal computing. But just as MS-DOS didn't get to where it is today by only working on one machine, the Macintosh interface has to expand onto non-Apple machines in order to triumph.

Of course, there is no reason in the capitalist world why Apple should not both protect their market share and make a few bucks out of this. I doubt that Apple will ever say, "Hey, you want to buy 500,000 ROMs? No problem!" On the other hand, there are numerous ROM routines that could be licensed out to other companies that would help those companies make Mac semi-compatibles without infringing on Apple's rights. I would expect that such "semi-compatibles" would be capable of running some, but not all, Macintosh software and accepting some of the newer hardware add-ons.

By 1989 then, I think we will see an expanded Mac marketplace. The Macintosh will remain the absolute best machine for the Desktop Metaphor, which by then will be the way most people want to use computers. There will, though, be many other machines all capable of emulating a portion of the Mac's capability. But the Macintosh will be the standard against which all other machines are judged.

Well, I started this column by commenting on how happy I was with my new Mac Plus. Gee, now it looks like a Model T to me... ☹



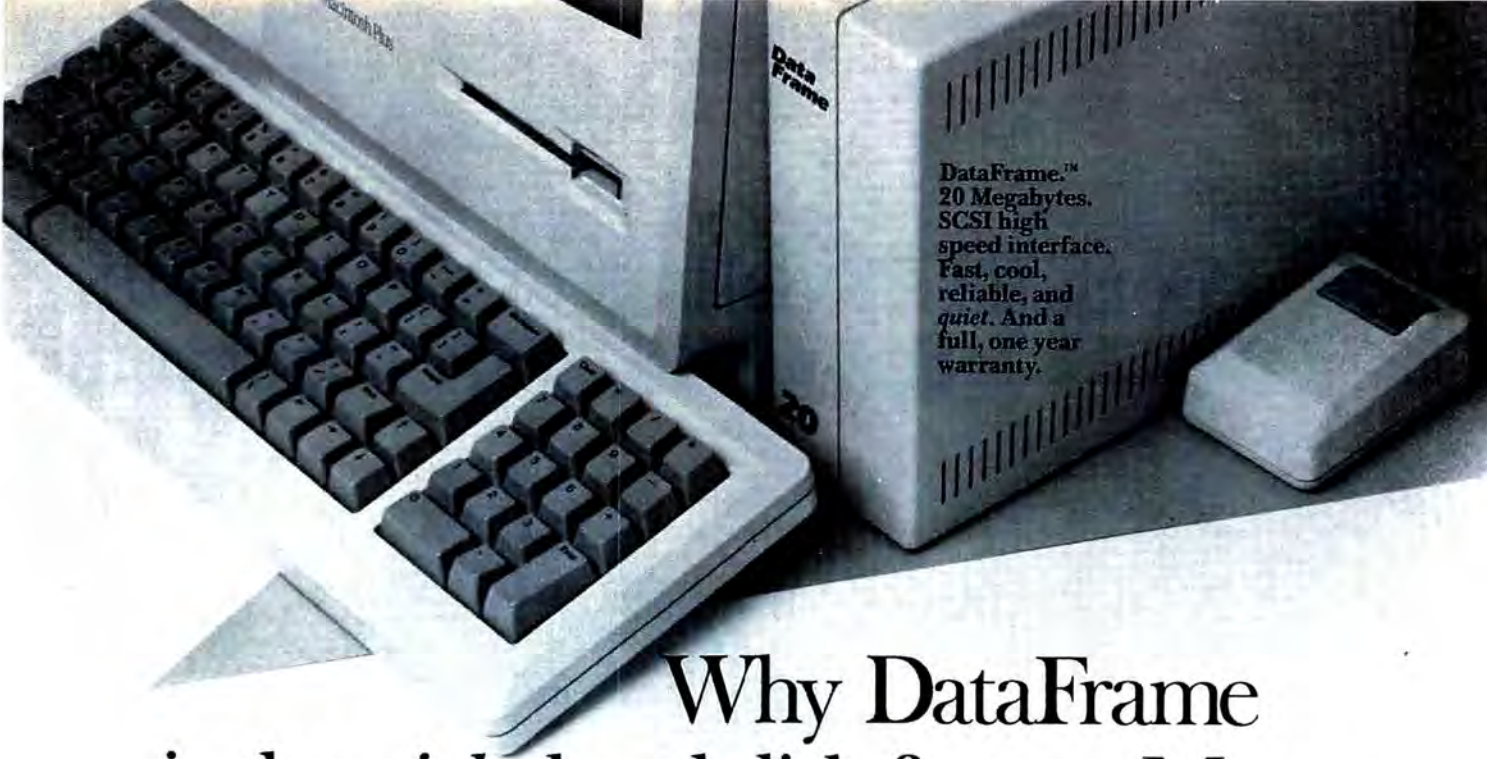
WOODY HICKOX

Where to get DataFrame:

AK: Anchorage: Pictures Inc., (907) 279-1515; Fairbanks: Empire Electronics, (907) 479-6502.
CA: Albany: ComputerLand, (415) 527-8844; Bakersfield: Computer Basics, (805) 339-5080; Computer Warehouse, Inc., (805) 327-3393; Belmont: ComputerLand, (415) 595-4232; Berkeley: Spin Tronics, (415) 843-2743; Chico: Computer Center Chico, (916) 891-1630; Citrus Heights: Educational & Business Microcomputers, Inc., (916) 723-4850; Colma: ComputerLand of Serra Monte, (415) 994-1100; Concord: Infomax, (415) 689-2331; Costa Mesa: Computer Experience, (714) 432-9000; Dublin: ComputerLand, (415) 828-8090; Dublin Computers, (415) 829-8644; Fairfield: Mark Anthony Computer Corp., (707) 426-1000; Fresno: Online Computers Plus, (209) 432-4321; Hayward: Computer Center, (415) 538-7368; ComputerLand, (415) 538-8080; Long Beach: ComputerLand, (213) 595-6683; Los Angeles: Computer Showcase, (213) 474-6409; Los Gatos: Wolf Computer, (408) 354-4210; Mountain View: Microage Computer Store, (415) 964-5555; Newport Beach: ComputerLand, (714) 476-8360; Oakland: The Computer Store, (415) 763-7900; Peninsula Office Supply, (415) 638-5959; Palo Alto: Computer Attic, (415) 322-0639; Computer Ware, (415) 323-7537; Petaluma: Executron Computers, (707) 778-1242; Redwood City: Peninsula Office Supply, (415) 364-1333; Rocklin: AVC Computers, (916) 624-0601; Sacramento: Net Profit Computers, (916) 638-0588; Peninsula Office Supply, (916) 921-9400; San Diego: Byte Shop, (619) 565-8008; San Francisco: AAO Computers, (415) 753-1066; Cash "N" Carry/Conroy Lapoint, (415) 982-4212; Computer Connection, (415) 781-0200; Peninsula Office Supply, (415) 398-2838; San Jose: Peninsula Office Supply, (408) 288-7900; (408) 998-5455; San Mateo: Computer-Age Co., (415) 348-2667; Microage Computer Store, (415) 348-2983; Santa Ana: Advanced Computer Products, (714) 558-8813; Santa Clara: Affordable Computers, (408) 249-1221; Santa Cruz: Affordable Computers, (408) 458-1611; South San Francisco: Peninsula Office Supply, (415) 873-7530; Stockton: Stockton Computers, (209) 952-2028; Sunnyvale: Fry's Electronics, (408) 733-1770; Walnut Creek: Peninsula Office Supply, (415) 945-0980. **CO:** Evergreen: Ideal Computer Sys., (303) 674-8587; Longmont: Micro Computer World, (303) 651-1177. **CT:** Fairfield: Microage Computer Store, (203) 335-3694; Norwalk: Microage Computer Store, (203) 847-8428. **FL:** Jacksonville: Computer Kingdom, (904) 641-9042; Miami: International Computer Systems, (305) 887-4777. **GA:** Gainesville: Preferred Systems, (404) 532-3857. **IL:** Jacksonville: Computer Oasis Gillespies, (217) 245-1461. **IN:** Fort Wayne: Graham Computer Center, (219) 423-3422. **LA:** Shreveport: Compro Computer Centers, (318) 869-1282. **MI:** Ann Arbor: The Learning Center, Ltd., (313) 996-1616. **NJ:** Boonton: A World of Computers, (201) 335-1170; Cranbury: Clancy-Paul Computer Corp., (609) 655-8800; Union: Transnet Corp., (201) 688-7800. **NY:** Middletown: Computer Emporium, (914) 343-8740; Vestal: Micro World, (607) 757-0500. **OH:** Toledo: Abacus II Micro Computers, (419) 865-1009. **OR:** Beaverton: Software Station, (503) 641-1667; Eugene: Computer Solutions, (503) 344-9677; Portland: Cash "N" Carry, (503) 620-1990; Portland: Moore's Audio Visual, (503) 233-5621. **TX:** Abilene: Computer Shop of Abilene, (915) 695-7320; Arlington: Hardin Computer, (817) 478-2775; Houston: Computrite, (713) 956-7483; Laredo: ComputerLand, (512) 724-1551; Spring: Williams Computer Center, (713) 821-9813; Webster: ComputerLand, (713) 332-8510. **WA:** Bellevue: Conroy Lapoint, (206) 455-0206.

1901 Old Middlefield Way, Mountain View, CA 94040

SUPERMAC
TECHNOLOGY



Why DataFrame is the *right* hard disk for any Mac:

Because we looked carefully at what users need in a hard disk system for the Mac, and made the right design decisions. Decisions that give you significant benefits over any other Mac hard disk. They are:

Decision: Floppy disk port or SCSI?

Hard disks that use the serial or floppy disk port, such as the Apple hard disk, are *slow*. The SCSI interface (introduced with the Macintosh Plus) is considerably faster. The DataFrame uses the SCSI interface, and consequently runs *much* faster than hard drives that use slower ports. Yes, even faster than non-SCSI internal drives. It really makes your Mac fly.



◀ (If you own a Mac 512, you can get DataFrame performance too, with our \$99 SCSI adapter.)

Decision: Internal drives versus external drives?

Internal drives save desktop space, but there are serious trade-offs. First, you lose your system while the drive is installed. Worse, you lose your system if the drive needs repair. (Internal drives have earned a not undeserved reputation for frequent breakdowns.)

Then there's heat—the enemy of reliability. Internal drives add heat to the system. You either use a fan—which means you listen to an annoying whine while you are working—or you use no fan, which means your system gets too hot.

DataFrame is external, so it adds no heat to the system. Because the drive is preformatted, you can take it right out of the box, plug it in, and be *working* in minutes. And if your hard disk should ever need service, you just unplug the DataFrame (you can *still*

use your Mac) and get a replacement *immediately* from your dealer.

Decision: Under-system or beside-system?

A drive under your Mac has the same heat problems as a drive inside your Mac. The drive must either have a fan (*noisy*) or it sits under your Mac like a little hotplate (*unacceptable*).

DataFrame sits *beside* the Mac, uses a vertical 'chimney' design to vent heat, needs no fan, and therefore stays cool *silently*.

What else?

SCSI means easy expansion—you can 'daisy chain' up to seven additional drives or other SCSI peripherals, using DataFrame's second SCSI port. Plus, DataFrame boots your system directly from disk, saving you time. And we used Apple's Hierarchical File System, so all 20 megabytes are available on line at all times. Most important, DataFrame is so reliable, we back it up with a full, one year unlimited warranty. That's confidence you can't even get from Apple.

The result of all these decisions:

DataFrame has been chosen by more professionals, more Macintosh software developers (including many in Apple Computer, Inc.), more dealers, and in fact, *more people* than any other SCSI Macintosh drive, *by far*.

So before you commit to *any* hard disk for your Macintosh, you owe it to yourself to see DataFrame in action. You'll find it at any of the hundreds of qualified SuperMac™ dealers. They're listed next to this ad.

1901 Old Middlefield Way, Mountain View, CA 94040

 **SUPERMAC**
TECHNOLOGY

Borland's SideKick and PhoneLink the world, and double your



NEW VERSION 1.1

SideKick, The Macintosh Office Manager, now supports MacPlus (128K) and Finder 5.1 for the same low price—\$99.95. An upgrade is available from Borland for \$19.95. The upgrade is FREE if you purchased SideKick after 12/15/85. For more information, call (408) 438-8400.

Borland products include Turbo Pascal, Turbo Prolog, Turbo Database Toolbox, Turbo Linking, Turbo Graphics Toolbox, Turbo Tutor, Turbo GameWorks, Turbo Editor Toolbox, Word Wizard, Redox, The Analyst, SideKick, SideKick, The Macintosh Office Manager, Translating SideKick, and SuperKey—all of which are trademarks or registered trademarks of Borland International, Inc. or Borland Associates, Inc.

For Free Information Please Circle 128 On Reader Service Card.

clear your desk, connect you to productivity for only \$99.95

SideKick[®], The Macintosh[™] Office Manager,[™] gets rid of antiques like desktop phone directories, calculators, calendars, notepads, clocks, adding machines, and similar clutter. Sweeps all that off your desk and into your Mac. You can now bring true desktop organization, information management, and telecommunications to your Mac and do all that while you're running other programs.



What PhoneLink[®] does for you

In true multi-tasking style, PhoneLink automatically dials for you even while your modem is in use on some other task, like sending or receiving a file. This one cubic-inch piece of hardware plugs into your Mac's sound port and will dial all your phone numbers for you. You can install your PhoneLink in a few seconds, and take extra pleasure in the fact that it didn't cost you anything because it came free with your new SideKick.

What SideKick does for you

- Gives you a full-screen editor and mini-word processor that lets you jot down notes, create and edit files, and/or be used in conjunction with programs like MacWrite or MacPaint.
- Provides you with a telecommunications program that sends and receives data from any on-line network or

bulletin board while using other applications. (You need a modem for this feature.)

- Lets you tap into a full-featured financial and scientific calculator that will let you print out a paper tape of your work.
- Offers you a print spooler that prints any text file while you run other programs.
- Shows you an instant calendar—by day, week, or month—which you can also print out.
- Reminds you of important dates/times/appointments with a "things-to-do" file.
- Alerts you to engagements with a convenient alarm system.
- Tells you what you're spending in telephone charges by calculating the cost of every call to whatever area code or time zone.
- Keeps you aware of business and travel expenses.

- Gives you a credit card file that tracks entries, balances, and limits.

- Arms you with a report generator that prints out your mailing lists, calendar, or phone directory.
- Tells you the time with a sweep-hand analog clock.
- Gives you instant on-line "Help" with one mouse click.

Get both SideKick, The Macintosh Office Manager and PhoneLink for only \$99.95

SideKick for the Mac is an electronic leap that projects you and your Mac into the real world. But you're getting much more than that. You're getting SideKick, you're getting PhoneLink, and you're getting our legendary 60-day money-back guarantee.**

SideKick is not copy-protected. It will clear your desk and do miracles for your productivity—and do all that for only \$99.95.

“Take my compliments as a user. When I see SideKick, I know I want it.

Jean-Louis Gassée, VP,
Product Development,
Apple Computer

SideKick is the first product for the Mac that begins to make real the promise of an electronic desktop.

Lawrence J. Magid,
Chicago Sun Times ”

YES! I want the best
Rush me SideKick and PhoneLink at
\$99.95

To order by phone,
or for a dealer nearest you,
call (800) 255-8008
in CA call (800) 742-1133

— SideKick/PhoneLink at \$99.95 —

Outside USA add \$10 per copy

CA and MA res. add sales tax \$

Amount Enclosed \$

Payment: VISA MC Bank Draft Check

Credit Card Exp Date /

Card #

NOT COPY PROTECTED

60-DAY MONEY-BACK GUARANTEE**

Name:

Shipping Address:

City:

State: Zip:

Telephone:

M59

CODs and purchase orders WILL NOT be accepted

by Borland. Outside USA make payment by credit

card or International Postal Money Order.

**YES, if within 60 days of purchase this product

does not perform in accordance with our claims,

call our customer service department and we will

gladly arrange a refund.

Minimum System Requirements:

128K



4585 SCOTTS VALLEY DRIVE
SCOTTS VALLEY, CA 95066
(408) 438-8400 TELEFAX 172373

SideKick is a registered trademark and PhoneLink is a trademark of Borland International, Inc. The Macintosh is a trademark of Apple Computer, Inc. MacWrite and MacPaint are trademarks of Apple Computer, Inc. Copyright 1989 Borland International, Inc. All rights reserved.



THE EVOLUTION OF MacDraft™

NOW EVEN MORE POWERFUL

OUR COMMITMENT

When IDD first released MacDraft a few months ago, we claimed it was the most powerful drawing tool available for the Macintosh™ and that it would evolve to be even greater. Now the evolution begins with these major enhancements.

AUTOMATIC AREA CALCULATION

MacDraft can now automatically calculate the area of any object to scale, whether it's a simple rectangle or a 50 sided polygon.

CUSTOMIZED FILL PATTERNS

In addition to MacDraft's palette of 64 fill and ink patterns, you can now dynamically edit and create your own patterns.



Courtesy: Bob White, Architect, Femandina Beach, FL 32034

UNIQUE TEXT CAPABILITIES

Auto dimension line and area calculation features now include the ability to detach text and change

MacDraft runs on a Macintosh™ 512K or XL and is compatible with the LaserWriter™. MacDraft is a trademark of Innovative Data Design, Inc. Macintosh is a trademark licensed to Apple Computer, Inc.

font, style and size. Once detached, text values can be moved to another part of the drawing, such as an information table.

MORE SCALES TO CHOOSE FROM

The foundation of MacDraft is its ability to draw to scale and have the grids, rulers and dimensions reflect the scale of the drawing. We now offer a 4x and 10x scale. You can create a drawing at one scale then convert it to another.

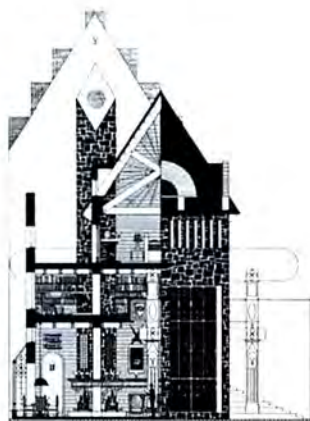
PLUS THESE CLASSIC MACDRAFT ADVANTAGES

Create circles by radius or diameter, arcs by radius or by defining 3 points. For irregular shapes, our polygon and freehand tools offer dynamic editing, auto closure and the ability to add sides to an existing object.

Zoom in and magnify a portion of your drawing up to 8x; or zoom out and see as much as 4' x 4' in a single window, maintaining full drawing capabilities at any view.

MacDraft even lets you rotate objects in 1° increments.

MacDraft is compatible with other Macintosh applications, and now the PICT format makes it even more convenient.



Courtesy: Trout Creek Ltd., Vail, CO 81657

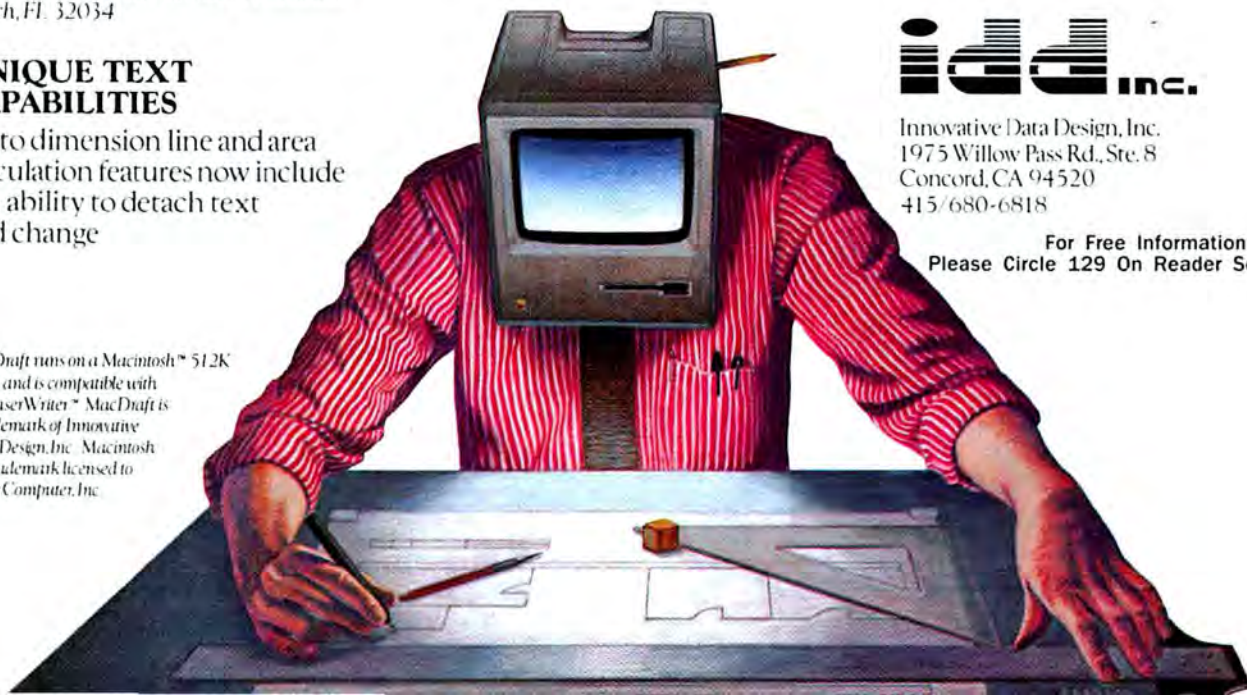
DRAW YOUR OWN CONCLUSIONS

Incredibly, MacDraft is only \$269, including a backup disk. It's a good old fashioned value that just may convince you to put away your drafting pencil forever!

idd inc.

Innovative Data Design, Inc.
1975 Willow Pass Rd., Ste. 8
Concord, CA 94520
415/680-6818

For Free Information
Please Circle 129 On Reader Service Card.



A HAND FOR HAND-MADE

We were very gratified to read the excellent review of our product, *Mac the Ripper*, in May's Quick Clicks section. Our artist, Trici Venola, squealed with delight when she was told you had given the program four mice!

Trici's delight was dampened considerably by the comment that "a lot of the graphics look as though they were digitized." None of the artwork was digitized — all those gorgeous graphics were painstakingly hand-drawn by Trici using nothing but her considerable skill, talent and the Macintosh mouse.

HARRY BRENTON
OPERATIONS MANAGER

In intending to pay Ms. Venola a high compliment, we inadvertently implied that her works were digitized. We meant that they are as good as the best digitized work. MacUser apologizes to Trici Venola and Miles Computing for any confusion caused.
— TFH

UPDATING THE UPDATE

While I agreed with most of Tim Onosko's "On Your Macs" article in the April issue, I must disagree with two points of negative criticism about *ReadySetGo*, version 2.0.

Tim left the impression that since there are no scroll bars to move the sheet within the screen window, SHOW PAGE was the only way to move around the screen. The most useful improvement I found in version 2.0 is the ability to move around the screen simply by command-clicking any side or corner of the document you wish to move toward.

According to the impression left by the article, there was no visual indication that a block is ready to be moved or resized. My 2.0 changes the solid line of the block into a gray line when either action is initiated. This change from solid to gray is not as fast as one might expect, and Mr. Onosko may not have waited long enough to see the change.

RICHARD W. BEATTY
CHESTER, NY

MORE WORDS ON WORD

Every *Word* fan should copy the "What Doesn't It Have?" breakout from Page 59 of the May 1986 *MacUser* and mail it to Microsoft with the words, "Amen. Amen." written in the margin. I've never seen a more succinct wish list for *Word*.

"The Secrets of Word" contained good advice. One of the biggest time-savers available, though, is the ability to use keystrokes for many functions with-

out touching the mouse. Doug Clapp called them "arcane," but I call them productivity boosters. I can format a document twice as fast using keystrokes.

JEFF WILSON, EDITOR
NASHVILLE BUSINESS JOURNAL

OLD MEETS NEW

For about a year I've been the owner of a 128K Mac. Previously, I didn't want to touch a microcomputer with a ten-foot pole! My oldest son talked me into it. At age 57, I bought one. Since then, my rear end has become flat from sitting in front of this fantastic device pumping out letters, manuscripts and drawings. The only consternation I experienced was trying to make sense out of the software instructions, but *MacUser* has often come to the rescue. Thanks.

UDO FISCHER
ALAMOGORDO, NM

POWER? NOT FOR EVERYONE

I think the Mac Plus is something else. I want one. I don't need one, but that hasn't stopped me so far. But now, let me quote Steve Bobker: "Many users simply don't need the power the Mac Plus offers." If someone had said that to me about six months ago, I might have lots of money still.

Unfortunately, I didn't start reading *MacUser* until I already had my Mac. But I made the mistake of reading some other magazines before I got my Mac. Implicit in all of them was the unstated idea that if you weren't a Mac power user, if you didn't run *hu-mongo* databases and spreadsheets, if you didn't integrate and correlate and inebriate and whatever else with your Mac, you were somehow a second-class user. Like, if all you're going to do is run *MacWrite* on your 128K Mac, you might as well go get a pocket calculator and glue it to

your typewriter instead.

MacUser has freed me from all that. *MacUser* is nice. It's friendly. It's even funny. Like the Mac. So I quit reading the other magazines. *MacUser* tends to talk about the stuff they talk about before they do, anyhow.

BILL CAMERON
OXFORD, OH

A TWO-WAY GOLDEN RULE

Although very impressed with the excellent quality of *myDiskLabeler* from Williams and Macias, I found the copy protection a hindrance. In a moment of frustration, I wrote a letter to the authors, suggesting that they could turn a very good product into a very recommendable one by removing the copy protection. I expected the usual reply of, "Unfortunately, at this time...."

Today, my wife received a call from Williams and Macias stating that they agreed with us and that, because of user response, they were removing copy protection from future releases, effective immediately.

I encourage your readers to support software vendors like Williams and Macias, who keep the legitimate user in mind. I also encourage all those who frequently use "borrowed" copies to buck up and buy the products. I would hate to think good will would go unrewarded.

RUDY RUGEBREGT
SANTA CLARA, CA

Okay, Aldus, you've done it now! The company sent me another extortion letter, telling me that if I want access to support or upgrades to my registered, \$495 *PageMaker*, I need to fork over \$75 a year. Now mind you, they'll still charge me for the upgrades, but if I don't pay them the cash up front, they're not even going to tell me about them! Absolutely no support after 45 days means I'm already in the twilight zone. Of course, when I called the (non toll-free) support line I was told by their tech people that "nothing could be wrong with our software, it must be your LaserWriter." When I explained that my LaserWriter worked fine with everything else, they suggested I not put so much on one page! Great advice for page composition software.

The extortionist tactics concerning upgrades and support is deplorable. Aldus, get your MS-DOS product ready — those users enjoy this type of abuse.

DARYL TSCHOEPE
HOUSTON, TX



SQUINT! SQUINT! SQUINT!

THE VERDICT'S IN THE FINE PRINT!

SO WHAT DO "THE REST OF US" THINK OF MACUSER?

"Premier Issue looks like a winner!" David LaComb, Schenectady NY 12304; "Best of the bunch!" Patrick J. Flynn, E. Lansing MI 48825; "Great first issue; keep it up!" Charles Fisher, Los Altos CA 94022; "The 'Macintosh' of Macintosh magazines. MacWorld now has a standard to shoot for." Devin B. King, Anaheim CA 92806; "Very pleased. I like it." Trent Reese, Austin TX 78750; "Excellent — well written and informative." Dr. Donald L. Kane, Satellite Beach FL 32937; "Reviews and ratings are the best." William R. Anderson, Rio Grande City TX 78582; "Very, very nice. But don't stop here!" David Wheelless, Midland TX 79701; "Super ideas - more!" James P. McIntyre, Louisville KY 40219; "Looks like a very good publication!" H. James Rosenberg, Chicago IL 60602; "Good! No gosh-wow articles. I hate gosh-wow articles. Keep this level." Merryl Gross, Lake Grove NY 11755; "The first issue set a very high standard of usefulness." Roscoe Fitts, Sweet Briar VA 24595; "Great articles. Best of any so far." R. Ponton, Visalia CA 93279; "It's great! Keep up the reviews and programming articles." Devon L. Petty, Hanover NH 03755; "About time a magazine for real Mac users came out." Gabriel Davidov, Dallas TX 75248; "Excellent!" Brett Sage, Jacksonville FL 32211; "Excellent!" M.J. Head, Wylie TX 75098; "It's great!" Denise Sims, Stockton CA 95207; "Excellent!" Nick Hademenos, Riverside CA 92504; "Best 'beginner' Mac magazine." Mark Davis, Los Altos Hills CA 94022; "Excellent product capsules." D.G. Detling, Oakland CA 94604; "Very good. Maybe very, very good." Charles Preston, Anchorage AK 99521; "Nice magazine. Much better than MacWorld." Richard Clone, Dallas TX 75219; "Very useful!" Jos. L. Anderson, Boston MA 02134; "The best Mac publication on the market!" Robert J. Milko, Oakton VA 22124; "Excellent!" Steven P. Young, Brooklyn NY 11218; "Best (Mac) magazine I've seen yet." Craig Dugas, Lake Orion MI 48035; "Excellent. Finally a new magazine to outdo MacWorld." David Lawrence, Anaheim CA 92804; "More informative than MacWorld." Tim Whelan, Regina Canada S4R 3E8; "Best I have seen yet. Keep it up." B.W. Murray, Richmond, Ontario, Canada; "Looking good!" H.M. Jakobsen, Jacksonville FL 32217; "Excellent." Bradford J. Sandler, Springfield PA 19064; "Excellent. Very fulfilling to read!" John Yeh, Honolulu HI 96815; "Great format, worth the money." R. Shuhert, Chicago IL 60690; "Lively format and writing. Enjoyed the articles thoroughly." Scott Brown, Wetherfield CT 06109; "Thanks!" Harvey Markley, Indianapolis IN 46222; "Very useful." E.M. Schaffran, El Cerrito CA 94530; "Excellent magazine." Gary Gross, Warren MI 48093; "Very good. Keep up the good work." R. Maynard, Longueuil, Quebec, Canada J4L 3J9; "Really impressed! The articles don't seem as biased as some magazines." R. Grasser, Grissam IN 46971; "A very cool alternative to MacWorld!" Greg Griffin, Westminster CA 92683; "Good, practical first issue." Theodore S. Darany, San Bernardino CA 92402; "Interesting and informative." J.E. Gwyn, Dover DE 19901; "Excellent first issue!" Tom Tarvin, Milford MA 01757; "An excellent first issue." Dr. James M. Todd, Brattleboro VT 05301; "Articles are good and useful." Forrest D. Reece Jr., Vero Beach FL 32961; "Great start." John Novak, Detroit MI 48221; "I love the magazine. It gives me good info." Andy Malucelli, Lafayette CA 94549; "Great! I particularly like the in-depth test reports on software." Steven A. Hale, Waltham MA 02154; "Very informative. Good, wide spectrum." Steven W. Norton, Utica NY 13501; "Great mag. Lots of info." Bob Colmer, Clearwater FL 33515; "Excellent. Loaded with information at all levels of experience." Alan E. Baltis, Elk Grove IL 60007; "Wonderful!" Jeff Scholl, Fairfield CT 06430; "Great! Watch out MacWorld!" C. Von Rospach, Santa Clara CA 95051; "Best Mac mag yet. Thanks." Thomas L. Clough, Elgin IL 60120; "Fantastic magazine for the Mac." Michael G. Coffey, West Valley City UT 84120; "This magazine is great." Anthony Macias, Weaver AL 36277.

MacUser
THE MACINTOSH™ RESOURCE

THE VERDICT IS IN, AND APPARENTLY WE'RE DOING SOMETHING RIGHT. THESE ARE JUST A TINY FRACTION OF THE COMMENTS WE HAVE RECEIVED FROM OUR READERS VIA OUR READER SERVICE CARDS. NONE HAVE BEEN EDITED OR TAKEN OUT OF CONTEXT. IF YOU WOULD LIKE TO ENSURE YOUR COPY OF THE WORLD'S MOST USEFUL MACINTOSH MAGAZINE AND SAVE 48% OFF THE NEWSSTAND PRICE, FILL OUT THE COUPON OPPOSITE AND SUBSCRIBE. WE'RE PUTTING MORE INTO MACUSER SO THAT YOU GET MORE OUT OF YOUR MAC.

TAKE ADVANTAGE OF **MacUser's** CHARTER SUBSCRIPTION OFFER

Your Next 12 Issues for Just \$21.84

Only \$1.82
an issue—

Saves you
more than
\$25 off
the regular
newsstand
price.

Saves you
\$5.16 off
the basic
subscription
rate!

YES!

Please enter my subscription for 12 monthly issues of **MacUser** at the Special Charter Subscription rate of \$21.84. I'll save more than \$25 off the regular newsstand price and \$5.16 off the basic subscription price.

☐ Bill me later ☐ Payment Enclosed
☐ Charge my Visa ☐ Charge my MasterCard

Card No. _____ Expires _____

Signature _____

Name _____

Company _____

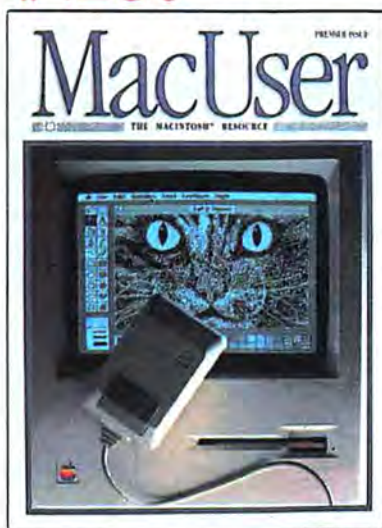
Address _____

City, State, Zip _____

Allow 4-6 weeks for delivery of your first issue.
Canada and Mexico \$24.00 in U.S. funds. Other
foreign countries \$30.00 prepaid in U.S. funds.
Surface delivery.

3087

Offer expires December 31st, 1986



Your subscription may be tax-deductible

YES!

Please enter my subscription for 12 monthly issues of **MacUser** at the Special Charter Subscription rate of \$21.84. I'll save more than \$25 off the regular newsstand price and \$5.16 off the basic subscription price.

☐ Bill me later ☐ Payment Enclosed
☐ Charge my Visa ☐ Charge my MasterCard

Card No. _____ Expires _____

Signature _____

Name _____

Company _____

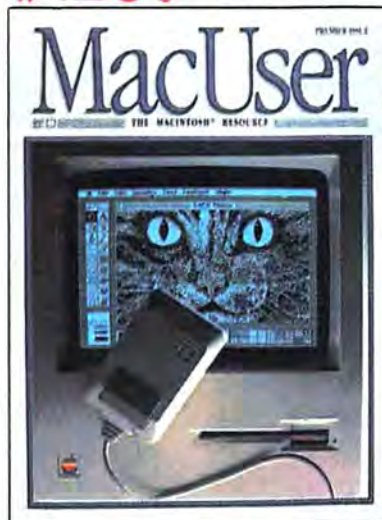
Address _____

City, State, Zip _____

Allow 4-6 weeks for delivery of your first issue.
Canada and Mexico \$24.00 in U.S. funds. Other
foreign countries \$30.00 prepaid in U.S. funds.
Surface delivery.

3087

Offer expires December 31st, 1986



Your subscription may be tax-deductible

MacUser

DELIVERED TO YOU EACH MONTH
FOR \$**1.82**



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

(TURN PAGE
FOR
SUBSCRIPTION
ORDER FORM)

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT 88 NORWALK, CT

Postage will be paid by addressee

MacUser

P.O. Box 1540
Neptune, NJ 07754-9964



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT 88 NORWALK, CT

Postage will be paid by addressee

MacUser

P.O. Box 1540
Neptune, NJ 07754-9964



ROOM FOR ONE MORE

I work in a computer store. Recently, we opened a Macintosh Plus and found that the 800K drive takes up half the space of a 400K drive, but Apple took the same metal frame to support the drive. That means there's a place just under the internal drive for a second one.

I sincerely hope that Apple will offer (yet another) upgrade to replace the front panel of the Mac for a second internal drive.

JEAN-FRANCOIS MARTIN
RIMOUSKI, QUEBEC, CANADA

While it certainly looks like there's extra room for a second drive in the front of the Mac, electromagnetic interference problems make that particular upgrade unlikely in the near future. — SB

(MINI)FINDING HFS INCOMPATIBILITY

MacUser's reviews on software should have some notation indicating whether or not the program works on the Mac Plus. Non-compatibility can be a real hassle, especially considering that software supposedly can't be returned for that reason.

EDWARD E. PAGE
EAGLE RIVER, AK

While we agree with your suggestion in theory, it's almost impossible to put it into practice. That's because most software publishers are scrambling to correct any incompatibility with the HFS system found in the Plus. Any such lists would be out of date before we could even print them. — TFH

The May 1986 MacUser has two very good discussions regarding the Macintosh Plus and the software program Word. What hasn't been discussed is the difficulty of using our old 512K Mac software in a Mac Plus!

Some software completely fails in the Plus environment. Others partially fail. Word, for example, can't use the Plus' numeric keypad, and Copy II Mac and Harrier Strike Mission failed completely on my Plus. Some accessories purchased for the 512K Mac (like hard disks) are buggy in the Plus environment.

Good luck if you have an office like ours, with a mix of 512K Macs and Pluses operating on a communication network like AppleTalk. We have had more system failures and software compatibility problems than we think reasonable. Doug Clapp will have to start all over again to learn the secrets of Word on the Plus!

GLENN WILLIAMS
McLEAN, VA

Limited Time Offer

The Best of Word. The Best of MacWrite.™

Word Handler™ takes the easy familiarity of MacWrite and combines the flexibility and versatility of Word for fast, professional-level word processing at the astoundingly low price of \$29.95. But you must act fast.

Limited Offer for MacWrite Owners Only*

This is a limited time offer direct from ALS for MacWrite owners while we're stocking dealers' shelves. After that, it will be \$79.95 at your dealer.

Features

All new for the MAC and MAC Plus™ from the folks with over 100,000 Apple II™ word processing packages in use today:

- opens 4 windows
- horizontal scrolling
- reads MacWrite documents
- convenient utilities
- word count
- automatic abbreviations
- case changing
- on-line help
- and more

Word Handler does not operate on the 128K Macintosh.

How to Order Word Handler

Put your MacWrite master disk in an envelope along with your check for \$29.95 (California residents, please add 7% sales tax) made out to ALS. Or write or phone with your Visa, MasterCard or American Express card number. DO NOT send manual. **You be the judge. If you don't agree that Word Handler is better than MacWrite, just let us know within 30 days of shipment and we will replace your MacWrite disk for just postage and handling.** Allow 6-8 weeks for delivery.

Please send this coupon, your disk, and your check for \$29.95 to:
ALS, 1283 Reamwood Ave., Sunnyvale, CA 94089

Name _____

Address _____

City/State/Zip _____ Tel. _____

Card No./Expiration Date _____

Check one: ☐ Visa ☐ MasterCard ☐ American Express



Advanced Logic Systems, Inc.
1283 Reamwood Ave., Sunnyvale, CA 94089
(408) 747-1988

*Offer may be withdrawn at any time without notice.

Word is a trademark of Microsoft Corporation. MacWrite and Mac Plus are trademarks of Apple Computer, Inc.

For Free Information
Please Circle 241 On Reader Service Card.

NEW ON THE MENU

MAC MEETS PAC

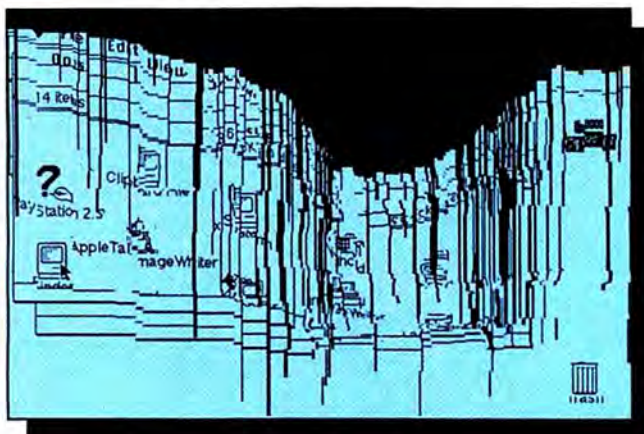
The Mac hasn't been well-known as an arcade gaming machine, and with good reason—its mouse.

But NUVO Labs is all set to market *Mac-Man*, a remake of the arcade hit that casts a big-mouthed Macintosh as the hero in a dot-gobbling marathon. To make the game feel more like it should, NUVO is enclosing a joystick adapter (developed for the now-defunct Assimilation) for the Mac. This little pin adapter plugs into the Mac where the mouse usually does, and allows any standard nine-pin joystick to work with the game. The game runs without the adapter, but only for a short, keyboard-controlled demonstration.

The game and joystick adapter are bundled together and sell for less than \$30. Contact NUVO Labs, 245 Hank Farm Road, San Luis Obispo, CA 93401, (805) 544-5766. —TFH



Tales of Macs Overheating



One Hot Summer Day My Screen Just Started to Melt!

Thanks to the FLOW desk accessory.

GREAT, BUT HOW FAST CAN HE TYPE?

Steve Wozniak received a B.S. degree in electrical and engineering sciences from Berkeley in May, which he worked towards under the pseudonym of Rocky Raccoon Clark. He began studying for the degree back in 1971, but put his education on hold to establish Apple. Woz now heads a company called CL 9, which makes infrared remote control devices for home entertainment systems.

In a commencement address he delivered to the University of California's graduating class of engineers, he told the audience, "Now I can go out and get a good-paying job." —TFH

IRS COULD SOCK IT TO TAX SOFTWARE

Recent IRS rulings could affect the makers of income tax preparation software—especially the kind that uses some artificial intelligence—in a manner which can tax both the patience and the pocketbook. According to the ruling, if a tax program

offers "substantive tax instructions rather than just mechanical assistance," the company which created the software is considered a tax preparer—and is subject to a \$100 penalty for every understated return prepared with that program.

Most tax preparation software functions simply as a calculator, and often as a printer. But according to the IRS, using a computer for certain tax calculations could qualify as "substantive tax instructions." —TFH

THE MICE IN THE BAND

Until now, the biggest drawback in Macintosh music software has been that instrument sounds have all sounded computer generated. No matter how good the notational accuracy, a synthetic snare drum still sounds like a synthetic snare drum.

Studio Session is the first music program for a microcomputer that uses real digitized (or, sampled) sounds instead of synthesized instruments. Over 60 instruments are included with the package, including drums, electric and acoustic bass, flutes, synthesizer sounds, a piano, and many more. Using *SoundCap*, an audio digitizer software/hardware combo (also marketed by Kette), users can record from any audio source and feed the sounds into the Mac to create their own instruments. An editor program makes music composition quite different from



what Mac users are accustomed to from other music programs.

Studio Session's other unique feature is that it isn't limited to the Macintosh's standard four voice sound output: it can play back six separate voices simultaneously. All previous music programs for the Mac have been limited to the

standard four Mac voices. Thanks to this, *Studio Session* emulates a six track sampling studio. Now your Mac can be a sound playground, and at a reasonable price.

Studio Session retails for \$89.95 from the Kette Group, 6360 Shingle Creek Pkwy., Minneapolis, MN 55445. (800) 328-0184. —DB

TRICKS OF THE TRADE

DeadlineMac

From concept to copy on the Macintosh computer

Vol. 1, No. 1

SND

Sponsored by the
Society of Newspaper Design

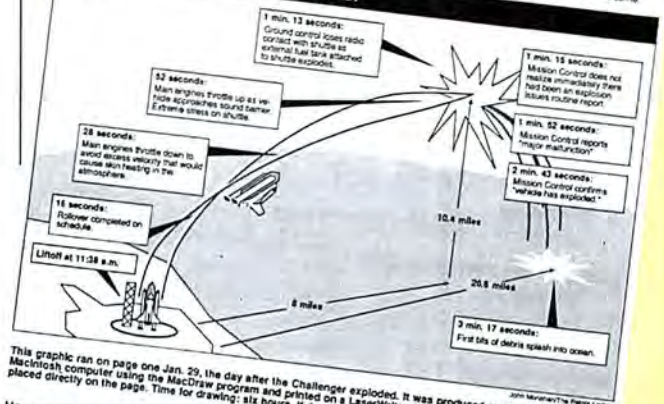
April 1986

Turn on your Macintosh...

DeadlineMac is a newsletter devoted to the exchange of ideas among artists, editors, or anyone else using a Macintosh computer to produce information graphics under deadline. The Mac is a

powerful tool that can be made more useful if we share some tricks and techniques we have all learned by working with it. Consider DeadlineMac your bulletin board. All comments are welcome.

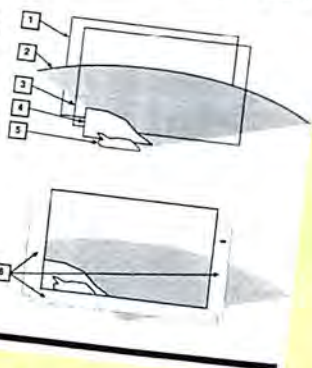
A normal launch...then disaster



This graphic ran on page one Jan. 29, the day after the Challenger exploded. It was produced entirely on a 512K Macintosh computer using the MacDraw program and printed on a LaserWriter. The LaserWriter print was wired and placed directly on the page. Time for drawing: six hours. If done today on deadline, much less time would be needed.

How graphic was drawn...

1. Open MacDraw. Page Setup adjusted to Landscape orientation in File menu. In Layout menu, Show Size turned on. Background plane drawn to size it would appear in newspaper using rectangle tool. Rectangle filled with 10% pattern from Fill menu.
2. Horizontal line drawn with arc tool. To fit this arc into the drawing, the document size was increased to three pages wide by two pages deep using the Drawing Size in the Layout menu, center top panel. After arc was drawn, it was reshaped using the Reshape Arc command in Edit menu. The wedge was filled with the 30% pattern from Fill menu. With arc still selected, the black border was visually simulated by choosing None in the Fill menu. Normal Size chosen in Layout menu.
3. Background plane duplicated. Duplicate filled with 10% pattern. Duplicate placed directly on top of the original background plane.
4. Ground plane drawn with polygon tool. Polygon filled with 10% pattern from Fill menu.
5. Launch area drawn with polygon tool. Bottom border of launch area drawn directly over existing background border. Polygon filled with white pattern from Fill menu.
6. Reduce to Fit chosen in Layout menu. Masks created to cover white-filled rectangles with None chosen for borders from Fill menu.



One of the nice things about the Mac community is the fact that we are linked together by our desire for the acquisition of increased knowledge and techniques on the Mac. *DeadlineMac* is a new newsletter devoted to developing better techniques, exchanging ideas, and sharing tricks for anyone who would like to produce information graphics under a deadline.

Artists and editors alike can now turn to *DeadlineMac*. *DeadlineMac* is full of helpful tips, hints and new ideas to make graphic work easier and faster.

For further information, write to *DeadlineMac*, c/o John Monahan, Graphics/Design Dept., The Patriot Ledger, 13 Temple St., Quincy, MA 02169, (617) 786-7000.—*RBK*

USER GROUPS GET TOGETHER ONLINE

User group officers, newsletter editors and others interested in user groups for Apple computers now have a new, national place to meet and discuss their interests. CompuServe's MAUG group and Apple Computer have formed the Apple User Groups Forum.

The new forum features a message area as well as a real-time conference line and a large database library. The message area will enable user groups all over the world to pool information, advice and expertise. The

conference area will allow special guests to talk about user groups, as well as permitting on-line get-togethers. The database library can be used to share newsletter articles with others, to allow companies to issue press releases and to maintain a central spot for listing user groups.

Apple's User Group Evangelist, Ellen Leanse, will utilize the Forum to stay in close touch with user groups. Apple will also make a lot of new info available through her. —*NLS*

Gad! I'm sick of looking at this guy all day long.



PICK A TEMPLATE—ANY TEMPLATE

DBase II is still one of the most widely used database programming systems for microcomputers. One of the reasons for its success is that people using *DBase* to create their own databases were able to turn around and sell their custom-crafted applications to businesses of the same type that have the same software needs (otherwise known as "vertical software marketing").

Omnis 3 is recreating the same phenomena in the Macintosh world, and to prove it, *Omnis'* publisher, Blyth Software, has released a Business Directory with a catalog of vertical market database templates. The 127-page guide includes listings of custom packages for gen-

eral accounting, business management, payroll, inventory, invoicing, job costing, point of sale, medical, dental and legal management, among others. It also contains names and addresses of authorized *Omnis* trainers, consultants, and support people throughout the U.S.

This directory is a must-have for *Omnis 3* owners, consultants, organizations marketing *Omnis 3* product or services, or anyone interested in setting up a custom database on the Macintosh. Single issues can be ordered direct from Blyth Software for \$7.00, or a one-year subscription (four issues) can be had for \$16. Blyth Software, 2929 Campus Dr., Suite 425, San Mateo, CA 94403, (415) 571-0222.—*DB*

From the Next MacWrite?

2:22 PM

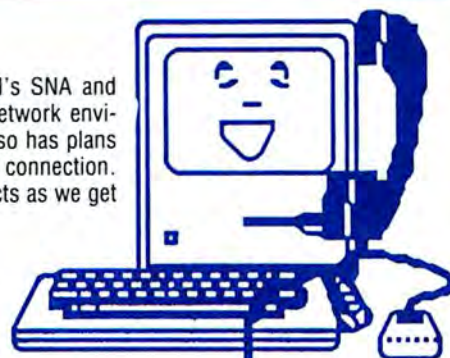


NEW ON THE MENU

IBM, DEC TO APPLTALK

Apple has been working on gateways that will allow the Macintosh to communicate via

AppleTalk with IBM's SNA and DEC's All in One network environments. Apple also has plans to make a Unix connection. More on the products as we get it. —TFH



A DELICATE MATTER

Mac Plus memory upgraders, be warned! While the SIMMs (single in-line memory modules) are quick and easy, their locking tabs are a bit delicate. Reports have been coming in that some of them snap off with just slight pressure. Losing one doesn't seem to affect operation, but losing both will prevent a SIMM from properly seating. And replacing just

the SIMM base doesn't seem possible. You'll probably have to swap motherboards. If your board is past warranty and you don't have AppleCare (or similar protection) and maybe even if you do, that'll cost you \$245 (price from our local dealer, the McGraw-Hill Bookstore Computer Department). All for a tiny piece of plastic. So be careful in there. —SB

KANSAS CITY STAR TAKES MAC TO THE PRESSES

A three-month test of Mac-based publishing systems went into effect on May 6 at the Kansas City Star. According to Clark Lambert, director of data processing at the large Midwestern newspaper, five production areas are being concentrated on to "reduce the amount of steps" required to produce graphics for editorial content and advertising.

Lambert said that, "The technology has been looked at and

used for a year or so by USA Today and Knight-Ridder newspapers. We're just getting around to looking at it, but it can be used by a major newspaper."

The Star will be using a Mac-based layout and typesetting system designed by The Electronic Publisher, Inc. For more information, contact The Electronic Publisher, 208 South Marietta Street, Excelsior Springs, MO 64024, (816) 637-7233. —TFH

UPDATES

Do you have the latest versions of your programs? Most programs indicate what version they are when you look in the About . . . choice at the top of the Apple menu. If your version isn't the latest, contact the publisher about possible upgrades. Look for addresses in our Mini-Finder section. Here's our list (as of press time). —SB

Aztec C	1.06h	Excel	1.00	MacLabeler	2.0	QUED	1.4
BatteryPak	1.11	ExperLISP	1.04	MacNosy	2.1	Quickset	2.0
Balance of Power	1.03	ExperLogo	1.1	MacPaint	1.5	Rags to Riches	2.6
Click/On Worksheet	1.3	Extras	1.5	MacSpell+	1.1	ReadySetGo	2.1
ColorChart	1.3	Factfinder	1.1	MacTerminal	2.0	Red Ryder	9.2
ColorPrint	2.01	Fedit	4.0	Mac Tools	5.2	Resource Editor	
ConcertWare+	3.0	Finder (HFS)*	5.2	MacWrite	4.5	(Resedit)	1.0d12
Copy II Hard Disk	5.2	Finder (MFS)*	4.1	Mac Zap Copier	4.1	Resource Editor (Redit)	1.2
Copy II Mac	5.2	FONTastic	2.7	Mac Zap Tools	3.5	Sidekick	1.1
Crunch	2.0	Font/DA Mover	3.1	Mac Zap Patcher	3.1	Slide Show Magician	1.3
DiskInfo	1.43	Fontographer	1.1	MeasureTest	3.8	Smartcom II	2.2B
Dollars & Sense	1.3	Hard Disk Utility	1.2	Megamax C	1.42	StatWorks	1.2
Edit	2.0d1	Hayden Speller	.2C	Microphone	1.0	Switcher	4.9
		Helix	2.0r7	Micro Planner	1.1	Tempo	1.1
		Home Accountant	1.03	MS BASIC	2.1	ThinkTank 512	1.3
		ImageWriter Driver	2.2	MS Chart	1.00	ThunderScan	3.2
		InTouch	2.1	MS File	1.02	Top Desk	1.2
		Jazz	1A	MS Fortran	2.1	TurboCharger	2.0
		Just Text	1.1	MS Word	1.05	VersaTerm	2.00
		LaserWriter Driver	3.0	Multiplan	1.1	*HFS is Apple's new Hierarchical	
		MacDraw	1.9	MusicWorks	1.1	File System that comes in	
		Mach 1	1.1	myDiskLabeler	2.11	ROM in the Mac Plus, MFS	
		MacBackup	3.5	Omnis 3	3.10	stands for Macintosh File Sys-	
		MacBase	1.0	OverVUE	2.0d	tem and is the old, "regular"	
		MacDraft	1.3	PageMaker	1.2	file system.	

JEEPERS, I CAN ALMOST FEEL IT!

Remember those 3D movies like "The House of Wax" that kept early movie audiences on the edge of their seats? Now, thanks to a technique discovered by Jim Ludtke (a *MacUser* contributing artist and a budding Macmaniac), the Mac and a couple of colored ribbons will let you make homebrew 3D imagery right in the comfort of your home.

There are two different techniques for creating 3D prints. One involves using *Easy3D*, which limits you to the images that this program produces. The other involves using *VideoWorks*, which can work with anything pasted in through the Clipboard.

In *Easy3D*, create the desired objects. Set the view to "Super Camera" and make a screen dump (COMMAND-SHIFT-3). Rotate

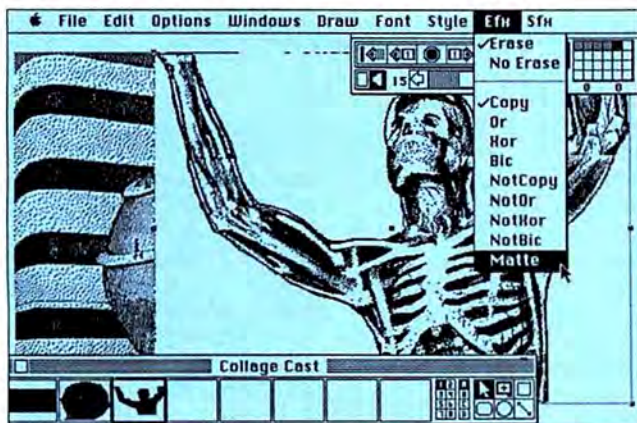


Look at the extreme right and left hand sides of the picture. The left side has a strip of blue, the right side a strip of red. For this picture, the 3D glasses should be worn as indicated.

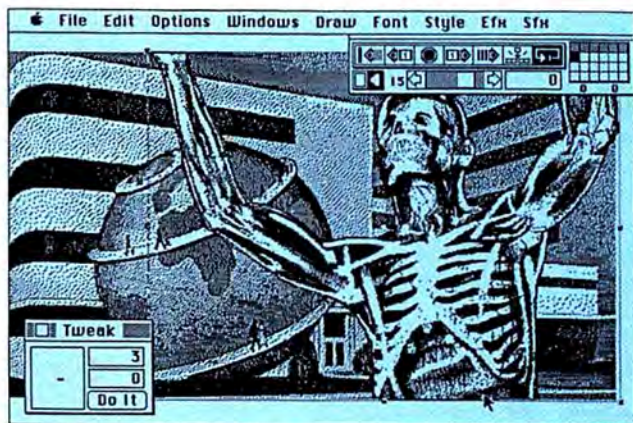


the camera view 1 to 4 degrees horizontally (the 3D effect will be minimal at 1 degree, and the maximum effect at 4 degrees). Create a second screen dump. See the diagram for the *VideoWorks* version.

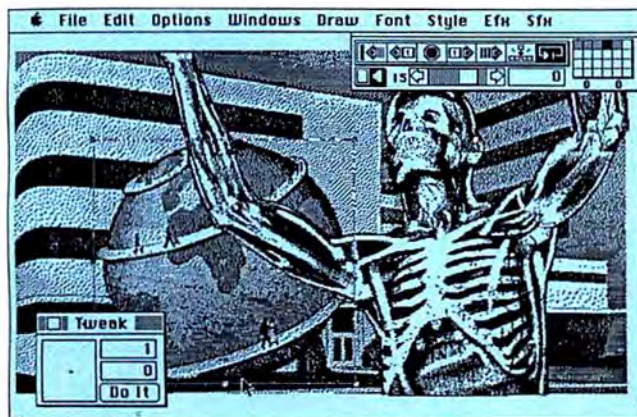
You now have two *MacPaint* files. These must be printed one over the other, one blue and one red. Using either I/O Designs *ColorPrint* or SoftStyles *ColorMate* color printing software, this process is quite easy. The result is a perfectly registered double printout. Using red-blue 3D glasses (which can be obtained at novelty shops, movie trivia stores, or created with red and blue acetate and cardboard — the newer 3D glasses with gray polarizing filters won't work), you'll see your creation leap off the page. — DB



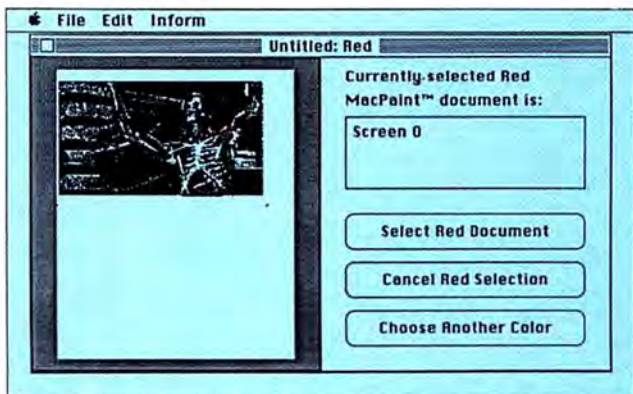
Begin by copying the individual picture elements from either the Scrapbook or from *MacPaint* files (using the *Art Grabber* DA), then PASTE each one into a Cast member window. Position each element into the desired position in the main window. Choose MATTE from the EFX menu for each element. After placing all the elements, press COMMAND-SHIFT-1 (to hide the menu bar and all open windows). Make a screen dump (COMMAND-SHIFT-3).



Select the second element and shift it two or three pixels to the right. Continue this process for all the elements in the picture. (Note: elements shifted the same number of pixels will appear in the same 3D plane; those shifted to the left will appear farther in the background.) When everything has been moved to satisfaction, press COMMAND-SHIFT-1, then COMMAND-SHIFT-3.



Select an element and open the TWEAK window. Set the horizontal shift to one pixel to the right, then click the Do It button.



The *ColorPrint* program screen. Designate the first screen dump you created (Screen 0) as the red document. The second screen dump (Screen 1) will be the blue overlay. Print them out (Hint: whatever method you end up using, always print the red screen first), and don the 3D specs. Voila!

NEW ON THE MENU

PLAY IT AGAIN, MCMAC

Celtic music is one of my passions, and I'm always on the lookout for new albums. I recently got a wonderful new album entitled *The Celtic Macintosh*. The title does not refer to apples nor to any family group in the Highlands, but to the wonderful machine that produced the master. All of the superb music was created by Paul Lehman using a variety of electronic musical instruments and sound processors (Yamaha, Casio, Roland, Kurzweil and Lexicon equipment was used), all under the control of a Mac.

The music consists of both traditional and contemporary Scotch and Irish reels, jigs, hornpipes, airs and laments. The instruments include electronic recreations of the traditional instruments and some new sounds never heard before in this sort of music. They all combine to produce a traditional, yet very exciting sound.

This cassette was created without the need of a professional studio (although the sound processors involved are by no means within the reach of everyone). The artist is thus freed from schedules and budget overruns, and has total creative and editing control. Hopefully this album is the first of many Mac-produced masterpieces.

If you'd like to sample *The Celtic Macintosh*, it is available on cassette tape for \$10 (post-paid) from Paul Lehman, 31 Maple Ave., #1, Cambridge, MA 02139.—SB

RUMOR MANAGER

Two of the most hyped productivity packages are about to disappear without a trace. Why? The competition is about to get too hot . . . look for an Apple University Consortium — type operation to make a big push in American (both public and private) high schools this fall . . . for the Christmas selling season: a super, design-it-yourself scenario kit for one of the major fantasy role-playing games . . . the Great Database Shakeout will continue unabated, with more products leaving the market than entering . . . seen in the midwest: a Mac with a holographic display feature that would make R2D2's head swivel . . . multitasking operating systems for the Mac are cropping up all over. Andy Hertzfeld's *Servant* has been bought by a major company

and should be out in early 1987. (The company? Who's in Washington and BIG?) *Multi-Mac*, a program of strange origins, is slowly dying a strange death. Seen recently on the East Coast were alpha versions of *Erato* (she was the Greek Muse of lyric poetry), a program developed in France, we think. And, of course, there's Apple's own super-secret, in-house project called *Recognition*. It looks good and is easily the best and most powerful, but internal bickering may kill it. Right now look for *Servant* and *Erato* to be first out. . . . Like split-screen images on TV? How about a two-screen Mac, with both high-resolution black and white and slightly lower-resolution color. Prototypes have been seen in at least two game companies. (And it has

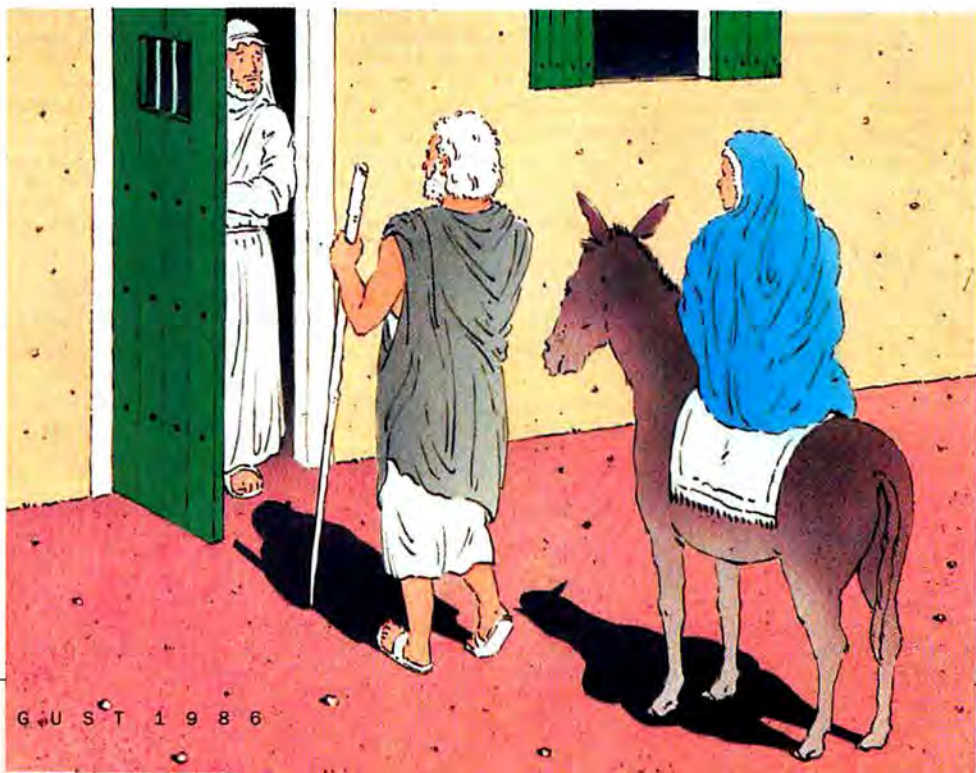
slots too.) . . . the people who developed the wireless, infrared keyboard for the PCjr have a model for the Mac. Our sample didn't work real well, though. . . . One of the Mac Team hardware hackers has installed a Mac in his car's dashboard. There's nothing like batting out a few quick memos on the way to work . . . A recent count of prototypes for the "next Mac" totaled 12. Almost everything you have ever dreamed of, and some things we're quite sure you haven't . . . Mac prices will take a nosedive right after the first of the year, as increased competition and the new Macs make their mark . . . Bill Atkinson has been showing his new masterpiece around. Look for Apple to market it by the end of the year. It's a real stunner, as revolutionary as *MacPaint* was.

THERE'S ROOM AT MACINN

If you run an inn and you're about out of patience, we may have the answer for you. Wake up to *MacInn*, which provides a complete front desk and reservation capability for any lodging establishment. Hotel owners can check room availability at a glance, prevent overbooking and maintain guest histories. *MacInn* also includes integrated back office functions, including

the posting of room charges automatically and calculating flexible taxes (both percentage and fixed). In addition, the data accumulated by *MacInn* can be used with some general-purpose accounting packages, such as *Strictly Business*. Surprisingly enough, *MacInn* works not only for inns, but for many other businesses as well, such as conference centers,

camping areas, trailer parks and any other businesses which use reservations. *MacInn* requires at least 512K and a hard disk. The full *MacInn* package costs \$1250, but a \$40 demonstration disk is available. For more information, contact Hayes Associates, Inc., PO Box 216 Eliot, Maine 03903, (207) 439-9361.—Dawn Johnson



If you compute after dark...

...switch to the magic of GENie™ and stay on-line longer, for less!



Introducing GENie, the General Electric Network for Information Exchange. It's part of General Electric Information Services—the largest commercial teleprocessing network.

Now the power of GENie stands ready to bring a little magic into the life of PC owners just like you. And for potentially much less than other on-line information services.

With GENie, you pay no hidden charges or monthly minimum fees. You pay only for the actual time you're on-line and the \$18.00 registration fee. Nothing more.

Compare & Save

	Services						Pricing			
	SIGs/User Groups	Electronic Mail	CB Simulator	Computing News	Games	2400 baud access	Registration fee	Monthly minimum	Non-prime time rates	
									300 baud	1200 baud
GENie*	X	X	X	X	X	X	\$18.00	none	\$5.00	\$5.00
CompuServe	X	X	X	X	X	X	\$39.95	none	\$6.25	\$12.75
The Source	X	X	no	X	X	X	\$49.95	\$10.00	\$8.40	\$10.80

*Rates and Services shown in effect 12/85. Non-prime time rate applies Mon–Fri, 6pm–8am local time, all day Sat., Sun., and nat'l. holidays. Subject to service availability. Additional surcharge applies for 2400 baud service.

Save up to 60%

Check out the chart above and compare it for yourself. You'll find GENie can deliver all of your favorite services for an incomparable price at incomparable savings!

Put the power of GENie at your command

- Discuss the latest in computer products and accessories or download public domain software with GENie's **RoundTable™ Special Interest Groups**.
- Meet new people, share ideas with friends—old and new—with **LiveWire™**, GENie's CB simulator that has everybody talking!
- Get your message across and back again with **GE Mail™**, GENie's electronic mail service.
- Organize a local, regional or national get-together in one of GENie's 40 "conference rooms" with GENie's **Business Band Real-Time Conferencing**.
- Go one-on-one with classic computer games, match your wits against others with multi-player games, or download for future play in GENie's **Game Room**.
- Stay in touch with what's new on the microcomputer scene, courtesy of GENie's news service, **News and Commentary**.

GENie can take you to new highs in speed and keep you there. Because our non-prime time rate for 300 OR 1200 baud is only \$5.00 an hour. And that means you save 20 to 60%. Or if you prefer, 2400 baud service is now available.

With services and prices like these—talk, read, learn, or play to your heart's content. Because now you can keep your eyes on the screen, not on the clock.

With your personal computer, modem, communications software, and telephone, you already have everything you need to make GENie come to life. So why not Sign-Up today. Let GENie bring a little magic into your life!

Sign Up From Your Keyboard Today 4 Easy Steps:

1. Have ready your VISA, MasterCard or checking account number to set up your personal GENie account.
2. Set your modem for half duplex (local echo)—300 or 1200 baud.
3. Dial 1-800-638-8369. When connected, enter HHH
4. At the U# = prompt, enter XJM11940, GENIE then RETURN.

No Modem Yet? Need more information or assistance? We can help! Call 1-800-638-9636, ext. 21.

Get on-line with GENie. And stay longer, for less.



**INFORMATION
SERVICES**

General Electric Information Services Company, U.S.A.

For Free Information Please Circle 269 On Reader Service Card.

SILICON BEACH

THE WAVE OF THE FUTURE!

World Builder™

World Builder was used to create Enchanted Scepters, our highly acclaimed adventure game. Now you can create your own games, or use it to create interactive training, story boards, etc. There's a *World* of possibilities awaiting you!

Dark Castle

Can you defeat the Black Knight, evil ruler of the Dark Castle? The action is hot and heavy as you fight your way through scenes full of enemies. The stunning graphics and smooth animation will take your breath away.

Enchanted Scepters™

"Clearly a true Mac pioneer (program) . . . one of the first examples of . . . a whole new standard in quality for adventure games." — Show Page, Dec 1985
 "The sound effects alone prompt everyone to look over your shoulder." — Int'l Apple Core Express, Jan 1986

Airborne!™

Voted 1985 Game of the Year in Readers' Polls by A + magazine and the MACazine.
 "Destined for the software hall of fame." — A +, Nov 1985
 "The first time I heard the jet I was petrified." — MACWORLD, Sep 1985

Silicon Press™

"Silicon Press takes Desktop Publishing one step further. The program is pure genius." — Gold Coast Mac, Apr 1986
 "... invaluable for easy label-type creation." — MacInTouch, Apr 1986

Accessory Pak 1™

"I found Paint Cutter an invaluable tool." — MACWORLD, Nov 1985
 "Paint Cutter is the kind of tool I wish I'd had at least 50 times since I've owned my Mac." — MACazine, Sep 1985

To get any of these products, see your local dealer or send the total amount (Calif. residents add 6% sales tax) plus \$3.00 shipping to:
Silicon Beach Software, Inc.
 P.O. Box 261430
 San Diego, CA 92126
 Or call (619) 695-6956
 (Visa or Mastercard accepted)



"New"

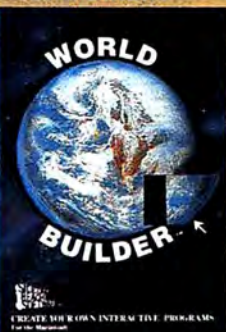
Dark Castle



Fast-paced, arcade-style action as you control the hero who battles his way through the chambers of the castle. Features RealSound.™ Two disks.
 Macintosh 512K, Plus
 Price: \$49.95

"New"

World Builder™



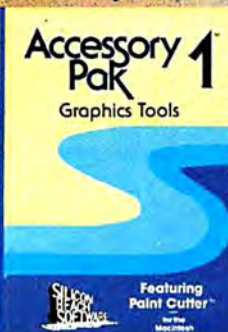
An authoring system to create stand-alone, interactive programs that have graphic scenes accompanied by text and digitized sounds.
 Macintosh 512K, Plus
 Price: \$79.95

Silicon Press™



A printing utility for labels of any size and layout. Mix graphics and text, merge-print and print in color with an ImageWriter II. LaserWriter compatible.
 Macintosh 512K, Plus, XL
 Price: \$79.95

Accessory Pak 1™



A collection of utilities featuring Paint Cutter™, the program that allows you to cut and paste up to an entire MacPaint document. Includes several desk accessories.
 Macintosh 128K, 512K, Plus, XL
 Price: \$39.95

Enchanted Scepters™



A graphics-text adventure game with RealSound.™. Explore over 200 scenes, fight battles, escape traps and solve dilemmas.
 Macintosh 128K, 512K, Plus
 Price: \$39.95

Airborne!™



The classic. Arcade style action at its best. Defend your gun emplacement from paratroopers, helicopters, tanks and jets.
 Macintosh 128K, 512K, Plus
 Price: \$34.95

World Builder, Silicon Press, Enchanted Scepters, Airborne!, RealSound, Accessory Pak 1 and Paint Cutter are trademarks of Silicon Beach Software, Inc. Macintosh is a trademark licensed to Apple Computer, Inc. Copyright © 1986 Silicon Beach Software, Inc.

For Free Information Please Circle 80 On Reader Service Card.

by Robert R. Wiggins

THE REAL COMPUTER OFFICE

I'm getting tired of people telling me that the Mac is not a business computer; that it's not a "serious" computer; that it's a "toy." I use my Mac in my business every day: it's my financial record-keeper, calendar, phone book, expense-tracker and word processor. I use it to create reports for clients (who invariably ask "How did you do this chart?"). I use it for spreadsheets. I use it as a terminal for informational services and electronic mail.

There's obviously something wrong here. People whose opinions I usually trust are telling me that my business computer isn't a business computer. So I decided to do a little unscientific research.

My clients are some of the biggest names in finance, brokerage and banking. And most of the people I deal with are in the data processing end of the business (where the dollar meets the disk, as it were). Virtually all of the middle managers I deal with have an IBM PC sitting on their credenzas (never on the desk — you can't look like you have to have it). I set out to determine what these computers were used for — not what their owners said they were used for, but what they were actually used for. Then I could determine what a business computer had to do, and see if the Mac measured up.

•**Spreadsheets.** That's what every one of these technological marvels were really used for. Spreadsheets. And not just any spreadsheet — the only ones who weren't using Lotus 1-2-3 were using Lotus Symphony. Budgets are prepared and tracked on these spreadsheets. Salary plans are laid out. Cost accounting is done. But since the Mac has Excel, the most powerful spreadsheet available for any microcomputer, this isn't why the Mac isn't a business computer.

•**ASCII terminals.** A distant second to spreadsheets, but widely used nonethe-

less. From the programs I saw on the IBM, the Mac has it hands down on this one, whether it be MacTerminal, Red Ryder, Smartcom II, Microphone, or whatever.

•**Word processors.** Not widespread use, but some. Most businesses still rely on secretaries and dedicated word processors like Wang and IBM, and for good reason. The IBM PC, regardless of software, is just not a great word processor, especially for non-secretaries. The Mac with MacWrite, on the other hand, is both powerful and easy to use as a word processor.

•**Mainframe terminals.** Not very many folks have PC 3270s (including the XT and AT varieties), but this is one application where the IBM PC excels. Of course, it doesn't hurt that IBM is controlling both ends, as well as the software at both ends that supports them. However it's done, this is the best use of IBM PCs in the office today. Now the Mac does have 3278 emulation in MacTerminal, and, with the use of AppleLine controllers, can be attached to a 3274 control unit, but the IBM implementation allowing up to four simultaneous host sessions on up to four different hosts is clearly superior. And since the control program in the PC allows multitasking, and has special commands to transfer data to and from the host (automatically converting from ASCII to EBCDIC and back), this mode of use makes the PC an intelligent terminal. On the other hand, this version of the PC is decidedly more expensive and very few users have one, so this is not the reason the Mac is not a business computer.

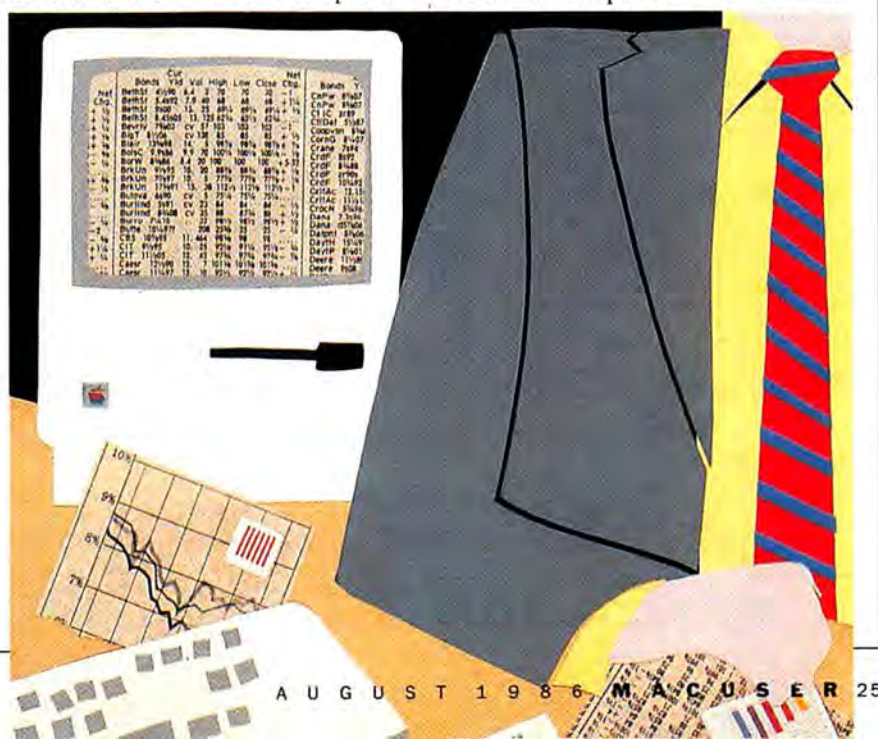
•**Project planning software.** Another popular use of PCs in business. The Macintosh has MicroPlanner, a very powerful package that also runs on the IBM PC, as well as MacProject, which produces beautiful project charts.

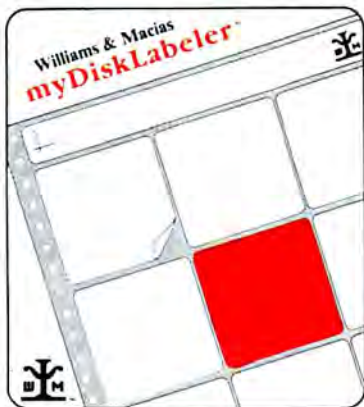
•**Various and sundry packages.** In this category the PC often wins the business because many of the vertical market packages are not written for the Mac (yet). On the other hand, very few of the IBM PCs I saw in my survey were running any of these packages. And vertical market packages are becoming available on the Mac, so this isn't the reason the Mac isn't a business computer.

So why are all these people using IBM PCs instead of Macs, when it is clear that the reason is not functionality or capability? I asked some of the unknowing participants in my unscientific study why they had an IBM PC.

•**"Because it's the company standard."** Not an unusual answer. Some of the larger corporations have undertaken studies and selected a "standard" microcomputer. Invariably this is the IBM PC. Buying another kind requires incredible amounts of paperwork and justifications, and most folks just won't bother to try to go non-IBM. Also, many of these companies have centralized procurement, making the IBM cheaper via Volume Purchase Agreements (VPAs).

There are also central support groups for the "company standard" computer, and as many of these micros are going into the hands of neophytes, the support groups only want to have to know one brand. In companies with "standard"





Design and print unique, high quality, removable labels for 3 1/2" disks with myDiskLabeler.™

Icon Grabber

The advanced, Version 2 myDiskLabeler™ lets you grab application icons and modify them. Create your own distinctive icons with the Icon Editor or with Macpaint.™ Seven windows provide editing of text and graphics. myDiskLabeler™ reads and sorts disk directories, saves labels for updates. Also supports HFS, Apple's Hierarchical Filing System.

Color Printing

Design and print color labels with color option and Imagewriter II.™ Option is just \$10.00 more.

Precision Printing

Print single or multiple labels. Graphics interface makes alignment of Smart Labels™ quick and easy.

Smart Labels™

myDiskLabeler™ includes 54 removable, wraparound Smart Labels™ designed for the Imagewriter.™ Refills are \$5.00 for 54 labels, \$9.50 for 108, or \$18.00 for 216.

Call today, or ask your Apple Dealer. Shipping to 48 states is \$3.00 (\$1.00 for each add'l. item). myDiskLabeler™ is for Macintosh™ (Mac-Plus, 128, 512, or XL) and Imagewriters.™

**Version 2, Only \$44.95*
With Color, Only \$54.95***

Call Toll-free: 1-800-752-4400
M—F 8:00 a.m. to 5:00 p.m. PDT
Washington & Alaska, (509) 458-6312

* Washington State residents add 7.8% sales tax.

Macintosh, Imagewriter, & Macpaint are trademarks of Apple Computer, Inc.



Williams & Macias
Microcomputer Products

Spokane Airport Business Park
P.O. Box 19206, Spokane, WA 99219

For Free Information
Please Circle 219 On Reader Service Card.

computers, the Mac doesn't stand a chance except for specialized applications like desktop publishing (almost every company I examined had a Mac in the art department). The Mac has been picked as the "company standard" in a few cases, such as Peat, Marwick, and, more recently, Arthur Young.

• "Because the IBM PC is a business computer." Here the Mac gets hurt for the very reason that's made it so popular: ease of use. Not one person I spoke with thought of the Mac as a business computer, primarily due to the user interface that has been the key to its success. Business users perceive pointing and clicking with a mouse (a *mouse*?) to be very unbusinesslike.

• "Because the IBM has color." This is one of the great jokes of the microcomputer world. Businesses, the largest users of photocopiers in the world, need color? Not one of the machines I saw had any color output capability whatsoever, other than to the screen, and most of them had monochrome displays, or were using their color displays in monochrome mode, at that.

• "Because no one gets fired for buying IBM." This reason often goes unstated, but it is always there. IBM is safe. If something goes wrong, the manager can always say "But I bought IBM. What more could I do?" Buying a non-IBM computer in the business world of today entails risk, and risk aversion is a major part of most middle managers' personalities. When a manager buys a non-IBM solution, not only does it have to be cheaper, but it also has to be better. It had better have fewer problems, too.

So what does it all mean? Why isn't the Mac a business computer? Because it's easy to use. Business people have worked long and hard to learn Lotus 1-2-3, perhaps even attending company-sponsored seminars, and they're not about to use a computer that anyone can learn to be productive on in a few hours. And what of the central support groups, often the ones who selected the IBM PC as the "standard" in the first place? How could they justify their jobs? Running seminars on how to use MacWrite? What about setting up the computers? They have several employees whose jobs are to set up PCs. What happens to them when a computer can be lifted out of the box and plugged in?

The Macintosh is not a business computer because the Macintosh is not a business computer. It can't get the job without experience, and it can't get the experience without the job. Talk about a Catch-22. ☹

THE NEW PLUS SERIES™

Quality, Versatility, and Protection for your MacPlus™

MacPlus Bag



Soft protective, easy to carry bag for new keyboard and external hard disc drive with room for a second disc drive.

PrintPak™ II

Take your printer along, with this soft protective bag; made especially for the new Image Writer II.



MacFreighter™ Plus



A sturdy, solidly built, all purpose shipping case. You can tote your keyboard and disc drives knowing they are safe and protected. Can be checked as luggage.

MacCovers™, MacPak, and MacCase™ are now available for the Plus Series.

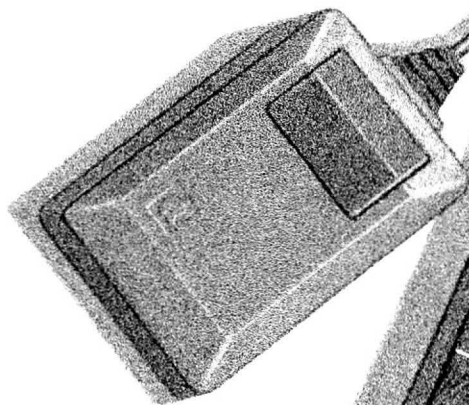
FOR ADDITIONAL INFORMATION
PLEASE CALL TOLL FREE
1-800-228-7042

Quality Products From
LINEBACKER

643 Industry Drive Seattle, Washington 98188
(206) 575-1180

For Free Information
Please Circle 249 On Reader Service Card.

IT'S SIMPLE TO SAMPLE

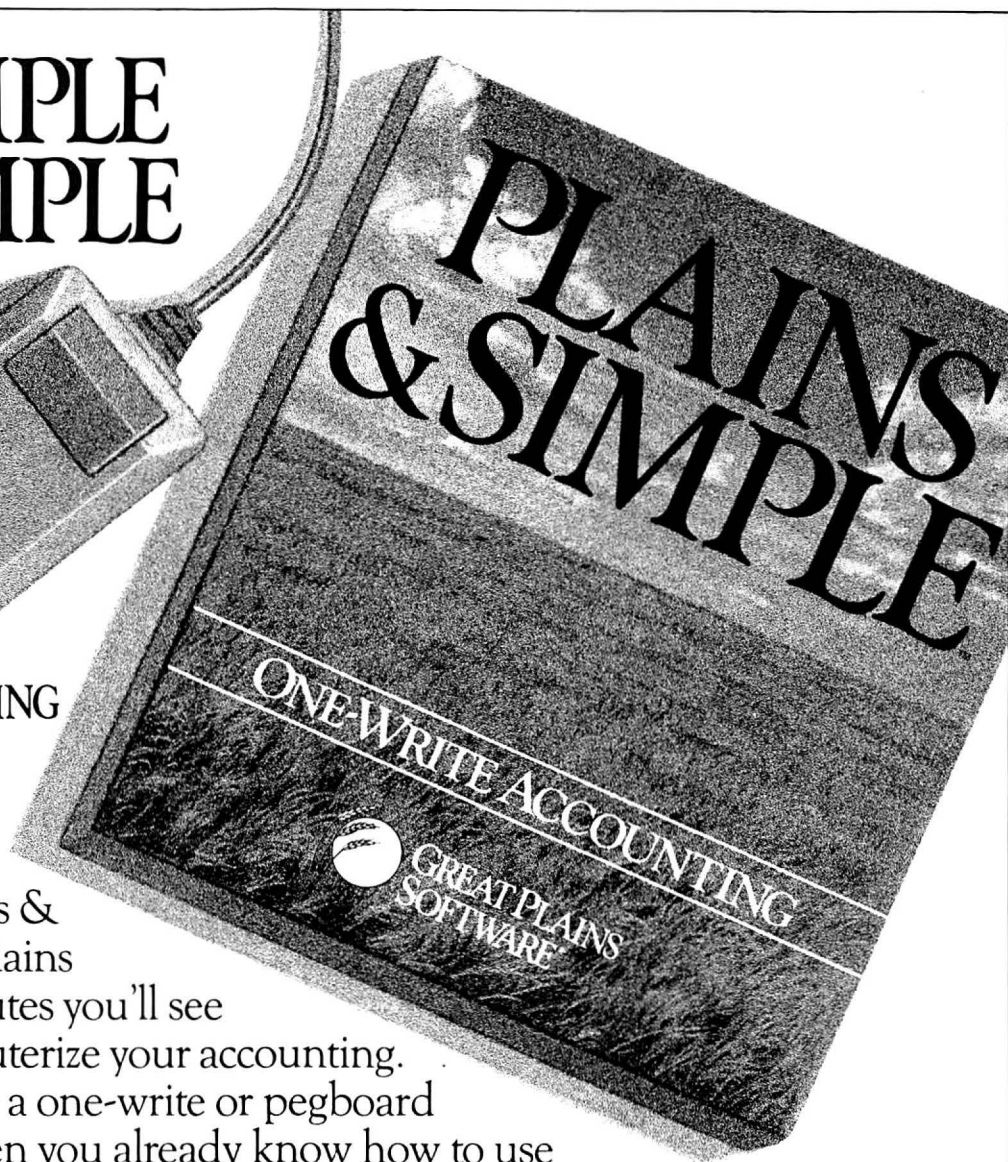


ONE-WRITE ACCOUNTING ON THE MAC

For only \$19.95, you can sample a full working copy* of Plains & Simple™ from Great Plains Software. Within minutes you'll see how easy it is to computerize your accounting.

If you already use a one-write or pegboard accounting system, then you already know how to use Plains & Simple. Our program is customized for over 25 different kinds of businesses, from services to real estate, and from doctors' offices to hotel management.

Just call us at 1-800-345-3276 to order your full working sample of Plains & Simple.



*Includes complete general ledger, accounts receivable and accounts payable limited by number of transactions only.



**GREAT PLAINS
SOFTWARE®**

GROW YOUR BUSINESS ON GREAT PLAINS™

© 1986 GREAT PLAINS SOFTWARE, INC.

For Free Information Please Circle 256 On Reader Service Card.



INTERLACE THE MACINTOSH DATABASE

INTERLACE™ COMBINES RELATIONAL DATABASE POWER WITH THE EASE OF USE OF A FILE MANAGER

Simple filing products though easy to use, lack the power to handle multiple-file applications and the calculations required to perform useful tasks.

Most power databases require that you become a programmer before even the simplest task can be done.

But now Interlace is here...

LINK DATA IN MULTIPLE FILES

Interlace is the only program which allows you to visually define your database by drawing connections between files. **Adam Green, InfoWorld:** "...Really uses the visual strength of the Mac to produce a database design tool."

VISUALLY DESIGN FORMS AND REPORTS

Report design is freeform, place fields and pictures anywhere on the page. Choose your own fonts and styles. Reports can access multiple files and other reports using spreadsheet-style formulas to build practical applications. **"InfoWorld Software Review, February 10, 1986:** "Although Interlace is a powerful relational database, it uses a visual approach to information management that makes this power easy to manage."

INCLUDES THESE POWERFUL APPLICATIONS

- Client Billing
- Stock Portfolio Management
- Checkbook
- Parts Explosion
- 1040 Tax planning including Schedules A, B, and D.

Esther Dyson, Release 1.0: "Interlace is a stunningly wonderful application generator/dbms."

Visit your local dealer or purchase from Singular Software, Inc. at a suggested retail price of \$139. When purchased directly from Singular Software, Inc., Interlace is backed by a 60 day money back guarantee. A backup copy of Interlace may be purchased for \$10.

Call (800) 626-8392
or in CA, (800) 826-1585

Singular
SOFTWARE™
1340 Saratoga-Sunnyvale Rd., Suite 201
San Jose, CA 95129

Send me **Interlace for \$139** (plus \$4.00 shipping. Canada \$10). Overseas add \$25 and make payment by bank draft, payable in US dollars, drawn on a US bank. COD's and Purchase Orders WILL NOT be accepted.

Name: _____

Company: _____

Phone: _____

Address: _____

City: _____

State: _____

Zip: _____

☐ Send me a backup copy of Interlace for an additional \$10.

☐ Visa ☐ MasterCard Card #: _____

Card Expiration Date: _____

Signature: _____

California residents add 7% sales tax.

Interlace is a trademark of Singular Software, Inc. Macintosh is a trademark licensed to Apple Computer, Inc.

For Free Information Please Circle 193 On Reader Service Card.



by Doug Clapp

REAL LIZARDS DON'T BUY SOFTWARE



A sharp pain...then...confusion...you're rushing down a long tunnel, a long, long tunnel until — you're in a pool of golden light. You feel warm and secure. And expectant.

A figure stands before you, marvelously glowing — a figure of light. And you hear these words: "Did you pay Don Brown for that shareware stuff you used all the time? What about Scott Watson? We know about that copy of *Red Ryder*."

Well, there you go. I'm just telling you this so you're not surprised later. *Red Ryder*'s a good example. I got (and paid) for *Red Ryder* 9.0 at the Mac Expo in Chicago. On a Friday.

The next day, Saturday, Scott Watson had version 9.1 ready. He means it when he says, "It's more like an ever-lasting subscription than a one-time purchase."

The *Red Ryder* telecommunications program costs \$40. Is it good? Yes. Is it worth the money? You gotta be kidding: yes. It's got features like *Excel* has cells. Will you ever see it reviewed in a Macintosh magazine? I doubt it. [Editor's note: Sorry, Doug, see page 68 of the July *MacUser*. We thought it a 5-mouser.]

The line between user-supported and traditional software marketing is getting fuzzier and fuzzier. Many user-supported vendors essentially say, "You can use this for a while, to see if you want it. If you do want it, you gotta buy it. If you don't want it, you gotta erase the disk, or give it to a friend."

What's the difference between that and a money-back guarantee? Not much. Traditionally, you pay up-front. Then — increasingly — you get a money-back guarantee if you're not satisfied. It's the same thing with user-supported software, except you pay down-back instead of up-front.

Let's make it still fuzzier. What if Scott Watson takes out an ad in *MacUser*? The guy that markets *PC-Write* for the IBM PC takes out ads. Does that mean that....

Fuzzy, fuzzy. Anyway, you should pay for the programs if you use them. Don

Brown, author of *MacBillboard* and the "Mock" desk accessories, says the jury is still out on user-supported software.

But there's nothing new here. Being a human being is a constant struggle: inclination versus ethics. Want versus Should. Nobody "wants" to pay for anything! I sure don't!

"Should" is a hard nut. It always is. The hardest thing of all. Let's face it: I should be in Ethiopia digging irrigation ditches or trying to help dying children. I should. So should you. I won't even mention nuclear weapons.

Those are big shoulds. Scott Watson and Don Brown and the other dedicated user-supported people are smaller "shoulds," but still...well, not a sparrow falls, you know?

Here's a cute story. You can believe it or not. It's cute either way. John Lilly spends much time in his flotation tank. That, and drugs, allow him to leave his physical body and wander the astral/spiritual/whatever planes of the universe.

And he meets God. Imagine. God. And he hangs out with God for a while. Eventually, God says "I was just kidding. I'm not really God. God is one level up!"

So Lilly goes up a level. And finds God. Imagine. God. And he hangs out with God for a while. Eventually....

I love that story. It's true even if it isn't.

So here we are. Former lizards. Things that just recently crawled out of the slime. Things that still practice genocide, that blithely go around inventing gate-array chips and polyester leisure suits while people starve and die.

"Say, didn't you used to be a lizard?"

"Well, yes, actually, relatively speaking. Before that I was this protoplasm stuff that floated around in the ocean. These days, I'm a power user who hasn't yet paid Don Brown the money I owe him. What's new with you?"

There you go. It's tough not to be a slime. But you gotta try, even though you'll always fail. That's what not being a slime is all about. Preachy, preachy. Boy,

it's amazing what you can get away with, when you're writing to a computer screen. I couldn't preach to my wife like that!

What else can I spend your money on? Let's see...buy *FullPaint*. A great program, despite noxious copy protection. Later this year, buy *SuperPaint* from Silicon Beach Software. Buy *TML Pascal* if you want to learn programming or like Pascal or both. It's a fine, fine Pascal compiler. If you like C, buy *Lightspeed C*. What's Steve Wozniak's favorite game these days? *MacGolf*.

What's Doug Sharp (who coauthored *ChipWits*) doing now? Creating an amazing game. SuperAgent Bob Jacob's Master Designer Software will release it later this year. It'll make *Deja Vu* look the way *Deja Vu* makes *Brickout* look, if that makes any sense. (Don't you love these long, meaty paragraphs?) Buy *Balance of Power*. (Chris Crawford isn't the rich programmer I said he was, a few months back. But he should be. Let's all get together and make Chris a deservedly rich guy.)

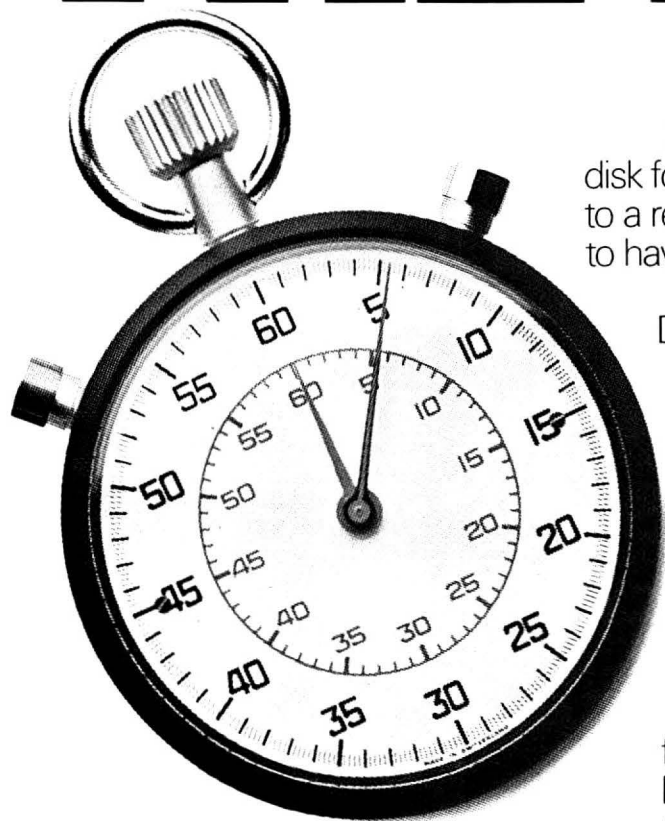
Okay, okay, a new paragraph. Untrue rumor: Andy Hertzfeld will run for President. Drat. Unconfirmed reports: consumers are returning Macintoshes, en masse, to dealers. They're saying "Hey, I used the *Resource Editor* and I only changed two measly bytes and it crashed! And I spent \$2,000 for this thing!" As a result, Apple is considering voiding the warranty for consumers who use *ResEdit*. Some factions at Apple want to forbid sales entirely to anyone who's even heard of *ResEdit*. "Ever heard of a program called *ResEdit*? You have? Sorry, we can't sell you a Macintosh. How about an Amiga?"

Confirmed I'm-not-kidding-about-this rumor: IBM will definitely buy Apple. Both firms now operate identically, and IBM officials have noticed that women at Apple now wear the same sharply-creased little two-piece suits, just like the women at IBM. I just got hold of an internal memo from IBM about it. The first thing they're going to do is copy-protect *Switcher*, raise its price to \$195, and make it a standalone program. Then they're going to replace the *Finder* with *TopView*, and make the Mac a character-based machine. And they're going to reduce the Macintosh clock speed to 4 megahertz, so the Mac doesn't unfairly compete with the IBM PC.

What? I'm out of space? But there's more! Oh well, write me and I'll fill you in: Doug Clapp, 4808 France Ave. South, Edina, MN 55410.

Another month, another column. It's a living. ☞

HYPERDRIVE THE LESS



THE WORLD'S FASTEST MACINTOSH.

But besides being a faster drive, HyperDrive is also a smarter drive.

Because it also comes with software that lets you make back-up copies of your data onto diskettes. A print spooler that lets you go on to other jobs while your printer is still turning out the one you just finished. And a security program that protects your files from unauthorized entry.

HyperDrive is far from the least expensive hard disk for the Macintosh. So you'd expect it to appeal to a relative handful of perfectionists who can afford to have high standards.

Not so: More people have bought HyperDrives than any other hard disk for the Mac.

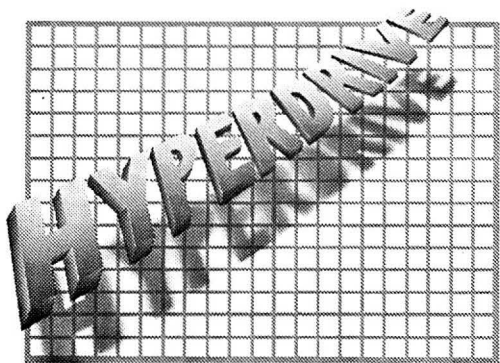
This apparent violation of the laws of economics has a simple explanation: Any hard disk is an investment. And when it comes to choosing investments, cheaper isn't better. *Better* is better.

A line of reasoning that leads straight to HyperDrive.

A FASTER DRIVE. AND A SMARTER DRIVE.

Ours is the fastest hard disk available for the Mac. Period. It will let you launch Microsoft's Excel, for example, two and a half times faster than one competitor. And quit MacWrite over 40% faster than another.

DRIVE VS. HARD DRIVES.



**THE WORLD'S FASTEST-SELLING
HARD DISK FOR THE MACINTOSH.**

You can even buy additional software (HyperNet) that lets you share HyperDrive's 10 or 20 megabytes of disk storage with other Macs on an AppleTalk network.

HyperDrive is also designed with the realization that desk space is parcelled out to each of us in very finite quantities. It's the first hard disk that's installed inside the Macintosh, taking up no more space than a Mac itself and preserving its portability.

COMMITMENTS & HAPPY MARRIAGES.

Finally, since any hard disk represents a long-term commitment on the part of the buyer, we match it with a corresponding commitment of our own.

HyperDrive is backed by over a thousand dealers nationwide. Besides our ninety-day limited warranty, additional warranty coverage (HyperCare) is available for up to three years or longer. (See an authorized General Computer dealer for complete details.) And we're committed to upgrading already installed HyperDrives as refinements are made in the future.

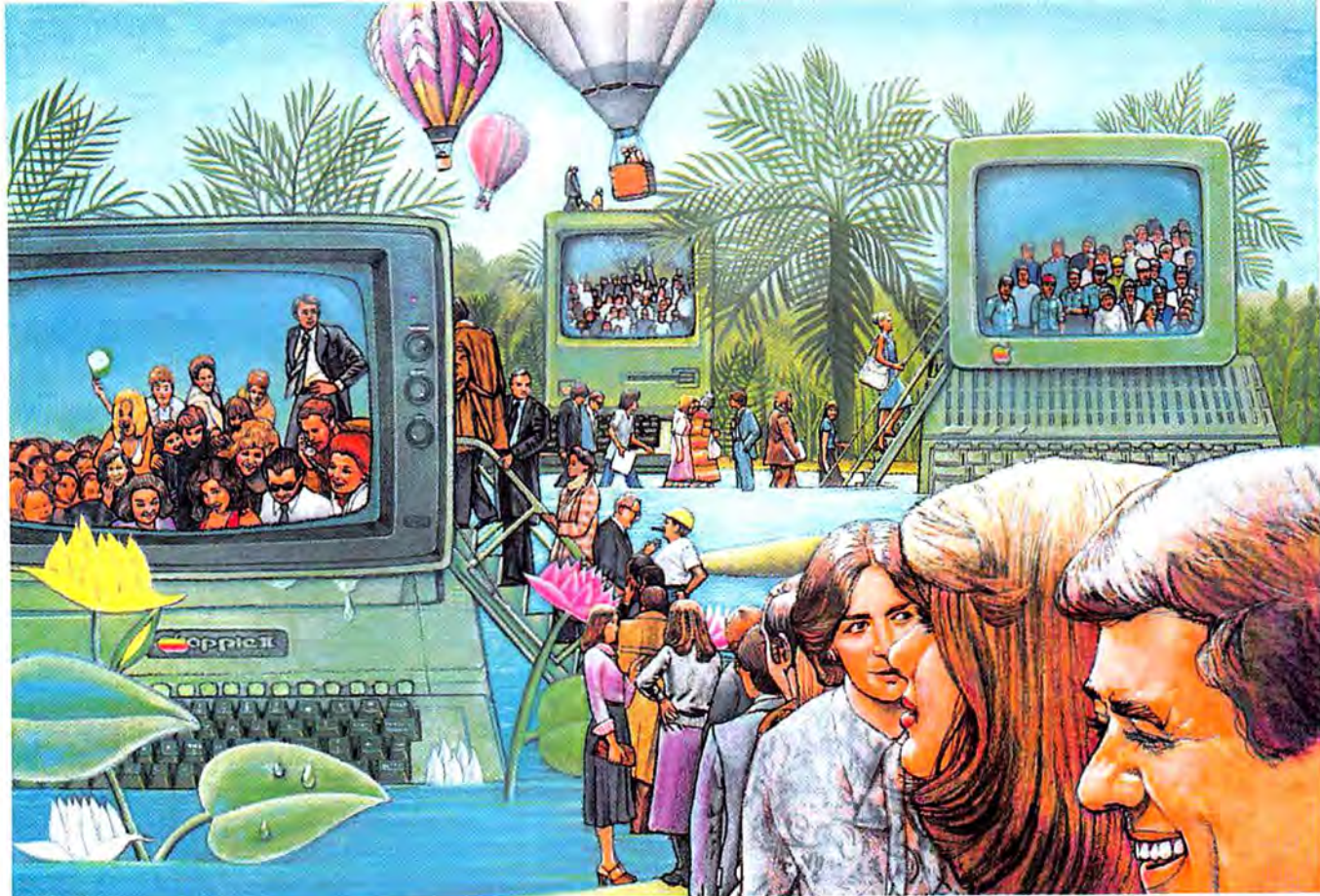
All of which explains why *InfoWorld* judged HyperDrive "unbeatable in the current world of the Macintosh." And why *Macworld* proclaimed it "the happiest marriage of the Macintosh and a hard disk."

If that's the sort of relationship you've been looking for, call General Computer at (800) 634-9737. In Illinois, (800) 854-9737.*



The leading edge starts here.

For Free Information Please Circle 81 On Reader Service Card.



USE THE BRAINS YOUR APPLE WASN'T BORN WITH.

Right at your fingertips in CompuServe's Apple® Forums.

Join the CompuServe **Apple II and III Forum** to swap everything from tall tales to short cuts with other users, and explore thousands of classic programs stockpiled since 1979.

Swap programs and files with fellow Mac owners in our **Macintosh® Users Forum**. Questions? You'll get answers from the experts here!

Visit the **Macintosh Developers Forum**. Get updates to the "Inside Macintosh Software Supplement." Interact with the Mac "team" in Cupertino.

The **Apple User Groups Forum**, supported by Apple Computer, unites officers of Apple user groups—"ambassadors" for hundreds of thousands of Apple-active enthusiasts worldwide.

Easy access to free software.

- Download First-rate, non-commercial, user-supported software and utility programs.
- Take advantage of CompuServe's

inexpensive weeknight and weekend rates (when Forums are most active, and standard online charges are just 10¢ a minute).

- Go online in most major metropolitan areas with a local phone call.
- And receive a **\$25.00 Introductory Usage Credit** with purchase of your CompuServe Subscription Kit.

Information you simply can't find anywhere else.

Use the **Forum Message Board** to send and receive electronic messages, and pose specific questions to Apple owners.

Join ongoing, real-time discussions in a **Forum Conference**—with Apple luminaries like Bill Atkinson, Doug Clapp, Dan Cochran, Jean-Louis Gasse, Mark Pelczarski, John Sculley and Steve Wozniak.

Search **Forum Data Libraries** for free software, user tips, transcripts of previous CompuServe online conferences and more.

Enjoy other useful services like:

- **Popular Computer Magazines**—electronic editions, for your reading pleasure. Including **Apples Online**, which reprints

articles from leading user group newsletters nationwide and other Apple-related publications.

- **Other CompuServe Forums**—supporting Jazz™ and other LOTUS® products. Microsoft®, MicroPro®, Borland International®, Ashton-Tate®, and other software. Also Pascal, Basic, C, Forth, Assembly and other programming languages.

All you need is your Apple computer and a modem ... or almost any other personal computer.

To buy your Subscription Kit, see your nearest computer dealer. Suggested retail price is \$39.95. To receive our free brochure, or to order direct, call 800-848-8199 (in Ohio, call 614-457-0802). If you're already a CompuServe subscriber, type GO MAUG (Micronetworked Apple Users Group) at any ! prompt to see what you've been missing.

CompuServe®

Information Services, P.O. Box 20212
5000 Arlington Centre Blvd., Columbus, Ohio 43220

800-848-8199

In Ohio, Call 614-457-0802

An H&R Block Company

QUICK CLICKS



What's new, what's happening in the world of Mac? We'll keep you up-to-date with our monthly Quick Clicks.

BPI GENERAL ACCOUNTING

List Price: \$425. Requires 512K+. Published by BPI Systems, 3001 Bee Cave Rd., Austin, TX 78746. (512) 328-5400.

BPI General Accounting is the Macintosh version of an accounting system widely used on the Apple II. It is a very simple, straightforward system with four ledgers: Accounts Receivable, Accounts Payable, Payroll and General Ledger within a single application on one disk. Entries are made to one of six entry journals: Cash Disbursements, Cash Receipts, Invoice Register, Merchandise Purchased, Cash Register and a General Journal. Most entries only have to be made once. The offsetting amounts are automatically posted to offsetting accounts in the appropriate ledgers and to the General Ledger.

The range of accounts is specified by the program. Account numbers must be four digits. The last digit can be used to indicate up to ten different departments. The pro-

gram is limited to 8000 total accounts (all types in all ledgers), but the number of transactions is limited only by disk space. Numeric entries can be as large as \$999,999,999.99.

A simple data entry window design is essentially the same for all journals. All actions are controlled by menu selections or dialog boxes, but many operations also have keyboard commands as an option.

BPI General Accounting maintains detailed records for customers, vendors, and employees. Select a category of accounts to view from the Select menu and a small scroll window appears so you can view all accounts, vendors, customers, or employees.

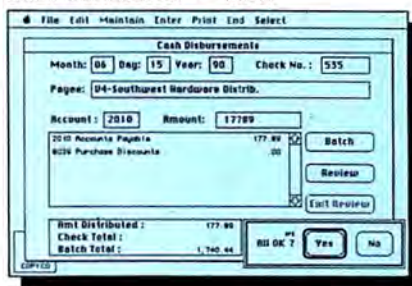
Reports include printouts of all journals and ledgers, trial balance, income statements and schedules. Several reports can be lined up in a print queue. Reports can be output to the screen with a rolling scroll (an extra nice feature), controlled by buttons or from the keyboard; or to a printer or disk file.

BPI offers a support plan called "Support

+" This includes 60-days unlimited phone support to registered users. After that there is a charge for calls, unless the problem is a result of a bug in the software or is otherwise BPI's fault.

BPI General Accounting is Switcher and hard disk compatible and works very well under HFS (keep the program and all related data folders in one Accounting folder). The program offers one level of password protection.

BPI General Accounting is a simple, solid, well-designed accounting system for small businesses. — MDW



MIGHTY MAC

List Price: \$59.95. Published by Advanced Logic Systems, 1195 East Arques Ave., Sunnyvale, CA 94086. (408) 730-0307.

Ever wished there was a simpler way to keep track of appointments and important events? Mighty Mac offers one approach.

Mighty Mac manages personal schedules using a very friendly and convenient set up. It uses lots of helpful messages that make it definitely user-friendly. All information is placed in data files. The user can create



many databases, although only one can be open at a time.

A well-organized startup screen displaying all Mighty Mac's features is the center

from which all information is maneuvered. Users see an on-screen calendar function with the current day highlighted, from which the user can select and display events scheduled. Any year between 1753 and 9999 is possible, and days of the week for any of those years can be determined.

Also included is an on-screen alphanumeric keypad used for searching or displaying data in any of the functions (either alphabetically or numerically by date). Below the keypad, the current day and time appears. Finally, Mighty Mac's four functions are shown with folder-type art.

The Directory is an address/phone book-type database. Each entry has its own note pad area so that notes can be added to any given name at any time.

The Reminder function is meant to replace the Mac's alarm clock — sort of. It reminds the user of any appointments scheduled for the day, by beeping three times each minute, starting at the proper time, and is paired with blinking of the Message menu title. The menu blinking will continue until the reminder is read. When first selected, an abbreviated version of the message will appear, but if desired, the complete item can be exposed. Unfortunately, if the reminder isn't read or deleted,

the beeping will resume at the next startup.

The Event function holds a dated and time-stamped description of events scheduled, along with a note area for special inputs. The information held in this area can easily be modified without disturbing information in any other areas. The Note function takes the place of the Mac's note pad feature. These notes are also stamped with date and time of creation.

The File menu contains an update window that allow users to insert, locate or modify entries in every function. Getting in and out of the four functions is facilitated by the use of specialized menus. Any information can be found by the use of the Display and Search menus. Specific events or a continuous list of events can be displayed. A keyword capability allows for the search of any item entered in any of the four functions by inputting part of the word or phrase that will call up the event. If desired, all occurrences of those keywords can be searched.

Mighty Mac's real power is in the variety it allows users in accessing their information. Those embarrassing moments that occur when you miss important days or appointments will be history with Mighty Mac in action. — DG

QUICK CLICKS

PROFIT STALKER II

Technical Analysis Toolkit for the Macintosh



List Price: \$250. Published by ButtonDown Software, PO Box 19493, San Diego, CA 92119. (619) 463-7474. Requires 512K+ and a Hayes-compatible modem.

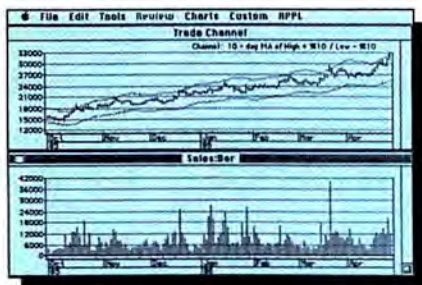
Several things are easier to do on a Mac than in real life. The charting of stocks, commodities and mutual funds is now one of them. *Profit Stalker II* does more with charts and graphs than most anyone could want to do, in a surprisingly painless manner. It is a professional-level program of value to a novice.

A built-in telecommunication (download only) tool is provided, which permits users to obtain stock or commodity historical quotes in daily, weekly or monthly periods, for any span of time specified, from the telecommunications systems of CompuServe or Merlin Dial/Data. Users can automate this feature so it can call immediately or at any future time. It also produces a record of the time the program spends online, and for which you pay.

The captured data can be printed out. If that is done, you'll find that the data is organized in a useful manner, titled as to the stock and date of printing and that a summary of the parameters of the data is automatically provided. You get a little more in the printout than you would expect from having observed the data being downloaded.

If you use this program regularly be

warned that there is a steep premium charge for using CompuServe and that the charges can mount up alarmingly. Merlin Dial/Data is a less expensive data source than CompuServe. Dow Jones Retrieval Service is supported only inasmuch as their data can be retrieved using Dow Jones Spreadsheet Link and imported using SYLK format.



While some users who don't want to or can't download their data, manually enter it, there is a service which will mail disks of data formatted for *PS II*. Details are provided in the manual.

The *PS II* manual is better than friendly. It's veritably chummy. The authors do a creditable job of explaining the multitude of charting options offered and the general philosophy of technical analysis underlying them, although you must turn elsewhere for the fine points. They cheerfully provide unlimited support for their program, including free disk upgrades. New versions are prepared when enough customers request options not already in the program. None of the versions have been copy protected.

A Microsoft BASIC Runtime module is

supplied on the disk because *Profit Stalker II* was originally written in BASIC. Thus, the program is sometimes slow. This imperfection will soon be rectified in a new version that will be written in C and compiled. That should eliminate all speed deficiencies.

With few exceptions, the interface has been thoughtfully prepared. In *PS II*, a conjure up a dialog box with information as to the stock's high, low, volume and last price on that selected date. There is an option allowing you to draw trend lines on your charts. (The point of technical analysis, by the way, is to identify trends.) And two different charts can be printed (screen dumped) at the same time. The screen dump procedure also provides a bit more information than you would expect. You won't end up with piles of unidentified charts lying about.

Charting is fun with this program. Users can superimpose charts on charts by locking the first one, can view two simultaneously, can toggle between four charts, and can set the parameters of the various charts in an individual manner. All charts can be shown in line or bar format, and in standard, condensed or ultra-condensed mode. The trade channel can be drawn with one of three different pens, so you may easily distinguish it from whatever chart on which it might be superimposed. Point and figure graphs can be customized to an apparently limitless extent. The GRAPHICS (is that where the word came from?) are excellent. It is a Mac, after all! *Profit Stalker II* is an excellent program that does what it says it will do, and a little more. — Linda Joan Kaplan

MACMEMORIES MEDALLION SET



List Price: \$399, complete set; \$39.95 per disk; \$5 for image preview book. Published by ImageWorld, PO Box 10415, Eugene, OR 97440. (800) 457-6633.

Old images meet a new technology in the *MacMemories Medallion Set*, a 13-disk clip-art package with some of the nicest images we've seen yet. The graphics are digitized images from the nineteenth and early twentieth century, which have been cleaned up in *MacPaint*.

Each disk is available separately, although those who can afford the full set are given the added bonuses of a catalog disk, an image preview book that shows each of the pictures and tells users which disk contains each image, and a hard plastic disk box that keeps the set safely stored. The disks are named Memory Lane; Silhouettes and Shadows; Fish, Fur & Fowl; Butcher, Baker & Candlestick Maker; Holidays; Wild Wild West; Twig, Leaf, Root and Flow-

er; Tools, Machines and Merchandise; Art Nouveau; Attention Grabbers; Apples of Our Eye; and Wheels, Halls, Rails and Wings. Each name describes the disk's contents. (The thirteenth disk is a catalog of all the images.)

The graphics are, in a word, gorgeous. From the voluptuous detail of the Gibson Girl to the stark, art deco flapper silhouette, each is large, beautifully stylized and clean. Most of the artwork looks like those fine-lined woodcuts that were in vogue at the turn of the century. Sharp-eyed users will also notice famous characters of the time, like the Campbell's Soup cherub riding a turkey-drawn wagon on the Seasons & Holidays disk.

Each disk is unusually complete. For example, the Wheels, Halls, Rails and Wings collection offers four different pictures of horse-drawn carriages, three standard old-style bicycle illustrations (and a few less conventional types of bikes), old-fashioned cars, milk trucks and locomotives, paddleboats, antique airplanes, and even a picture of a diving bell.

Silhouettes And Shadows is the major exception to the set's focus on dreamy, realistic art. Most of this disk's images are

very 1930's in style and flavor. While the graphics offer a variety of silhouettes, like "Wizards" and a Middle-Eastern "Sunset Travels," the main focus of the graphics is on dapper, tuxedoed men and their fur-and-feather clad ladies.

The Image Index Book is very pretty and informative, but there are a few typographi-



cal mistakes that detract from its overall professional look. Still, the index is a great (and very cheap) way to preview all the images offered in the *MacMemories* set. A word of warning, though — once you see the graphics, you won't want to buy just one disk. — TFH

Mac Users: Now you can have it all, with the

Three to One

TOUCH™ BOARD

Available now from Human Touch Computer Products!

Until now, your Mac's user friendliness came at the expense of speed, power, expandability and upgradability. Now, the Three to One Touch™ board lets you have it all!



Speed. How would you like to increase the speed of your Mac? With the Three to One Touch™ board, you can. It replaces your Mac's 8 MHz 68000 processor with a 12 MHz 68000

processor. This effectively doubles the system's speed because improvements are channeled to processing rather than graphics.

How about the increased speed that comes from storing frequently used programs in ROM? The Three to One Touch™ board provides that too. It can house 512KB of preprogrammed ROM—enough to store large programs permanently in your system!



Memory. What would an additional 1.5 megabytes of contiguous memory in your Mac mean to you? It would give you the ability to load the operating system, Jazz or Excel and a

RAM disk, and there's still space left in memory for processing a spreadsheet twice the size of what you can now do on your current Mac!



Expandability. How would you like to open the Mac's architecture so that you could attach an array of peripherals? The Three to One Touch™

board's unique interface brings the signals from the 68000 processor to a connector outside the case. HTCP is currently developing a SCSI port and a card cage that will permit the attachment of additional devices.

Upgradability. What about further memory expansion? The Three to One Touch™ board can be upgraded to 3.5 megabytes of RAM as soon as the 1 megabyte chips are available or additional memory can be accessed via the card cage.



Compatibility. The Three to One Touch™ board can be installed in your Macintosh with Apple's old or new ROM. Furthermore, in that rare case when you want to operate your Mac with-

out the board, it can be logically disconnected by pressing the reset and interrupt keys.

Installation. Here's the catch, right? Wrong! The Three to One Touch™ board installs in minutes and doesn't require soldering or cutting traces. So, you can't do anything during installation that you couldn't readily undo.

Bring your Mac alive with the

Three to One

TOUCH™ BOARD



Human Touch Computer Products Corp.

401 Rt. 70 East, Suite 200, Cherry Hill, NJ 08034
For more information call (609) 429-6300

Macintosh is a trademark licensed to Apple Computer, Inc.
Jazz is a trademark of Lotus Development Corporation.
Excel is a trademark of Microsoft Corporation.

QUICK CLICKS

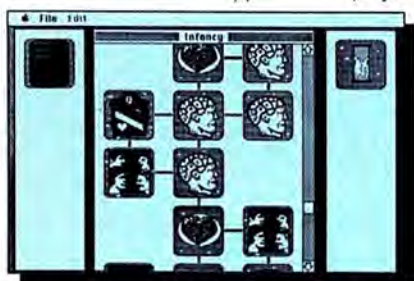


ALTER EGO

List Price: \$59.95. Published by Activision, Box 7287, Mountain View, CA 94039, (415) 960-6044.

We've all heard of flight simulators, sports simulators, and even financial simulators. Now, we can experience a complete life simulator, a highly unusual entertainment program called *Alter Ego*. This program gives players the chance to try out different life options without having to suffer the possible consequences. The results can be surprising.

The first screen that appears asks players



to answer a number of true/false questions about their own personalities (an option lets the computer randomly generate a character). This establishes the character in whose shoes you'll be walking.

After creating the character, the user can

play through any phase of life, from infancy through the school years, then on to early, middle and late adulthood. In each phase, life events are displayed as icons, which are clicked on to bring the "experience" up on-screen. Other icons line the sides of the screen, representing age-related experiences such as school events or work activities. Players just click once on the icon they want to live through to bring up that event on-screen. For each experience, the screen displays two or more options, with radio buttons used to select them.

Each event poses a particular quandary. For example, in the infant stage, one scenario revolves around the baby's first experience with Grandma. When she picks you up, you have the option to cry or smile, and whichever is chosen affects the character's permanent status.

Because *Alter Ego* simulates a person's complete life experiences, the program contains a few explicit sexual references that may not be suitable for young players. It's nothing pornographic, mind you—but there does come a time in every young adult's life when sexual experimentation is, pardon the pun, a fact of life.

The object of each experience is to build a well-rounded character who leads a healthy, happy and long life. The player's current status is represented by an icon on the upper left side of the screen, which reveals the character's age, assets and

status bars when it's clicked. Status bars, which represent health, intelligence and other facets of a personality, change from white to black as the character acquires more skills.

There are two editions of the program, one male and one female, and each was designed to simulate the different life experiences of each gender. For example, adolescent boys ask girls for dates; girls can show interest in a particular boy, but he still does the actual "asking out." Still, the female version avoids being overly cloying, cutesy or sexist.

The first time you pick up *Alter Ego*, you'll be amazed at the depth and humor of the program. The second time around, you'll notice many similar situations, and might even remember which choice resulted in the best outcome. The third time through, you could just find yourself experiencing *deja vu*. That's the program's only major problem, but it's ultimately its downfall: there just isn't enough information here for 10 or 12 "lifetimes," which is about the least someone should expect after laying out sixty dollars or so.

Despite its limitations, everyone should play *Alter Ego* at least once. Written by a psychologist, this package offers some interesting—and surprisingly true to life—insights into how our behavior affects ourselves and those around us. It's a lesson in human nature.—TFH

LE CONJUGUEUR



List Price: \$49.95. Published by Editions Ad Lib, 220 Grande-allee, Room 960, Quebec City, Quebec, Canada, G1R 2J1. (418) 529 9676.

Writing in French is not an easy task, even if you can speak the language fairly well. One of the more difficult aspects of French is knowing what form of a verb to use and how to spell it (French verbs come in a staggering assortment of tenses and persons). While there are some rules for determining correct verb forms, there seem to be as many exceptions as there are verbs that behave according to the rules.

Le Conjugueur, a desk accessory for the

Macintosh, simplifies the process of finding the right spelling for a French verb. As you quickly write along in French (not, admittedly, an easy task on an English keyboard anyway) you might not remember the correct form of *simplifier*, to simplify, in some obscure tense.

The solution is simple! Select *Le Conjugueur* and type "simplifier" in its verb space. Then select a person (*je, tu, il, elle, etc.*), and a tense (*présent, imparfait, subjonctif, etc.*). *Le Conjugueur* checks its glossary and presents the correct form. If a verb is not contained in the glossary, *Le Conjugueur* extrapolates the correct form from basic rules of conjugation and, in the case of irregular verbs, by comparing it to similar verbs.

Le Conjugueur will even type the correct verb into your word processing document if

"Insertion Automatique" is selected. That causes the correct form of the verb to appear at the insertion point in the text when the desk accessory is closed.



Le Conjugueur is easy and fun to use. It can be a timesaver for the casual French speaker who writes letters or for the French student working on papers.—MDW

MYDISKLABELER



List Price: \$44.95; with color printing ability (on the ImageWriter II), \$54.95. Published by Williams and Macias, PO Box 19206, Spokane, WA 99219. (800) 752-4400. Version 2.1, black & white, reviewed here. HFS compatible.

Can you remember, with reasonable accuracy, what is on each and every disk you own? Not many can truthfully answer that question "yes." Files get put on disks as the

need arises, and, maybe, a note is scrawled on the disk surface or the old label is scratched out and replaced by some cryptic notes. The problems only arise later when you can't find something that you know you have.

One solution is to make labels for all your disks. These can be simple MacPaint documents printed onto adhesive-backed paper and cut to shape. This solution requires both a foreknowledge of what is on the disks, and time and patience. Another, better, solution is to use a disk-labeling

program. These programs not only read a disk's directory and allow users to put any or all of that information on the labels they create, but they also usually come with die-cut, pinfeed labels that can be printed in an ImageWriter and peeled off and applied.

One of the best programs of this type is *myDiskLabeler*. The program is both powerful and intuitive. Several basic label templates are provided. Users have a choice of simple labels, on which all information is provided by the user; labels with either small icons (32 pixels square) or large

You Can't go Wrong with MacLightning.™

MacLightning™ is the first RAM-based interactive Spelling/Grammar checker for Macintosh.™

MacLightning is an interactive spelling and grammar checker for the Macintosh that loads in as a Desk Accessory. This makes it compatible with 90% of all Macintosh software. And since it can check up to 75+ words per second, its speed makes it the fastest spelling checker for any microcomputer on the market today! It's the shortest road to a perfect document.

Whether you're using Macwrite™, Microsoft Word™, Excel™, Omnis 3™, Jazz™ or any other Macintosh program, MacLightning watches your every move and beeps whenever you make a mistake. Corrections can be made with a click of the mouse, or you can check a section, a page or an entire document in seconds.

Merriam Webster, a household name for over a century, has teamed up with Target Software to provide you with the world's best-selling English Dictionary, the 80,000-word **Merriam Webster Ninth New Collegiate Edition**. And if that's not enough, any word, name, place or abbreviation can be added to the Dictionary with a single click. And that's not all!

A variety of additional Libraries are also avail-

able, including Merriam Webster's 45,000-word Thesaurus. This Thesaurus runs simultaneously with the Merriam Webster Dictionary to provide you with up to 1.4 million combinations of synonyms. Soon you'll be able to add Libraries such as Encyclopedias, Technical Dictionaries, Scientific References and a host of others.

So before you go wrong, stop by your local dealer and go right with MacLightning!

Requires 512K Macintosh or Macintosh Plus

MacLightning with Merriam Webster Dictionary \$99.95

Additional Thesaurus Library \$49.95

Medical Dictionary \$99.95

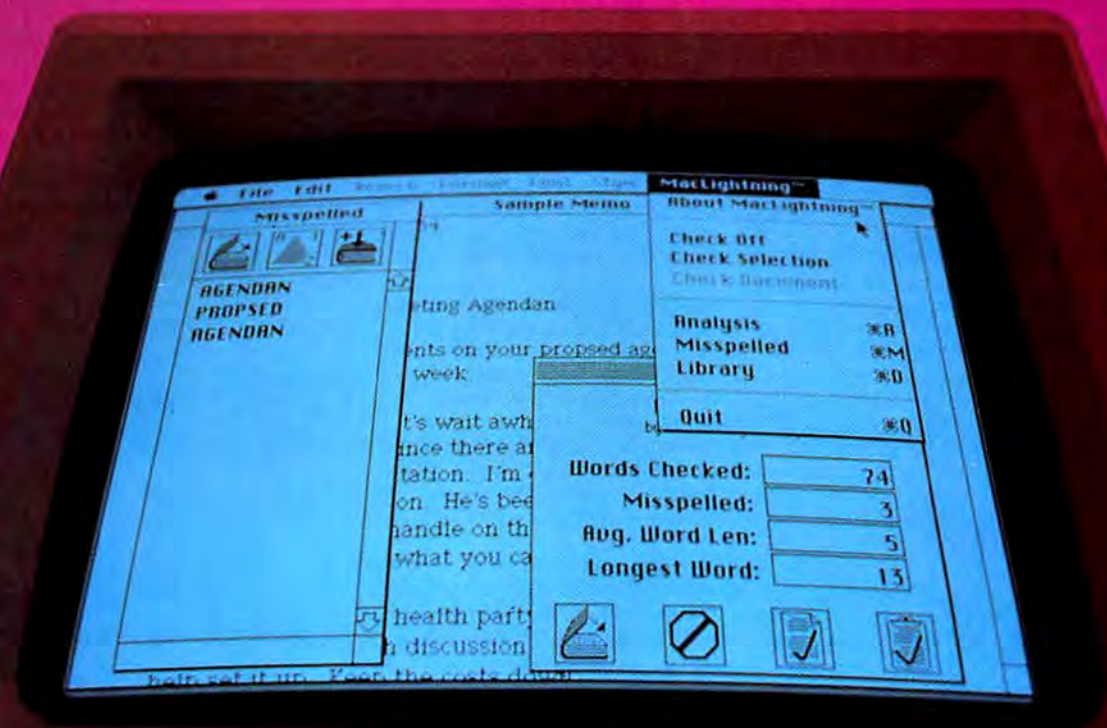
Legal Dictionary \$99.95

Call for the dealer nearest you.

MacLightning

Target Software, Inc. 14206 S.W. 136 St., Miami, Florida 33186
In Fla. (305) 252-0892; Natl. 1-800-MAC-LITE

For Free Information Please Circle 195 On Reader Service Card.



QUICK CLICKS



icons (64 pixels square); or labels which use information read from the disk's directory. Any information on any template can be edited easily, including graphic information in the icon areas. Icons can be imported from any application or document, using an "Icon Grabber" function.

The package comes with six sheets of pinfeed labels arranged nine to a sheet in a three-by-three grid. These special labels can cause a few problems if they are not used carefully. One batch tested tended to smear, while another didn't. The best solution is to use a well broken-in ribbon in the ImageWriter. The other label problem was that if labels were printed one at a time the page had to be rewound several times, and the pinfeed holes easily wear, causing

positioning problems on the later labels. The solution here is to create labels, save them to disk, and print in batches of nine.



Although the pinfeed labels only position correctly while using an ImageWriter (I or

II), regular adhesive-backed paper can be used in any printer, including the LaserWriter. Printing to the LaserWriter doesn't gain much quality, though, as the label is printed as a bit-mapped image and doesn't take advantage of the LaserWriter's fonts.

One excellent use for *myDiskLabeler* is to print multiple copies of labels for your users group's public domain disk or your own software package. Up to 55 copies can be printed at a time.

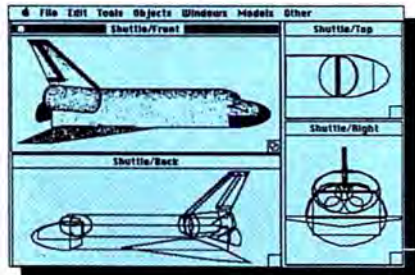
The excellent manual not only gives clear directions, but is loaded with tips for getting the most out of *myDiskLabeler*. Versions 2.0 and under were copy protected, but in response to user comments, the copy protection has been removed from versions 2.1 and up (bravo, W&M!). — SB

MACMODEL

List Price: \$40. Published by A.P.P.L.E. CO-OP, 290 SW 43 St., Renton, WA 98055. (800) 426-3667, (206) 251-5222.

MacModel is the most reasonably priced 3D program to appear for the Mac. The question is, how much do you get for your money? Quite a bit. *MacModel* does some surprising things, considering it's cheap.

The program's somewhat awkward interface can take some getting used to, but once learned, it's easy to find your way



around. Basic primitive shapes are available, including spheres, cubes, cylinder, cones and polyhedrons (solids with variable numbers of planar faces). That's it. *MacModel* sorely needs more tools for creating primary shapes. Objects can be joined, subtracted from, and intersected with each other.

Multiple windows allow simultaneous views from all sides, as well as isometric (perspective) views. There are three basic ways to display the images in a window: outline, solid and solid shaded. These attributes apply to the whole active viewing window, so that individual objects cannot have different lighting while in the same window.

The quality of the shading is quite grainy. There are two light sources: an ambient light (that determines overall lighting) and a spotlight. Unfortunately, the spotlight cannot be moved in space, although its intensity can be controlled.

Both the ImageWriter and LaserWriter are supported, although objects print as bit-mapped images on both printers. A unique

print dialog keeps users informed on how many pages (for enlarged printouts) and copies of a document have printed out.

Some of *MacModel*'s other powerful features include: automatic computation of volume, density, mass and center of gravity of an object; units of measurement which include inches, feet, centimeters, millimeters, miles and kilometers; precise three-dimensional alignment of objects, and variable object reflectivity (for creating different shades).

An on-line summary lists most of the available commands, and the documentation does a good job of explaining the program's operation. The manual includes in-depth technical information on how the program works, and also describes the exact format of a *MacModel* file (vital to programmers).

MacModel has been frequently updated (this review is based on version 4.3), and each update is substantially improved. The combination of a low price and unique capabilities helps make this program a true bargain. — DB

THE LÜSCHER PROFILE

List Price: \$39.95. Published by Mindscape, 3444 Dundee Road, Northbrook, IL 60062. (312) 480-7667.

The *Lüscher Profile* is a computerized version of the famous psychological profile test that bases its conclusions on a person's color and shape preferences.

Seven tests make up a complete profile. In the first three, subjects are asked to rank different objects (boxes shaded from black to white, with various tones of gray; eight different colored boxes; and seven patterned boxes, respectively) in order of preference, from most liked to least liked. The color and shapes are all printed in a cardboard test booklet enclosed in the program box.

In the final four tests, test subjects use a cardboard screen (enclosed in the package) to highlight different pairs of colored boxes,

choosing which of the two they prefer, then moving the screen down the column to see the next two choices.

Each full, seven-part test takes only a few minutes to complete, making this an ideal party game. Finished tests can be displayed on-screen or printed on an ImageWriter. If a profile is saved, the user is given the option to password protect the profiles from prying eyes.

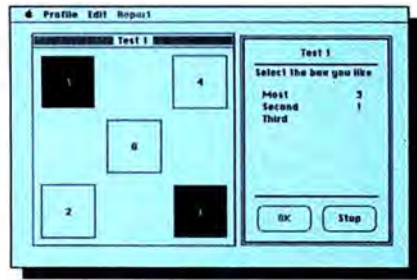
Each profile is about two pages long, and it offers insights into a number of personality facets, including "Your Mood Right Now," "Your Needs, Desires and Goals," "What You Expect From the Future" and "Things To Consider."

How accurate are the profiles? About as accurate as numerology, astrology or palmistry — in other words, the results are usually pretty general ("You don't like to be dependent on others.").

We tested the program on ten people, with two finding the reading exact, and one finding it completely false. Everyone else said it their profiles were 70 to 90% accu-

rate. On the one hand, it's extremely difficult to lie about something as basic as color preference (whereas in a program like *Mind Prober*, the respondent could just say, "Well, I'm not aggressive" and check the appropriate box). On the other hand, it's unrealistic to expect much more out of this program than you would out of any other pop-psychology program.

The *Lüscher Profile* is a very enjoyable little program, a nice little pop quiz to spring on a first date. — TFH



FOR THE BEST IN MAC GRAPHICS, ONE PRODUCT SCANS ALONE.

"Best Peripheral Device"

MacUser

The editors of *MacUser* named ThunderScan the Best Peripheral Device of 1985. Here's what they said: "ThunderScan from Thunderware is an astonishing device that transfers images to the Mac by scanning them using a snap-in device that replaces the ImageWriter ribbon... Easy to hook up and use, relatively inexpensive, this device should be owned by anyone who uses graphic images on the Mac."

"Best Graphics"

MACazine

Based upon their personal use, the readers of *MACazine* voted ThunderScan the Best Graphics System of 1985.

"Best Hardware Product"

MACazine

We didn't finish first here, but in this case we don't object to second best. Of all the hardware products on the market, ThunderScan finished second only to the Mac 512 as the Year's Best Hardware Product.

**WORKS WITH
MAC PLUS!**

*For adapter, see your
dealer or call us.*



To get the best graphics from the world's most graphic computer, experts and users agree: Nothing works like ThunderScan. Because only ThunderScan replaces ImageWriter's ribbon cartridge, scans printed images and turns them into high-resolution MacPaint documents. Just \$229 complete including our powerful image enhancement software (no video camera required). Get yours today. Or contact us for more information and sample ThunderScanned images.

ThunderScan, as shipped, is compatible with the 128K or 512K Macintosh, ImageWriter I & II and LaserWriter. Compatibility with the wide-carriage ImageWriter and Mac Plus requires accessories. Contact us directly for answers to your compatibility questions.



Thunderware, Inc.
21 Orinda Way
Orinda, CA 94563
(415) 254-6581

ThunderScan

ImageWriter and LaserWriter are trademarks of Apple Computer, Inc. Macintosh is a trademark licensed to Apple Computer, Inc. ThunderScan, Thunderware, and the Thunderware logo are registered trademarks of Thunderware, Inc. © 1987 Thunderware, Inc.

For Free Information Please Circle 236 On Reader Service Card.

BWANA BOB'S COMPUTER JUNGLE



OUTFITTING YOUR OFFICE

TIRED OF ALL THE PILES OF PAPERS on your desk? Sick of digging through filing cabinets looking for important documents? Exhausted from staying up all night trying to reconcile the cash ledger with the checking account statement? If so, you've probably said to yourself at least once, "I need one of those fershlinger computers to help me run this business!"

So it's time to bring the office into the modern era. Time to automate your whole business, so with the click of a button the payables are paid, the receivables are received, the inventory is turned over, the cash ledger is balanced, and you can concentrate on business. Sounds easy. It's not quite that simple, but with a Macintosh maybe it can be done without starting a second career as an electronics technician (and a third career as a programmer).

GETTING STARTED

Most people start with the hardware. They run out and let a smooth-talking computer store salesperson (who looks and talks suspiciously like the used-car salesperson who sold you that used Edsel last year) convince them that they need the latest and greatest from IBM. Fortunately for them (and the salesperson), IBM happens to make an OK computer that has a lot of software and hardware add-ons available, so it can normally be made to do just about anything. Unfortunately for them (but fortunately from the sales perspective), there are so many options and so many combinations that many people get confused and end up buying far more than they really need.

What is needed here is another approach. Don't go near a computer store until you know what you want a computer to do for you. Read some magazines (the one you're reading is an excellent choice). Talk

A professional's guide through the hardware/software jungle out there.

to your associates who have already taken the plunge. Take that seminar at the local community college. Gain an understanding of what computers can and cannot do for someone in your business. Find out if there are any "industry-standard" software packages in widespread use in your business (and find out what computers these packages run on). If time is more important than money, hire a consultant to do all this for you (be wary of consultants who sell hardware and software, though). In short, do all the sorts of things you would do to investigate a business opportunity or a new investment.

SELECTING A SYSTEM

Now that your computer consciousness has been raised, you get to pick your computer (and you still haven't gone to a computer store).

In your research, you probably already discovered that most businesses use IBM PCs, Apple IIs, and Apple Macintoshes. Unless your research turned up a compelling reason (such as an industry-standard piece of software that only runs on a certain machine and that you *must* have), or unless you are very technologically proficient and/or have the time to learn a lot of complicated command languages, forget the first two and concentrate on the Macintosh (what did you expect from a magazine called *MacUser*?). The Macintosh is easy to learn and easy to use, yet is still a very powerful computer, and one that is ideally suited for the office. It doesn't take up much room on the desk, is portable enough to take home from time to time, and there is a great deal of business software available for it.

The Macintosh comes in more than one model, but for business purposes the Macintosh Plus is the ideal choice. Its 1 megabyte of memory allows plenty of room for data when running most business software packages, its disks each hold 800K of data, and its speed enhancements make it really swift.

For a printer, there is the *almost* letter-quality ImageWriter II dot-matrix printer. Letter-quality daisy-wheel printers can be used, but with more difficulty and with the loss of the "what-you-see-is-what-you-get" Macintosh philosophy, where the printed image is identical to the screen image. Since this is a business system, with the attendant investment tax credit and depreciation allowances (get them while they last), the expensive, extremely high-quality LaserWriter would be the printer of choice, especially if your business involves much correspondence and/or business graphics.

For data storage, you'll definitely want a hard disk. Since the Macintosh Plus has a SCSI (Small Com-

BY ROBERT R. WIGGINS

OUTFITTING YOUR OFFICE

puter Standard Interface) port, there are many possible choices here, from 5 megabytes to over 200 megabytes of storage space. Apple offers its own non-SCSI unit, the Hard Disk 20 (HD20) which connects to the disk drive port on the back of the Mac, is design coordinated, and fits under the Mac bringing the screen up to eye level. Other units, such as the HyperDrive 20 and the Micah AT, fit inside the case and thus take up no extra room. While the internal hard disks seem to offer more convenience, you may not be able to use the Mac if they break down. If an external hard disk fails, simply disconnect it and send it off to be fixed. (You did back up all the material on to regular disks recently? Right?) You can even have multiple hard disks (not a bad idea for backup and availability if one breaks).

There are also disk servers that can let several Macs share applications and data. Servers require that all the Macs be tied together by a local area network (LAN). The most common LAN is Apple's AppleTalk network. Omnet and Hypernet are also gaining favor in small offices. One interesting software serving solution is a program called *MacServe*. It turns any hard disk and AppleTalk network into a disk serving network.

SELECTING A DEALER

Now go to a computer dealer. Which one? Again, use the same thoroughness you would use in selecting any major supplier. Or more. Get recommendations from associates. Check them out thoroughly. Visit them. Interview them. Check out their service department. Computers are complex systems, and you need to have someone reliable who you can trust standing behind the products you select to entrust your business to. Good computer dealers are harder to find than good car dealers (and you know how hard *that* is), so look high and low, long and hard.

SELECTING SOFTWARE

So now you have your Macintosh Plus, printer, and hard disk (and if you selected your dealer well, you didn't even have to sit through a

pitch for the IBM PC). Now for the hard part. You have a lean, mean machine capable of tremendous graphics with plenty of data storage, and it can't do anything. You need software.

•WORD PROCESSING

The first software package you should get is a word processor. This is really a necessity, not an option. Many programs come with documentation in *MacWrite* format. In the olden days, choosing a word processor was easy (*MacWrite* came with the Macintosh), but with unbundling, you have a choice: *MacWrite* or *Word* (and more to come in the future). For simplicity and ease of use, take *MacWrite*. If you need a lot of power in a word processor (with a corresponding increase in difficulty of use), look at *Word*, which includes many features, such as mail-merge capabilities, that *MacWrite* lacks. *Word* can also read *MacWrite* format files, so don't worry that you need both, although having both can be useful as they have different strengths and weaknesses.

•ACCOUNTING

One of the reasons you bought a computer was probably to simplify your accounting. Bookkeeping is substantially simpler and less prone to errors on a computer. There are many packages out there, but before you buy one and especially before you commit the time to enter your data into one, show it to your accountant. *Make sure the reports your accountant needs can be produced by the package you are looking at.* That is the most important rule when buying accounting software.

•SPREADSHEETS

It may be that no accounting package passes muster with your accountant. If so, never fear, *Excel* is here. *Excel* is the most powerful, most flexible spreadsheet program ever written for any computer. *Excel* has an extensive macro facility with which you can write your own bookkeeping system using spreadsheets. Even if you found a suitable accounting package, you still want a

spreadsheet for doing ad hoc analysis, and you have several to choose from besides *Excel*. Other spreadsheets, such as *Crunch* and *Multiplan*, are good, but very limited compared to *Excel*.

•OTHER NUMBER CRUNCHING

There are several statistical and data analysis packages for the Mac if you need such capabilities for your business. *MacSpin* is a dynamic graphic data analyzer, *StatWorks* and *StatView* provide descriptive statistics, and *ProAnalysis* does real estate investment analysis.

•BUSINESS GRAPHICS

If your line of work can profit from graphic presentation, the Mac was definitely the right choice. There are several packages for data graphing, including *Excel* (discussed under Spreadsheets above) and *Cricket Graph*. There are also packages for doing scale drawings, such as *MacDraw* and *MacDraft*. There are even packages such as *Easy 3-D* for doing three-dimensional drawing.

•DATABASES

Most businesses have a lot of things to keep track of. Database software can be used to group this information in related clumps and provide ways to get access to it randomly. There are many database products for the Mac, each with its own peculiarities, so you will have to look at many to find one suited to your business and your style. *Interlace*, *Omnis 3*, *Helix*, *Business Filevision* (a graphic database), *OverVue*, *FactFinder*, *FileMaker*, *1st Base*, and *File* are just some of the packages available.

•COMMUNICATIONS

These days instant information is often the key to success. There are more and more information services springing up around the world to let you get access to the information you need for your business. Some of the larger banks are beginning to offer bank via modem services to their business customers. To get in on these services, you'll need a modem and some communications software. Some services provide special

Everything Business ... the proven solutions!

Order Processing & A/R * Inventory * Purchase Order & A/P

TELEX & Electronic Mail * Mailing Lists * Merged Letters

Mainframe/Micro Communications * File Conversion

Custom Design: Sales/Marketing/Pricing/Job Order

NEW
20 PAGE
CATALOG

Note: Available Direct from Template Systems® or your "Authorized" Apple® Dealer Only

-
- | | | |
|--------------|--|--|
| \$259 | Template Systems originated as an in-house effort to develop a stand-alone PC system for the MicroGroup® when they outgrew their inflexible, unreliable multi-user microcomputer. The prototype met all the goals and provided a bonus...SPEED. The system is now managed by <u>clerical</u> personnel! The packages contain USER MODIFIABLE Templates used with Microsoft FILE® that can manage all the needs of distributors manufacturers and some retail items such as furniture, furs and jewelry (a great way to send reminders, thanks, appraisals, etc). Can easily "import" data from other Macs providing multi-user computer power and flexibility (with or without networking). Supports multi-company and/or divisions in the same file. | Order Processing & A/R:
Up to 25000+ orders/year
Prints: Packing Slip, Label, Invoice, Backorder, Credit Memos, etc.
Printed Reports Re. Everything!
Inventory:
Up to 60000 items by lot, item, both
Printed Reports Re. Everything!
Purchase Order & A/P:
Similar to Order Processing
Prints checks, aging, etc.
Printed Reports Re. Everything! |
| <hr/> | | |
| \$99 | | |
| \$199 | With 1stBASE you can use the Macintosh mouse, menus and other tools to create files of your own design, enter and edit data, sort multiple fields and produce reports from single or joined files. 1stBASE allows computing of up to 25 new fields with arithmetic and IF...THEN...ELSE logic, storing of reports and the programs used to generate them, mailmerge functions, up to 5-ACROSS LABELS, multiple line headings Reports saved as "text" can be "UPLOADED" into most data bases and spreadsheets. The easiest to learn relational data base. | Up to 100 fields per record
Up to 100 list fields per report
Up to 10 sort fields per report
Up to 25 computed fields per report
Up to 5000 characters per record
Up to 16 megabyte files
Relational joining of files
IF-THEN-ELSE logic
Hard and ram disc compatible |
| <hr/> | | |
| \$195 | With 1stPORT your Macintosh can function as a terminal and can communicate with other micros, mainframes, TELEX and on-line data base services. You can send and receive ASCII and binary data. Auto-dial & auto-log on are provided. 1stPORT provides a totally unique file conversion system that allows transfer of data between text, Clipboard, DIF, SYLK and 1stBASE, but can redefine the the number, length, position and type of fields within a record and actually and UPLOAD the data back to the original program or most any other spreadsheet, data base, word processing or communications program. 1stPORT is the ideal solution to routinely convert data between various brands of computers and data formats. | COMMUNICATIONS:
ASCII terminal emulation
Auto Dial and auto-log on
Apple & Hayes compatible
FILE TRANSFER:
ASCII or binary either direction
Supports XMODEM® protocol
FILE CONVERSION:
Tabular data can be transferred among text, DIF, CLIPBOARD and 1st BASE formats... FIELDS AND RECORDS CAN BE REDEFINED |
| <hr/> | | |
| \$125 | With 1stMERGE you create a form letter in MacWrite using "[]" to define the field insertion points (you can use the same field any number of times). The data can be in 1stMERGE , 1st Base or converted from any data source; modem file, any Macintosh or other computer database (converted using 1stPORT > 1stBASE). 1stMERGE allows the maximum flexibility and use of the Mac features by applying "cut&paste", MacPaint graphics and all MacWrite fonts and type styles. Can produce up to 5-up labels including the standard 4-up Cheshire mailing label format. | Up to 100 fields per MacWrite letter
Up to 40 pages per MacWrite letter
Up to 1000 paragraphs per letter
Up to 100 fields per record
Up to 50 characters per field
Up to 16 megabyte files
Hard and ram disc compatible
Can directly use 1st BASE files
Requires MacWrite® |
-

Microsoft® & Microsoft File® are reg. TM of Microsoft Corp®. ** Macintosh® is a reg. TM licensed to Apple Computer
Apple & MacWrite are reg TM of Apple Computer ** 1stBASE®, 1st PORT®, 1stMERGE® are reg. TM of Template Systems

Template Systems, Inc.

7 Industrial Park Medway, Mass. 02053

1-800-522-2286

(617) 533-2203 (Ma.)

For Free Information Please Circle 230 On Reader Service Card.

OUTFITTING YOUR OFFICE

	BUDGET SYSTEM		BLUE SKY SYSTEM	
HARDWARE				
Computer	Macintosh Plus	\$2599	Macintosh Plus	\$2599
Printer	ImageWriter II	\$595	LaserWriter Plus	\$6798
Disk Drives	Apple HD 20 + 800K Ext.	\$1998	Micah 20 AT + 800K Ext.	\$2394
Modem	Apple Personal Modem	\$399	Hayes SM 2400	\$795
SOFTWARE	Hardware Subtotal:	\$5591	Hardware Subtotal:	\$12586
Word Processing	MacWrite	\$125	MacWrite	\$125
			Word	\$195
Spreadsheet	Crunch	\$195	Excel	\$395
Accounting	Rags to Riches (GL & AR)	\$590	Your Accountant's Choice	\$695
Graphics	MacDraw	\$195	MacDraw	\$195
			Cricket Graph	\$195
			Excel	inc.
DataBase	Interlace	\$129	Omnis 3	\$495
Communications	Red Ryder	\$40	Smartcom II	\$149
Other	Software Subtotal:	\$1274	Software Subtotal:	\$2444
Outline Processor			ThinkTank 512	\$245
Data Analysis			StatView 512	\$350
Project Manager			MicroPlanner+	\$495
Page Layout			PageMaker	\$495
			JustText	\$195
			Add'l Software Subtotal:	\$1780
	SYSTEM TOTAL:	\$6865	SYSTEM TOTAL:	\$16810

software, others will talk to any terminal emulation program. Good telecommunication programs include *Smartcom II*, *Red Ryder*, *Microphone* and *Versaterm Pro*.

•THE INTEGRATED SOLUTION

If extreme ease of use is your goal, consider an integrated package such as *Jazz*. *Jazz* combines spreadsheeting, telecommunications, word processing and charting in one huge program. While you can obtain better individual programs, sometimes the convenience of not having to change programs and the linking of programs, so that data entered in one segment updates all the other segments as is necessary, makes them worthwhile. Overall, though, the Mac interface, which adds a level of consistency to programs never before seen, make integration less necessary than it is in the IBM world. If you get an integrated program, be sure all the parts do what you want them to, or you'll have to get additional software, while losing the benefits of integration.

•DESKTOP PUBLISHING

If your business is one which would profit by a professional-looking newsletter to your clients or doing advertising mockups, the Mac

will run software that will help with the job, or even do the entire job. The leading programs are *Ready-SetGo* and *PageMaker*. If you bought a LaserWriter, a package called *JustText* can provide advanced typesetting features, at a severe loss of ease of use.

AND ON AND ON

There's software to help you approach problems like *Decision Map* and *odsi/Consultant*; to help plan projects like *MacProject* and *MicroPlanner*; to design forms like *MegaForm*; to get your thoughts in order in outline form like *ThinkTank*; to organize your office into electronic file cabinets like *The Executive Office*; or to schedule rooms and people in an office like *Front Desk*. And the list of business software for the Macintosh continues to grow.

LET'S TALK NET

So what do you really need? The chart shows a comparison of a budget system and a "blue-sky" system (cost no object). What you need for your office will probably fall in between the two extremes, for a cost between \$6,700 and \$17,000. Be aware also that these are list prices. Dealers can and do negotiate on pricing, particularly for complete

systems. Different dealers have different prices, too, so include this variable when evaluating dealers.

The heavy budget hitter is, of course, the LaserWriter. Evaluate carefully whether or not you need it. Compare the quality with the ImageWriter II at your dealer. Do you need the increased resolution? Another factor is printing volumes. To keep the LaserWriter healthy you should be expecting a print load of at least 300 pages/month, but not much over 2500. If you just need it for a few pages a month, see if your dealer will let you use the demo model in the showroom (many will oblige if you buy your complete system there, or will allow printing for a slight fee). There are also LaserWriter printshops springing up across the country. On the other hand, having the power of a small print shop in your office is a powerful inducement towards a LaserWriter.

REVIEWING THE PROCESS

1. Don't buy blind or on impulse or on a salesperson's recommendation. Learn as much as you can and arm yourself with data before setting foot in a dealer. You're not buying a typewriter, you're making a substantial capital investment. Treat it accordingly.

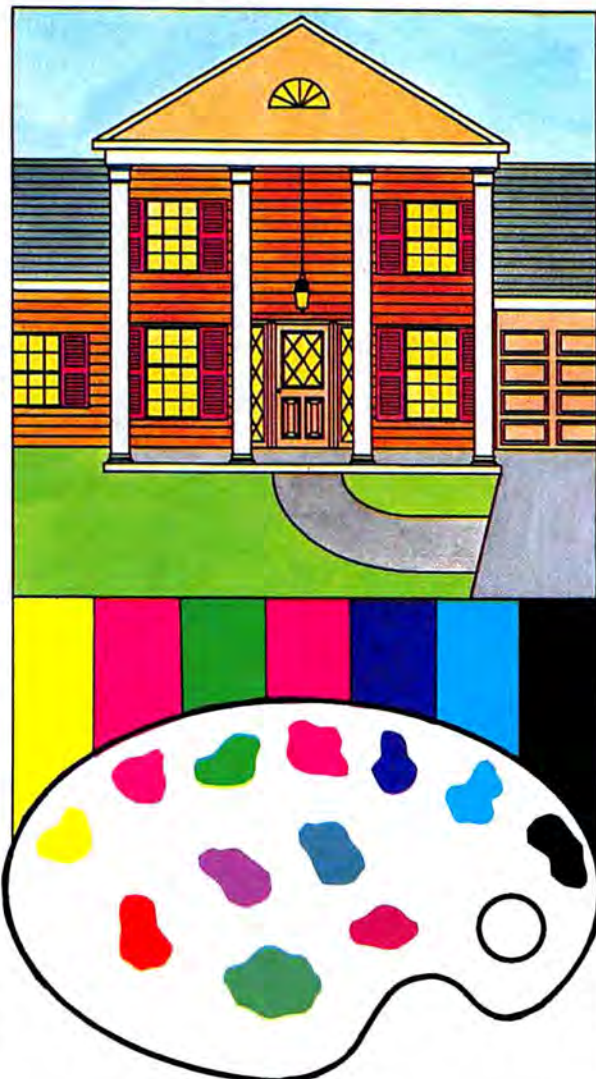
2. Review your own needs carefully. Do you really need super-high-resolution output? Are you going to do much printing? Do you need telecommunications access? Don't waste money buying equipment and software you don't need.

3. Choose your dealer with care. Price is only one consideration. What about service? Training? Post-sale follow-up? Reliability? Trustworthiness?

4. When selecting software, be sure it is compatible with how you run your business. The computer is there to help you, not to make you redesign your entire way of doing business (unless it's for the better!). And be sure that packages like accounting software produce the data that the people you deal with (like your accountant) need. ☐

Robert R. Wiggins is a New York-based consultant and author.

MacPalette



PRINTS IN COLOR ON THE APPLE IMAGEWRITER II

Install MacPalette™ on your application disk, then use the PRINT command to print in color from MacDraft®, MacDraw®, MacWrite®, JAZZ®, Chart®, MacProject®, and all other object orientated programs (not MacPaint®). MacPalette™ gives you the ability to mix an almost infinite number of color patterns.

BUY IT FROM YOUR DEALER TODAY!

For more information, phone CompServCo

1-800-272-5533

MacPalette is another Microspot quality product. Dealer inquiries are welcome.

MacDraw, MacWrite, MacProject, & MacPaint are ™ of Apple Computer. MacDraft is a ™ of Idd, Inc. JAZZ is a ™ of Lotus. MacPalette is a ™ of Microspot.

For Free Information
Please Circle 68 On Reader Service Card.

MacCalc™ \$99.95 Call 800 345-2888

Incredible Spreadsheet Price/Performance

Call to order, or mail to:
Bravo Technologies, Inc.
c/o DPAS P.O. Box T
Gilroy, CA 95021-2249

Yes, I want it *Fast*

Rush me MacCalc for \$99.95
(plus taxes and \$5.00 P&H).

(You may use your credit card, company check, or bank draft.)

VISA MC AMEX Co. Check Bank Draft

Card Exp. Date: ____/____/____

Card # _____

MacCalc @ \$99.95 \$ _____

C.A. res. add sales tax \$ _____

postage \$ 5.00

Amount enclosed: \$ _____

Name _____

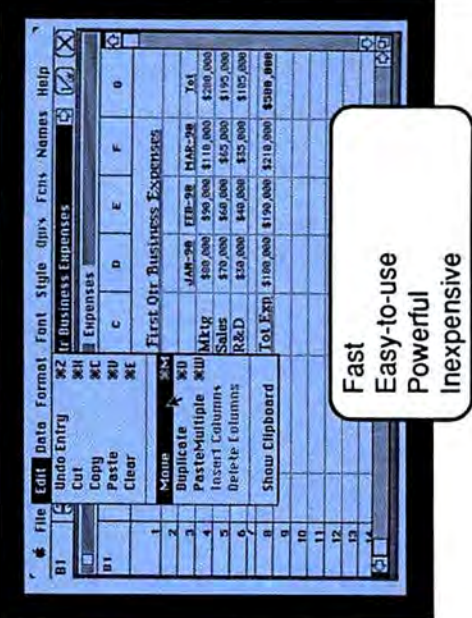
Ship To: _____

City: _____

Tel: _____

State _____

Zip _____



Fast
Easy-to-use
Powerful
Inexpensive

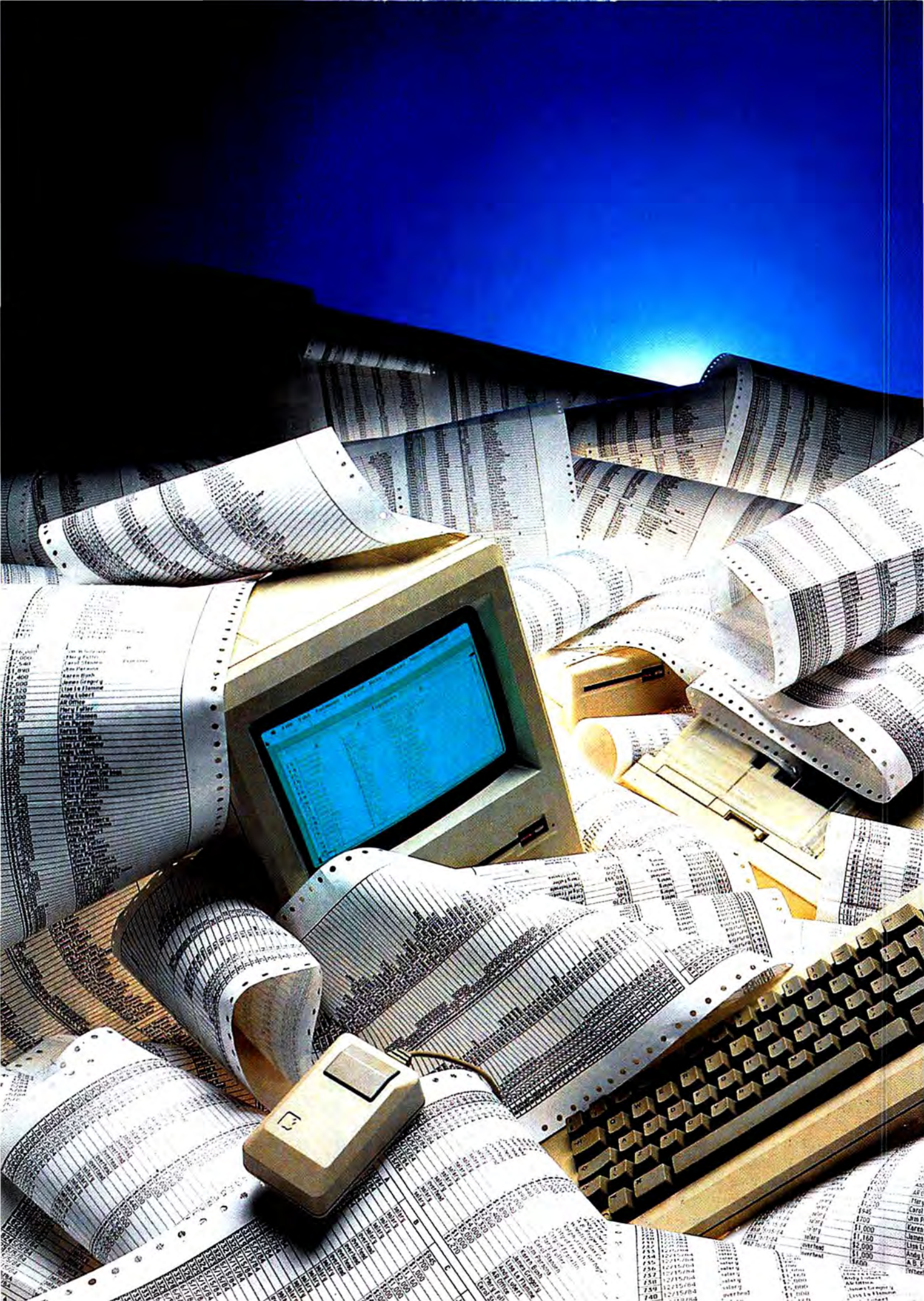
MacCalc™ fulfills your basic spreadsheet needs: it is powerful, straightforward, and effective. Its professional features let you create, manipulate, and present your information quickly and easily:

- Minimal recalculation™ technology, rivals Excel™ in performance
- Easily accessible commands
- Built-in financial functions
- Full fonts, styles, sizes by cell
- Cell notes
- Reads and writes Lotus 1-2-3™ models and SYLK™ data
- On-line Help
- Full Undo for all operations
- Not copy-protected

BRavo

Bravo Technologies, Inc.

For Free Information
Please Circle 234 On Reader Service Card.





UNTANGLING THE SPREADSHEET BLUES

**Here's how to crunch
your numbers —
without mangling them.**

DAVID, A FINANCIAL CONSULTANT, recently used *Excel* to develop a financial model for an important client. He chose *Excel* because its power and flexibility combined with the ease of use of the Macintosh made model building a positive joy. Everything went swimmingly until he was making a presentation of the model. During the presentation, the client's comptroller pointed out that one of the columns of a matrix in the output didn't add up correctly! The mistake was a small one and it altered the bottom line only slightly, but the discovery of the error seriously undermined the trust David's client had in him.

BY JOSEPH T. KELLEY

David could have been avoided this embarrassment had he debugged his model and actively looked for the many errors that commonly occur in even the best spreadsheets — even ones produced with well designed and powerful tools like *Excel*. Instead he learned the hard lesson that all models are incorrect until proven otherwise.

WORKING WITH MATRICES

Matrices — rectangular arrays of numbers — are widely used in model building. Consider the matrix in Figure 1, which was designed to show sales of a hypothetical company organized by regions (the rows) and by product line (the columns). The row totals are intended to show total sales by region, and the column totals display total sales by product. Such matrices are very useful (when correctly prepared) and are an important tool in management decision-making. Unfortunately, if the matrix contains incorrect data, or if the formulas used in calculations are wrong, the results will be wrong as well — possibly resulting in a disastrous management decision.

Whenever you first encounter a matrix, give it a quick test for plausibility: are the results at all likely? For example, a column containing a dozen or so numbers that are generally above 1,000 should have a total above 10,000. This is a very crude

UNTANGLING THE SPREADSHEET BLUES

check and it is a sad commentary on the output of computers (mainframes, minis and micros) that much of that output fails this simple test. I was once presented with such a matrix and there was no way that the totals could be correct. When I pointed to a column and remarked, "That column doesn't add," I was told, "What? That can't be. This is a computer report!" And this was from a self-styled computer "expert"!

After a scan for plausibility, matrices should be crossfooted to verify accuracy. If the grand total (the number in the lower right-hand corner) has been calculated as a total of the rows to the left, recalculate it as the total of the column above it. This should be standard procedure for the construction of all spreadsheets; it is a very informative procedure, as you can see in Figure 2.

The disagreement of the row and column totals shows that there is an error in the formulas of the matrix which must be found and eliminated. There are several ways to do this. First, a temporary row and column can be added at the bottom below the total line and on the right beside the total column. Formulas should then be keyed into the row and column and the results compared with the existing totals. It is important to key in the formulas anew, rather than simply copying them from the existing formulas, so that an incorrect formula is not inadvertently used.

Another technique for finding errors is to scan the formulas and use your knowledge of symmetry to locate the incorrect entry. If the formulas are very complicated, it is useful to check each "piece" of the formulas separately rather than to evaluate each formula as a whole. Thus, in Figure 3 the beginning entries in each formula in the total row (the R[-3]Cs) would be scanned first, then the concluding entries. In our case, the R[-2]C stands out because of its disagreement with the preceding and following R[-1]Cs.

Yet another technique is suggested by the difference amount shown in Figure 2. Since many errors involve only one cell in a matrix,

FIGURE 1

A Sample Matrix					
	1	2	3	4	5
1		SALES BY REGION AND PRODUCT			
2					
3		Product A	Product B	Product C	Total
4	Region 1	867	254	127	1248
5	Region 2	656	693	512	1861
6	Region 3	434	102	821	1357
7	Total	1957	947	1460	4364
8					

FIGURE 2

The Sample Matrix Crossfooted					
		Product A	Product B	Product C	Total
Region 1		867	254	127	1248
Region 2		656	693	512	1861
Region 3		434	102	821	1357
Total		1957	947	1460	4364
					4466
					-102

FIGURE 3

The Sample Matrix With Formulas Displayed			
12	Product A	Product B	Product C
13	867	254	127
14	656	693	512
15	434	102	821
16	=SUM(R[-3]C:R[-1]C)	=SUM(R[-3]C:R[-2]C)	=SUM(R[-3]C:R[-1]C)
17			
18			

FIGURE 4

The Sample Matrix With "Error Resistant" Ranges			
3	4	5	6
Product B	Product C	Total	
254	127	=SUM(RC[-4]:RC[-1])	
693	512	=SUM(RC[-4]:RC[-1])	
102	821	=SUM(RC[-4]:RC[-1])	
=REPT("-",10)	=REPT("-",10)	=REPT("-",10)	
=SUM(R[-4]C:R[-1]C)	=SUM(R[-4]C:R[-1]C)	=SUM(RC[-4]:RC[-1])	

always calculate the difference between row and column totals. Scan the matrix to see if the same value appears somewhere in the matrix. If it does, check that cell first to see if its row or column formulas are incorrect. It won't always work out to be the case, but it happens often enough to be a good procedure.

While it is obviously desirable to be able to detect and correct an error in a spreadsheet, it is even more important to construct spreadsheets in such a way that they are error-free. Better yet, they should be "error resistant," that is, designed to avoid common errors. This is particularly true for a spreadsheet that will be used by other people. For instance, the common practice of inserting new rows or columns into a matrix, frequently along the margins (for

example, between the last number and the total), is dangerous because the new data will not be added into the total. To avoid this, always have a blank line (or a line of column headings) at the top, a line of dashes between data and column totals and a narrow column between data and row totals. If the formulas include these zero value cells, inserting rows or columns — even along the edges — will automatically result in correct calculations or produce a spreadsheet that looks odd enough to suggest that an error has occurred.

Figure 4 shows the formulas of the previous spreadsheet after the recommended adjustments. Note that column 5 is included in the formulas in column 6 and that the bottom row now adds the cells from the title line to the dashed line.

BUILD IT BETTER THE FIRST TIME THROUGH

Exhibit 1 is typical of the possible structure of many *Excel* models. It has areas for general information, data entry (in our example, two such areas), a discussion of the logic of the spreadsheet, a list of range names and a macro documentation area. (The "Reconciliation" area on the upper right is used to determine the accuracy of the reconciliation and is an example of how each spreadsheet is unique.) Last, but not least, is a documentation area.

Every spreadsheet should have a place reserved for general information, including its title, name of preparer, date of preparation, information about the date and source of data used in the spreadsheet, and any helpful information (such as the location of the internal documentation). Exhibit 2 shows the broad physical design of the spreadsheet.

All spreadsheets should have a data entry area, which should be clearly labeled as such. Learn to recognize fundamental variables when you see them (e.g., inflation assumptions, estimates of cost, etc.) and put them in the input area — don't bury them in some formula in the middle of the spreadsheet. In our example, the data entry area consists of two parts: a place to enter the statement balance and a place to enter the data on checks. In the example, the major part of the spreadsheet is for data entry since the key element is the check register that occupies a large part of the spreadsheet.

A section of a spreadsheet devoted to explaining the logic used in achieving the desired results of the model can greatly facilitate both understanding the model and possibly changing it. Without such advice

from the creator of a model alterations to the sheet can only be made with increased risk of error.

Use descriptive range names (and list them in a range name area of the sheet) which suggest their role in the model. Range names like "BankAmt" and "MyAmt" make the interpretation of a model much easier and facilitate tremendously the modification of the model for other purposes. The example uses several range names as shown on Exhibit 3; six names are for convenience in getting around the spreadsheet and have no other purpose.

If your spreadsheet uses macros, place them in a macro documentation area with an explanation of the purpose of each macro. Exhibit 1 shows a likely spot for macros.

COMMON SPREADSHEET PROBLEMS

Planning is a virtue more easily praised than practiced. Planning requires self-control — something which few people really enjoy since the effort is up-front, but the value is returned only toward the end of the project. Yet when models are designed without adequate planning — when they, like Topsy, "just grew" — they frequently display twisted logic that can be indecipherable. When such a situation occurs, it's worth the time and effort to use the power of Cut and Paste to reorganize and simplify the spreadsheet. *Excel* encourages users to build on existing models, but, thoughtlessly done, the result can be indecipherable to others who may need to use your model.

Some problems will never disappear. With spreadsheets these include the use of incorrect formulas, incorrect data and the effects of sheer ignorance. Formulas can be verified by inputting numbers whose correct answer is known. The formulas themselves can often be verified by reference to books that contain lists of formulas. Always use parentheses to control the order of calculation of your formulas, since the next user may not understand *Excel*'s precedence of calculation.

If possible, have someone else

who is familiar with *Excel* go over your spreadsheet. A fresh look will often uncover logical inconsistencies as well as formula errors. This procedure has the added value of providing insight into whether your model is confusing or unduly complicated.

If a model is used by more than

one person, there is a significant risk that an uninformed user will overwrite formulas with data. Using *Excel*'s capability to protect the non-data entry portions of the spreadsheet from change is a necessary step for any spreadsheet that will be used by a group of people.

EXHIBIT 1

CHECKING RECONCILIATION TEMPLATE DESIGN



UNTANGLING THE SPREADSHEET BLUES

EXHIBIT 2

1	2	3	4	5	6	7	8	9	10	11	12	13
36	DOCUMENTATION				SPREADSHEET LOGIC							
37												
38	i) ENTERING TRANSACTIONS				The logic of the spreadsheet is simple: Transactions							
39	Enter the data for either checks or ATM transactions				are entered in rows according to the column headings.							
40	in columns 2, 3, 4, 6, and 7. For ATM transactions enter				The balance column leaves the previous balance							
41	the transaction number in character format (e.g., "1234")				deducts checks and adds deposits. The logic function							
42	to keep ATM numbers left justified.				in column 10 determines outstanding items by looking							
43					for other than a "1" in column 9. The reconciliation							
44	ii) INVERTING NEW ROWS				at the top takes the statement balance, adjusts for							
45	After inserting new rows at the bottom, fix the boundary				outstanding items and compares the result with the							
46	Columns 1 and 11 and column 10 by a FILL DOWN command				checkbook balance at the bottom of column 5. The							
47	from the last entry. Format columns 3, 4, 5 and 10 for dollars				ERROR TO BE CORRECTED amount appears in finding							
48	and column 6 for align center. FILL DOWN columns 5 and 10 as well.											
49												
50	iii) DELETING OLD RECORDED TRANSACTION				RANGE NAMES							
51	You may only delete a consecutive series of transactions				Blank_Amt The bank balance							
52	starting with the entry below the BALANCE line (line 18)				Reg_Amt Check register balance							
53	and stopping where you wish. Make sure all transactions have				Balance Balance amount from the statement							
54	a "1" in column 9 to show they have been recorded by the bank				LOGIC Location of logic narrative							
55	Select the transactions to be deleted including the boundary				DOCUMENTAT Location of documentation							
56	Make sure you are correct. Note the balance in the last line				RANGE NAMES Location of this file							
57	to be DELETED. Enter it in cell R10C5 (the BALANCE line).				MACROS Location of macro documentation							
58	Delete the transactions. Check your work				RECONCILIATP Location of the Reconciliation							
59	by recalculating and examine the reconciliation.											
60	In the cell below the balance amount, insert the correct formula											
61	=Cell above minus 2 Cells to the left plus the Cell to the left											
62	Recalculate and check the reconciliation.											
63												
64	iv) RECONCILIATION TO THE BANK STATEMENT				MACROS							
65	Take the bank statement and enter the balance in R10C4				No macros are used in this spreadsheet.							
66	(Range name Blank_Amt) and for each transaction on it,											
67	locate the corresponding transactions in this sheet and											
68	enter a number 1 in column 9. Recalculate the sheet.											
69	Examine R10C10 for the amount of error in your work. If											
70	it is zero, print out the sheet and put it with the Bank Statement											

EXHIBIT 3

1	2	3	4	5	6	7	8	9	10	11	12	13
CHECKBOOK ACCOUNT RECONCILIATION TEMPLATE												
Prepared by: Joseph T. Kelley												
Date Prepared: 09/02/85												
Checks/ATM Data as of: 08/09/85												
Statement Date: 08/09/85												
Documentation in: Range "DOCUMENTATION"												
***** DATA ENTRY AREA *****												
Enter Statement Amount Here (mmmm): \$430.49												
Enter Checks and ATM Data in Check Register Below:												

***** CHECK REGISTER *****												
Payee Decrease Increase Balance Check Date ATM/Chk turn Statement Outstanding												
Date No =1 Date Items												
BALANCE \$996.99												
1st User \$19.97 \$167.02 07/05 562 1 08/09/85 \$0.00												
C&P Telephone \$47.00 \$192.02 07/05 567 1 07/10/85 \$0.00												
21 Citibank Visa \$965.00 (\$44.98) 07/05 568 1 07/10/85 \$0.00												
22 Stawout County \$250.00 (\$294.98) 07/05 569 1 08/09/85 \$0.00												
23 VOID Check No. 499 \$250.00 (\$44.98) 07/05 None 1 07/05/85 \$0.00												
24 ATM Deposit/VirtDraw \$50.00 \$72.84 (\$22.14) 07/08 3947 1 07/10/85 \$0.00												
25 ATM Deposit/VirtDraw \$100.00 \$299.25 \$177.11 07/11 4579 1 08/09/85 \$0.00												
26 ATM Deposit/VirtDraw \$100.00 \$435.21 \$512.32 07/31 6187 1 08/09/85 \$0.00												
27 ATM Withdrawal \$100.00 \$142.32 08/14 0089 (\$100.00)												
28 Washington Apple Pk \$45.84 \$368.48 07/20 570 1 08/09/85 \$0.00												
29 Floss's Eternment \$30.00 \$338.48 07/25 571 1 08/09/85 \$0.00												
30 \$338.48												
31 \$338.48												
32 \$338.48												
33 \$338.48												
34 \$338.48												
35 \$338.48												

Users also have a bad habit of entering atypical data (for example, words in numeric fields, decimals in date fields, very large numbers where the logic is dependent on small ones, etc.). Always test for this. Don't assume that the data put into the model will be what is expected.

SPREADSHEET STANDARDS

Avoid the chaos that can result from conflicting spreadsheets, each of which is intended to be a model of the future, by mandating the use of the same database (hopefully from a common corporate database, where verification of data is made) and insist that the assumptions used in each model are clearly stated and displayed in one area of the spreadsheet. Each model should be audited for consistency and accuracy and be fully documented in writing.

Learn to question computer printouts: question the data, question the assumptions.

Remember the two paramount facts about data processing outputs — number one: they are late; number two: they are wrong.

Develop effective documentation procedures to avoid the "only the guy who designed the model knows how it works" problem and make documentation a standard operating procedure for any important spreadsheet. Formal spreadsheet procedures for auditing spreadsheets and documenting them should be developed and implemented.

Because even a primitive spreadsheet can be used to construct dynamic models which mimic financial behavior with a relative minimum of effort, power spreadsheets like *Excel* will be with us into the foreseeable future. But even *Excel* can't save you from yourself.

Excel is a truly powerful and wondrous tool that can greatly extend the capabilities of anyone who must develop financial models. As with any powerful tool, it is incumbent on the user to know the risks that the use of the tool entails if it is to be used wisely.

Compute and enjoy! ☺

Joseph Kelley is a financial troubleshooter for the Massachusetts government.

DEBUGGING EXCEL: RISKS AND RESPONSES

RISKS

Erroneous Data

Incorrect formulas

Incorrect cell references

Mistyped or misdefined range names

Wrong version

RESPONSES

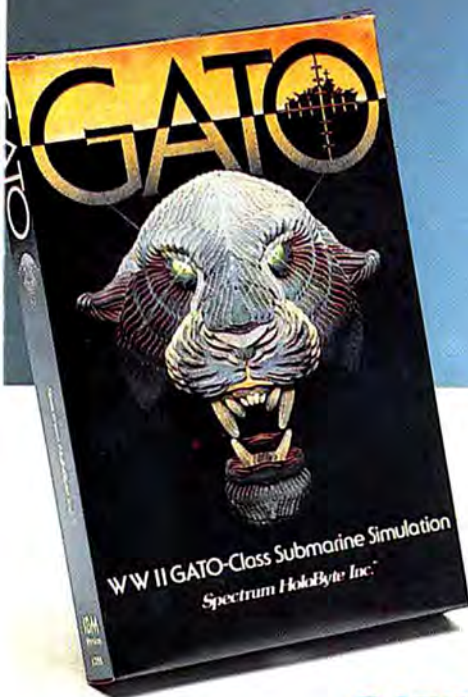
Have someone else verify the numbers to their source; use formulas to replicate known totals or other "data about your data."

Enter data for which an answer is known. Enter zeros and ones. Use *Excel* as a "calculator" and check the calculations.

Use range names.

Use careful checking; eliminate any unneeded range names.

Number versions successively, save them frequently to different disks, delete intermediate versions at the end of each session, and date, document and save for a year all major intermediate versions.



GATO

BATTEN DOWN THE HATCHES!!!

GATO puts you in the control room of a World War II combat submarine. This simulation uses a variety of realistic operations and strategies that will provide many hours of challenging entertainment pleasure.

The position, courses, and maneuvers of the sub and all ships are continuously calculated and displayed in real-time as they pursue their strategic and tactical objectives in the patrol area. Three-dimensional object perspective in the conning tower and periscope screens, and offensive/evasive ship movement make every battle challenging.

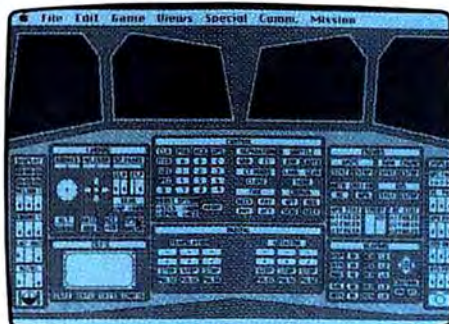
(IBM requires 128K, color graphics card, graphics monitor, double-sided drive. Apple IIe™ or IIc™ requires 128K, single-sided drive. Joystick optional. Macintosh requires 128K.)



ORBITER

THE ADVENTURE BEGINS...

Since the 1950s, space flight has fascinated the world. Until now most of us couldn't even hope to actually participate in a launch. Enter ORBITER, your personal window to space flight command.

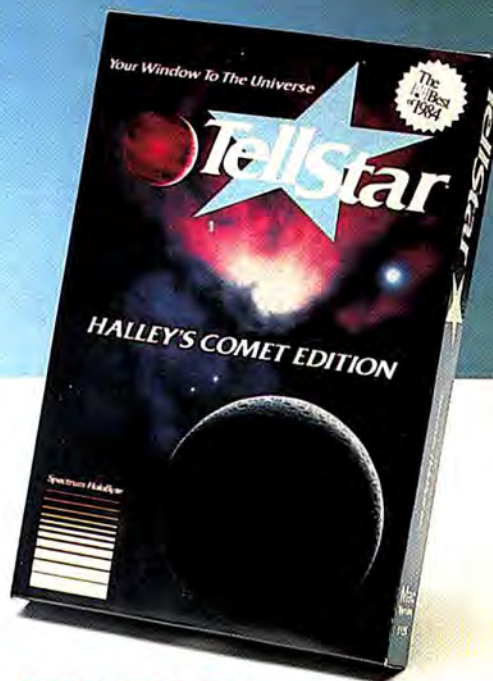


With ORBITER you can command a shuttle launch, travel in earth orbit, rescue damaged satellites, build a space station, take a space walk with the MMU, and land the shuttle on good old terra firma.

As with GATO, this simulation places you at the controls with a degree of realism and graphics excellence unsurpassed by any other personal computer program.

With ORBITER, we've taken your computer to its limits. We'll take your imagination even beyond.

(IBM® requires 256K, color graphics card, graphics monitor, double-sided drive. Available March, 1986. Macintosh™ requires 512K, single-sided drive.)



TELLSTAR

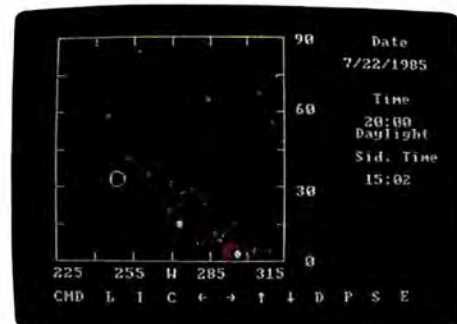
PERSONAL PLANETARIUM

Discover the excitement of astronomy through TellStar, a guide to the constellations, planets, the sun, moon, and stars. Observe Halley's Comet; learn to locate and identify Taurus, Leo, Cancer, Saturn, Jupiter, and many other intriguing objects in the sky. Even the fascinating "Messier" objects are displayed. No prior knowledge of astronomy is necessary.

A special "Utility" section is provided for amateur astronomers and educational institutions. Perform equatorial, ecliptic, horizontal, and precession conversions with ease.

"This has really expanded my field of vision. I saw more in the six weeks after I got TellStar than I had in the six years before that." **TIME** (April 16, 1984)

(IBM requires 128K, color graphics card and monitor, double-sided drive, 8087 version available for faster processing. Apple II series requires 64K, single-sided drive. Macintosh requires 512K.)



SPECTRUM HOLOBYTE, INC., is a company founded on the premise of graphics excellence. Our product line spans the gamut from business presentation graphics to real-time animation. When you think of computer graphics, think of us.

Spectrum Holobyte Inc.

1050 WALNUT, SUITE 325 BOULDER, COLORADO 80302 (800) 443-HOLO

ORBITER and GATO are trademarks of Spectrum Holobyte, Inc. IBM is a registered trademark of International Business Machines Corp. Apple IIe and IIc are trademarks of Apple Computer, Inc. Macintosh is a trademark licensed to Apple Computer, Inc. TellStar is a registered trademark of Scharf Software Systems, Inc. TellStar - Copyright © 1984 Scharf Software Systems, Inc.

For Free Information Please Circle 40 On Reader Service Card.

PROGRAMS PLUS ▶ 1-800-832-3201

Mac Specials!

Blythe Software Omnis 3	279.00
Format Software	
Transfer programs and/or Databases in dBase III from the PC to Mac and run them without Modification!	
dMac III	395.00
Innovative Data Design	
MacDraft	139.00
Kalmar Designs	
Teakwood Roll-Top Disk Cases:	
Micro Cabinet (holds 45 3 1/2" disks)	14.00
Double Micro Cabinet (holds 60 3 1/2" disks)	21.00
Living Video Text	
Think Tank 512K	99.00
Lotus Jazz (Version 1.A)	269.00
Microsoft Flight Simulator (Version 1.0)	32.00
ODS, Inc. Consultant (Version 1.6)	109.00
Sales Consultant (Version 2.0)	149.00
ProVue Development	
OverVue 2.0	149.00
Singular Software Interface	119.00
Telos	
Business FileVision	195.00

Backup & Utility Software

Apple Computer	
Switcher Construction Set	12.00
Assimilation Process	
Work 'N' Print or MIDI Composer	22.00
Mac Memory Disk or Mac Mouse Tracks	22.00
Central Point Software	
Copy II Mac	19.00
Computer: Applications, Inc.	
II in a Mac V2.0 (Apple II Emulator)	42.00
Crystal Canyon Computing, Inc.	
The Mac Librarian	29.00
Dreams Of The Phoenix	
Quick & Dirty Utilities Vol. 1 or 2	27.00
FWB Software Hard Disk Util	59.00
Hard Disk Backup	42.00
Hayden MUD (MacroMind Utility Disk)	69.00
Hippopotamus Software Hippo-Lock	25.00
Ideasform Mac Labeler (Version 2.2)	27.00
Infosphere MacServe	249.00
Kent Marsh Limited, Inc. MacSafe	45.00
Mainstay	
MacBooster, Disk Ranger, or MacSpool	32.00
N' Cryptor or PacPaint	26.00
FlashBack (Hard Disk Backup Utility)	36.00
Mescom Mac + II (Version 3.0)	105.00
MicroAnalyst MacZap (Version 4.1)	34.00
Nevins Microsystems	
TurboCharger (Version 2.0)	36.00
New Canaan MicroCode	
Mac Disk Catalog II (512K)	36.00
PBI Software Icon Switcher	14.00
Icon Library—Fun & Games or Business	14.00
Practical Computer Applications	
MacBackup V4.0	49.00
SoftStyle Printworks	39.00
Epstart V2.0, Jetstart or Toshstart	26.00
Laserstart	58.00
TI Start or ColorMate V2.1	49.00
PlotStart w/Cable	69.00
Symmetry PictureBase	45.00
Tesseract Software MacCopy Version II	37.00
Williams & MacIs	
myDiskLabeler V2.1	27.00
myDiskLabeler w/Color	34.00

Desk Accessory Programs

Affinity Microsystems	
Tempo (Version 1.1)	79.00
Batteries Included	
Battery Pak (Version 1.1)	27.00
Borland	
SideKick with PhoneLink (Version 1.1)	52.00
Cortland Top Desk (Version 1.3)	35.00
Double-Click Software	
Calculator Construction Set V1.03	41.00
Dreams Of The Phoenix Twelve-C	27.00
Electronic Arts	
Custom Calculator Construction Set	34.00
EnterSet QuickSet (Version 2.0)	27.00
QuickPaint	32.00
QuickWord	32.00
MacGas	59.00
Haba Systems Haba Window Dialer	29.00
Imagic Smart Alarms	36.00
Mainstay TypeNow	26.00
SpellNow	36.00
Silicon Beach Software	
Accessory Pak #1	21.00
Target Software MacLightning	53.00
T/Maker ClickOn Worksheet	46.00
Videx MacCalendar	49.00

Languages

Apple Computer MacPascal	95.00
Macintosh 68000 Development System	149.00
Consular	
Mac C/Mac C Toolkit (Version 4.5)	259.00
Expertelligence ExpertLogo (Version 1.1)	79.00
ExpertLisp (Version 1.04)	239.00
ExpertOPS	169.00
Hippopotamus Software	
Hippo C Primer Compiler & Book	59.00
Hippo C Level 1	215.00
Hippo C Level 2	215.00
Kriya Systems Neon!	119.00
Mainstay MacASM	75.00
Megamax, Inc. Megamax C Compiler	175.00

Microsoft Microsoft Basic (Version 2.1)	85.00
Microsoft Logo (Version 1.0)	75.00
Microsoft Fortran Compiler (Version 2.1)	169.00
Modula Corporation MacModula-2	90.00
Pecan Software	
MacAdvantage: UCSD Pascal	69.00
MacAdvantage: 68000 Assembler	69.00
Portable Software PortaAPL V3.0a	199.00
Softworks Ltd. Softworks C Compiler	69.00
Softworks Personal Basic	69.00
Softworks Business Basic	209.00
TLM Systems TLM Pascal	69.00
True Basic True Basic	89.00
Zedcor, Inc. ZBasic	65.00

Communications Software

Aegis Software MacMail-Telecom	29.00
Apple Computer MacTerminal	95.00
Compuserve Compuserve Starter Kit	21.00
DataViz MacLink with Cable	109.00
Dilithium Press	
PC to Mac and Back with Cables	85.00
Dreams Of The Phoenix	
Mouse Exchange Terminal	27.00
Haba Systems HabaCom	39.00
Hayes Microcomputer Smartcom II	85.00
Mainstay Telescape	75.00
Turbo Download	25.00
Mesa Graphics Tekalike	149.00
Palantir inTouch (Version 2.02)	79.00
Source Telecomputing	
The Source (subscription & manual)	30.00
Videx Mail Center (2 User)	169.00
Mail Center (6 Users)	269.00
Z.A.P. Logic Corporation	
Granny Smith Connection	75.00

Business Software

Aegis Development	
Doug Clapps Word Tools	42.00
Apple Computer MacProject	149.00
Assimilation Process	
Mac Spell Right or The Right Word	69.00
Business Essentials	65.00
Creighton Development	
MacHome or MacOffice	26.00
MacSpill+	55.00
Cricket Software Cricket Graph	135.00
DataPak Software My Office	79.00
Executive Office	199.00
Liberty Spell-Checker	42.00
Dreams Of The Phoenix	
Day Keeper Calendar	27.00
Electronic Arts Financial Cookbook	32.00
Forethought Fastfinder	84.00
Filemaker	105.00
Greene, Johnson, Inc. Spellswell	45.00
Haba Systems HabaWord or	
MacRelax or Calc & Graph	55.00
Haba Wills, Forms, or Business Letters	29.00
Hayden Software Ensemble	29.00
Hayden: Speller	19.00
I Know It's Here Somewhere	19.00
Humana Edge Software	
The Communications Edge or	
The Hiring Edge	27.00
The Management Edge or Sales Edge	27.00
The Mind Prober or Negotiation Edge	27.00
Layered Front Desk	69.00
Notes For Jazz or Excel	42.00
Living Videotext Think Tank 128	92.00
Think Tank 512	59.00
Mainstay Micetro Information Manager	69.00
ThinkNow	36.00
Micro Planning Software	
Micro Planner	239.00
Micro Planner Plus	299.00
Microsoft	
Microsoft Works	Call
Microsoft File 1.02, Multiplan 1.1,	
or Word 1.05	110.00
Microsoft Chart 1.0	72.00
Microsoft Excel 1.0	224.00
Multiplan to Excel Upgrade	150.00
Nolo Legal Software WillWriter	25.00
Odesta Helix (Version 2.0)	219.00
Double Helix	269.00
Pecan Software Mail Manager	69.00
Paladin Crunch	149.00
SuperCrunch	165.00
Satori Software Bulk Mailer	75.00
Softstyle Decision Map	76.00
Software Publishing	
PFS:File & Report	99.00
StatSoft DataFast	39.00

Publishing Tools

Boston Software Publishers	
The MacPublisher II	135.00
MacHy-Phen	69.00
MacIndexer	59.00
Manhattan Graphics	
ReadySetGo! (Version 2.1)	99.00

Overlays For Multiplan & Excel™

Apropos Tax Planner '85/86 (Req. Excel)	35.00
Financial Planning or	
Investment Planning	45.00
Harris Technical Systems	
Project Projections/Breakdown Analysis	47.00
RealData, Inc.	
Overlays For Multiplan, Jazz & Excel™	
Tax Shelter Syndication Analysis	169.00
On Schedule	119.00
Real Estate Investment Analysis	119.00

Financial Analysis	59.00
Commercial/Industrial Applications	59.00
Residential Real Estate	59.00
Overlays For Microsoft Excel™	
Property Management Level I	149.00
Mortgage Qualifier	119.00
Listing Prospect Data Management	119.00

Accounting Packages

BPI	
BPI Entry Series-General Accounting	212.00
Chang Labs	
Rags to Riches GL, AR, AP, or Inventory	99.00
Rags to Riches Three Pack—GL/AR/AP	245.00
Continental/Arrays	
The Home Accountant	52.00
Digital, Etc. Turbo Accountant	239.00
Accountant V2.0	79.00
Future Design Software	
Strictly Business Accounting System:	
Module 1—General Ledger	199.00
Haba Systems Haba Checkminder	29.00
Layered Insight	Call
Micromax Gallery Finance Package:	
GL/AR/AP/Cash Disbursements	259.00
Gallery Finance Package:	
Special Edition	169.00
Monogram Dollars & Sense	81.00
Forecast	40.00
Open Systems Open For Business I	295.00
Open For Business II	495.00
Palantir GL, AR, or Inventory Control	69.00
Peachtree	
General Ledger or Accounts Receivable	87.00
Accounts Payable	87.00
Sierra On-Line	
MacOneWrite GL, AR, or Payroll	137.00
MacOneWriteCash Disbursements	137.00
MacOneWrite Bundle (CD, AR, GL)	299.00
Simon & Schuster	
J.K. Lasser's Money Manager	59.00
J.K. Lasser's Income Tax	49.00
SoftSync Personal Accountant	54.00
Timeworks	
Sylvia Porter's Financial Planner	51.00

Statistics Packages

BrainPower Statview	99.00
StatView 512 Plus	179.00
Cricket Software Statworks	79.00
Northwest Analytical NWA StatPak	229.00
NWA Quality Analyst	299.00
StatSoft StatFast-2	75.00
Systat Systat (Version 3.0)	399.00
True Basic Chendpende	31.00

Graphics Software

Apple Computer MacDraw	149.00
Altays Corp. Fontastic	24.00
Fontographer	239.00
Ann Arbor Software Full Paint	55.00
Casady Company Fluent Fonts	29.00
Fluent Laser Fonts (Bodoni/Sans Serif	
or Calligraphy/Regency)	49.00
Challenger Software Mac 3D	115.00
Desktop Graphics DrawArt	29.00
Enabling Technologies Easy 3D	59.00
D.O.S. LTD. LaserWorks	249.00
Esoft Enterprises ColorChart	32.00
Hayden Art Grabber	29.00
VideoWorks	57.00
Höme Design w/Art Grabber	48.00
DaVinci: Interiors,	
Landscapes, or Buildings	8.00
DaVinci: Building Blocks	46.00
DaVinci: Commercial Interiors	114.00
Image Club Graphics	
Digi-Art Laser	
Graphics Fonts (3 Disk Set)	139.00
Innovative Data Design MacDraft	49.00
Paste-Ease (Volume I & II)	35.00
I/O Designs ColorPrint Software Only	25.00
ColorPrint Starter Kit-3	39.00
Color/Ribbon—Heat Transfer Ribbons (ea.)	9.00
Kensington Microware Graphic Accents	29.00
Professional Type Fonts For Text	29.00
Professional Type Fonts For Headlines	42.00
Magnum Software MacPic!	
Volume 1 or 2	28.00
The Slide Show Magician	34.00
Mesa Graphics Plot-It	59.00
MicroSpot MacPalette	52.00
MacPlot	117.00
MacPlot Professional	224.00
Miles Computing	
Mac The Knife Volume III or Volume IV	27.00
Polarware	
The Graphics Magician Painter	
& Animator	29.00
Silicon Beach Software	
Silicon Press	42.00
Springboard	
Art A La Mac Vol. 1—People & Places	23.00
Art A La Mac Vol. 2—Variety Pack	23.00
T/Maker	
Click Art Letters or Personal Graphics	29.00
Click Art Publications or Effects	29.00
Vamp, Inc. MacCad PCB	299.00
McCad Schematics	399.00

Educational/Creative Software

Addison Wesley Smart Eyes	36.00
ATI Jazz Training	45.00
Teach Yourself Multiplan	45.00
Teach Yourself Excel	45.00
BrainPower Chipwits	26.00

PowerMath	52.00
Thinkfast	22.00
DesignScope	129.00
Camde Nutri-Calc	49.00
Davidson & Asso. Speed Reader II	37.00
Spell It! , Math Blaster, or Word Attack	27.00
Electronic Arts Pinball Construction Set	27.00
Deluxe Music Construction Set	32.00
First Byte Smooth Talker (Version 2.0)	52.00
Kid Talk or Speller Bee	42.00
Fortnum Software MacChemistry	69.00
Two Disk Set Includes Templates & ChemLab	
Great Wave Software ConcertWare Plus	39.00
ConcertWare Music V.1, V.2, or V.3	12.00
ConcertWare MIDI	62.00
Comet Halley	18.00
KidsTime	31.00
Hayden MusicWorks	45.00
Score Improvement System for the SAT	57.00
Score Improvement—Achievement Tests	57.00
Turbo Turtle	35.00
Computer Novel Construction Set	29.00
Hippopotamus Software	
Computer Almanac or Jokes & Quotes	20.00
Kette Group Studio Session	69.00
Mark Of The Unicorn HEX	24.00
Micro: Maps MacAtlas Volume 1 or 2	49.00
Microsoft Entrepreneur	29.00
Hands On Excel	32.00
Learning Multiplan & Chart	37.00
Mindscape Perfect Score SAT	47.00
The Lucher Profile	24.00
Dick Francis' High Stakes	24.00
Ortho Information Services	
ORTHO Computerized Gardening	29.00
Palantir	
MacType, MathFlash or WordPlay	26.00
QED Typing Made Easy	36.00
Queue Intellectual Software	
Not Like The Others	36.00
How Many? or Early Reader	25.00
What Comes Next?	35.00
Reading & Thinking I or II	39.00
Vocabulary Adventure I or II	44.00
Spanish Grammar I, II or III	25.00
World Geography Adventure I or II	44.00
U.S. Geography Adventure	44.00
How A Bill Becomes A Law	44.00
American History Adventure	44.00
Starting A New Business	44.00
Analogies I or II	49.00
College Aptitude Reading Exercises	49.00
Rubicon Publishing	
Dinner at Eight	32.00
Silver Palace Collection	29.00
Scarborough Make Millions	29.00
MasterType	26.00
Run For The Money	15.00
Shahenazam Music Type 2.0 or Mac-A-Mug	39.00
Simon & Schuster Mac Art Dept.	24.00
Typing Tutor III	35.00
Paper Airplane Construction Set	24.00
Software Concepts	
Concepts Computerized Atlas	45.00
Spectrum Holobyte	
Tellstar Level 1 (Northern Hemisphere)	27.00
Tellstar Level 2 (Northern & Southern)	42.00
Springboard	
Early Games for Young Children	31.00
Easy as ABC	31.00
Think Educational	
MacEdge II or Mind Over Mac	28.00
TimeWorks	
Evelyn Wood Dynamic Reader	41.00

Game Software

Activision Borrowed Time or Hacker	27.00
Minshadow or Uninvited	27.00
Championship Star League Baseball	21.00
Championship Golf Vol. 1	21.00
Alter Ego (Male or Female Version)	35.00
Aegis	
MacChallenger or Pyramid of Peril	23.00
Ann Arbor Softworks Grid Wars	22.00
Bantam Books	
Shedlock Holmes "Another Bow"	27.00
Blue Chip Software	
Barron, Millionaire, Squire, or Tycoon	30.00
Broderbund Ancient Art of War	27.00
Cyborg or Lode Runner	24.00
EPYX Winter Games or Rogue	24.00
Temple of Apsahi Trilogy	29.00
Electronic Arts	
ChessMaster 2000	29.00
Dr. J & Larry Bird's One-On-One	24.00
SkyFox or Archon	26.00
Software Golden Oldies	24.00
Fortnum Software	
MacInooga Choo-Choo	21.00
Hayden Software	
Holy Grail, Sargon III, or Inca	8.00
Masterpieces or Perplex	8.00
Word Challenge II	8.00
Infocom A Mind Forever Voyaging	26.00
Cuthulturs or Enchanter, or Ballyhoo	23.00
Deadline or Starcross	29.00
Hitchhiker's Guide of Zork I	29.00
Infidel, Zork II or Zork III	29.00
Planetfall, Sealastar or Trinity	26.00
Sorcerer or Suspect	29.00
Suspended or Spellbreaker	26.00
Wishbringer or Chess	23.00
Invisicubes - Hint Booklets (ea.)	6.00
Magnum Software Gypsy	
Miles Computing	
MacAttack or MacWars	27.00
Harrier Strike Mission, or Fusillade	27.00
DownHill Race	27.00
Mindscape Balance of Power	30.00
Crossword Magic	30.00
Old Vols. A Vintage Game Comes True	30.00

In Connecticut Call 378-3662 or 378-8293

James Bond 007: A View To Kill	24.00
James Bond 007: Goldfinger	24.00
Rafter or The Halley Project	27.00
Rambo: First Blood Part II	24.00
Stephen King's: The Mist	24.00
Star Wars	30.00
Omnitrend Software, Inc.	
Omnitrend's Universe II	39.00
Origin Systems Exodus: Ultima III	37.00
PBI Software Feathers & Space	21.00
Strategic Conquest	29.00
Fokker Triplane	35.00
Polarware	
Pensate, Transylvania, or	
Sword of Kadash	14.00
Xyphus, The Quest, Crimson Crown,	
or Co-Topos	14.00
Practical Computer Applications	
MacGolf	35.00
Psion	
Psion Chess (3D & Multi-Lingual)	31.00
Priority Software	
Forbidden Quest	24.00
Gateway	25.00
Sierra On-Line	
Championship Boxing or Frogger	24.00
Ultima II	35.00
Silicon Beach Software	
Airborne or Enchanted Scepters	21.00
Sir-Tech Mac Wizardry	36.00
Spectrum Holobyte GATO or Orbiter	26.00
Strategic Simulations	
Computer Baseball	23.00
Gemstone Warrior	21.00
Synapse Software	
Mindwheel, Essex, or Brimstone	27.00
Telarium Amazon or Dragon World	27.00
Fahrenheit 451 or Rendezvous w/Rama	27.00
Videx Fun Pack	23.00
MacCheckers & Reversi	28.00
MacGammon & Cribbage	28.00
MacVegas	34.00

Disk Drives/Hard Disks

Apple Computer	
Macintosh Hard Disk 20	1169.00
Macintosh External 800KB Drive	379.00
AST Research AST-4000	4899.00
74 MB External Hard Disk with 60-MB Cartridge-Tape Backup for the Macintosh Plus	
Haba Systems	
HabaDisk 800 KB DS/DD External Drive	249.00
Iomega	
Bernoulli Box 5MB for Mac 512K	1299.00
Bernoulli Box 2-10MB for Mac 512K	2499.00
Bernoulli Box 5MB for MacPlus SCSI	1269.00
Bernoulli Box 10MB for MacPlus SCSI	1769.00
Bernoulli Box 20MB for MacPlus SCSI	2349.00
Bernoulli Box 2-10MB for MacPlus SCSI	2479.00
Bernoulli Box 2-20MB for MacPlus SCSI	3149.00
LoDown	
Hard Disk & Tape Backups for the MacPlus	
LoDown-120 (20 Megabyte Tape Drive)	779.00
LoDown-160 (60 Megabyte Tape Drive)	1579.00
LoDown-20 (20 Megabyte Hard Disk)	879.00
LoDown-40 (40 Megabyte Hard Disk)	1649.00
LoDown-80 (80 Megabyte Hard Disk)	3299.00
Maple Technology	
MT-3002 800K External Drive	179.00
MDideas, Inc.	
HD-20 (20MB Hard Disk For MacPlus)	819.00
HD-30 (30MB Hard Disk For MacPlus)	1189.00
MICAH	
Advanced Technology Internal Hard Disk Systems for the Macintosh & Macintosh Plus	
MicahDrive AT 20 Internal Hard Drive	1449.00
MicahMemory 2/4 Card, (2MB Ram)	449.00
MicahMemory 2/4 Card, (4MB Ram)	649.00
Microtech	
Auto-Eject Drive with 1 Year Warranty	
MAC535-20 800KB External Drive	249.00
Mirror Technologies	
Magnum 800K External Drive	249.00
MagNet 20 (Internal 20MB Hard Drive)	1099.00
MagNet 20X (External 20MB Hard Drive)	939.00
Magnum Tape 20 (20MB Tape Backup)	899.00
Mitsuba	
Super 5 Mac 800K External Drive	269.00
Peripheral Land	
PL20-21MB Formatted Drive for MacPlus	889.00
PL 30-32MB Formatted for MacPlus	1169.00
MacFast 20-21MB w/Tape Controller for Mac 512K or MacPlus	1269.00
MacFast 30-32MB w/Tape Controller for Mac 512K or MacPlus	1489.00
MacBack 20-27MB Tape Backup	999.00
MacStor 10-10MB Removable Cartridge Hard Disk	1799.00
10MB Removable Cartridges for MacStor 10	135.00
MacPort Host Adaptor-SCSI Interface for Mac 512K	89.00
Personal Computer Peripherals	
MacBottom Hard Disk 20MB	1149.00
SuperMac	
Take Full Advantage of the MacPlus SCSI Port!	
DataFrame 20MB Hard Disk for MacPlus	Call
Western Automation Labs	
Dasch External RAMdisk (500KB)	395.00
Dasch External RAMdisk (1000KB)	595.00
Dasch External RAMdisk (2000KB)	725.00

Modems

Anchor Automation	
Signalman Express 1200 Baud	229.00
Signalman Lightning 2400 Baud	349.00
Apple Computer	
Apple Personal Modem 300/1200	279.00
Hayes Microcomputing Interbridge	Call
Smartmodem 300	135.00
Smartmodem 1200	359.00
Smartmodem 1200 Mac w/Smartcom II	429.00
Smartmodem 2400	575.00
Transet 1000 128K	259.00
Transet 1000-512K	359.00
Transet 1000 Mac Accessory Kit	31.00
Kensington	
Portable Modem (300 Baud)	86.00
Microcom	
Mac Modem 1200 (Hayes Compatible)	399.00
Novation	
Cat Comm Communications System	299.00
Prentice	
Popcom X-100 Modem w/Straighttalk	259.00
Prometheus	
Promodem 1200M w/ProCom-M	289.00
U.S. Robotics Password 1200	199.00
Courier 2400	389.00

Printers

Apple Computer	
ImageWriter II Color Printer	479.00
ImageWriter II Cut Sheet Feeder	175.00
ImageWriter Wide Carriage	475.00
LaserWriter	4569.00
LaserWriter Plus Upgrade Kit	739.00
Brother	
HR-15XL (20cps) Daisywheel/Serial	309.00
HR-25 (23cps) Daisywheel/Serial	489.00
HR-35 (35cps) Daisywheel/Serial	729.00
TwinWriter 5 Dual Head Printer/Serial	839.00
Hewlett Packard	
ThinkJet, LaserJet, LaserJet Plus	Call
Juki 6100 (18cps) Daisywheel/Serial	379.00
6200 (30cps) Daisywheel/Serial	559.00
6300 (40cps) Daisywheel/Serial	659.00
NEC SpinWriter e.l.f. 360 Par./Ser.	379.00
SpinWriter 2010 (20cps)	669.00
SpinWriter 3510	759.00
SpinWriter 3810	1139.00
Color PinWriter CP2-6 10"	729.00
Color PinWriter CP3-6 15"	969.00
NEC SpinWriter Accessory Kit	79.00
Okidata ML-192 Apple Mac/Lisa	369.00
ML-193 Apple Mac/Lisa	545.00
Toshiba	
P-321 24 Pin (216cps) Par./Ser. 10"	499.00
P-341 24 Pin (216cps) Ser. 10"	799.00
P-351 24 Pin (288cps) Ser. 15"	1079.00

Blank Media

Single Sided 3 1/2" Media	
BA5F 3 1/2" SS/DD Disks (box of 5)	10.00
Bulk (Sony) 3 1/2" SS/DD Disks (10)	15.00
Sony 3 1/2" SS/DD Disks (box of 10)	17.00
Fuji 3 1/2" SS/DD Disks (box of 10)	18.00
Maxell 3 1/2" SS/DD Disks (box of 10)	18.00
Verbatim 3 1/2" SS/DD Disks (box of 10)	18.00
3M 3 1/2" SS/DD Disks (box of 10)	20.00
Double Sided 3 1/2" Media	
BA5F 3 1/2" DS/DD Disks (box of 5)	14.00
Bulk (Sony) 3 1/2" DS/DD Disks (10)	24.00
Sony 3 1/2" DS/DD Disks (box of 10)	27.00
Fuji 3 1/2" DS/DD Disks (box of 10)	26.00
Maxell 3 1/2" DS/DD Disks (box of 10)	28.00
Verbatim 3 1/2" DS/DD Disks (box of 10)	28.00
3M 3 1/2" DS/DD Disks (box of 10)	28.00

Digitizers

GTCO Corporation Macintizer	369.00
Kette Group	
Capture any sound from the real world!	
MacNifty Audio Digitizer w/SoundCap	115.00
Koala Technologies Corp.	
KAT Graphics Tablet	135.00
MacVision	169.00
Magnum Software	
Natural Sound Cable & Editor	79.00
New Image Technology Magic Digitizer	239.00
Summagraphics	
MacTablet 6x9 size	259.00
MacTablet 12x12 size	359.00
ThunderWare	
ThunderScan V3.2 (Mac 128 & 512K)	175.00
ThunderScan V3.2 and Power Accessory (MacPlus)	195.00

Accessories

A.M. Products	
3 1/2" Head & Computer Cleaning Kit	18.00
Assimilation Process	
Numeric Turbo	129.00
Mac Turbo Touch	79.00
Mac Port Adaptor	75.00
MIDI Conductor	69.00
Bech-Tech Fanny Mac	79.00
Computer Friends MacInker Universal	55.00
MacInker C. Itoh	35.00
Creighton Development	
ProPrint Software Only	39.00
ProPrint with Cable	52.00
Curtis Manufacturing	
Diamond-Surge Suppressor-SP1	29.00
Emerald-Surge Suppressor-SP2	36.00
Ruby-Surge Suppressor-SPF-2	55.00
Sapphire-Surge Suppressor-SPF-1	47.00

Diversions, Inc. Underware Ribbon	9.00
Underware Color Pens-Small	9.00
Underware Color Pens-Large	13.00
Environmental Software Company	
MacAtire: Available in Navy-Blue, Burgundy, or Silver-Gray	
External Drive or Keypad Cover	7.00
ImageWriter II Cover	11.00
Wide ImageWriter Cover	13.00
Mac & Keyboard Cover	15.00
MacPlus & Keyboard Cover	15.00
MacPlus, HQ-20, & Keyboard Cover	17.00
LaserWriter Cover	17.00
Ergotron	
MacIIc	
(Mac 128/512K or MacPlus Version)	75.00
MacBuffer 256K	199.00
MacBuffer 512K	299.00
MacBuffer 1 Meg	459.00
Innovative Concepts	
Flip 'n' File/Micro	8.00
Flip 'n' File II/Micro	18.00
Innovative Technology	
The Pocket Pack (holds 6 disks)	10.00
The Easel (holds 20 disks)	12.00
The Pyramid	14.00
The Disk Directory	19.00
The Library	27.00
I/O Design	
MacPlus Carrying Case	59.00
ImageWriter Carrying Case	45.00
ImageWriter II Carrying Case	49.00
ImageWriter Wide Carrying Case	49.00
Kensington System Saver Mac	65.00
A/B Box	60.00
Disk Case (holds 36 Mac disks)	19.00
Disk Drive Cleaning Kit	19.00
External Disk Drive Cover	8.00
ImageWriter or ImageWriter II Cover	8.50
Macintosh Dust Cover	8.50
Mouse Cleaning Kit w/Pocket	16.00
Mouse Pocket	8.00
Mouse Way (Mouse Pad)	8.00
Circular Polarizing Filter	31.00
Starter Pack (includes Tilt/Swivel)	53.00
Surge Protector	32.00
Swivel	21.00
Tilt/Swivel	22.00
Control Center	60.00
Printer Stand	17.00
Kette Group MacNifty Joystick Converter	35.00
MacNifty Stereo Music System	55.00
MacNifty A/B Switch	22.00
MacNifty A/B/C/D Switch	32.00
Kraft QuickStick III	45.00
Mouse Systems A+ Optical Mouse	59.00
Moustrak MousePad 7" x 9" Size	8.00
MousePad 9" x 11" Size	9.00
MPH Computer Products MAC-B-COOL	79.00
NPI Products Inc.	
MacPlus to ImageWriter II Cable (6 feet)	19.00
MacPlus to DB-9 Adaptor Cable	19.00
MacPlus to SCSI Drive Cable	24.00
Optimum Computer Luggage	
MacTote Mac Carry Case	60.00
Ribbons Unlimited	
Available in Black, Blue, Brown, Green, Orange, Purple, Red, Yellow, Silver & Gold	
ImageWriter Ribbon - Black	4.50
ImageWriter Ribbon - Color	5.00
ImageWriter Rainbow Pack (6 Colors)	27.00

Smith & Bellows	
Hand Crafted Mahogany Disk Case:	
Holds up to 90 Diskettes	26.00
Hand Crafted Basswood Disk Case:	
Holds up to 90 Diskettes (Natural or Stain)	19.00
Software: Dust Jackets Available in Vintage Burgundy or Corporate Grey Colors	
Mac Jacket w/Mouse & Keyboard Cover	15.00
ImageWriter I or II Cover	11.00
External Drive Cover	7.00
Wide ImageWriter Cover	13.00
Systems Control	
MacGuard Surge Suppressor	55.00
Video 7 Mouse Stick	38.00
X-10 (USA) Inc.	
X-10 Powerhouse Computer Interface	49.00
Extra Modules (For Lamps, Wall Switches, & Appliances)	15.00

Books

Microsoft Press	
Creative Programming in Microsoft Basic	14.00
Excel in Business	18.00
Inside MacPaint	14.00
Macintosh Midnight Madness	14.00
MacWork/MacPlay	14.00
Microsoft Macinations	16.00
Microsoft Multiplan: OI Mice & Menus	13.00
Presentation Graphics on The Apple Macintosh	14.00
The Apple Macintosh Book Vol. 2	15.00
The Printed Word	14.00

ORDERING INSTRUCTIONS:

VISA AND MASTERCARD ACCEPTED
To order, call us anytime Monday thru Friday 9:00 to 9:00, Saturday 10:00 to 6:00. For fast delivery if ordering by mail, send cashier's check, certified check or money order. Fortune 1000 & Government checks honored immediately. Personal and other company checks allow 2 weeks to clear. MasterCard & Visa include card # & expiration date. Connecticut residents add 7.5% sales tax.
Purchase Orders: All merchandise FOB CT and Handling. Please call (203) 378-3662 for credit information and terms.

Shipping Charges: Software Only—\$3.00 Minimum charge U.S. Mainland. With C.O.D. shipments add an additional \$2.00 U.S. Postal, APO, and FPO add 3% (\$500 Min.). Alaska or Hawaii add 6% (\$100 Min.). Canadian orders add 10% (\$150 Min.). Foreign Orders except Canada—Add 18% (\$250 Min.).

Hardware—Please call for shipping charges.

Our Policy: We do not guarantee machine compatibility. All products are new and include factory warranty, therefore ALL sales are final. Defective software will be replaced by the same item only. Defective hardware will be replaced or repaired at our discretion. Prices & availability subject to change without notice. Products purchased in error, subject to 20% restocking fee. All returns must have an authorization number. Call (203) 378-3662 to obtain one before returning defective products.

Visit Our New Showroom:
Exit 32 off I-95

PROGRAMS



Visit Our New Showroom: Exit 32 Off I-95
Station House Square
2505 Main Street
Stratford Conn 06497
Telephone Hours: Monday-Friday 9-9
Saturday 10-9
Showroom Hours: Monday-Friday 9-6
Saturday 10-6

Orders Only TOLL FREE **1-800-832-3201**
MACINTOSH 512K/MACPLUS SYSTEMS CALL

YOU CAN TAKE IT WITH YOU



From lectures to business meetings, these laptops are a portable Mac in disguise.

ALAN KAY'S SPEECH WAS SET TO begin in about 20 minutes and already the auditorium was beginning to fill. I had staked out the perfect seats long in advance and made sure that I got to them before anyone else. It wasn't difficult — the seats weren't in what you would call a prime viewing location, but they were as close to a three-pronged outlet as I could get.

I set my Mac carrying case down on one of the seats and started to unpack. Things were a bit of a mess because the case had been searched at the door. Maybe some terrorist group had threatened to sabotage the evening, or worse, perhaps the "60 Minutes" crew was trying to prevent Kay from showing his tennis instruction videotape again. Who knows? In any event, it took a few minutes to get the jumbled Mac, keyboard, mouse, second disk drive and 60-foot shielded extension cord out of the case.

I got the Mac out and all hooked up, then plugged it into the extension cord. Trying not to draw undue attention to myself, I snuck behind a curtain and worked my way to the outlet. The bright orange cord just made the distance. I hurried back to the Mac and turned it on, then slipped my word processor disk into the drive. Lo and behold, there was the familiar and always welcome opening screen, followed shortly by the comfortable gray pattern of the desktop.

I sat in the vacant seat next to the

Mac and started to organize myself. With a little care I could just balance the Mac on my knees, as long as I kept my legs pressed close together. The keyboard fit neatly between my stomach and the Mac case, and I stuck the second drive — well, let's just say it had a place to itself. Now, what was I going to do with the mouse? With a little practice I found that I could almost manage the mouse on the armrest of my seat. I just had to pick it up and reposition it after every movement. It took ten small steps to cross from one side of the screen to the other side.

The seats filled very quickly and a lot of people had to sit in overflow rooms, watching the speech on closed circuit television. My Mac and I had by this time become quite a source of amusement, but I didn't care. I was ready to save every word of the speech for posterity. The lights went down and someone came on stage to announce Alan Kay. I flexed my fingers in anticipation.

The speech began and I took heavy notes. The Mac almost slipped off my lap a couple of times, but generally the whole thing was going very well. Kay was just getting ready to start the tennis video. I had about nine pages of text typed and was just getting ready to save when disaster struck.

A latecomer sneaked past the entrance and was trying to work his way down the aisle to find a place to stand. He didn't see my extension cord until it was too late. He tripped

by Michael D. Wesley and Gilbert Rankin



YOU CAN TAKE IT WITH YOU

over the cord and pulled it out of the socket, sending all my work into oblivion. Worse, he got tangled in the cord as he fell. The tension pulled the Mac completely off my lap, sending it crashing to the floor with a hideous crunching sound and dragging the mouse helplessly after it. The external drive was wrenched violently out of its resting spot, leaving me in great physical distress. I fell to the floor screaming and threw my arms around the Mac's shattered, broken body, but it was too late to do anything but provide comfort in its final moments.

THE PORTABLE MAC

To avoid horror stories like the one above, many travelers, students and other adventurers would like to have a portable Mac. Sure, the Mac is pretty portable already, but it doesn't fit very well on a lap and, besides, it's tough to find outlets at the beach.

Although you may not know about it yet, there is in fact a portable, laptop version of the Mac on the market. Developed at a secret laboratory in Texas (cleverly disguised with the name *Tandy* on the outside), the laptop is called the TRS-80 Model 100 to conceal its true identity.

All right, calling the Model 100 a "laptop Mac" is stretching the truth a bit — it's like saying the Golden Gate Bridge connects San Francisco and Anchorage. But the wonderful truth is that the Model 100 can be

used to take notes, write letters, compose memos or create *very* short novels in the field. Text-only files can be transferred directly to the Mac through an ImageWriter cable. Better still, the process is remarkably simple.

The Model 100 is one of three custom versions of a laptop produced by Kyocera, a large, but virtually unknown (in the United States) Japanese electronics company. The other two incarnations are packaged and sold by NEC and Olivetti. All three of these systems are essentially the same, and there are certainly other laptops that can accomplish the same thing, but we will focus primarily on the Tandy because of the software that comes with it, the low price, and the easy availability of the unit. After all, there are over 8000 Radio Shack stores worldwide.

The Model 100 comes with 24K of non-volatile RAM plus a built-in word processor, telecommunications program, address book, scheduler and BASIC, all for \$499 (although it often goes on sale for \$100 less than that.) It has a flat, liquid crystal display of 8 lines by 40 characters. The Tandy can run up to about 14 hours of continuous use on batteries between charges. A red signal light warns when the battery has only about 20 minutes of use remaining. There is also an AC adaptor for recharging the battery and for desk-top use.

The word processor is very simple and easy to use; it saves files simply as ASCII text. Take the Model 100 with you to class, lectures, seminars or business meetings and take your notes with the word processor. The file will be saved in the machine's internal memory, which is kept intact by the battery even when the machine is off. It can later be saved to a cassette tape or disk if necessary, but the easiest thing to do is transfer it right to the Mac, where it can be formatted, saved and printed.

CREATING A FILE

The Model 100 keyboard is slightly smaller than normal size, but it has a standard QWERTY configuration and the keys themselves are sculpted and full-sized. The layout is almost

WORKING WITH TEXT

TEXT has a full range of editing features, including cut, copy and paste. These functions are attached to function keys, as are the program's search capabilities. The eight function keys work as follows within *TEXT*:

F1 — Find. Use to find occurrences of a word or string of characters.

F2 — Load. Replace the file currently being edited with another file stored in RAM.

F3 — Save. Saves the file currently being edited.

F4 — List. Lets you select records from any text file in memory to edit, including address lists or schedules.

F5 — Copy. Takes selected text and copies it into the paste buffer.

F6 — Cut. Removes selected text to the paste buffer.

F7 — Sel. Pressing Select and moving the cursor arrows is the same as holding the mouse button down and dragging to select an area.

F8 — Menu. Returns you to the main menu, automatically storing the file being edited.

TEXT also provides shortcuts for moving rapidly to the next word, the end of a paragraph or the beginning or end of a file.

identical to a Mac keyboard except for the existence of a few extra keys (see Figure 1). Pressing a small power switch just above the keyboard turns the Model 100 on.

The five programs built into the Model 100 — *TEXT*, *SCHED*, *ADDRSS*, *TELCOM*, and *BASIC* — are stored on ROM chips. The program names and any files that have been stored are listed on a menu that comes up when you turn on the machine. If there are no files stored, there should be about 21K available for use. This equals a little over five pages of text, double spaced. The amount of free memory is listed at the bottom of the screen.

To enter a program, use the arrow keys on the keyboard to place the cursor over the name of the program and press the ENTER key. It sounds a bit primitive, I know, but you get used to it. When you select *TEXT*, the 100 prompts you to enter a filename to edit, at which time you can either

MODEL 100 SPECIFICATIONS

Price: \$499.

Memory: 24K RAM, expandable to 32K.

Size: 11½ X 8½ X 2 inches.

Display: 40 column X 8 line LCD with 240 X 64 dot-addressable graphics resolution.

Processor: 8-bit 80C85 CMOS running at 2.4 MHz.

Interfaces: Parallel printer, RS-232 serial port, cassette and bar-code reader.

Software: Word processor, Scheduler, Address book, Terminal program and BASIC, stored in ROM.

select a file already in RAM or create a new file. Type in a filename of six characters or less, press ENTER and away you go.

The *TEXT* program is a pretty standard, non-Mac word processor. Words are typed in normally and wrap automatically at the end of a line. The ENTER key has the same function as RETURN on the Mac, signaling the end of a paragraph. Paragraphs are marked on the screen by a small diamond at the end of the last line. Since the 100 has no mouse (poor thing), to make corrections or changes you must press the arrow keys on the keyboard to position the cursor where you want it. Then just type to insert a character, or press SHIFT DEL to backspace over an error.

The *TEXT* program has a full range of editing features such as cut, copy and paste, and a search capability, all linked to the function keys (see the box "Working with *TEXT*"). When you are finished typing, closing the file is as simple as pressing F8, the function key that returns the screen to the main menu. The *TEXT* file is automatically saved.

Of course, the advantage of being able to transport Model 100 files to the Mac is that you can skip the tedious editing chores until the file has been comfortably opened in a mousified word processor. The 100 is used mainly as a note-taker, with the real work reserved for the Mac, where it belongs. The only requirement now is to bring the two machines together.

MAKING THE CONNECTION

The Model 100 conveniently connects to the Mac with a standard ImageWriter cable. With both the Tandy 100 and the Mac turned off, disconnect the cable from the ImageWriter. Leave the other end of the cable attached to the Mac's printer port. Connect the large end of the ImageWriter cable (the end you just removed from the printer) to the 25-pin connection on the back of the Model 100. This connection is a standard RS-232 serial port, and in fact, the process we outline will permit you to connect the Mac to



Fig. 1: The TRS-80 Model 100 keyboard. There are eight software defined function keys, F1-F8. Their functions vary depending on the program in use. In addition there are four predefined function keys: PASTE, LABEL, PRINT and PAUSE/BREAK. The PASTE key takes any material cut or copied into the paste buffer and pastes it into the current document. Pressing LABEL displays the functions attached to function keys 1-8 across the bottom of the screen. PRINT sends a

file to a printer and PAUSE is used primarily within BASIC programs. The Model 100 has three other special keys not found on the Mac keyboard, although they are similar to the Mac's OPTION and COMMAND keys. CODE and GRAPH, when used in conjunction with another key, will display special character sets including foreign alphabets. These characters do not transmit to the Mac. The NUM key changes M, J, K, L, U, I, O, and 7, 8, 9 into a ten-key numeric pad.

most computers with an RS-232 port.

The next step is to turn on both machines. The Tandy's main menu will display all the files and applications in memory. Files are set apart with the extension ".DO" after the filename. To select an application or file, simply use the TAB key to move the cursor on top of the filename and press the ENTER key. To prepare for the file transfer, move the cursor over the name TELCOM and press ENTER.

Working without the Mac interface means that you'll sometimes have to enter cryptic commands in order to get things done. The telecom software in the Model 100 allows the machine to connect to a variety of terminals, so you have to set parameters for the file transfer.

This is done by typing the word STAT followed by the correct parameters, in this case "STAT 8711E." This sets the baud rate and tells the 100 to send seven bits of data with one stop bit, ignore parity and enable XON/XOFF.

Once the parameters are set, type "TERM" to put the Model 100 into terminal mode. Your files are now ready for transmission to the Mac.

SETTING UP THE MAC

Retreating to the Mac for a moment, launch a terminal program. *Red Ryder* is particularly well suited to file transfers of this type.

Select a transfer speed of 9600 baud. This speed can be much faster than the 300, 1200 or 2400 baud (continued on page 150)

by Fred Terry

SOMEDAY MY PRINTS WILL COME

Print spoolers are worth your time.

EVERY MACINTOSH OWNER I have ever met loathes having to print. Selecting PRINT means taking a forced break. You can get a cup of coffee, walk the dog or, if the document or spreadsheet is really long, you might even have time to run to the supermarket. In the past, the only way to keep from tying up your Mac while you were printing was to buy a hardware buffer box or a hard disk with print spooling software. (And neither option was cheap.)

Some hard disks come with print spooling software, but not everyone can afford, or for that matter, needs a hard disk. And investing large sums of money in a hard disk does not guarantee you spooling capabilities. For example, owners of Apple's HD20 have to wait until the Mac finishes printing.

But that's changed. Now there are several print spoolers available that will let you print a file while you continue to work. Best of all, they all cost less than \$60 list.

TYPES OF PRINT SPOOLERS

The spooling world is divided into RAMdisk spoolers and desk accessory (DA) spoolers. The RAM spoolers must be created before any printing is done; generally this means setting up the spooler at startup. RAM spoolers allocate a chunk of RAM as a printing buffer and send information destined for the ImageWriter to that chunk of RAM. That

RAM is reserved by the spooler and can't be used by applications. (Spoolers don't work with the LaserWriter yet — only with ImageWriter and similar printers.)

Desk accessory spoolers create printing files on the disk, meaning that if your disk is full, a desk accessory spooler cannot create its files. While this can be a drawback, DA spoolers offer one distinct advantage: You can set them up from within an application. This is by far the best choice for people who don't always remember to set the RAM spooler upon startup.

A CLOSER LOOK

SMB Development's *MacMate!* falls into the RAM spooler category. Upon starting work, users set the amount of RAM they wish to be used as a buffer for print spooling (Figure 1). When a file is ready for printing, the user simply selects the print command, and *MacMate!* does the rest.

MacMate! only takes up 7K on disk, and it can spool *MacPaint* files (something spoolers often have trouble doing, since *MacPaint* dumps information straight to the ImageWriter without creating a printing file). *MacMate!* also allows users to quit the application they are printing from and start another.

Unfortunately, it will not be released in an HFS-compatible version until late this summer. It presently works only with a standard 512K Macintosh, *Finder* 4.1 and the ImageWriter I.

Mainstay's *MacSpool* is a RAM disk spooler similar to *MacMate!* But unlike *MacMate!*, *MacSpool* has a

desk accessory controller that allows you to pause printing or clear the printing buffer while you are still in an application. You have to set the amount of RAM for spooling before you begin working in an application. You can either install *MacSpool* each time you begin work or you can select the AUTO INSTALL option on the control panel (Figure 2). The slides of the *MacSpool* control panel are linked so that setting the RAM-disk limits the size of the spooler or vice versa. This utility also adapts to the amount of free memory available, you can have 815K available for spooling when using a Mac Plus.

In addition to giving you control over the spooling, the controller desk accessory displays the amount of RAM being used and the amount free. Whenever you select the controller during printing, you have a dynamic presentation of the spooling (Figure 3). *MacSpool* takes up 11K on the disk, can spool *MacPaint* files, and is HFS-compatible.

Assimilation's *Workon•Print* is the least expensive of the spoolers, but it is also the most annoying to run. When you are ready to print, select *Workon•Print* from the Apple menu. A window appears in the lower right hand corner of the screen that shows which files are ready to print (Figure 4). Once you have activated *Workon•Print*, you can go back to work, but the window remains open behind the active window. When you select PRINT, a print file is created for each page. After the file is created for a page, a dialog box asks you to name the file and specify when you want to print. This is a tedious procedure, but the trade-off is that you will soon be able to go back to work. *Workon•Print* creates its print files at a reasonable speed and will even set a default name if you enter a carriage return. It also has a File Facts window that lets you rename, duplicate, or delete a file from inside an application (Figure 5).

Naming the print files may be tiresome, but *Workon•Print* gives you more control over the printing process than any other print spooler.



SOMEDAY MY PRINTS WILL COME

It will let you queue several documents, and you can change the printing order. Like the RAM spoolers, you can close the document you are printing and open another while

printing is going on. But if you close the *Work•n•Print* window and go into another application, printing will stop. Additionally, *Work•n•Print* will not spool *MacPaint* files,

and it also eats up an incredible amount of disk space. The accessory itself requires 16K, and the print files take about 2K for each high-quality page. This is less of a problem on an 800K disk than on a 400K disk.

MacMemory's *MaxRAM/MaxPrint* is a combination RAM disk and desk accessory that was originally shipped with MacMemory's RAM upgrade. *MaxPrint* is a desk accessory with which you can initiate spooling from within an application. It tells you how much space is available on a disk for spooling and how many standard quality pages can be spooled into that space (Figure 6). MacMemory recommends that you start up *MaxRAM* and spool to a RAM disk instead of a floppy. *MaxPrint* allows you to quit an application while you are printing, open another application, and begin printing in it. However, you cannot choose to print your document later, nor can you pause printing with *MaxPrint*. *MaxRAM* takes up 17K on the disk, and *MaxPrint*, 5K.

BackPrint is a 5K desk accessory from Cortland Computer's *TopDesk* collection. Like *Work•n•Print* and *MaxPrint*, it creates print files on the disk, and it allows you to specify when you want to begin printing the files. When you select *BackPrint* from the Apple menu, it adds a *BackPrint* heading to the menu bar. Then you only have to initiate printing. You can queue several documents before you start printing, but not after printing begins. You can't leave an application while *BackPrint* is spooling, though you can close and open different files. *BackPrint* doesn't support spooling *MacPaint* files, and it doesn't work in draft-quality mode. Even with these limitations, *BackPrint* formats a file faster than any other print spooler, and it doesn't slow down much if you are working during the printing.

The *Print Text* spooler, in the *BatteryPak* collection from Batteries Included, has the disadvantage that it cannot print in standard or high quality, and, thus, can only print files saved in the text-only format. You can set the number of spaces a tab will add, select a compressed mode

Figure 1: The *MacMate!* installer has a complete help screen.

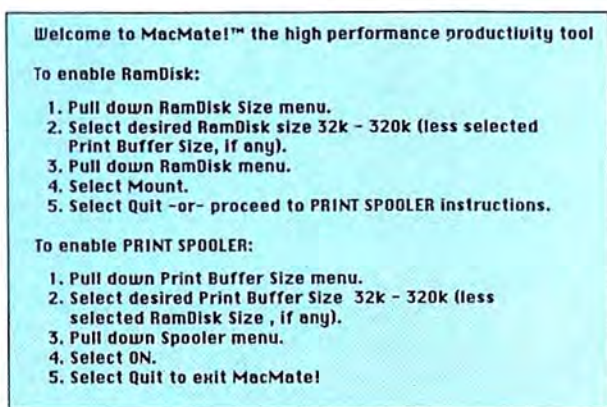


Figure 2: The *MacSpool* control panel.

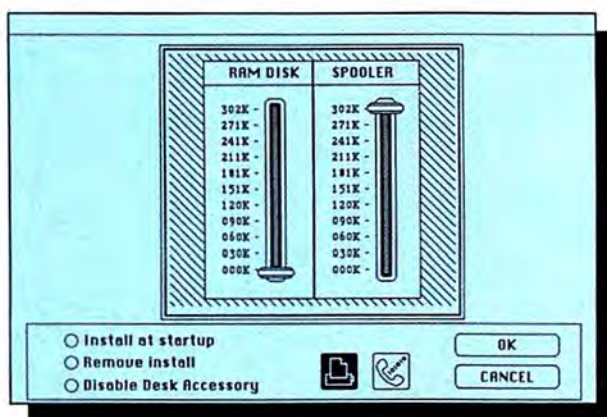


Figure 3: The *MacSpool* Control desk accessory lets users cancel or pause printing, and displays the space used and space left.

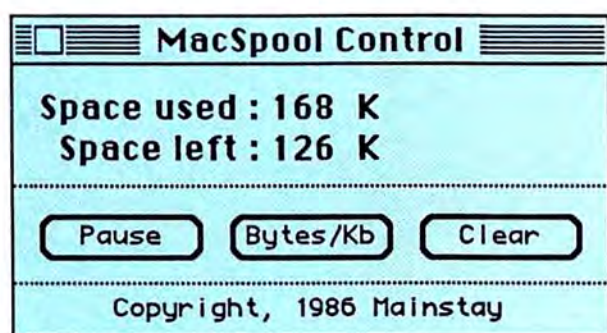
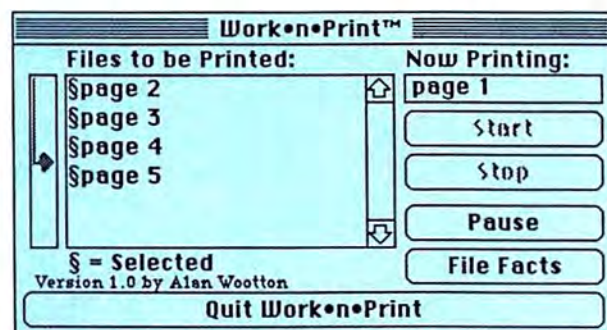


Figure 4: The *Work•n•Print* window.



With reviews like these, who needs advertising?

STEWART ALSOP, P.C. LETTER:

'MicroPhone...sets the standards that general-purpose communications software will have to follow.'

INFOWORLD:

'...powerful and easy to use. At the same time, MicroPhone offers a full plate of advanced features that should please seasoned communicators.'

MACUSER:

'...it has many features designed to make it easy for a novice to get started...its many options make it a power user's delight.'

FREIBERGER & ROBINSON, SAN JOSE MERCURY NEWS:

'Impressive...makes macro creation easier than anything we've seen. MicroPhone succeeds...where most communications programs fall short: simplicity and automation.'

They say the best advertising is word of mouth. So we're reprinting some of the multitude of words that have already been said about MicroPhone communications software for the Macintosh.

And what they're saying, universally, is that MicroPhone—created by Dennis Brothers—has far outdistanced all its predecessors. That for the novice, MicroPhone is the sim-

plest telecom software ever devised. That for the expert, MicroPhone is the most powerful.

On-line for the lazy.

MicroPhone gives you the means to create infinitely elaborate macro (automated) routines with infinite simplicity. Its powerful script language is written in plain English, and it also features a recording mode that watches, saves, and repeats what you do. So no programming skills are required.

The upshot is that MicroPhone will save you time, hassle, and on-line fees by automating virtually every operation you now have to key by hand. Log on procedures. File transfers. And, for a good example, E-mail retrieval routines.

At a single command from you, MicroPhone will dial your E-mail service, give you ID number and password. Navigate its way through the labyrinth to your mailbox. Check for mail. Log off if there is none. And if there is, MicroPhone will collect, print, and save all

messages to your disk. Then, politely log off.

If you prefer, you can direct MicroPhone to initiate this sequence simply by inserting the disk. Or automatically, at any specified time, day, night. Or at regular intervals.

Anything else you need to do, from collecting stock quotes to sending and receiving files, is just as simple.

Try it out at home or office.

You can find out firsthand just what a remarkable program MicroPhone is. Without risking a cent. Just take telephone and credit card in hand and order it. We give you a thirty-day moneyback guarantee, no questions asked. Which is virtually unprecedented in software.

Since MicroPhone is not copy protected, we obviously have vast confidence both in our program. And in you.

MicroPhone™
Communications Software
for the Macintosh



SOFTWARE
VENTURES

Let's get technical box.

- 50 to 57,600 Baud
- Supports XMODEM
- ASCII
- 1K BLOCKS
- MACBINARY
- MACBINARY 1.1
- Emulates TTY
- VT52
- VT100
- Capture file On/Off
- Append to file
- Printer On/Off
- Auto log on scripts for information utilities provided
- Scripts Invoked by Button Menu
- Command Key
- Scripts have full logic constructs
- Works with ALL Macintosh models & LaserWriter
- Supports TrailBlazer! Fastlink modem (up to 18,000 bps)
- Works with all async modems (Hayes included)
- Includes Switcher & CompuServe subscription
- Includes text editor licensed from Dreams of the Phoenix Inc.
- Documentation by Neil Shapiro

MicroPhone is a trademark of Software Ventures Corporation. © 1986 Software Ventures Corporation

For Free Information Please Circle 216 On Reader Service Card.

I've got to try this. Send me MicroPhone. At \$74.95 with a 30 day money-back guarantee, how can I go wrong?
Call 24 hours toll free 800-336-6477 to order by phone.
In California, 800-336-6478. In Canada, 800-336-6479.
Or, for the name of your nearest MicroPhone dealer, call 415-644-3232.

Send me _____ copies of MicroPhone at \$74.95 each
In USA & Canada add \$5 each for postage & handling \$ _____
Outside USA/Canada, add \$10 each for postage & handling \$ _____
In California, add \$4.87 per copy sales tax \$ _____
Total enclosed or to be charged \$ _____
Pay by: ☐ Visa ☐ MasterCard ☐ Check ☐ Bank Draft or M.O.

Card No. _____

Credit Card Expiration Date _____

SHIP TO: NAME _____ COMPANY _____

SHIPPING ADDRESS _____

CITY _____ STATE _____ ZIP _____

Phone No. () _____

ALL FOREIGN ORDERS: please make payment by bank draft, payable in US dollars, drawn on a US bank. No C.O.D. or Purchase Orders.

Send to: SOFTWARE VENTURES, 2907 Claremont Avenue, Suite 220, Dept B, Berkeley, CA 94705

Dealer Inquiries Invited.

SOMEDAY MY PRINTS WILL COME

Figure 5: The *Work•n•Print* File Facts dialog box.

Figure 6: The *MaxPrint* dialog box.

Figure 7: The *Print Text* dialog box.

	Time required to format a 5-page Word file.	Time required to format a 5-page MacWrite file.
BackPrint	16 seconds	44 seconds
MacMate!	2 minutes, 8 seconds	9 minutes, 28 seconds
MacSpool	5 minutes	7 minutes, 40 seconds
MaxPrint	2 minutes, 33 seconds	2 minutes, 58 seconds
Print Text	na	na
Work•n•Print	39 seconds	1 minute, 45 seconds

Figure 8: Format times for high-quality text.

that prints 132 characters per line, or add headers and line numbers to the printed copy (Figure 7). Though *Print Text* can't produce high-quality prints, it can print a draft very quickly and while you continue to work. It only takes up 4K on the disk.

TIME IN THE BANK?

Of course the real question is just how much time will you save with print spooling software. If you don't have to wait until a document has printed to continue working, then you obviously have saved some time. All print spoolers provide that kind of overall time savings. However, saving time in the long run is not without an initial investment. Each spooler has its own initial demands, and those demands are often imposed by the software. *MacWrite* is notorious for formatting one page of high-quality text at a time to send to the ImageWriter. The chart in Figure 8 shows how long it takes each spooler to format a five-page document in *MacWrite* or *Word*.

I used the same file for *MacWrite* and *Word*, and printed both in high-quality mode. It takes any spooler longer to format *MacWrite* files than it does *Word* files. Obviously the formatting times will vary with each system and file, but these reflect what the spoolers are capable of. Naturally, the time to completely print a document will depend on the other tasks the Mac is performing. *BackPrint* is by far the fastest spooler, but it doesn't give you as much control over printing as *Work•n•Print*, *MacSpool*, or *MaxPrint*. *Work•n•Print* is fast, but requires you to sit through the formatting, and neither *Work•n•Print* nor *BackPrint* gives you a RAMdisk.

THE PRICE OF PRODUCTIVITY

The problem inherent to all print spoolers seems to be that at one time or another they drop words or characters or they add unwanted garbage, line feeds or characters. This always occurs when the Macintosh is handling some other task as well as printing — a natural Catch 22. You want to spool so you can work, but you don't want to work because that might mess up the spooling.

Of the spoolers I tested, *MacMate!* and *MaxPrint* seemed to suffer most from this problem. The documentation warns that this might happen and suggests using the CLEAR command in the spooler. Unfortunately, using the CLEAR command in *MacMate!* requires users to quit the application, start *MacMate!*, use the CLEAR command, QUIT *MacMate!* An HFS version of *MacMate!* is due this summer and these problems should be eliminated. *MacSpool*, *BackPrint*, and *MaxPrint* all have CLEAR commands in their desk accessory controllers, so it isn't necessary to leave the application to clear a file of unwanted garbage. Another solution to the problem is turning the ImageWriter off and on. This clears the ImageWriter's small 2K buffer. I have heard others complain about missing text

or added garbage in *Work•n•Print*, but I didn't have any problems. Though *Work•n•Print* may be a little more annoying to use, it is the workhorse of the spoolers.

Besides extraneous characters, you also have to adjust to a different rhythm from the ImageWriter when you are spooling (not to mention that you have to adjust to the ImageWriter beating time to your typing). Whenever you save a file or close an application, the ImageWriter slows down or stops altogether. Generally, information isn't being lost.

None of the spoolers currently supports the LaserWriter, and even though you can print while you are running *Switcher*, none seem to be able to continue printing when you switch between applications. *MaxRAM/MaxPrint* documentation suggests that you not try this.

WHAT'S COMING?

At press time Borland hadn't begun shipping the HFS-compatible *Sidekick* 1.1. *Sidekick* has a *Redi-printer* desk accessory that is like *BatteryPak's Print Text*. It is a draft-quality print spooler that will print text-only files. Softstyle hadn't begun shipping *Printworks* (though it is probably out as you read this). *Printworks* has spooling capabilities in addition to providing color printing and near letter quality text in the draft mode on the ImageWriter II. And last but not least, Apple has promised spooling software for the HD20 and LaserWriter. With the existing software and what will be released in the next few months, no one should ever have to wait on the slow ImageWriter again. ☐

Fred Terry is a staff writer at BehaviorTech, a computer-based training company.

BACKPRINT



Overall Rating:	■ ■ ■ ■ □
Follows Mac Interface:	■ ■ ■ □ □
Printed Documentation:	■ ■ ■ ■ □
On-Screen Help:	None
Performance:	■ ■ ■ ■ □
Support:	■ ■ □ □ □
Consumer Value:	■ ■ ■ ■ □

Comments: One of seven other useful desk accessories. **Best Feature:** Very fast and easy to use. **Worst Feature:** Won't allow you to quit the application while printing. **List Price:** \$59.95. Part of *TopDesk*. Published by Cortland Computer, PO Box 9916, Berkeley, CA 94709. 415-845-1142.

MACSPOOL



Overall Rating:	■ ■ ■ ■ □
Follows Mac Interface:	■ ■ ■ ■ □
Printed Documentation:	■ ■ ■ ■ □
On-Screen Help:	None
Performance:	■ ■ ■ ■ □
Support:	■ ■ ■ □ □
Consumer Value:	■ ■ ■ ■ □

Comments: A combination RAMdisk and print spooler. **Best Feature:** The ability to control the printing with the Controller desk accessory. **Worst Feature:** You have to shut down after you install *MacSpool*. **List Price:** \$49.95. Published by Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. 818-991-6540.

PRINT TEXT



Overall Rating:	■ ■ □ □ □
Follows Mac Interface:	■ ■ ■ □ □
Printed Documentation:	■ ■ ■ ■ □
On-Screen Help:	None
Performance:	■ ■ □ □ □
Support:	■ ■ ■ □ □
Consumer Value:	■ ■ ■ ■ □

Comments: *Print Text* is only one of eight great desk accessories on the *BatteryPak* disk. **Best Feature:** Provides fast printout of text files. **Worst Feature:** Unfortunately, it only prints text only files. **List Price:** \$49.95. Part of *BatteryPak*. Published by Batteries Included, 30 Mural St., Richmond Hill, Ontario L4B 1B5, Canada. 416-881-9941.

MACMATE!



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

Comments: An easy to use RAMdisk and print spooler. **Best Feature:** The instructions are the start-up screen. **Worst Feature:** Not compatible with new ROM or HFS. **List Price:** \$49.95. Published by SMB Development Associates, PO Box 3082, Chatsworth, CA 91313. 818-341-2523.

MAXRAM/MAXPRINT



Overall Rating:	■ ■ ■ □ □
Follows Mac Interface:	■ ■ ■ ■ □
Printed Documentation:	■ ■ ■ ■ □
On-Screen Help:	None
Performance:	■ ■ ■ □ □
Support:	■ ■ ■ □ □
Consumer Value:	■ ■ ■ □ □

Comments: A RAMdisk and print spooler desk accessory. **Best Feature:** Spooling is controlled from within an application. **Worst Feature:** No control beyond stopping the printing if you should want it. **List Price:** \$49.95. Published by MacMemory, 473 Macara Ave., Suite 701, Sunnyvale, CA 94086. 800-862-2636.

WORK•N•PRINT



Overall Rating:	■ ■ ■ ■ □
Follows Mac Interface:	■ ■ ■ ■ □
Printed Documentation:	■ ■ □ □ □
On-Screen Help:	None
Performance:	■ ■ ■ □ □
Support:	■ ■ ■ □ □
Consumer Value:	■ ■ ■ ■ □

Comments: The least expensive of the print spoolers. **Best Feature:** Gives the user total control over the printing order of files. **Worst Feature:** Requires that you name each page of a document. **List Price:** \$29.95. Published by Assimilation, 485 Alberto Way, Los Gatos, CA 95030. 800-622-5464.

Rest assured.

SOFTWARE

Addison-Wesley	
Smart Eyes (<i>speed reading tutor</i>)	\$36.
Affinity Microsystems	
Tempo (<i>power user's macro utility</i>)	79.
Altsys	
Fontastic (<i>create your own fonts</i>)	27.
Ann Arbor	
FullPaint (<i>open four documents at once</i>)	55.
Assimilation	
MIDI Composer (<i>music record/playback</i>)	22.
Mac•Spell•Right (<i>40,000 word dictionary</i>)	69.
Right•Word (<i>spell checker & thesaurus</i>)	69.
ATI	
Teach Yourself Multiplan	39.
Jazz Training	39.
Excel Training	39.
Batteries Included	
The Mac BatteryPak (<i>desk accessories</i>)	27.
Borland International	
Sidekick (<i>unprotected</i>)	39.
Sidekick w/Phonelink	59.
BPI Systems	
General Accounting	299.
BrainPower	
PowerMath (<i>requires 512k</i>)	52.
StatView (<i>statistics package</i>)	99.
Designscope (<i>electronic circuit design</i>)	129.
StatView 512+ (<i>reqs. external drive, 512k</i>)	179.
CAMDE	
Nutricalc (<i>diet & nutrition analysis</i>)	49.
Casady Company	
Fluent Fonts (<i>two-disk set</i>)	29.
Central Point Software	
Copy II Mac (<i>includes MacTools</i>)	20.
Challenger Software	
Mac3D (<i>3D graphics, CAD features</i>)	115.
Chang Labs	
Rags to Riches Ledger	99.
Rags to Riches Receivables (<i>reqs. 512k</i>)	99.
Rags to Riches Payables (<i>reqs. 512k</i>)	99.
Rags to Riches Three Pak	249.
Creighton Development	
MacSpell+ (<i>requires 512k</i>)	55.
Datavis	
MacLink (<i>transfer Mac/IBM files</i>)	89.
Desktop Graphics	
DrawArt (<i>MacDraw artwork, 512k</i>)	27.
DrawForms (<i>requires MacDraw</i>)	30.
Digital, etc.	
Turbo Maccountant	325.
Dow Jones	
Straight Talk	59.
Spreadsheet Link	62.
Market Manager PLUS	125.
Dreams of the Phoenix	
Day Keeper Calendar	27.
Quick & Dirty Utilities Vol. 1	27.
Quick & Dirty Utilities Vol. 2	27.
Twelve-C Financial Desk Accessory	27.
Electronic Arts	
Financial Cookbook	32.
Deluxe Music Construction Set	32.
Enabling Technologies	
Easy 3D (<i>create solid 3D objects</i>)	89.
EnterSet	
Quickpaint (<i>find MacPaint files fast</i>)	27.
Quickset (<i>icon-driven accessory</i>)	27.
Quickword (<i>word processing tool</i>)	32.
MacGAS (<i>requires 512k, external drive</i>)	55.

1st Byte	
Speller Bee (<i>spelling-learning tool</i>)	\$39.
KidTalk (" <i>talking notebook</i> ")	39.
Smoothtalker (<i>version 2.0</i>)	49.
Forethought	
Factfinder (<i>free-form entry</i>)	84.
FileMaker (<i>custom forms & reports</i>)	99.
Fortnum/Southern	
MacInooga Choo-Choo (<i>reqs. 512k</i>)	21.
MacChemistry	89.
FWB Software	
Hard Disk Util	57.
Great Wave Software	
ConcertWare+ (<i>music composition</i>)	39.
Instrumental Favorites	12.
The Art of Fugue (<i>Bach</i>)	12.
Early Music	12.
Classical Selections	12.
Haba/Arrays	
Home Accountant (<i>reqs. external drive</i>)	52.
Hayden Software	
DaVinci Buildings	9.
DaVinci Interiors	9.
DaVinci Landscapes	9.
I Know It's Here Somewhere	20.
Hayden:Speller	27.
Art Grabber with Body Shop	29.
MusicWorks	46.
Building Blocks	46.
Score Improvement System for the SAT	58.
VideoWorks & MusicWorks Bundle	58.
Commercial Interiors	114.
Ideaform	
MacLabeler (<i>print disk labels</i>)	29.
Innovative Data Design	
Paste-Ease (<i>requires MacPaint</i>)	35.
MacDraft (<i>requires 512k</i>)	139.
Kensington	
Graphic Accents	29.
Type Fonts for Text	29.
Type Fonts for Headlines (<i>reqs. 512k</i>)	42.
Layered	
Notes...For Excel	42.
Notes...For Jazz	42.
Front Desk (<i>scheduling & organizer</i>)	77.
Legisoft/Nolo Press	
WillWriter (<i>prepare your own will</i>)	27.
Linguist's Software	
Tech (<i>1000 different symbols</i>)	59.
FOREIGN LANGUAGE FONTS	
MacCyrillic	39.
SuperFrench/German/Spanish	39.
MacArabic	59.
MacKana/Basic Kanji	59.
MacSemitic/Coptic/Devanagari	59.
MacKorean	59.
MacGreek	59.
MacHebrew	59.
MacHieroglyphics	59.
LaserGreek	79.
MacGreek/Hebrew/Phonetics	89.
Living Videotext	
ThinkTank 512k (<i>outline processor</i>)	99.
Magnum	
McPic - Volume 1	28.
McPic - Volume II	28.
The Slide Show Magician	34.
Manhattan Graphics	
Ready Set Go (<i>requires 512k</i>)	99.
Microsoft	
Flight Simulator	39.

Learning Multiplan and Chart	\$39.
Chart 1.0	72.
Logo 1.0	75.
Basic 2.1	89.
Multiplan 1.1	105.
File 1.02	111.
Word 1.05	111.
Fortran 2.1	169.
Excel 1.0	225.
Miles Computing	
Mac the Ripper - Volume III	27.
Mindscape	
The Luscher Profile	24.
The Perfect Score: SAT	47.
Monogram	
Forecast (tax planning)	41.
Dollars & Sense	81.
Nevins Microsystems	
Turbocharger (requires 512k)	39.
New Canaan MicroCode	
Mac Disk Catalog II (requires 512k)	32.
Odesta	
Helix (requires 512k, external drive)	125.
Double Helix (relational database)	279.
Palantir	
MacType (supports Dvorak keyboard)	26.
MathFlash (math flash card drills)	26.
WordPlay (crossword puzzles)	26.
Inventory Control	69.
inTouch (communication to emulation)	79.
PBI Software	
Icon Switcher	14.
Icon Fun & Games Library	14.
Icon Business Library	14.
Peachtree	
Back to Basics General Ledger	89.
Accounts Payable	89.
Accounts Receivable	89.
Polarware	
Graphics Magician	49.
Practical Computer Applications	
MacBackup 4.0 (free upgrades)	39.
ProVUE Development	
OverVUE 2.0 (power-packed database)	149.
QED Information Sciences	
Typing Made Easy	36.
Rubicon Publishing	
Silver Palate Collection (NY's finest!)	29.
Dinner At Eight (recipes to wines)	35.
Satori	
BulkMailer (mailing lists)	75.
Sierra On-Line	
MacOneWrite (cash disbursements)	137.
MacOneWrite (accounts receivable)	137.
MacOneWrite (general ledger)	137.
Silicon Beach Software	
Accessory Pak 1	21.
Silicon Press (printer utility, 512k)	42.
Simon & Schuster	
The Mac Art Department	24.
Paper Airplane Construction Kit	24.
Typing Tutor III	35.
SMB Development	
MacMate (requires 512k)	35.
SoftStyle	
Colormate Art (color graphic images)	25.
Colormate (color printing utility)	49.
Epstart	27.
Jetstart	27.
Laserstart	59.
Decision Map	79.

Stay Calm.

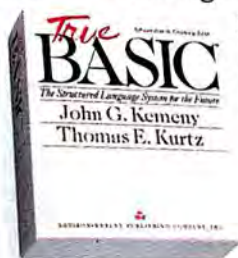
Still sane after all these years. For some people, ordering computer products by mail is a terrifying leap into uncharted waters. For our customers, it's a one-way ticket to tranquility and peace of mind.



PSION Chess \$31
3-D graphics, multilingual

As you can see, our hometown of Marlow, NH (pop. 554) has a long tradition of helping "mild, mental, and nervous" folks stay calm. And here at

MacConnection, we still foster a cheerful homelike attitude that has helped thousands of serious Mac addicts learn to lead productive lives in society.



True BASIC \$109
Portability, superb graphics

We can help. We can give you the tools you need to transform frustrations into rich, rewarding computer experiences.

Be reasonable.

Many first time patients, uh, customers, demonstrate unrealistic paranoid fears about their orders, revealing deep unresolved neuroses due to previous purchasing experiences with other mail order houses. But they quickly become cool, calm, and collected when they learn that



Target MacLightning \$53
Instant spell checker (512k)

of installation and training.

Because we have proven that there isn't a problem that a

little patience and understanding can't solve.

So call us because we have such low prices.

Or call us because our terms are clear and fair.

Or call us because

we give such superb after-the-sale support. But, most of all, call us because we care. Go in peace.



BPI General Accounting \$299
Full featured package (512k)

trained professionals are standing by at MacConnection's toll-free crisis line to help them through their darkest hours

MacConnection TM

14 MILL STREET, MARLOW, NH 03456 1-800/Mac&Lisa or 603/446-7711

©Copyright 1986 Micro Connection, Inc. MacConnection is a division of Micro Connection, Inc. MacConnection and Micro Connection are trademarks of Micro Connection, Inc. For Free Information Please Circle 82 On Reader Service Card.

tomorrow.

HARDWARE

Assimilation

Mac•Epson•Connection	\$40.
Mac•Port•Adaptor	85.
Numeric•Turbo	145.

Compucable

Mac to Hayes Smartmodem cable	16.
Mac Plus to Hayes Smartmodem cable	19.
Mac Plus to Imagewriter II cable	21.

Cuesta Systems

Datasaver AC Power Backup (90 watts)	call
--------------------------------------	------

Curtis Manufacturing

Diamond (6 outlets)	29.
Emerald (6 outlets; 6 ft cord)	36.
Sapphire (3 outlets; EMI/RFI filtered)	47.
Ruby (6 outlets; EMI/RFI filtered; 6 ft cord)	55.

Epson

AP-80 printer (Imagewriter compatible)	call
FX-85 printer	call
FX-286 printer	call
LQ-1000 printer (letter quality)	call

Ergotron

MacTilt (incl. external drive bracket)	75.
MacBuffer 256k	219.
MacBuffer 512k	319.
MacBuffer 1 Megabyte	489.

Hayes

Smartcom II (communications software)	89.
Smartmodem 1200	call
Smartmodem 2400	call
Transet 1000	call

IOMEGA

Bernoulli Box (dual 10-MB w/SCSI)	2195.
Bernoulli Box (dual 10-MB storage)	2475.
10 Meg cartridge	48.
Head Cleaning Kit	69.

Kensington

External Disk Drive Cover	8.
Mouseway	8.
Mouse Pocket	8.
Mac Dust Cover	9.
Imagewriter (II) Dust Cover	9.
Mouse Cleaning Kit w/Mouse Pocket	16.
Universal Printer Stand	17.
Disk Case (holds 36 Mac disks)	19.
Disk Drive Cleaning Kit	19.
Tilt/Swivel	22.
Polarizing Filter	31.
Surge Suppressor	35.
Starter Pack (includes Tilt/Swivel)	53.
A-B Box	62.
Control Center	62.
System Saver Mac	62.

Koala Technologies

KAT Graphics Tablet	139.
MacVision (digitizer)	175.

Kraft

QuickStick (Mac joystick)	45.
---------------------------	-----

Micah

MicahDrive AT (20 Meg internal drive)	special
---------------------------------------	---------

Mirror Technologies

MagNet 20x External Hard Drive	989.
--------------------------------	------

Mouse Systems

A + Optical Mouse	59.
-------------------	-----

N² Products

Mac to Modem cable (6 feet)	19.
Mac (Plus) to Printer cable (6 feet)	19.
Mac to Transet 1000 cable (9 feet)	19.
Mac Plus Adapter cable	19.

Paradise Systems

Mac 10 (10 megabyte hard disk)	call
Mac 20 (20 megabyte hard disk)	call

PBI Software

Switch Box	36.
------------	-----

Personal Computer Peripherals

MacBottom 20 Hard Disk Drive	1149.
------------------------------	-------

PKI

McD 800k External Drive	285.
-------------------------	------

Summagraphics

MacTablet 6" x 9"	269.
MacTablet 12" x 12"	369.

Systems Control

MacGard (surge protection)	55.
----------------------------	-----

Thunderware

Thunderscan (high-resolution digitizer)	175.
---	------

Mac Plus Power Accessory	29.
--------------------------	-----

Video 7

MouseStick	39.
------------	-----

Western Automation

DASCH RAMdisk 500k	299.
DASCH RAMdisk 1000k	359.
DASCH RAMdisk 2000k	435.

DISKS

Single-sided Diskettes

BASF 3 1/2" Disks (box of 5)	10.
Memorex 3 1/2" Disks (box of 10)	17.
Sony 3 1/2" Disks (box of 10)	17.
MAXELL 3 1/2" Disks (box of 10)	18.
Fuji 3 1/2" Disks (box of 10)	18.
Verbatim 3 1/2" Disks (box of 10)	20.
3M 3 1/2" Disks (box of 10)	21.

Double-sided Diskettes

Fuji 3 1/2" Double-sided Disks (10)	26.
Sony 3 1/2" Double-sided Disks (10)	28.
MAXELL 3 1/2" Double-sided Disks (10)	28.
Verbatim 3 1/2" Double-sided Disks (10)	29.
3M 3 1/2" Double-sided Disks (10)	29.

INFORMATION SERVICES

Compuserve

Compuserve Information Service	27.
--------------------------------	-----

Dow Jones

Dow Jones News/Retrieval Membership Kit	19.
---	-----

Source Telecomputing

The Source (subscription & manual)	30.
------------------------------------	-----

MISCELLANEOUS

Automation Facilities

Floppyclene Drive Care Kit	15.
MacPak Complete Care System	29.

Clean Image Ribbon Co.

Clean Image Ribbon Kit	12.
------------------------	-----

Computer Coverup

External Disk Drive Cover	4.
Imagewriter (II) Cover	8.
Mac (Plus) & Keyboard (two covers)	10.

Diversions

Underware Ribbon	9.
ColorPack (includes Colorpens)	19.

Environmental Software Company

The Clutch (holds 8 disks)	9.
MACATTIRE (Rip-stop nylon covers)	
External Drive Cover (400k & 800k)	7.
Numeric Keypad Cover	7.

Numeric Turbo Cover	\$8.
Imagewriter (II) Cover	11.
Wide Imagewriter Cover	13.
Mac (Plus) & Keyboard Cover	15.
Laserwriter Cover	17.
Mac (Plus) & HD20 & Keyboard Cover	18.

I/O Design

Imagewriter Color Transfer Ribbon	10.
Imagewriter II (Imagewriter II case)	49.
Imagewriter wide	49.
Macinware Plus (Mac Plus carrying case)	59.

Innovative Concepts

Flip & File Micro (holds 25 disks)	9.
Flip & File (holds 40 disks)	18.

Innovative Technologies

The Pocket Pak (holds 6 disks)	9.
The Easel (holds 20 disks)	12.
The Disk Directory (holds 32 disks)	18.

Kalmar Designs

Teakwood Roll-top Case (holds 45 disks)	14.
Teakwood Roll-top Case (holds 90 disks)	21.
Teakwood Printer Stand 24"	29.

Magnum

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

Moustrak

Moustrak Pad (standard 7" x 9")	8.
Moustrak Pad (large 9" x 11")	9.
Imagewriter Pad	12.

Ribbons Unlimited

Imagewriter Color Ribbons	5.
Imagewriter Ribbons Six Pack	27.
Imagewriter Rainbow Six Pack	27.

Smith & Bellows

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

OUR POLICY

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

SHIPPING

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

Here today, here t

Springboard

Art a la Mac Vol. 1-People and Places . . . \$23.
Art a la Mac Vol. 2-Variety Pack . . . 23.

State of the Art

Electric Checkbook . . . 42.

Symmetry

Acta (outline/writing desk accessory) . . . 39.
PictureBase (clip art manager, 512k) . . . 48.

T/Maker

Click Art Personal Graphics . . . 29.
Click Art Publications . . . 29.
Click Art Letters . . . 29.
Click Art Effects . . . 29.
ClickOn Worksheet . . . 46.

Target Software

MacLightning (reqs. 512k, external drive) . . 53.

Telos Software

Business Filevision (512k, external drive) 209.

Think Educational

Mind Over Mac . . . 28.
MacEdge II (math & reading) . . . 28.

TML Systems

TML Pascal . . . 69.

TrueBasic

True BASIC . . . 109.
Pre-calculus utility . . . 36.
Calculus utility . . . 36.

Videx

MacCalendar (incl. reminder system) . . . 52.

GAMES

Activision

Championship Star League Baseball . . . 22.
Hacker (you're on your own!) . . . 27.
Mind Shadow (Who am I?) . . . 27.
Borrowed Time (murder mystery) . . . 27.
Alter Ego (become someone else) . . . 36.

Aegis

MacChallenger (space shuttle) . . . 23.

Ann Arbor Softworks

Grid Wars (3D graphic arcade) . . . 22.

Artworx

Bridge 4.0 . . . 21.

Bantam Electronics

Sherlock Holmes: Another Bow . . . 27.

Blue Chip

Millionaire (stock market) . . . 35.
Tycoon (commodities) . . . 35.
Baron (real estate) . . . 35.
Squire (personal finance, reqs. 512k) . . 35.

BrainPower

Think Fast (improves recall) . . . 23.
Chipwits (robot simulation) . . . 26.

Broderbund Software

Lode Runner (you'll never sleep!) . . . 24.
Ancient Art of War (military strategy) . . 27.

MacConnection Special of the Month through August 31, 1986

MICAH

MicahDrive AT

An internal 20 Meg hard disk complete with power supply, fan and controller. Fast, rugged and reliable.

- HFS Volume Manager, MFS compatibility
- MicahSpool and Security software
- Comes with its own SCSI
- One year limited warranty

For your Mac or Mac Plus \$1169.

CBS

Murder by the Dozen (mystery) 25.

Electronic Arts

Golden Oldies Vol. 1 (software classics) . . 24.
Skyfox (3D graphics) 26.
One on One/Dr J vs Larry Bird (reqs. 512k) 27.
Pinball Construction Set 27.

Epyx

Rogue (the mainframe classic!) 24.
Temple of Apsahai Trilogy (4 levels) . . . 24.
Winter Games (Olympic events) 24.

Hayden Software

Masterpieces (jigsaw puzzles) 9.
Word Challenge II 9.
Perplexx 24.
Sargon III (9 levels of chess) 29.

Infocom

Difficulty levels shown in *italics*

Seastalker (junior) 23.
Ballyhoo (standard) 23.
Cutthroats (standard) 23.
Enchanter (standard) 23.
Hitchhiker's Guide (standard) 23.
Planetfall (standard) 23.
Wishbringer (standard) 23.
The Witness (standard) 23.
Zork I (standard) 23.
Zork II (advanced) 26.
Zork III (advanced) 26.
A Mind Forever Voyaging (advanced) . . 26.
Infidel (advanced) 26.
Sorcerer (advanced) 26.
Suspect (advanced) 26.
Deadline (expert) 29.
Spellbreaker (expert) 29.
Starcross (expert) 29.
Suspended (expert) 29.
Invisicues (hint booklets) 6.

Mark of the Unicorn

Mouse Stampede (addictive!) \$22.

Miles Computing

Fusillade (arcade-maze) 21.
MacAttack (3D tank simulation) 27.
Harrier Strike Mission (3D flight simulation) 27.
MacWars (3D space simulation) 27.

Mindscape

Rambo: First Blood Part II 24.
James Bond 007: "A View to a Kill" 24.
Stephen King's "The Mist" 24.
Racter (converse with your Mac!) 27.
Balance of Power (world politics) 30.
Bratavicus (requires 512k) 30.
Uninvited (mystery adventure) 30.
Deja Vu (murder mystery) 33.

Origin Systems

Exodus: Ultima III (fantasy adventure) . . . 38.

PBI Software

Strategic Conquest (war strategy) 29.
Fokker TriPlane Flight Simulator 35.

Penguin

Crimson Crown (sequel to above) 24.
The Quest (beware of the dragon!) 24.
Xyphus (role playing adventure) 24.

Practical Computer Applications

MacGolf (requires 512k) 36.

Psion

Psion Chess (3D and multi-lingual) 31.

Scarborough Systems

Make Millions (business simulation) 29.

Sierra On-Line

Frogger (classic video game) 24.
Championship Boxing 24.
Ultima II (role playing adventure) 35.

Silicon Beach Software

Airborne! (digitized-sound war game) . . . 20.
Enchanted Scepters (text & graphics) . . . 21.

Sir-Tech

Mac Wizardry (fantasy) 36.

Spectrum Holobyte

GATO (submarine simulation) 26.
Orbiter (requires 512k) 27.
Tellstar North Level I (reqs. 512k) 27.

Unicorn

Futura (sci-fi adventure) 24.
Utopia (science fantasy game) 24.
Animal Kingdom (ages 6-12) 27.
Decimal Dungeon (math, ages 9 and up) . . 27.
Fraction Action (arcade style math game) . 27.
Mac Robots (pre-school program) 27.
Read-A-Rama (reading, ages 5-8) 32.

Videx

MacCheckers/Reversi 28.
MacGammon/Cribbage 28.
MacVegas 34.

1-800/Mac&Lisa 610U

MacConnection™

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

Copyright 1986 Micro Connection, Inc. MacConnection is a division of Micro Connection, Inc. MacConnection and Micro Connection are trademarks of Micro Connection, Inc.

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

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

For Free Information Please Circle 82 On Reader Service Card.



THE BEST LITTLE SCHOOLHOUSE

Using your Mac to make reading skills fun.

by
**Mary
Bowman -
Krum**

SCHOOL MAY BE OUT, BUT LEARNING never stops, especially if you own a Macintosh. The Macintosh is the perfect computer for kids because it's so easy to create words and images that kids are stimulated to be more creative. Using basic techniques which we'll show you, you and your child can use *MacWrite* to build skills in reading and writing. Although current research points to students' reading what they write as the best way to learn these skills, sharing your youngster's excitement in creating with the Mac will be even more convincing.

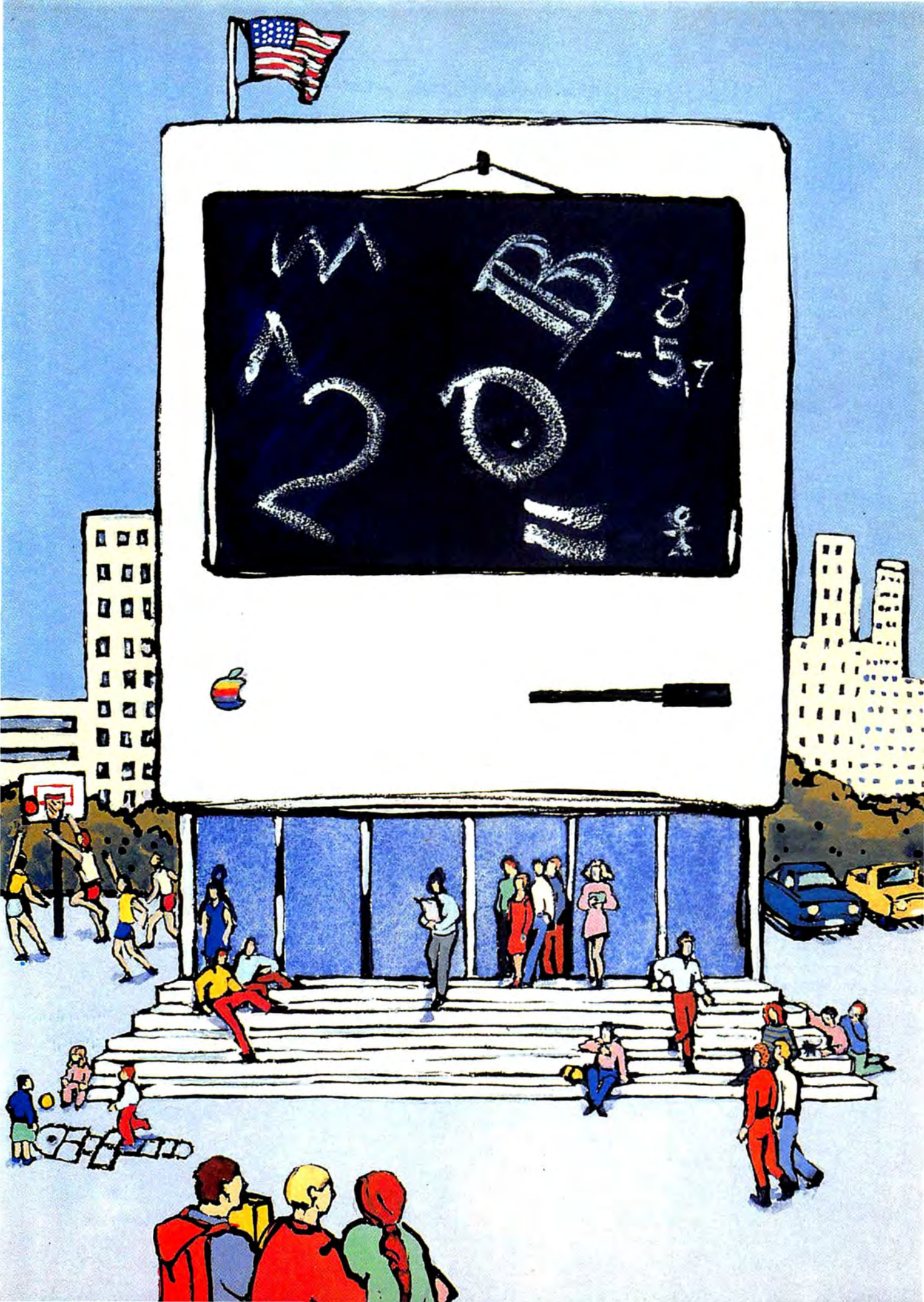
Begin by making a folder and helping the child type his or her name on it, no matter what the child's age. The computer is an in-

triguing machine and the thrill of having a personal folder to click open multiplies the pleasure of reading its contents.

KINDERGARTEN THROUGH GRADE 3

During the primary grades (kindergarten through grade 3), a child should have opportunities to work with words. Since children at this age are intrigued by their immediate world, here are some ideas that involve family and friends in using the printed word.

Write a letter to your pre-schooler. Use a typeface like 18-point New York font; then go back and intersperse Cairo font symbols for as many of the difficult words as possible. If, for example, you just put a



THE BEST LITTLE SCHOOLHOUSE

bandage on your daughter's cut finger, you might put together something like the note seen in Figure 1.

Of course, you will need to provide some help in reading your letter. Don't worry that the phonetic spellings, such as "C" for "see" and "ur" for "your," will teach your child to spell incorrectly. At this age, understanding that those funny squiggles on a page mean something is what's important. Besides, blending "u" and "r" to approximate the sound of a word is practice for the future pronunciation of more difficult words.

Display Cairo font symbols and let your child pick symbols whose words she would like to read and write. Go gradually from the picture symbol to the word, as we do in Figure 2. Always put the word in context to stress meaning. A word by itself makes little sense.

Put several words your second or third grader would like to read at the top of the screen in bold New York font, 18-point. Type a story which uses those words as your child dictates it, or write a skit by building sentences both of you contribute. (See Figure 3.)

Keep a running list of words your child can read. When one is used in a story or skit, highlight it in bold type. Read the story together; you can read the words unknown to your child aloud as your finger flows under the line of print, but allow your child to read the words he or she recognizes.

UPPER ELEMENTARY GRADES

Children in grades 4 through 6 see reading and writing as useful ways to communicate. You can build on their delight at this age to share and give by using the Mac for gift-making projects. Allow the child to gradually take over the functions and typing while you provide only technical assistance. Since you want using the Mac to be a learning situation, help with correct punctuation and spelling, but don't be so critical of your child's writing that the fun evaporates. Another warning: Kids love to experiment with different fonts. A project may have what to you seems a terrible mixture of fonts

Fig. 1: Interspersing graphics, such as these taken from the Cairo font, helps young children learn some very basic phonetics and reading skills.

Dear Sandy,

☺ M sad U cut ur 🐾. ☺ M glad 🐾 put a 🐾 on it.

U can C 🐾 2nite with ur ☺ and 🐾.

It is 🐾 2 feed 🐾.

Send me a 📧.

Love, Dad

Fig. 2: Gradually removing letters from a word reinforces a child's letter recognition skills.



TREE

TRE ____

T ____ E

I see a bird (or 🐾) in the ____.

Fig. 3: Creating scripts by using keywords at the top of the screen stimulates children's imaginations and makes reading fun.

house yard furniture hamburger

Mom: Once there was a dog that had to stay in the back **yard**.

Bill: He liked to chew his bone.

Mom: Mother wouldn't let him in the **house**.

Bill: So Bill fed him a **hamburger** to make him feel good.

Fig. 4: Different fonts and styles give kids the chance to experiment and makes them want to communicate effectively.

Here's How You Make Rice Cereal Cookies:

1. Grease a cake pan.
2. In a plastic bowl put 2 tablespoons of margarine and 2 cups of little marshmallows.
3. Put the bowl in the microwave for 2 minutes.
4. Add 2 cups of rice cereal and stir real hard.
5. Put it in the pan and press it down real well.
6. Wait a couple minutes before you cut them.

Dear Mrs. Harrison,

Dad and I each tasted one and they really taste *good*. I hope you like them too. I liked making them for you.

Jerry

For Free Information Please Circle 177 On Reader Service Card

THE BEST LITTLE SCHOOLHOUSE

and styles, but they'll love it. Here are some ideas to get you and your child started.

Make some cookies, using a simple recipe that you can easily tell or read to the child. Then have him recall the steps as you type them. If he's able, allow the child to type the recipe himself. Add a few lines intended especially for the recipient, such as how much he hopes the person likes them or how he felt when the cookies turned out to be tasty.

Build on the recipe idea by making a "cook booklet" for gift-giving. To make a recipe file, the recipes can be typed using 9-point Geneva. Cut the recipes apart and use rubber cement to paste them onto 3x5-inch cards.

A neighborhood or family newspaper can be a welcome communications outlet. (Experience causes me to suggest that you reserve review and censorship rights prior to distribution.)

A poem, perhaps with an illustration that's been framed with construction paper, would be appreciated by a grandparent or family friend.

Write a script for a family puppet show. Hand puppets can be easily made using paper bags, yarn, and crayons or felt-tip markers — and maybe even *MacPaint*.

Number sentences as your youngster dictates them and then turn the computer over to the child to add punctuation marks and capital letters. Fourth graders should use appropriate punctuation marks to end sentences and capitals for specific names; most sixth graders are working on the subtleties of commas and the uses of quotation marks.

Help your son or daughter interview family members and write an autobiography. Chapters might include "Before We Came to America," "Important Relatives," "My Own Family," "My Early Life," and "All about Me."

JUNIOR AND SENIOR HIGH SCHOOL STUDENTS

As students enter high school, more demands are made upon them than in the elementary grades. "I can't think of anything to write"

Fig. 5: Reinforce good study habits by personalizing homework assignment sheets.

Jennifer's Things to Do
Week of 9/13/86

Homework

	Subject:	Assignment:
Monday		

Due ____/____/8____: _____

Other Stuff to Do

1. _____
2. _____

Fig. 6: Customized note sheets like these can help students organize and improve their note-taking habits.

____/____/8____ **Ted's Notes about** _____

Topic	Notes

becomes a common complaint. Hasn't your Mac taken away some of the pain of writing for you? It can do the same for students. Students write more when using a word processor, and that in itself frequently helps grades.

The Macintosh, however, can provide other support. Students at this age are frequently disorganized and need direction in keeping track of assignments, especially long-range ones. Teachers begin to lecture and expect students to take notes and to prepare for tests by studying both notes and textbooks. Here are three ideas that build skills in organizing, note-taking and test-taking:

Tailor a homework assignment sheet (see Figure 5). If the student needs assistance in prioritizing other jobs, room can be provided for listing those.

Personalize a sheet to take notes; our example is in Figure 6.

Encourage the use of a three-ring binder or a folder for each school

subject. When students study for a test, they can easily fold the sheet on the broken line between topic and notes, mentally tell themselves everything they know about each topic, and refer to the notes as a self-check.

If a passage from a textbook is especially important but very difficult, you or the student can type that part of the book, substituting a blank line for important words. To check retention of key vocabulary, the student can later fill in the spaces with the correct terms.

The Macintosh is a valuable learning tool. Although educational software packages are limited, Mac's usefulness in developing your child's reading and writing skills is limited only by your imagination. Educational? Yes, indeed! What is more educational than a child's creatively using his or her own language in real life reading and writing activities? Fun for you and your child? Sure! And you won't even need a hickory stick. ☺

SHIPPING NOW !!!



The power of dBASE III for the Macintosh has arrived!!!

This new software product, named dMac III, is fully compatible with dBASE III and is three times faster.

dMac III features a powerful programming language that offers its owners the ability to develop professional business applications for the Macintosh.

In addition, you can transfer your dBASE III applications and databases to the Macintosh where dMac III will allow you to use them without modification.

Of course you can use dMac III along with the other popular Macintosh software products such as Microsoft WORD and Microsoft FILE.

As a dMac III owner you get the best of both worlds. All of the features of the most popular programmable database for the IBM PC plus the user friendliness of Apple's Macintosh.

To order dMac III contact:

FORMAT SOFTWARE

11770 BERNARDO PLAZA CT.
SAN DIEGO, CA 92128
(619) 487-6946

Macintosh is a trademark of Apple Computer
dBASE III is a trademark of Ashton-Tate
IBM PC is a trademark of IBM
Microsoft WORD and Microsoft FILE are trademarks of Microsoft
dMac III is a trademark of FORMAT Software

For Free Information
Please Circle 239 On Reader Service Card.

SHIPPING NOW !!! SHIPPING NOW !!! SHIPPING NOW !!! SHIPPING NOW !!! SHIPPING NOW !!!



Run software under YOUR conditions

You can listen to a friend, read an ad, or talk to a "computer salesman". But, until you start fiddling with a program, you really won't know if it's the right stuff or not. And, you get to shell out a couple of hundred bucks for the privilege.

Instead, you could rent that program from our 400 titles, and run it yourself. You decide whether it's worth buying. If it fits, keep it, and pay the difference. If it doesn't, send it back, and if you wish, try something else.

Don't buy a pig in a poke. Call us, and be sure you get software that fits.

Here are some examples how you can evaluate software under your conditions and save money, too. Manuals are included; ask about shipping via FedEx.

	rent	then buy
Easy 3D	\$14.85	\$44.55
Excel	\$55.85	\$167.45
Full Paint	\$14.85	\$44.45
Mac 3D	\$26.35	\$78.95
MacDraft	\$30.65	\$91.95
MacLightning	\$14.85	\$44.55
ReadySetGo	\$24.75	\$74.25
Tempo	\$13.35	\$40.05
Thunderscan	\$37.75	\$170.50
Hundreds more...call for your choice!		

Ask for our FREE catalogue!

Remember, we have more than 400 software titles in stock, so call and order the one you've been thinking about. Get a hands-on tryout for a fraction of the purchase price...if you decide to keep it, all you pay is the difference.

1-800-972-3018

in Texas (713) 360-4649

MacRENTALS™

P.O. Box 6093 • Kingwood, TX 77325

Software That Fits

Save on Sony Disks!!

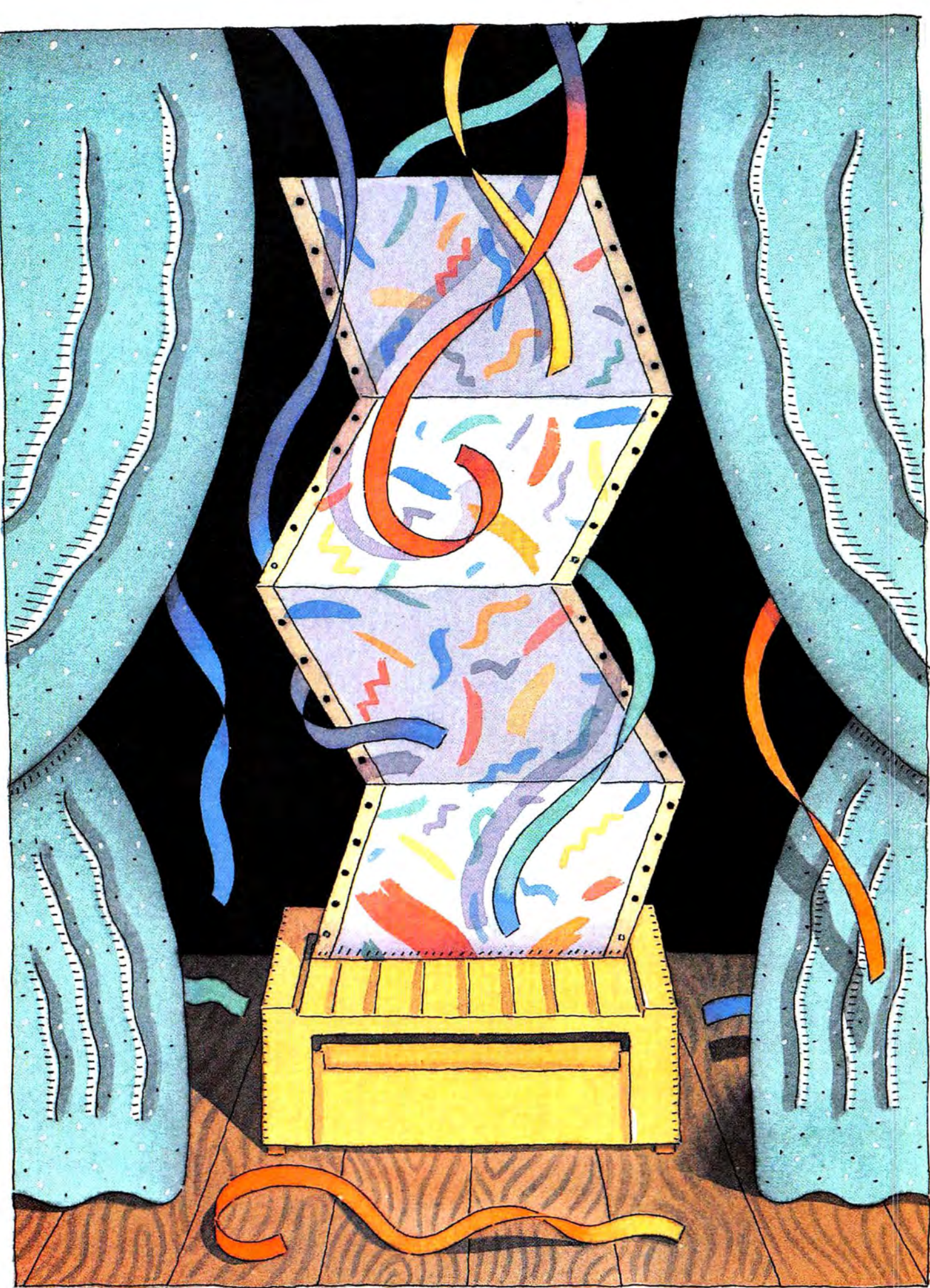
(SS) boxed \$1.50 bulk \$1.40

(DS) boxed \$2.25 bulk \$1.95

Why Pay More?

Save on disk drives and ribbons, too! Call us.

For Free Information
Please Circle 152 On Reader Service Card.



PRINT A COLOR,

Silicon Press brings the power of the color press to the Mac.

AT FIRST GLANCE, *SILICON PRESS* is a special and versatile labelmaker. You can create mailing labels of any shape or size, blending text and graphics anywhere in the design. You can print any number of labels in any arrangement on a page, merging the mailing information from almost any Mac database. And, you can do it in color.

The program isn't called *Silicon Mail*, though, because you can do a lot more than just mailing labels. With some imagination and a little technique, *Silicon Press* can produce newsletters, announcements, greeting cards, posters, stickers, forms, and labels other than those of the mailing persuasion. And, you can do it in color.

In case you're not familiar with *Silicon Press*, we'll start with a quick tour; you'll see just how easy it is to use. Then, read on to discover the creative power of the *Press*.

PRESS PROCEDURES

Silicon Press is a cinch to use. Text, data merge indicators, and graphics

are placed anywhere in the Design window. To enter text, just type; data merge information is typed in with special quote marks. (Data for a merge can be typed right in the Data window, or imported from almost any database that offers a text-only save option.) A simple Paste adds a graphic to the design.

"Objects" — blocks of text and graphic elements — can be dragged around in the window. Their positions can be fine-tuned with Grid and Align commands, or with the Nudge menu options that move an object a pixel at a time. A text block can be formatted for any font, size or style, and justified right, left or centered. A graphic object can be made larger or smaller, and can be defined as any available color. Because objects in the design window are transparent, you can overlay text and graphic elements in any combination.

Once the design is set, you can specify the Layout: how many designs on a page and the space between them. Then, define the size of the page itself, and print. (And, with the Imagewriter II, you can do it in color.)

THE MACPAINT COMPANION

Silicon Press is a perfect adjunct to *MacPaint* in many ways, addressing many of the latter's shortcomings. Do you want...

ANY COLOR

by
Sharon
Zardetto
Aker

PRINT A COLOR, ANY COLOR

...multiple copies of a graphics document? You can't do it in *MacPaint* without multiple pull-downs of the menu.

...to put the design right to the edge of the page? *MacPaint* has built-in paper margins that you can circumvent by transferring the design to *Silicon Press*. (See the sidebar, "Getting the Graphics In.")

...to print the document sideways? *Silicon Press* gives you that option.

...designs printed on nonstandard paper? With *Silicon Press*, you can define the size of your paper, so it's possible to do index cards, postcards, or anything else that fits in the printer. I've used extra-large index cards with simple pictures that my kids color and cut up to make jigsaw puzzles. The same project, tried in *MacPaint*, was more trouble than it was worth!

...labels for cassettes, videotapes, file cabinet drawers, disks, manila folders? We all tried things like this with *MacPaint* in the early days, but with *Silicon Press*' design and page layouts, and the data merge, *MacPaint*-generated labels are a thing of the past.

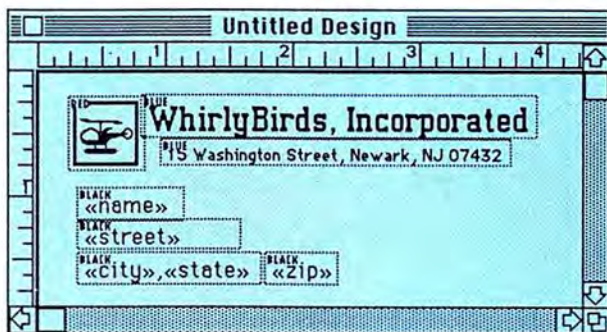
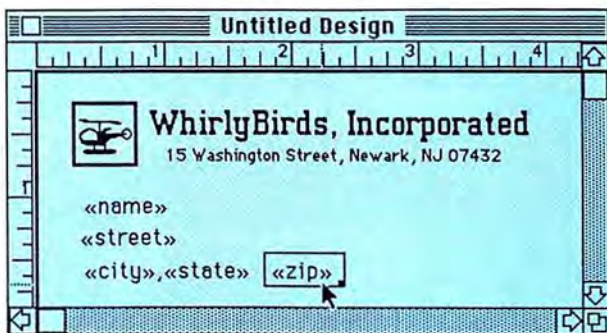
...stickers with general or personalized designs? Everything from fun stickers for kids to "Hello, my name is..." for a convention can be a work of art with *MacPaint* and *Silicon Press* as creative tools.

...to print in color? Whether you want to add just a spot of color or work on a full-color masterpiece, *Silicon Press* is an easy way to move out of the black and white world of *MacPaint* printouts.

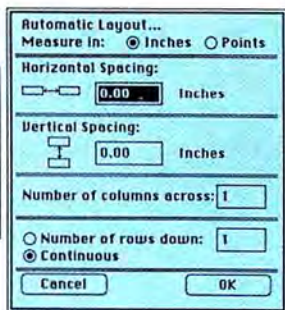
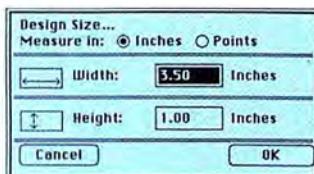
THE GOOD NEWS

Okay, there are lots of page layout programs around, and some won't even cost you an arm and a leg, but...do they let you grace your pages with color? Can you insert the name of each member of your user group into your newsletter to make personalized copies?

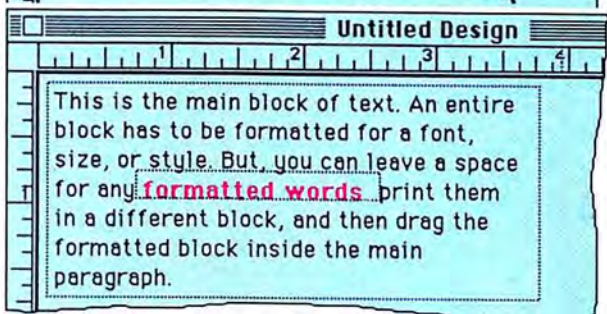
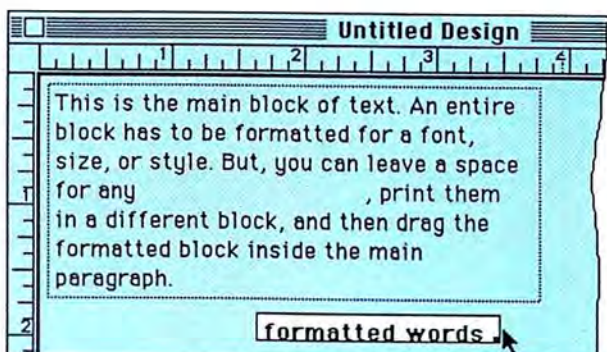
Creating a newsletter in *Silicon Press* is easy, even if it doesn't have all the bells and whistles of a true page-layout program. Instead of just defining how many columns you want on a page, you have to line up your text and graphics to where the col-



Graphic, text, and merge elements can be dragged around in the Design window, as shown in the top figure. The "handle" in the lower right corner of the frame around "zip" is used to resize the object area. The lower figure shows the Design window with the "Show Rectangles/Color" option on. The defined color for an object shows in the upper left corner of its frame.



Because *Silicon Press* offers such freedom in both the design's size and its layout on a page, it's easy to create anything from mailing labels to full-page announcements.



You can put a style or color change in the middle of a block of plain text.

umns should be; but, with the Grid, Align and Nudge commands — and the on-screen ruler — that's easy enough to do. You have to create a separate document for each page of the newsletter, and there's no way to fully justify columns of text, but those limitations are easy enough to live with.

Another apparent shortcoming to doing a newsletter in *Silicon Press* is that an entire block of text is format-

GETTING THE GRAPHICS IN

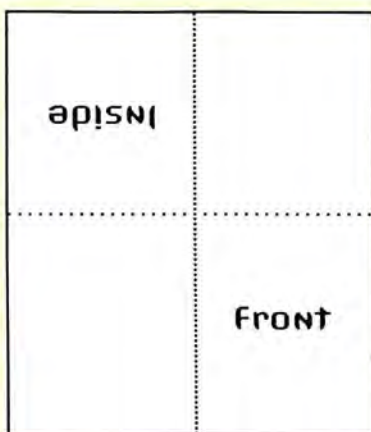
While there's only one way to get a graphic image into the *Silicon Press* Design window — paste it from the Clipboard — there are a lot of different ways to get that image onto the Clipboard.

If you're working with a few small images, it's easy to store them in the Scrapbook while you're in *MacPaint* and take them out again when you're in *Silicon Press*— even if it means dragging a Scrapbook file from one disk to another. With larger or more numerous images, however, there are better approaches.

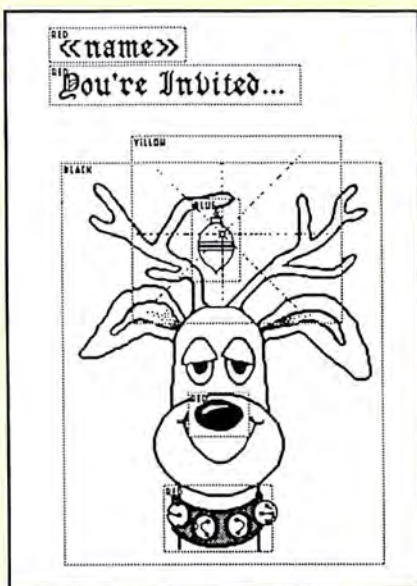
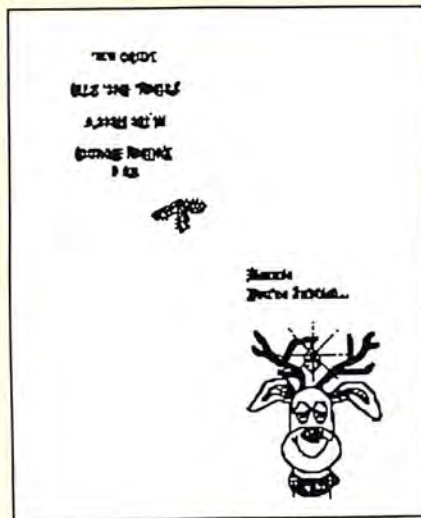
Setting up *Switcher* with *Silicon Press* and *MacPaint* is a good move if you're creating a lot of original art that you want to paste into a design. If you're accessing previously drawn figures (your own or commercial clip-art) this *Switcher* setup still works, but is not as convenient as having Hayden's *Art Grabber+* desk accessory. With *Art Grabber+*, you can open *MacPaint* documents without quitting *Silicon Press*.

Silicon Beach's own *PaintCutter* utility lets you put an entire *MacPaint* document on the Clipboard for pasting. However, since it's a standalone application, you'll have to switch over to *Silicon Press* either with *Switcher* or "manually." Most full-page art that is done in *Silicon Press*, though, will be transferred piecemeal so you can define different areas as different colors. Again, *Art Grabber+* is the accessory of choice, since you can take any area of a drawing for the Clipboard (you can also copy an entire *MacPaint* document if that's what you really want to do, and you've got at least 512K to do it with).

Another must-have accessory for *Silicon Press* is another utility on the *M.U.D.* disk that has *Art Grabber+*: *CheapPaint*. This mini-*MacPaint* desk accessory lets you create graphics and transfer them to the Clipboard without even leaving *Silicon Press*.



The "french-fold" arrangement for printing greeting cards.



Bonnie
You're Invited...

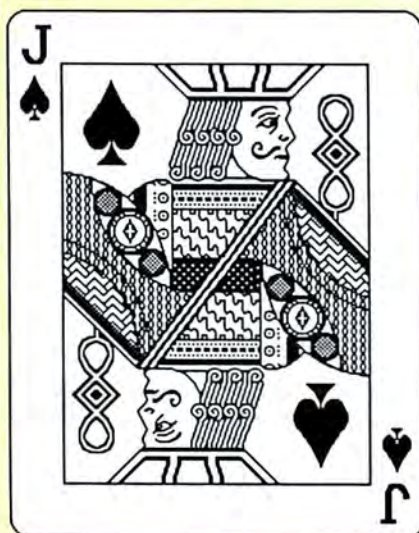


Above left: A *Silicon Press* greeting card printed on regular-size paper.

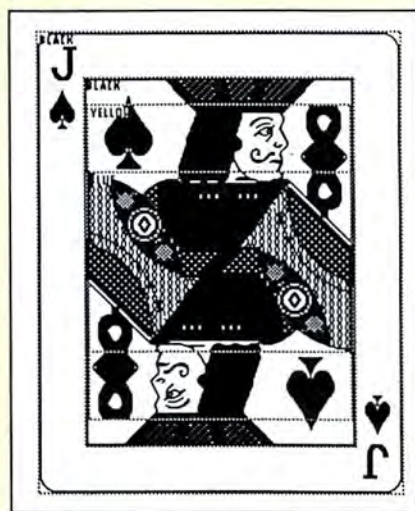
Above right: The cover of the card as it appears in the Design window, with colors defined for separate objects, and the merge indicator for the names in the data list.

Left: The printed cover, personalized and in color.

PRINT A COLOR, ANY COLOR



This is the original MacPaint figure used for the color printing.



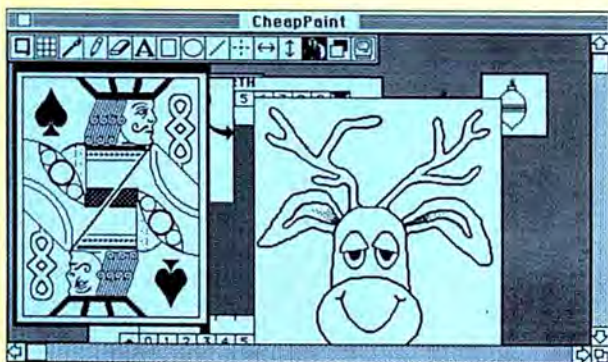
This is how the Jack looks in the Design window when all the color images are put together.



The figure has to be divided into images for each of the colors to be printed. Note the solid block for the Jack's hair in the yellow image, which will be overlaid with the black curls; all of the yellow images are framed in another color so they will show up better.



The finished product. Note the "shades" of blue produced by using patterns as well as solid blocks.



The CheapPaint desk accessory is a mini-MacPaint. Working in separate "easels" that are analogous to Scrapbook pages, you can use any of the tools in the tool palette. Fonts and styles are available from a menu, and you can change brushes, patterns and line thicknesses from an easily accessible dialog box.

ted for the same font, size and style; although headlines can be separate blocks, you can't make a single word in the middle of a paragraph bold or underlined. At least, not directly. There's a way around this limitation, though, which is why it is only an "apparent" shortcoming.

Taking advantage of the "transparent" quality of a design block, you can type a paragraph and leave an appropriately sized blank where you want the boldfaced word or phrase to go. Then, type a separate block with the formatted material in it, and drag that block over the blank space in the original paragraph. Voila! Using the same technique, you can insert a red or blue word in the midst of the staid black text.

The graphics in the newsletter can also be printed in any combination of colors. A colorful masthead is particularly eye-catching, and can run the gamut from tasteful to trashy.

GREETINGS, EARTHLING!

Cards for holidays and special occasions are better when put through the Press, for a number of reasons. First, you have the option of defining page sizes if you have nonstandard paper to use. Even with the normal 8½- x 11-inch paper size, it's easier to arrange things correctly in *Silicon Press*, where you can see the edges of the paper, and get precise measurements for placement. Then there are the benefits of being able to print multiple copies, and to use merged data for personalized cards.

You can take the easy way out and print cards on tractor-feed index cards. Just slip them into envelopes, or, if they're the right size, you can use them as postcards. You could do it the hard way, too, and run the paper through the printer twice so both sides of the paper are printed; when folded, the printed areas are the cover and the inside of the card.

Then, there's the "french-fold" technique; this double-fold card is a little more elegant than the single-fold style, and it has the advantage of keeping all the printing done on the same side of the paper. Of course, some of the printing has to be upside

(continued on page 149)

MAX YOUR MAC

WITH BEDE TECH
800 / 772-4536



WOULD YOU PAY \$49 FOR A LIFETIME RIBBON SUPPLY? MAC ImageWriter Ribbon RE-INKER

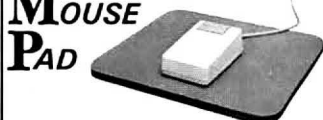
Motorized Ribbon Re-Inker silently re-inks all ImageWriter I and II fabric ribbons again and again. Better print quality than new ribbons. Our special lubricated black ink actually extends print head life. Built to last. Simple to run. Saves a bundle.

MAC ImageWriter Ribbon Re-Inker **BEDE TECH BONUS • 4 Oz. Bottle Black Ink, Roller & Roller Cover.**
BEDE TECH DIRECT \$49.00
Reg. \$67 Value
Call for Epson Inker.

INK AND RIBBON SAVINGS

4 Oz. Bottle Black Ink	\$ 4.50
2 Oz. Bottle Colored Ink	\$ 4.50
Pint of Black Ink	\$16.50
Gallon of Black Ink	\$75.00
Color Ink Kits (2 Oz. ink, uninked roller, roller cover)	\$ 8.00
Uninked Roller w/Cover	\$ 3.50
ImageWriter Ribbon Cartridge (box of 2 uninked ribbons)	\$10.00
ImageWriter Ribbon Cartridge (box of 2 inked ribbons)	\$12.00
ImageWriter II Multi-Color Ribbon	Call
Print Head Cleaning Kit	\$ 9.95
Re-Inker Shut-Off Timer (for high volume users)	\$24.00
ImageWriter Silence Pad	\$11.25

MOUSE PAD



Your mouse will work faster and live longer. Anti-static, designer blue surface, 9-3/8" x 7-1/8" with thick foam pad.

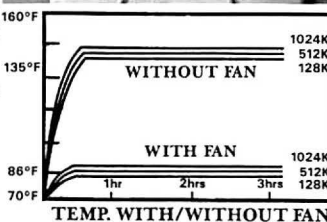
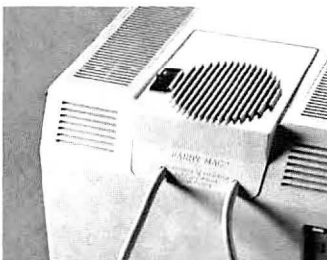
BEDE TECH DIRECT \$6.95
Reg. \$9.95 Value

COOLER COMPUTERS LIVE LONGER

Built without its own fan, your MAC is prone to overheating. High temperatures can cause component failure or even burn out your power supply circuit board. Tests show our fan significantly reduces the temperature inside your MAC. It installs into the recessed Macintosh handle in one second. It runs whisper quiet. Intelligently designed by **Steve Beck's Beck-Tech**, with built-in surge protector and top-mounted switch that controls both fan and MAC. **PATENT PENDING**

BEDE TECH DIRECT \$79.00
Reg. \$129.95 Value

Temperature measured inside top left and right side of MAC with LM35 temperature sensor. 75° average ambient air temperature during test.



EXTERNAL 800K MAC DRIVE

The McD-800 sets the standards for micro-floppy disc drives. It works with ALL Macs. It's completely compatible with Apple's single sided 400K and double sided 800K disk format. Soft landing function. Auto and manual eject mechanisms. Unbeatable specifications.

BEDE TECH DIRECT \$269.00
Reg. \$459 Value

KEYBOARD COVERS

Sturdy, Mac-colored, hard covers protect your MAC or MAC PLUS keyboard and number pad from dust, dirt, spills and damage. Specify MAC or MAC PLUS.

Beck Tech Bonus • MAC Keyboard Command Reference Charts!
BEDE TECH DIRECT \$9.95
Reg. \$17.50 Value



DISC ORGANIZER • SAVE BIG WITH FOUR-PAK

Each extra sturdy 200 lb. test corr. bd. disk organizer holds up to 100 3.5" or 5.25" disks. Comes with removable dividers, cover. Glossy white dirt-resistant surface. Stackable!

BEDE TECH DIRECT Save! Four-Pak \$27.95 • Reg. \$39.80 Value
BEDE TECH DIRECT Single Disk File \$7.95 • Reg. \$9.95 Value



TWO-FOR-ONE LIFETIME WARRANTY + FREE DISC ORGANIZER

Brown Disc has built a reputation for superior quality and error-free performance among OEM customers. Discs are 100% certified and exceed ANSI standards! These are the finest discs in the world. We prove it with a two-for-one lifetime warranty: If any Brown Disc diskette fails to perform due to defects in materials or workmanship, Brown Disc will replace the defective diskette with two diskettes of the same type.

BEDE TECH BONUS • All Discs Shipped in FREE \$9.95 Value Disc Organizer

100 SS, 3.5" Discs *New Low Prices*
BEDE TECH DIRECT \$149.00
50 SS, 3.5" Discs
BEDE TECH DIRECT \$77.00

10 SS, 3.5" Discs
BEDE TECH DIRECT \$16.40

CALL FOR LATEST PRICES, OTHER QUANTITIES, DD AND 5.25" DISC PRICES



30-DAY SATISFACTION MONEY-BACK GUARANTEE

QTY.	ITEM	TOTAL	Send check, money order or charge it
_____	_____	\$ _____	<input type="checkbox"/> VISA <input type="checkbox"/> MasterCard Exp. Date _____
_____	_____	\$ _____	Card No. _____
_____	_____	\$ _____	Signature _____
_____	_____	\$ _____	Name _____
_____	_____	\$ _____	Address _____
_____	_____	\$ _____	City _____
_____	_____	\$ _____	State/Zip _____
PURCHASE TOTAL		\$ _____	
Shipping and Handling Charge (Canada, Hawaii, Alaska, \$4.50 S&H)		\$ 1.50	
Ohio residents add 6.5% Sales Tax		\$ _____	
TOTAL ORDER		\$ _____	

ImageWriter is a registered trademark of Apple Computer, Inc. Macintosh and MAC are trademarks licensed to Apple Computer, Inc.

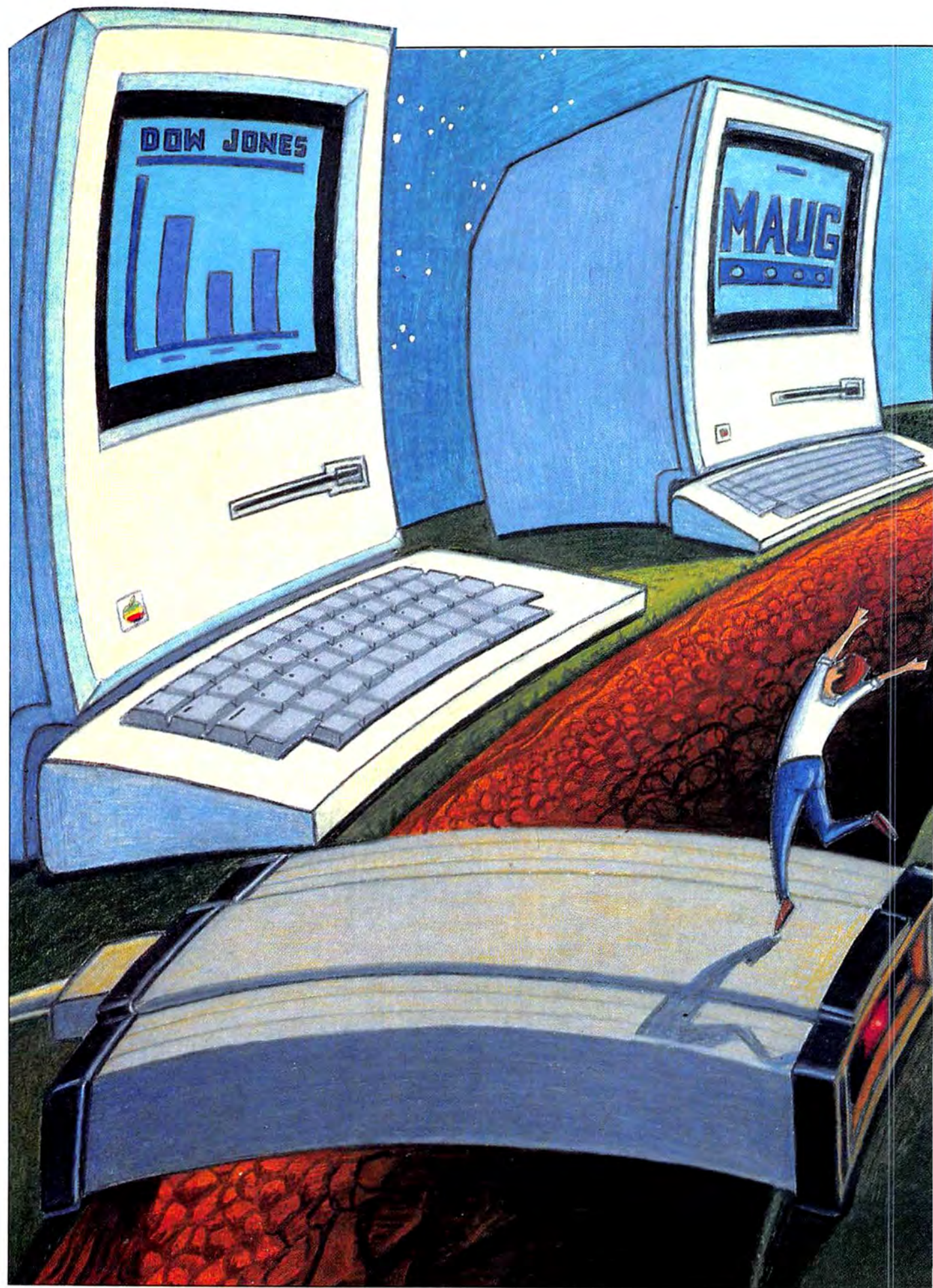
MU8



Member, The Bede Companies, est. 1976

CALL TOLL FREE
800-772-4536
In Ohio 216-631-4214
8327 Clinton Road
Cleveland, Ohio 44144

© 1986 Bede Tech





LANDMARKS ON-LINE

*You're only a phone call away from putting your
Mac in touch with the world.*

YOU CAN TELECOMMUNICATE WITH your Mac. It's easy. You need a modem, a terminal program, and a host service. The host is simply another telephone or modem you can call. Last month we saw how to communicate with another Mac. Now it's time to expand those horizons and go national.

There's a lot out there at the end of the phone lines. Your range of choices has grown dramatically over the past two years or so, particularly in the category of national network services.

Whether you use your Macintosh for business, learning or pleasure, the addition of a modem can enhance its powers immeasurably. That is, of course, providing you know what to do with it once you're hooked up.

These services, as opposed to local bulletin boards, are nationwide commercial networks, which users can connect with from anywhere—even

overseas, although the prices for long-distance telecommunicating can easily become astronomical. In the U.S., most services are just a local phone call (or at least a relatively local phone call) away. The advantages of these networks are access to a very sophisticated computer system, a very large group of users, and reasonable phone bills. These advantages do have a price, though—services charge their users for all time spent connected to that service. This charge is called connect time, and it ranges from about \$6 an hour to well over \$100 on some databases.

Among the general-purpose national networks, three clearly lead the pack right now. They are all micro-oriented and all have a lot to offer Mac users. We'll take a brief tour, stopping at each of them. If what you're looking for isn't on this tour of informational databases, general services and the leading electronic mail service, remember that our

survey is only the tip of the iceberg. Just about everything is out there somewhere.

No matter what network is used, certain rules apply. Most important is learning to use them with discipline and savvy, thus saving a lot of unnecessary connect charges (translation: *money*).

Choose a terminal program that is able to save on-line output to a disk file (that's downloading) and can send text files back to the host (also called uploading). The best on-line technique is to move through a session while "capturing" the material for printing, rereading or replying to later, when you're off the phone.

Most of the network software evolved from campus networks about a decade ago. While it is continuously being upgraded, it still has many old-fashioned features. For example, all the services seem to feature antiquated text editing, and under no circumstances should you

By John J. Anderson

LANDMARKS ON-LINE

have to spend connect time composing text with a line-based editor situated hundreds of miles away. All messages and replies can be composed off-line, in your own time, saved as ASCII text files, and uploaded later by the specific file name. This is crucial in keeping connect costs down.

Owing to the enormous popularity of Digital Equipment Corp. (DEC) equipment on college campuses in the '70's, there are some nearly universal commands. All users should know these five:

CONTROL-S: pauses output; useful when reading output in real-time.

CONTROL-Q: resumes output.

CONTROL-C: breaks output, returns control to user.

CONTROL-H: acts as a backspace.

CONTROL-U: erases the current line of input. Remember that the Mac uses the Command (cloverleaf) key as its Control key, although some terminal programs use the Option key as the Control key.

Next, an important word of warning. As in any public place, beware of theft. All services require a private password in addition to an account name or number, so that no unauthorized person can use another's account. Do not divulge your password to anyone else on a system under any circumstances. Some unscrupulous people have been known to try to trick the unwary into giving away their passwords. Popular ruses include telling an unwary on-liner that the thief is actually network staff, or convincing them they have been disconnected. If you're unsure of a questioner's motive, hang up, then call the system again, entering your password only at its proper, legitimate point in the log-on process.

Finally, don't be ashamed of your newcomer status on-line. Everyone was a newcomer once. Everyone felt overwhelmed by the mass of seemingly arcane commands, and intimidated by those who knew their way around so well while we were barely able to log on. Don't be afraid to ask for help on-line. It may take a little while, but there are always people there willing to extend a helping hand.

Now, let's take an individual look at some services, and see what they have to offer.

COMPUERVE

CompuServe is the largest national information service. It also has the most Mac owners, and boasts a Mac group of over 15,000 members. To gain access, users have to buy a membership kit. There are two types of these kits available. The basic kit offers 1 free hour of connect time (at 300 baud, non-prime), a subscription to the print version of the CompuServe magazine (*Online Today*), 128K of personal disk file space, and a user guide for \$19.95. The other kit (seen in most computer stores) lists for \$39.95 and offers 5 hours of non-prime connect time at 300 baud. The bigger kit is a much better value in the long run, and it's often discounted to well below the value of the connect time it offers.

There is no minimum monthly charge, either—you pay only for the time you spend connected. At 1200 baud, you'll pay \$15 per hour from 8 AM to 6 PM weekdays (prime), and \$12.50 an hour from 6 PM to 8 AM weekdays, and on weekends and holidays (non prime).

To reach the MAUG Macintosh Users special interest group (also known as a SIG), type GO PCS 23 from any function prompt. Here you will find hundreds of useful Macintosh programs to download. Downloading is especially easy if you chose a terminal program that supports XMODEM transfer and supports MacBinary. In the enormous message areas, trade information and get answers from the experts, find yourself an argument, or just shoot the breeze with fellow Mac owners.

Regularly scheduled real-time conferences take place in the SIGs, and luminaries such as Andy Hertzfeld, Bill Atkinson and even the Woz himself have been known to show up. Transcripts are available for those who missed the actual events.

In addition to the Macintosh-specific services available in CompuServe, literally hundreds of others are also available, including airline reservations, shopping by modem,

AP news, sports and weather, the electronic version of *Online Today* (updated daily), stock information and even a simulated game show. CompuServe also features electronic mail, although its functions are somewhat limited compared to those of other services.

As with all these services, response slows down at peak usage times. You will get the best value for your money by using them in the off-peak hours.

THE SOURCE

If it weren't for the somewhat steep \$50 sign-up fee and \$10 minimum monthly charge, The Source might be more popular than CompuServe. Its 1200-baud connect cost of \$10.75 per hour 6 PM to 7 AM weekdays (and all day weekends and holidays), is actually cheaper than that of CompuServe, while the service offers many similar features and generally has better software.

For electronic mail, The Source has CompuServe beat. It transmits mail instantly, offers the ability to send multiple copies, CCs and BCCs, acknowledgment receipts (so you will know when mail has been received) and turn your message into a Western Union Mailgram.

The Source also offers an excellent gathering place for Mac modems. While this group is smaller than its CompuServe equivalent, it is growing rapidly, and is an equally warm and friendly place to find out the latest Mac news and gossip.

The Source offers comprehensive business information, including Stockvue, which monitors the performance of 3000 selected stocks, Bizdate, a business news service updated daily, and individualized portfolio management. Be aware, however, that 1200-baud connect time will cost you \$25.75 per hour.

The Source seems to be struggling for an identity between CompuServe and Dow Jones. If it ever decides exactly what kind of service it should be, it could become a formidable contender in the on-line market.

DELPHI

Delphi is both the newest and the smallest of the services examined

How To Make Your Maccing Faster, Easier, and a Lot More Fun!



Tempo macros speed your work or play on the Macintosh.

Record any series of Macintosh commands or keystrokes and Tempo will play them back, at top speed, every time you need them. With a single key code, you can execute a macro that replays an unlimited number of commands.



Add intelligence to your Macintosh software

If a macro needs to be performed 27 times in a row or every 15 minutes, Tempo will do that. If it depends on whether a number starts with a "\$" or if a name is greater than "Jones," Tempo will read it and decide which way to branch. Tempo can even determine if it needs to *branch to another program*. Tempo will close the program you're in, open the other, and continue replaying your commands. Automatically. Exactly as you require.



Intelligent macros for the Macintosh.



Edit your macros for changes or corrections

You may edit Tempo macros the same way you create them – click to edit, click to change, click to save. Tempo has no complex programming language, simply step-by-step menu commands and dialog boxes.



What you can do with Tempo

- Reduce complex commands to a single keystroke.
- Automate moving information from one program to another.
- Have Tempo wait until the time you specify, then perform multiple tasks on your Macintosh – unattended.
- Guide new users through programs, prompting them with dialog boxes along the way.
- Distribute time-saving macros to other members of your company.
- Customize programs to work the way you need them to.
- Simplify, automate, customize, modify, design, and create in a million different ways!



Other Tempo features...

- Pause during a macro replay to enter text or make a selection.
- Record macros up to the limits of your disk space – hard drive or floppy.
- Assign up to 450 keyboard commands in each application.
- Use Command key codes or Option key codes.
- Replay in slow motion, in real time, or at high speed.
- Connect macros together, nested, branched or sequentially.
- Repeat the macro *if* or *until* it sees the specified text, or *for* a required number of times.
- Tempo works with nearly every Macintosh program.
- For the 512K or larger Macintosh and Macintosh XL.
- Works with all hard disk drives.
- Tempo is not copy-protected, so you can easily install it on your hard drive.
- If you're not absolutely happy with what Tempo can do for you and your Mac, return it within 90 days for a complete refund. We guarantee your satisfaction. For \$99, you get more macro power than a micro has ever had before.

Call 1-800-255-5550 x425 right now, today!

Call us for the dealer nearest you, or you can order directly from us.

Tempo™



Affinity Microsystems Ltd.
1050 Walnut Street, Suite 425
Boulder, Colorado 80302

Macintosh is a trademark licensed to Apple Computer, Inc. Tempo and Affinity are trademarks of Affinity Microsystems, Ltd.

For Free Information Please Circle 118 On Reader Service Card.

LANDMARKS ON-LINE

here, but it has made dramatic strides in the last year or so. While its software and directory structures remain somewhat baroque, you will find much the same information, shopping, banking and news services on Delphi as you'd find on CompuServe and The Source, and connect time is a mere \$6 an hour 6 PM to 5 AM weekdays and all day weekends and holidays. Special interest groups (SIGs) are popping up on Delphi as well, and a recent defection of ex-CompuServe staffers to Delphi has brought it to a new level of competence.

Electronic mail on Delphi is limited in its features, but can be sent not only within the system itself but across systems to The Source and CompuServe users. There is a substantial time lag, however, and Source and CompuServe members cannot reply via Delphi.

Someday Delphi might really get its act together, and if it does, CompuServe and The Source should become wary—because user loyalty ends exactly at billing time. The best buy will win in the end, and Delphi seems to know this.

For Mac-specific gossip and information, there is a good Mac special interest group, called Icontact, here. Delphi Mac users tend to be as fanatical about their group as MAUGers. The libraries also have available many of the major public domain and shareware programs, although the selection is not as wide as MAUG's.

DOW JONES

If it's business, stock, or statistical information you need, look to Dow Jones News/Retrieval. It is relatively costly, charging a \$75 password fee for a basic subscription, and varying connect charges depending on the service level. However, users can get a free subscription by purchasing Dow Jones' own *Straight Talk* program. It's not expensive (indeed, it will cost less than the DJN/R sign-up fee) and it has been optimized for use with this service. The latest version is one of the most innovative and advanced communications packages available now.

In addition to news, weather,

sports, movie reviews, and a full text version of the *Wall Street Journal*, Dow Jones offers twenty-seven different business-oriented databases in five categories. Users can obtain stock quotes, business and economic news services, text searches, and a broad range of financial and investment services.

The Dow Jones command structure is a little tricky, and some functions are definitely harder to use than they should be. But the kind of outputs that can be requested from the service are very sophisticated, and these can be tailored to users' specific business needs.

Dow Jones offers specialized database access software packages which constitute a unique option of the service. These include a market analyzer, which collects daily market quotes on the stocks of your choice, then charts the data across seventeen standard analyses. Another aids investment decisionmaking and screens stocks for critical buy and sell levels.

Dow Jones is the most successful on-line service to date, and it's also the most professional. It is a great place to inquire into the health of


Apple, although it is not the place to find many Mac users.

MCI MAIL

MCI, the company that took on AT&T for the long distance market and won, has also made aggressive inroads into the growing electronic mail market. MCI Mail is the most powerful Email service in the country today, and can be conveniently used to send print letters as well as computer-to-computer messages. As opposed to the services discussed above, there are no connect time charges to MCI. After purchasing an account, users are charged only when they send mail.

Four types of letters can be sent via MCI—an "instant" letter, which for \$1 is instantly posted on the mailbox of any MCI user (a mere 45¢ posts a message from 1 to 500 characters in length). You may choose a \$2 MCI print letter, which is printed out at the MCI postal address nearest to the addressee, then deposited in a snappy looking orange envelope delivered through the mail. If time is of the essence, choose an \$8 overnight letter, which is printed and hand delivered by a Purolator courier by noon of the following business day. If even seconds count, you can spend \$30 for a four-hour letter, also from Purolator. This service is available in select metropolitan areas.

Prices here are by the information "ounce," which MCI figures at 7500 characters. Add \$1 for each additional "ounce." An MCI installation in Belgium now serves the entire European continent.

MCI Mail sessions use a menu-based structure that can be somewhat annoying once the commands are mastered. A command-based structure is available to subscribers of the advanced service (\$10 a month). This is unfortunate. Still, MCI is easy to use, and has swiftly become the pre-eminent Email system in the country. For an additional \$20 a year, you can even put a copy of your letterhead and personal signature on file to affix to print versions of your Email. 

John J. Anderson is a well-known book and magazine author from New Jersey.

GETTING IN TOUCH

CompuServe

5000 Arlington Centre Blvd.

P O Box 20212

Columbus, OH 43220

(800) 848-8199 (except OH)

(614) 457-8650

The Source

1616 Anderson Road

McLean, VA 22102

(800) 336-3330 (except VA)

(703) 743-7500

Delphi/General Videotex

3 Blackstone Street

Cambridge, MA 02139

(617) 491-3393

Dow Jones News/Retrieval Service

P O Box 300

Princeton, NJ 08540

(800) 452-2000 (except NJ)

(609) 452-2000

MCI MAIL

200 M Street NW

Washington, D.C. 20036

(800) 624-2255 (except DC)

(202) 293-4255

GET YOUR NEXT 12 ISSUES OF

MacUser FOR JUST \$21.84

(TURN PAGE
FOR
SUBSCRIPTION
ORDER FORM)

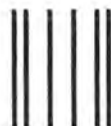


NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT 88 NORWALK, CT

Postage will be paid by addressee

MacUser**P.O. Box 1540****Neptune, NJ 07754-9964**

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT 88 NORWALK, CT

Postage will be paid by addressee

MacUser**P.O. Box 1540****Neptune, NJ 07754-9964**

SAVE MORE THAN \$25 OFF THE COVER PRICE

OUR SPECIAL CHARTER SUBSCRIPTION OFFER ALSO SAVES YOU \$5.16 OFF THE BASIC SUBSCRIPTION RATE

MacUser

* Savings Certificate *

Enter my subscription for 12 monthly issues of MacUser at the Special Charter Subscription rate of \$21.84. That's a saving of \$5.16 over the basic subscription rate and more than twenty-five dollars off the newsstand price.

- ☐ Bill me later ☐ Payment Enclosed
☐ Charge my Visa ☐ Charge my MasterCard

Card No. _____ Expires _____

Signature _____

Name _____

Company _____

Address _____

City, State, Zip _____

Allow 4-6 weeks for delivery of your first issue.
Canada and Mexico \$24.00 in U.S. funds. Other foreign countries \$30.00 prepaid in U.S. funds.
Surface delivery.

Your subscription may be tax-deductible

Offer expires December 31st, 1986

3086

SAVE \$25

SAVE \$25

Special Charter Subscriber Rate

\$1.82 per copy

Basic Subscriber Rate

\$2.25 per copy

Cover Price

\$3.95

MacUser

* Savings Certificate *

Enter my subscription for 12 monthly issues of MacUser at the Special Charter Subscription rate of \$21.84. That's a saving of \$5.16 over the basic subscription rate and more than twenty-five dollars off the newsstand price.

- ☐ Bill me later ☐ Payment Enclosed
☐ Charge my Visa ☐ Charge my MasterCard

Card No. _____ Expires _____

Signature _____

Name _____

Company _____

Address _____

City, State, Zip _____

Allow 4-6 weeks for delivery of your first issue.
Canada and Mexico \$24.00 in U.S. funds. Other foreign countries \$30.00 prepaid in U.S. funds.
Surface delivery.

Your subscription may be tax-deductible

Offer expires December 31st, 1986

3086

SAVE \$25

SAVE \$25

“Why should I subscribe to MacUser?”

**“I think that MacUser
is the best publication
for the Macintosh
in the country.”**

Paul Coughlin
Vice President
Innovative Technologies

**“It’s about time the Macintosh
community had a magazine
that understands what the users want.
MacUser is that magazine.”**

Marc Canter
President
MacroMind, Inc.

**“MacUser is the best
publication. It’s superbly
informative.”**

Bobby Orbach
Director of Computer Sales
47th Street Photo

**“Editorially excellent.
For all users—both professional
and nonprofessional—it is
objective, straightforward, thorough and
entertaining. I give it five mice!”**

Joanne Rush
Marketing Director
Kurta Corporation

**“Our customers in
the Apple and Macintosh
community consistently
tell us that MacUser is
the best magazine.”**

Philippe Kahn
President
Borland International, Inc.

**“The most informative Macintosh
magazine on the market. More
usable information in one issue
than in a year of MacWorld. When
I have a problem with a program,
I don’t reach for the manual—
I reach for MacUser.”**

Don Ross
Senior VP, Group Creative Director
Wunderman, Ricotta & Kline

**“MacUser is far and away
the best magazine out for
the Macintosh.”**

Nick Karp
Head of Software Development
West End Games

**“I think MacUser has
the greatest amount of
interesting reviews and
articles among any magazine
for the sophisticated
Macintosh user.”**

Richard H. Barron
President
Affinity Microsystems Ltd.

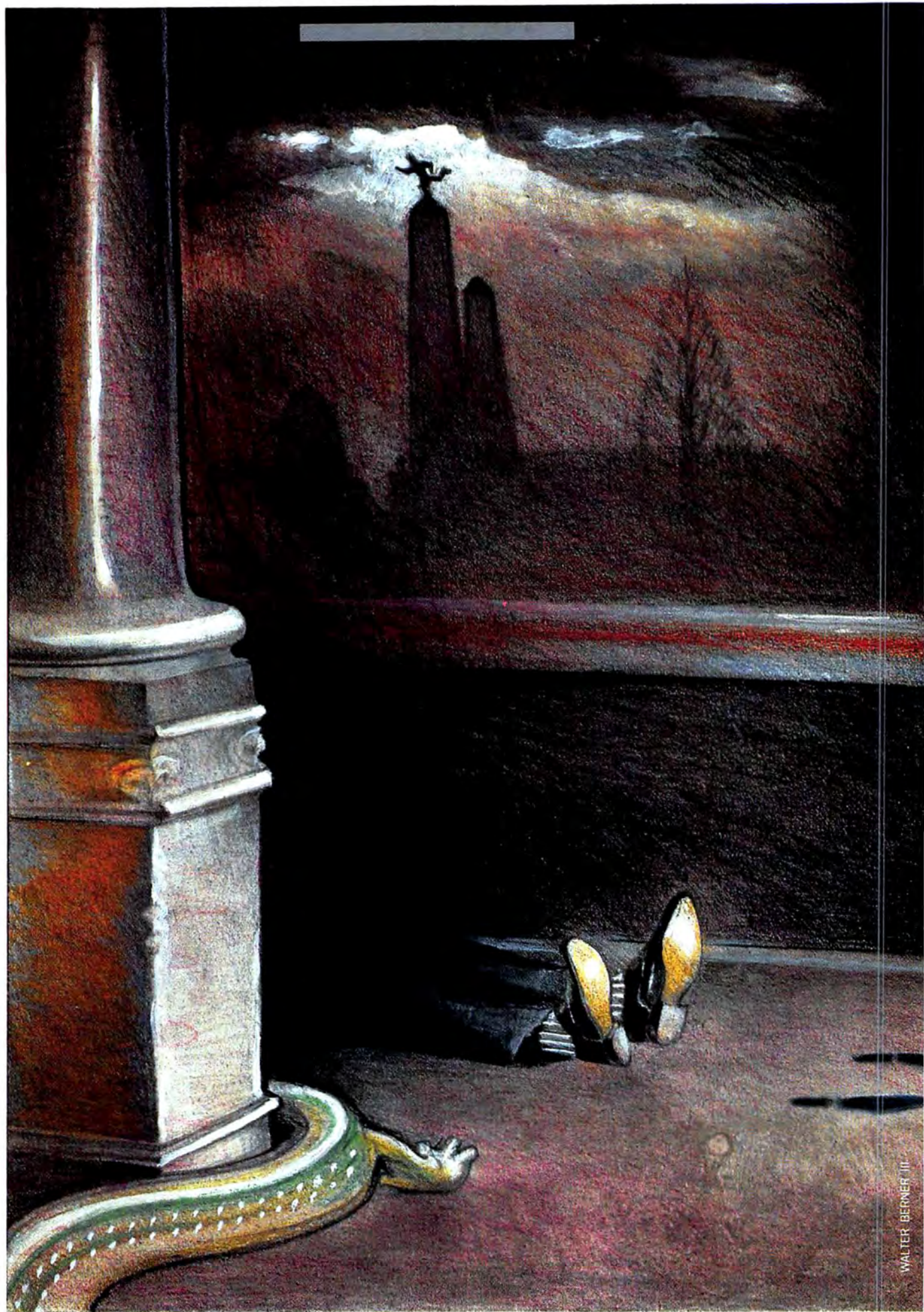
**“MacUser is the spunkiest
of the lot, a late arrival
that has seemingly learned from
the shortcomings
of its rivals.”**

Jay Kinney
Whole Earth Review

**“The best commercial
Mac magazine.”**

Reese Jones
President
BMUG (Berkely Macintosh
Users Group)

FILL OUT THE COUPON OPPOSITE AND SUBSCRIBE



WALTER BERNER III

THE LITTLE MAC OF HORRORS



Take a two-part tour through Dracula's home town.

PLAY THE POOR WEREWOLF. While lesser monsters such as bats, ores and ghosts have been written into—and even sometimes star in—computer adventure games, there are very few werewolves to be found in contemporary computer entertainment.

For that reason alone, Polarware/Penguin's illustrated adventure *Transylvania* and its sequel, *The Crimson Crown*, are something of a software event. Happily, there are lots of other reasons, too.

Transylvania, by Antonio Antiochia, has been a long-time favorite on Commodore 64 and Apple II systems. Its Mac version has a new interface and an enhanced parser called "Comprehend." *The Crimson Crown*, a sequel also by Antiochia, even allows limited conversation with two characters who accompany the player on his quest.

Whether you're adventuring in *Transylvania*, *The Crimson Crown* or both, you'll assume the role of a standard, medieval-style heroic adventurer blessed with equal doses of strength, stamina and instant resurrection at the touch of a mouse.

ILLUSTRATED ADVENTURES THE MAC WAY

Both games feature a reasonably good Mac interface. Pull-down menus make saving and loading games a snap, and the far left window features a compass rosette and the up/down commands, all of which can be easily accessed with the click of a mouse.

The center window contains the graphics display, which shows the area the gamer is exploring. The text window along the bottom of the screen explains the action and events as they happen, recording moves

By Joyce Worley and Bill Kunkel

THE LITTLE MAC OF HORRORS

taken by the player, as well as what happens in his or her surroundings. In the third window, the two most commonly used commands (TAKE and DROP) are available as buttons, providing players an "express" route to entering either command. This window also contains a note pad, plus descriptions of inventory and the location. Not only can these commands be accessed by the mouse, they can even be used in conjunction with some on-screen objects to create full verb-noun commands. For example, when a piece of garlic turns up in the illustration, the player can click on TAKE and then on the garlic to pick it up.

The interface in *The Crimson Crown* is similar except for the TAKE and DROP commands, which have been replaced with ERIK and SABRINA. By clicking one of these, the player can converse with the appropriate character.

TERROR IN TRANSYLVANIA

Transylvania offers adventure gamers unusually hip, witty writing. When the werewolf turns up, for example, the overly curious may want an even better look. (Strategically, this is folly. Any course but flight results in immediate disembowelment!) Type in, "Look at werewolf," and just before being informed of your death, you will be advised regarding your hirsute antagonist, "His hair is perfect."

Not only is Warren Zevon quoted during the course of the action, but the game and its excellent documentation are chock full of clever references to all manner of vampiric and lycanthropic antecedents. The documentation includes a message from the Wallachian King, recommending you to the Wizard King, some riddles, a Journal covering the period between the two adventures, and best of all, a few pages from *The Wallachian Herald* (edited by a "bathory" and a "Rakoczy"—talk about writers with bloodlines!), from which you first learn of Sabrina's disappearance.

Transylvania was one of the very first games released for the Macintosh, and in certain ways it shows. In

Transylvania, the user roams the gloomy Balkan countryside in search of the beautiful Princess Sabrina. There are dark forests, a wizard, a goofy goblin, a villainous vampire and his creepy castle, and even a mysterious giant bird which periodically swoops down on the player and transports him to some other part of the forest.

Antiochia's artwork has translated to the Mac as thick, low-resolution affairs that look like they'd be more at home on a cheap laptop computer. The interiors of houses, in particular, are bland collections of straight lines that rarely evoke anything, much less menace. They look sort of like photocopies of color photographs—which, in fact, they are—copies, that is, of the color Apple II illustrations. Considering the Mac's superb resolution, it's a crying shame that *Transylvania's* original graphic splendor was watered down. The least the translation team could have

done was draw the graphics in finer detail to take advantage of what the Mac does best.

The only really good graphics are on the title page, which shows a rendering of the vampiric antagonist quite rich in subtle shadings, reminiscent of the work of horror artist David Ludwig. Unfortunately, the illustrations in the actual game are essentially duplicates of the graphics found in the original Apple II edition, sans color.

This graphic weakness is even more pronounced in *The Crimson Crown*, where Antiochia's eerie, surrealistic visions often appear as swirls of white and black.

The characters, on the other hand, come across pretty well. The werewolf is still intimidating, and the Vampyr has that "monarch of the mausoleum" look we might expect from reanimated royalty. The occasional materialization of some odd being also works quite well.

This angry cat can only be driven off by a certain item. The screen illustration is standard for *Transylvania* graphics.



A large variety of nightmarish creatures haunt *Transylvania*. Note the buttons on the right side of the screen, which help players shortcut directly to often-used commands.



Now your Macintosh™ and ImageWriter™ can travel in style ... fully protected!



Who says you can't take it with you?

MacTote™ and PrintTote™ cases are manufactured especially for the Apple® Macintosh™ and ImageWriter™ printer. Traveling with the Mac neatly packed in a smart set of Optimum cases is the only way to go ... and for a number of easy-to-see reasons!

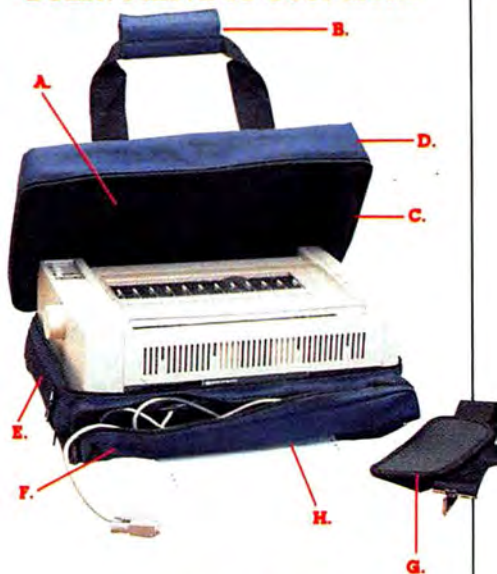
Both cases are made of long-wearing and completely water-resistant cordura. Convenient zippered and padded pouches keep your software, literature and peripherals safe and well-organized. And our low prices make MacTote™ and PrintTote™ even easier to pick up and carry away.

Cases available separately. Call today for the dealer nearest you.

MacTote

1. Padded pouch for mouse; 2. Open pouch for manuals or notes; 3. Open, padded pouch for keyboard; 4. Side handle for easy carrying and stability; 5. Padded, Velcro handle (no snaps); 6. Padded, non-slip shoulder strap; 7. Zippered pouches for disks or accessories on both sides of case; 8. Zippered pouch for accessories, modem, cords, etc.; 9. Padded pouch for disk drive, and extra padding to protect Macintosh's screen; 10. Reinforced bottom fully supports and distributes weight of Macintosh; 11. Heavy-duty nylon zippers.

THE FINEST QUALITY DOESN'T HAVE TO COST MORE



PrintTote

- A. Fully-padded interior; B. Padded handles; C. Heavy-duty reinforced nylon zippers; D. Outside pockets on both top and bottom; E. Reinforced ribbing at stress points; F. Zippered cable compartments; G. Non-slip shoulder pad; H. Built-in paper stand.

MacTote and PrintTote are trademarks of Optimum Computer Luggage

Call (800) 447-0300
or in CA TOLL-FREE (800) 632-4200

OPTIMUM COMPUTER LUGGAGE

8334 Clairemont Mesa Blvd.
Suite 111
San Diego, CA 92111

Macintosh is a trademark licensed to
Apple Computer, Inc.

CRIMSON CROWN — A JEWEL IN THE ROUGH?

The sequel takes place a short time after *Transylvania* ends. No matter how players actually made out in the first scenario, *The Crimson Crown* gives even the most fainthearted the benefit of the doubt. At the start of the game, you discover that you've already vanquished the vampire and rescued Princess Sabrina at the conclusion of the first scenario. Since then, however, the King has been stricken with a strange "illness," the dreaded vampire is again abroad in the land, and the fabled *Crimson Crown* has disappeared. A peasant had a vision of the Vampyr wearing the stolen Crown, which has many magical powers that the monster may or may not have learned how to use. According to the vision, the Vampyr had mastered the Crown's ability to force the truth out of people, and he was busily engaged in prying the location of her parents out of a terrified peasant girl.

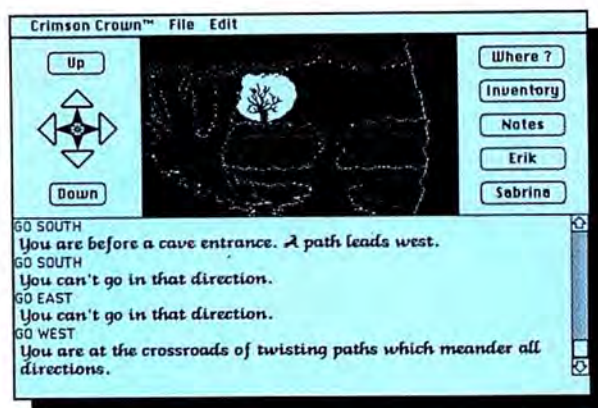
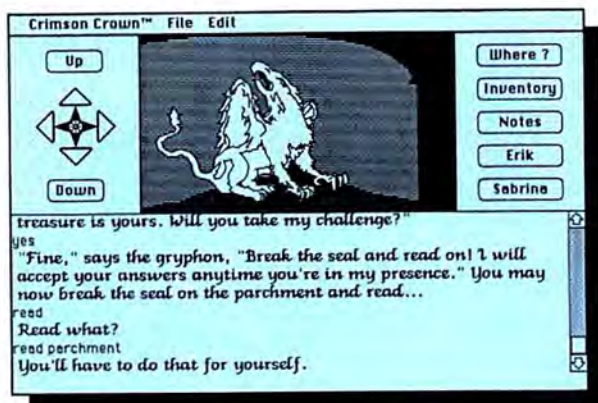
The Crown Prince Erik and his sister Sabrina accompany you to more exotic locations, including an underground chamber and a Gryphon's lair, in the quest to regain the Crown and keep its awesome power out of the Vampyr's malevolent hands. Both Sabrina and Erik each possess certain skills and knowledge, but figuring out what these are—and how best to use them—is one of the game's major challenges.

Riddles comprise a very large part in both games, but are especially prominent in *The Crimson Crown*, where three brainbusters are included in the documentation for use at a predetermined point in the game.

Early in the game, the player tumbles through a trap door into a chamber where a riddle, inscribed on a wall plaque, seems to be the only clue to escape. Most of the riddles are of the "I have no mouth, yet I speak volumes" school, and should appeal to fans of the puzzle-dungeon type of contest. But players accustomed to the flexibility of a *Deja Vu* or the immensity of a *Zork* could easily find themselves frustrated when they find themselves stuck with little hope of progress.

A gryphon poses a riddle in *Crimson Crown*. The actual parchment is enclosed in the game box (to discourage piracy, perhaps?). Note that *Transylvania's* TAKE and DROP buttons have been replaced by ERIK and SABRINA in this sequel.

A typical landscape scene from *Crimson Crown*. The scroll bar at the far right lets players see their previous moves.



THE "NEW IMPROVED" PARSER

The heart of every adventure is its sentence parser, the medium through which players communicate with the computer. Penguin Software's "Comprehend" parser is touted as a new, high-quality interface. But there's nothing about Comprehend that will be either new or especially impressive to most Mac users. It employs standard verb-noun commands, which can be linked together by commas. It does do a yeoman's job and is more than up to the limited demands created by these programs' overly linear plotlines.

The two major weaknesses of the parser, as used in these two adventures, are its limited dialogue capabilities and its quirky location mechanics. For example, direction commands will take you down a path, but when an object appears—such as a coffin-laden wagon in *Transylvania*—a specific GO TO WAGON command is required to get to it. Once inside the wagon, direction commands become useless, and

the player has to type in LEAVE WAGON to break free.

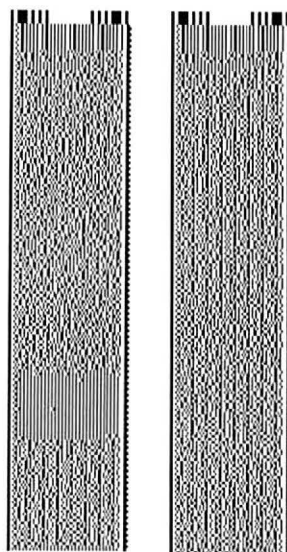
As with all adventures, mapping is very important if you expect to find your way around the countryside. But since the paths are not true (they are described as "winding"), the same directions won't always get you to the same location. Make initial maps in pencil!

BUT WILL IT PLAY IN PEORIA?

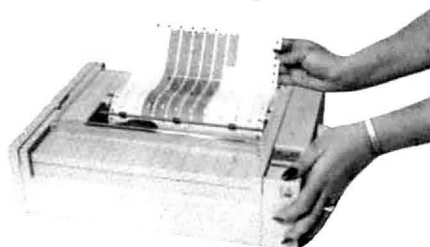
Neither of these games are exactly state-of-the-art, either in their sentence parsers or (especially) in their graphics. While the games take advantage of the Mac interface, their screens and play mechanics seem dated. Each game demands a very linear method of reaching the end, imposing a much stricter limitation on players' actions and possibilities than many more recent adventures do. The emphasis here is on puzzle-solving—figuring out which objects to use in which way to get past specific roadblocks, or solving one of the many word puzzles in each

(continued on page 150)

COMMUNICATE BETWEEN COMPUTERS...



ON PAPER



Use Mac or Apple files on a PC? Difficult? Not with the revolutionary Cauzin Softstrip™ System. With it you can easily move data between incompatible computers. Transfer ASCII or binary, word processing, data base or spreadsheet files. Mac to PC. PC to Mac. Apple to PC. And back again.

Picture a complete system. One that provides a simple and reliable way to distribute and retrieve information. Anything you can put on a magnetic disk, you can put on a Softstrip data strip. Facts. Figures. Software programs. Video games. Product demonstrations. Sheet music. And the list goes on.

A new industry standard, Softstrip technology, has rapidly changed the shape of computer software. You've probably already noticed the change on the pages of leading magazines. Data Based Advisor. MACazine. Nibble mac. MacUser. // Computing. Keyboards Computers & Software. These are just some of the growing ranks of publications featuring programs and data editorially in a form you can scan right into your computer — without typing!

But that's just the beginning of the Softstrip story and the real art of stripping...

How can you take a MacWrite file and read it into a PC word processor?

- Save your MacWrite 4.5 file as a "text" file.
- Print your file as strips using STRIPPER™.
- Read the strips into the PC with the Softstrip reader.
- Follow directions contained in READTHIS.TXT (strip above, right).
- Run "RED2BLUE" (strip above, left) and it's ready to use as a word processing file!

TECH SPECS

The Reader is lightweight and portable. It comes complete with all the software and cables you should need to connect it to your PC; Apple II series; or Macintosh computer. It has its own power supply and connects to standard RS232 ports (or to the Apple //e cassette port).

ALL YOU NEED TO START STRIPPING... besides your computer, a Softstrip reader, and STRIPPER™ (the "make-it-yourself Softstrip data strip program"):

FOR IBM PC or 100% COMPATIBLE OWNERS
Epson RX or FX printer
Printer interface card

FOR APPLE II OWNERS
Epson RX or FX printer, or,
Apple Imagewriter I or II, and,
Super Serial™ card (built into Apple //c), or,
Grappler™ graphics card, or,
Dumpling™ graphics card.

FOR MACINTOSH OWNERS
Apple Imagewriter I or II

You can buy the Softstrip System for only \$199.95 (STRIPPER™ is only \$19.95 and an extra accessory kit is also only \$19.95) at all better computer stores. For the one nearest you, or to order direct, (if there is no dealer in your area) call: 1-800-533-7323 in Connecticut: 203-573-0150.

Dumpling is a trademark of Microtek, Inc.
Grappler is a trademark of Orange Micro, Inc.
Epson is a registered trademark of Epson America, Inc.
Macintosh is a trademark of McIntosh Laboratories, and is licensed to Apple Computer, Inc.
Apple is a registered trademark and Imagewriter, Image Writer II, and Super Serial Card are trademarks of Apple Computer, Inc.

IBM is a registered trademark of International Business Machines Corporation.
Softstrip and STRIPPER are trademarks of Cauzin Systems, Inc.

Cauzin Systems, Inc.
835 South Main St., Waterbury, CT 06706

YOUR FIRST UTILITIES

***A baker's dozen of
little programs that
bring big benefits to
your Mac.***

IF YOU HAVE JUST SET UP YOUR Macintosh, or have only been using it for a few weeks, it may be hard to believe but sooner or later the day will come when you look at the Mac and mumble, "Why can't you be just a little smarter?" Because, like all computers, the Macintosh can't remember everything for you all the time, have all your favorite programs ready to go all at once, and can't save you from your own neglect.

To do all that takes something called utility programs, and some of the utility programs for the Mac are

truly amazing and must-haves. But there are so many utility programs that choosing which ones to buy, download or scrounge can seem a formidable task to anyone — especially if you're new to computing or to the Mac.

Here are a baker's dozen of the utility programs that we think are among the most useful to start off a library with. All of them are powerful, easy to use (at least to begin with) and will remain useful for as long as you own your Mac.

END THAT CLUTTER

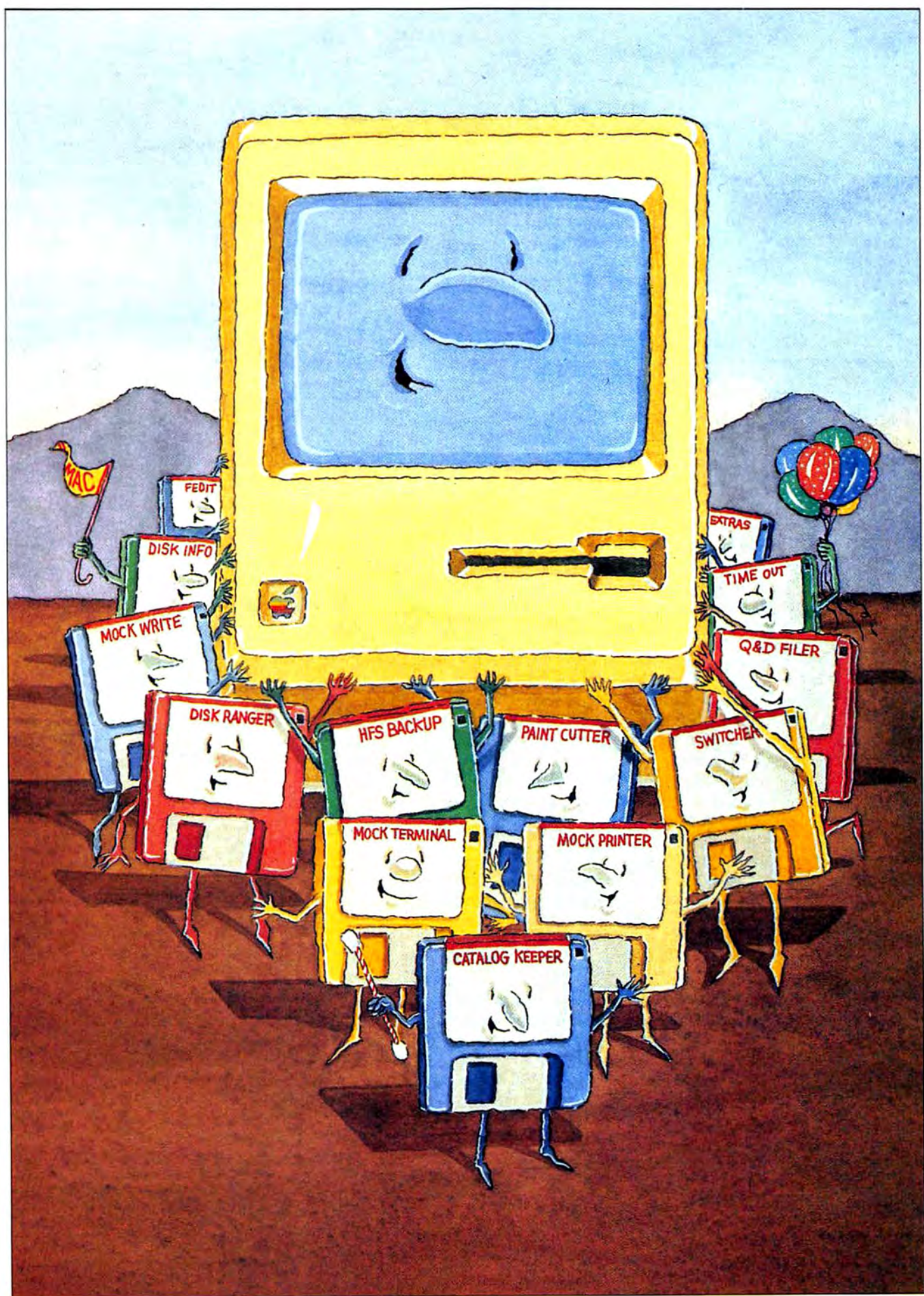
You could be the neatest person in the world and it wouldn't change a thing. Still, a month after you start using the Macintosh you'll find yourself awash in a sea of disks threatening to avalanche into the rest of the house. Or, if you have a hard disk, you'll have so many volumes, drawers and folders that your head will spin faster than the drive. Never fear, utilities are here!

Catalog Keeper from Dreams of the Phoenix (familarly referred to as DOTP) will help sort you out. It's the best way we know of to keep an updated, printed catalog of just what's hiding on all of your 3.5-inch disks.

First thing you do with *Catalog Keeper* is to open a new catalog file. You'll be able to have as many catalog files as you can fit onto a disk, so if you want a printed catalog of your game programs separate from a catalog of your fonts that is easy to do. But with *Catalog Keeper's* various sorting abilities, it may be just as easy to keep one large catalog of all your library.

Once you have opened a catalog file a new disk is popped into the internal or external drive. The disk directory is read onto the screen showing information about each file on the disk. This information may include any or all of: file size, name, type, creator, date modified, volume (disk) name. As each new volume is added and a new disk read, the information on-screen is added to

by
Neill.
Shapiro



YOUR FIRST UTILITIES

and the catalog grows longer and longer.

Once all of your disks have been fed into the catalog, the information may be sorted on any of the above fields. If, for example, you choose to sort on file name, all of the file names will be arranged in alphabetical order. Or, you could sort on volume name and the files would be sorted so that all files on disk "Alpha Disk" would appear before files on "Zeta Disk." The on-screen display can even be shown in any font in your system.

When it comes time to print out what's on-screen, *Catalog Keeper* has complete dialog boxes for page setup and report format. The report format dialog, in particular, is quite powerful and allows various fields to appear as headers as well as selective printing of files. *Catalog Keeper* is part of the "Q & D Utilities, Volume 1" disk which retails for \$39.95.

A more expensive program with some additional features is *Disk Ranger* from Mainstay. The *Disk Ranger* program also allows you to build up a printed catalog of all the files on all of your disks. Like the catalog produced by *Catalog Keeper*, the catalog may be sorted on file name, creator, size, or volume name, as well as creation date and date modified. Report formatting facilities are not as full-featured as *Catalog Keeper's*, but result in an acceptable-looking printout.

Disk Ranger, however, carries the concept one step further and also allows you to print out labels for the various disks which you have read into the catalog. You can print out labels for all the disks in the catalog or select various volumes and only print out labels for the ones you have chosen. *Disk Ranger* retails for \$49.95.

Because *Catalog Keeper* arrives on a disk with many other useful utilities it is an excellent buy — and we recommend that it be used when a printed catalog is of singular importance. But if you need the labels, then you will also want to investigate *Disk Ranger*.

Meanwhile, if you don't have a worrisome, towering plethora of

floppies to catalog, maybe you have one of those spinning little monsters called a hard disk? If so, then run, don't even stroll, to the store to pickup *HFS Backup*, a new program from PCPC (the same people who make the MacBottom hard disks although this program will work on any hard disk that utilizes the HFS system). Not only will this program help you to obtain a printed catalog of all the ins and outs of the hierarchical maze that you have built of files, folders, sub-folders and sub-sub-folders, but it will also save your behind in event of the dreaded "disk crash" that has driven many hard disk users to drink or worse.

HFS Backup first reads the directory of your hard disk. It will display on-screen all of the various files and folders. Each folder may be displayed either open (showing all the files and folders it contains) or closed. So it is possible to have a display that "trees" throughout the directory and displays all of your hard disk's most inner and secret niches. The directory may be printed out.

But the real utility of *HFS Backup* is that it will save, in a compressed format, all of the files on your hard disk to floppy disk. This may take a lot of floppies (we fit 8 megabytes of hard disk material onto 18 single-sided floppies) and time, but it is worth it.

That's because *HFS Backup* is "smart." You only have to go through the Backup Entire Volume procedure one time. Subsequent backups may be chosen so as to only back up to disk those files which were added or changed since the last backup session. Or, you can save combinations of files to be backed up that you know ahead of time will need that safety.

We have been using *HFS Backup* on our hard disk on a daily schedule. It is a fast, painless way to keep track of a hard disk — and to feel a lot more confident about what would happen should the data on the hard disk ever fall prey to the angry fates.

WHAT'S GOING ON, HERE?

Sometimes, when you are in the middle of an application you can feel

rather trapped. Open a list box and you see the name of a file and you just can't remember if that's really the file you wanted. Or you've run out of space on a disk and you'd like to delete some files. Or maybe you'd like to print some files or.... But you just can't get to them. You don't even know what kind of space you have left on the disk. There are several utilities that exist as desk accessories (DAs), accessible while in another program. The programs put you back into control and bring you all kinds of needed information. *Q&D Filer* is another denizen of the "Q&D Utilities, Volume 1" disk from Dreams of the Phoenix. When installed in your *System* file, it's a desk accessory with a lot of power.

PRINT, COPY, RENAME, DELETE, GET INFO and AVAILABLE are the commands that appear in a special pulldown menu whenever *Q&D Filer* is activated. The PRINT command allows you to print out any text file from within any application (and also on the desktop if you are running an old system and need that facility). The COPY command allows you to copy a file from one disk or folder to another, and it works very nicely with HFS. RENAME allows you to choose any file on disk and change its name. DELETE lets you axe any unwanted files.

GET INFO presents you with a list box from which you choose a file. That file's "info" is then displayed in a dialog box that shows the volume the file is on, the filename, the size of the file, the creator and type fields, and when it was last modified. (As folders are not shown, it is not as useful for an HFS hard disk system as *DiskInfo* below).

The AVAILABLE command leads to a dialog box that details how much memory is left free in your Mac, as well as how much disk storage space is left on every volume that is presently on-line. The whole "Q&D Utilities, Volume 1" disk, which includes *Q&D Filer*, retails for \$39.95.

Extras is a shareware program that is available through user groups such as BMUG and WAP, on-line services such as MAUG on CompuServe, and direct (send a disk, SASE

Available Now

MaxPlus™

Modular Memory for the
Macintosh Plus



MaxPlus turns your Macintosh Plus into a 2Mb powerhouse of memory. Now. Modular memory that expands with your growing needs—all the way to the Mac's 4Mb potential.

More free memory.

MaxPlus lets you create bigger databases, more powerful spreadsheets, and larger documents. And you'll still have plenty of memory left over for disk caches, RAM disks, and Switcher.

Plug it in.

The MaxPlus modules plug into your Macintosh Plus with no modification, to offer you compatibility with all your software. For internal hard disk compatibility, ask about the 2.5Mb MaxPlus Enhanced.

Work faster.

MaxRAM and MaxPrint software are included free with your MaxPlus. MaxRAM is the adjustable RAM disk that lets you work ten times faster than floppy speed. MaxPrint is the print spooler that will let you work and print at the same time.

Stay cool.

MaxChill, our internal piezo-electric fan, is also included free, so your Mac won't lose its cool.

Get it now.

To double the power of your Macintosh Plus, contact your local dealer or call us at 800/862-2636. In California, call 408/773-9922.

MacMemory Inc

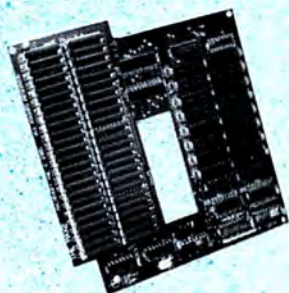
473 Macara Avenue Sunnyvale, CA 94086

Apple is a trademark of and Macintosh is a trademark licensed to Apple Computer Inc.
MaxPlus is a trademark of MacMemory Inc.

Available Now

TheMax2™

2Mb of memory for your
128K or 512K Macintosh



Get twice as much memory as the Apple upgrade for a lower price.

2Mb in minutes.

TheMax2 is an upgraded Macintosh board that replaces the one you have now. Installation is so easy you can do it yourself.

More free memory.

Create bigger databases, more powerful spreadsheets, larger documents, and still have plenty of memory left over.

Expand anytime.

Plug in the new megabit chips when you're ready to expand to a full 4Mb.

Compatibility.

Use all your existing software now. And be ready for the new ROM set and 800K drive from Apple.

Ready now.

\$545.00*

Get twice the memory for your money. Contact your local dealer or call us at 800/862-2636. In California, call 408/773-9922.

MacMemory Inc

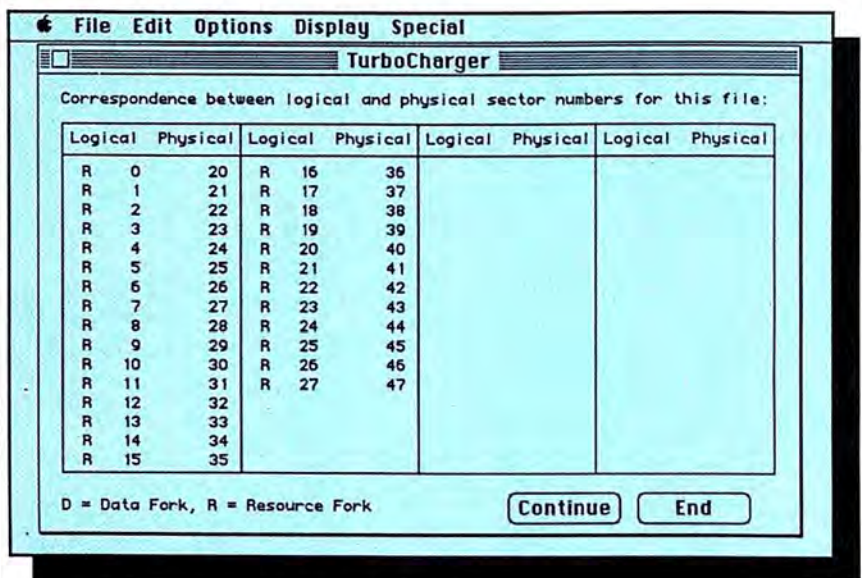
473 Macara Avenue
Sunnyvale, CA 94086

Apple is a trademark of and Macintosh is a trademark licensed to Apple Computer Inc.
(*For the 128K Macintosh: \$695.)

YOUR FIRST UTILITIES



DiskInfo lets you manipulate files and disks while inside an application.



Fedit can show you where on a disk the file actually is.

and fee) from author Bob Luce at 324 East Shaw Rd., Fresno, CA 93710.

Extras also exists in your *System* as a DA. It puts up its own temporary pulldown menu whenever it is activated. The first choices on the *Extras* menu are concerned with memory and disk usage. Show Free Memory and Compact Memory let you see how much room is left in the Mac's memory. You can even increase the memory available by using the compact feature. In a like manner, the Show Disk Space dialog box will switch between every disk currently on-line and allow the user to see how much space is on each disk, to eject a disk or to make the disk chosen the startup disk (so you can use the images

in its Scrapbook, for example).

Then, from within an application, *Extras* will allow files to be deleted or renamed. It will even show "invisible" files that can't be seen on the desktop. The shareware license for *Extras 1.5* is a modest \$10.

DiskInfo is another shareware desk accessory available through various user groups and on-line services or direct (SASE, disk and fee) from the author — in this case, David Dunham, Maitreya Design, PO Box 1480, Goleta, CA 93116.

An on-screen dialog box first shows all the disks that are on-line — each disk represented by an icon. On the same line as the icon and disk's name are how many files are on the disk, how many kilobytes are used

on the disk and how many kilobytes are free. Just click on the icon and the disk's contents are displayed along with icons showing if the names represent files or folders. When clicked on, a folder will reveal its own contents within the dialog box.

Meanwhile a group of menu commands (*DiskInfo* also has a temporary pulldown menu that appears when it is activated) will allow the listed material to be sorted on-screen by name or by date as well as by size measured either in characters or kilobytes.

DiskInfo fully supports HFS (version 1.43 was current at press time). There is even a FIND button which may prove a godsend to anyone with a hard disk. You can search the whole contents of the disk drive to find out just exactly what folder you managed to place that important document within. If you only recall part of that important doc's name, never fear; *DiskInfo* allows you to enter a string and search on it as if it were a full name, the first part of a name, or any part of the name. Once the file or folder is found, *DiskInfo* will display the complete HFS pathname of all the myriad folders it may have had to search through to find your lost gem.

As icing on the cake, *DiskInfo* also shows how much memory is free in RAM and allows you to compact that memory.

It will also allow you to mount and unmount volumes and to make any mounted volume the startup or default volume. All in all, it's a terrific buy for the shareware license fee of only \$10.

While having all of these desk accessories will result in some overlapping functions, they are priced reasonably enough that we feel you should have all of them so as to have the full panoply of power. Most especially, if you have HFS, make *DiskInfo* one of your very first utilities.

THE MOCK TURTLE'S FAVORITES?

Don Brown of CE Software is a wizard. He comes by that title honestly. Back in the days of the Apple II he programmed a magical series of



PROJECT-A-MAC™
VIDEO PROJECTION SYSTEM
Clearly reproduces any Mac display including fine text and high-res graphics onto screens up to 20 feet wide. An image as sharp as your Mac's. Controls for brightness and contrast adjust for room lighting conditions. Includes everything you need: projector, PDS External Video Card, 25' video cable, and complete instructions.

COMPLETE SYSTEM \$4,495.00

BIG MAC MONITOR™
Delivers 23" of sharp high resolution black and white display, enclosed in a durable, attractive Apple-beige cabinet. Will clearly reproduce any Mac screen image, including fine text and high-res graphics. Several can be connected in series where multiple displays are required. Includes everything you need: the Monitor, a PDS External Video Card for the Mac, 25' video cable, and complete instructions.

COMPLETE SYSTEM \$1,995.00

FREE EXTERNAL VIDEO CARD INCLUDED:

The PDS External Video Card for the Mac is specially designed to work with our systems, providing the highest possible resolution

Available now from: **PDS VIDEO TECHNOLOGY, INC.**

Specialists in Video Display Systems for the Macintosh

1152 Santa Barbara St. • San Diego, CA 92107

ORDER HOTLINE: (619) 222-7900

For Free Information
Please Circle 139 On Reader Service Card.

MacLink

... the "intelligent" link between
your Macintosh and the IBM PC

MacLink allows you to translate spreadsheet and word-processing files between the Macintosh and the IBM PC ... easily and quickly.

Now you can translate spreadsheets between Lotus on the PC and Multiplan on the Mac ... including formulas, column formats, and functions.

And MacLink allows you to transfer any other type of file between the two machines as well ... including binary, CSV, SYLK, text, WKS (Jazz/Excel), and Word files.

MacLink's integrated communications and unique translators

Unique PC ↔ Mac Translators!

And you can translate documents between Wordstar, Multimate or Displaywrite on the PC and MacWrite on the Mac ... including margin settings, paragraphing, columns, and print styles.

work via modems or with an optional PC to Mac cable.

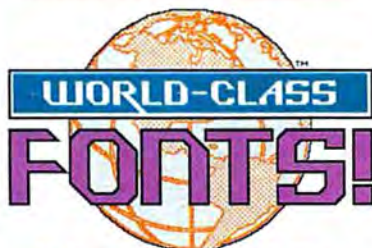
The cost is just \$125. This includes the MacLink manual, and a MacLink disk for both the PC and the Mac. \$155 with cable.

DataViz, Inc. - 16 Winfield Street - Norwalk, CT 06855
(203) 866-4944

Trademarks: IBM, Lotus, Macintosh, MacWrite, Multimate, Multiplan, Wordstar, Displaywrite, Excel, Jazz, Word

For Free Information
Please Circle 229 On Reader Service Card.

FROM THE DUBL-CLICK COLLECTION



Volumes One and Two
Each Volume is a 3 Disk Set (400K per disk)



Includes new programs: **Font Charter** (application), **BigCaps** and **DefaultFont** (desk accessories).

Volume One fonts shown in Gray. Volume Two fonts shown in Blue.
World Class Font sizes range from 9 to 72 point. Some sizes previously released on either Mac the Knife volumes 1 or 2. Some large sizes require 512K of memory.
©1986 DUBL-CLICK Software, Inc. World Class Fonts is a trademark of DUBL-CLICK Software, Inc. Mac the Knife is used as a trademark by Miles Computing, Inc.



DUBL-CLICK SOFTWARE, INC.
18201 GRESHAM ST. / NORTHridge, CA 91325
Ask your dealer, or order direct...
(818) 349-2758



<i>Abuquerque</i>	DAKAR	Manhattan	PRAGUE
ARLINGTON	DALLAS	MeIBOURNE	Reno
DETROIT	DETROIT	MIHCK	R.O.M.E.
Αθήνα	Florence	Monteray	Saigon
AUSTIN	FRANKFURT	Montreal	SAN DIEGO
PARYLEN BAPYLEN BAPYLEN	ГОРЬКИЙ	MULESHOE	Santa Fe
CACTUS	GREENBAY	NAZARETH (SYMBOLS)	SCOTT'S DALE
Berkeley	hartford	NOVГОРОД	Σταλινγκραδ
Βασιλ Κατον	Helsinki	N.Y. Headlines	STANFORD
BOISE	HOLLYWOOD	Obispo	Stockholm
BORDERS ONE, TWO AND THREE	Hong Kong	GOESSA (THE CHESS FONT)	STUTTGART
CALDWELL	Istanbul	OSAKA	SUNNYVALE
Boston	アイヅ KAWASAKI コサツ	PARIS	Sydney
CAMELOT	Laredo	P.O.S.T.A.L CITY 'A'	תל-אביב
CANYON	LAS VEGAS	POSTAL CITY 'B'	Tokyo!
Cape Canaveral	Liverpool	WOODSTOCK	Venice
CHARMEL	London		
Chicago	luxembourg		
COPENHAGEN	Malibu		
Cupertino	Manchester		

For Free Information
Please Circle 108 On Reader Service Card.

YOUR FIRST UTILITIES

noncommercial adventure games called *The Wonderful World of Eamon*. But while he has yet to program a similar game on the Mac (c'mon, Don!) his three desk accessories — *MockPrinter*, *MockTerminal* and *MockWrite* — are also nothing less than magical. This so-called "MockPackage" contains all three desk accessories, and is available through many user groups as well as on CompuServe, Delphi and The Source or direct from CE Software, 801 73rd St., Des Moines, IA 50312 as shareware (send disk, SASE and fee).

MockPrinter allows you to quickly print out any text file on disk. *MockWrite* allows you to write a text-only file from within any application. And naturally enough, *MockTerminal* is a terminal program. They can be used, and you will use them, independently, but using them altogether in one big brew is the best way to see their power.

Here's an example. Log onto a BBS or a network with *MockTerminal*. You can connect at 300, 1200 or 2400 baud, half duplex (echo) or full. A built-in phone book allows you to automatically dial your choice from seven numbers stored in the program and to change them whenever you want.

Once you have logged on, size the *MockTerminal* screen to a little less than full-sized and then open *MockWrite*. Click in *MockTerminal* to bring it to the front and read over the BBS. Then, if you see a message you want to answer, click in the *MockWrite* window and then you will be able to have a real Macintosh-style editor within which to compose your reply. No more of those shoddy line editors, you'll be using your mouse again. Save a file of the BBS' commands to disk using *MockTerminal*'s START RECORDING feature, then print it out to use as a handy reference with *MockPrinter*.

Telecommunications is, of course, just one way to utilize the programs. How about having a terminal program available from within your word processor to send a letter just as soon as you write it? Or use *MockWrite* to add such a feature to

one of the full-fledged terminal programs.

Don refers to his shareware as the "MacHonor" system and the MockPackage is \$25 for all three utilities.

SWITCH, DON'T FIGHT!

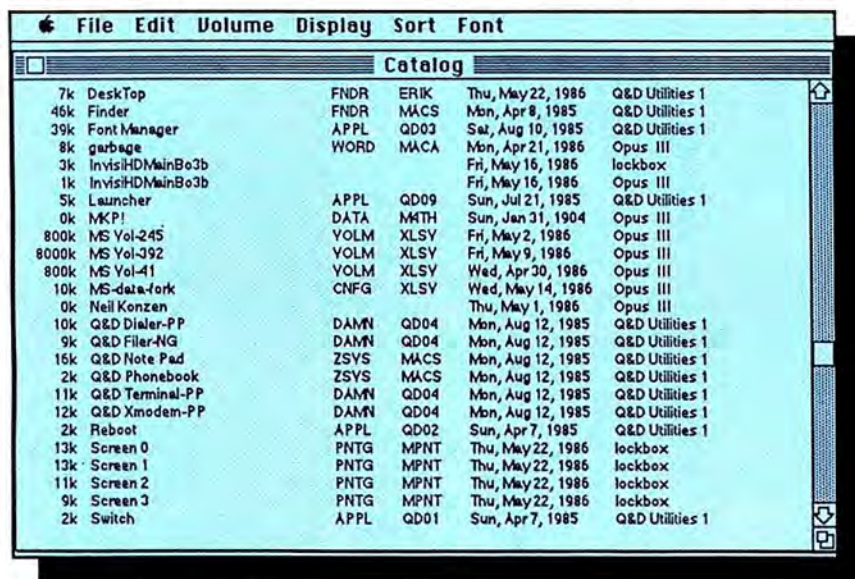
Would there have been a Macintosh without Andy Hertzfeld? Well, that's a question we'll leave to some 21st century philosopher/historian to answer for a doctoral thesis. But I'd be willing to bet we wouldn't have this wonderful machine without him having been around on the original Mac Team — and we also wouldn't have the *Switcher*.

The *Switcher* is an amazing program that turns one Macintosh into up to eight Macs all sharing the same display. It's sold as the "Switcher Construction Set" from Apple or it is downloadable from on-line services and BBSs.

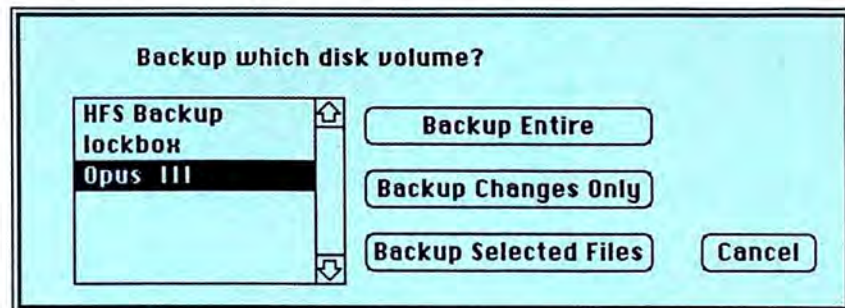
The *Switcher* comes up with eight "slots" available into each of which the user can load an application. Once applications are loaded they can be switched between by clicking on a little two-way arrow that appears in the menu bar of all "switched" programs. So, you can be running *MacWrite* and then, with a click on the arrow the screen will slide (in an interesting animation) to the side and the screen of another program will appear. (You can also simply clear from one screen to the next.) The Clipboard's contents are preserved so you can easily transfer information.

Obviously, this is all limited by the size of your Mac. A 512K Mac will be able to run three to four "regular" applications (each able to run alone on a 128K Mac). (*Switcher* will not work on a 128K Mac.) A Mac Plus

(continued on page 148)



Catalog Keeper can catalog both HFS and MFS volumes.



HFS Backup offers options ranging from full backup to incremental backup of recent changes.

For every child who is not afraid
of a mouse...

KidTime™



This amazing disk contains five educational software games for children ages 3 to 8. As your children solve **Dot-to-Dot** puzzles they will learn counting and alphabet skills. Playing **ABKey™** they will learn to recognize letters and simple words. The **Match-it™** games teach categorization, words, and shapes. **KidsNotes™** will introduce them to some basic concepts of music and notation. They can play some nursery rhymes or put in pieces of their own. Your children can use the **Story Writer** program and the Storybook font to create and print fun stories with both words and pictures.

These games are expandable. You can make your own songs, stories, and Dot-to-Dot puzzles. Some of the

games even let your Macintosh talk. The **Story Writer** reads your children's stories back to them. The manual includes hints for further learning with each game and "Notes to the Musically Unsure."

All five programs come on the disk together with the StoryBook font, Dot-to-Dot puzzles, Match-it puzzles, some music, and some stories for only **\$49.95** suggested retail

KidTime, KidsNotes, Match-it and AB-Key are trademarks of Great Wave Software Company.



Great Wave
Software™

(415) 325-2202

TERPSICHORE

[terp-SICK-or-ree] (1612)

Complete 4 & 6 Part Dances by Michael Praetorius (1571-1621). Transcribed & arranged by Richard Rae exclusively for **ConcertWare™** and **ConcertWare+MIDI** on **Macintosh™** computers. This unique collection of **181 pieces** performed by custom InstrumentMaker™ sounds is a first for Renaissance & Baroque music. 80% of this music has never been recorded in any form and much of it is not available in print. Easily rearrange, print or change instrumentation. Perfect for musicians, dancers, students, or anyone who enjoys classical music. ConcertWare+ required, MIDI synthesizer optional.

only **\$49.95** suggested retail

Contact your local software dealer or Great Wave Software at:
PO Box 5847, Stanford, CA 94305

ConcertWare, InstrumentMaker, and Great Wave Software are trademarks of Great Wave Software. Macintosh is a trademark of Apple Computer, Inc.

For Free Information
Please Circle 113 On Reader Service Card.

**"This is what I think a database
on the Mac should be."**

John C. Dvorak,
InfoWorld, May 26, 1986

Very easy to use

"I mastered the program in one sitting."
User Ted Roeser, Dickinson, TX

"Record Holder is easy to use... The manual and tutorial are top notch."
MACazine, May, 1986

Powerful, too

"... It's a powerful data manager."
MacUser, April, 1986

"This program out-classes most other programs selling for three or four times as much."

The Desktop Journal, a publication of the Yale Macintosh user group, Winter, 1986

"Record Holder met all our performance expectations..."

InfoWorld, March 24, 1986

A super value

"One of my most liked and most used

programs, regardless of price."

User Steve Harding, El Paso, TX

"Absolutely the best value of any software we have yet purchased."

User W.B. Olliphant, Tacoma, WA



A typical Record Holder screen, showing the easy-to-format Display window and the Unique Table of Contents window, which allows instant access to all records in your file.



**RECORD
HOLDER**
Data Manager for the Macintosh™

The first high-quality
low-priced data manager
for the Mac.

\$49.95

Introductory price
through Sept. 30, 1986

30 day Money Back Guarantee
if not 100% satisfied

To order, call toll-free anytime

1-800-437-5200, Op. 229

In Maryland, call 1-800-638-8890, Op. 229

Visa and and Mastercard accepted.
Add \$5 for shipping & handling.
CT residents add \$3.75 sales tax.



To order by mail, send check or money order to:
Software Discoveries, Inc.
99 Crestwood Road, Tolland, CT 06084 (203) 872-1024

For Free Information
Please Circle 146 On Reader Service Card.

Visit our booth at the Boston MACWORLD EXPO.

NORTHEASTERN

Software

7 Trap Falls Rd. Shelton, Connecticut 06484

- Tap our unmatched selection and inventory of software/hardware for the Mac and Apple (as well as the IBM PC and Commodore Amiga).
- School and corporate purchase orders are welcomed. CALL 1-800-874-1108.
- Special/rush orders. If something you need is not listed, hard to find, or needed in a hurry, CALL 1-800-874-1108.
- Order Status. CALL (203) 375-3860.
- FREQUENT PURCHASER PROGRAM. Any repeat customer will automatically receive \$1 off any order he or she places with us. Please mention to your operator that you are a repeat customer. We value your continuing business. Send in \$1,000 worth of invoices (representing previous purchases) and you will receive a coupon worth 1% off any future purchase. With \$5,000 worth of invoices, receive a coupon worth 5% off any future purchase.
- Ask for System Sales when ordering a complete system.
- No additional charges for credit card orders.
- Technical experts on duty.
- Convenient hours. 7 days/week: 9AM-11 PM EST.
- FREE AIR EXPRESS SHIPPING. Purchase \$150 or more of software and for no additional charge we will ship your products by air courier. Mention this to your operator as you place your order.
- FURTHER DISCOUNTS BY MAIL. Circle the items in our ad you want, send the aid in with the coupon below and receive \$.50 off each item! Cut out a competitor's ad with a lower price and we will give you \$1 off his price (subject to the conditions below).

IF ORDERING AT THE LAST MINUTE, OUR AIR EXPRESS SERVICE CAN RUSH YOUR SOFTWARE/HARDWARE TO YOU.

Send coupon and list of items desired to:

DISCOUNT BY MAIL DEPARTMENT

Northeastern Software, 88 Ryders Lane, Stratford, CT 06497

To be eligible for the \$1.00 per item discount you must:

1. Fill out all items.
2. Send in our ad with the items you desire circled.

Name _____

Address _____
(Include Company Name)

City _____ State _____ Zip _____

Phone No. at above address _____

Check form of payment

☐ Visa ☐ MasterCard ☐ C.O.D. ☐ Personal Check

☐ Certified Check ☐ Money Order

Card No. _____ Exp. Date _____

Computer Model _____

Personal and company checks allow 3 weeks to clear. For faster delivery, send cashier's check, certified check, or money order. Shipping—Software (\$3.00 minimum). Shipping—Hardware (please call 203-375-3860). COD—Add an additional \$2.00. Alaska, Hawaii, Canada, P.O. APO, and FPO \$5.00 minimum. Foreign orders—\$15.00 minimum and 15% of all orders over \$100. Mastercard and Visa (please include card no. and expiration date). Connecticut residents add 7.5% sales tax. Prices subject to change without notice. All returns must have a return authorization number. Call 203-375-3860 to obtain one before returning goods for replacement. Defective merchandise replaced with same item only. We do not guarantee compatibility. All sales are final. "Comparable advertised price" does not include typographical errors on the part of other vendors or prices that do not reflect higher shipping costs, credit card charges, or membership fees. The \$1 off offer only applies to items where Northeastern's price is not already the lowest. Final judgment remains with the manager on duty.

For Free Information
Please Circle 76 On Reader Service Card.

WE WILL BEAT

(See Below)

SPECIALS

Copy II Mac	17.50
Excel	221.00
Flight Simulator	31.50
Full Point	51.00
Gato	24.00
The Graphics Magician	45.00
Haba 800K Drive	240.00
Harrier Strike Mission	24.00
Imagewriter Ribbons	4.25
Mac Golf	34.00
Mac Lightning	57.50
Microsoft Word	108.00
Quick and Dirty Vol 2	24.00
Ready Set Go	99.00
Sidekick with Phone Link	49.00
System Saver	61.00
Thinktank 512K	95.00
ThunderScan (New Version)	166.00
True Basic W/3-D Graphics	95.00
Turbo Charger	35.00
Wizardry I	33.00

DESK ACCESSORY PROGRAMS

AFFINITY MICROSYSTEMS	
Tempo	56.00
BATTERIES INCLUDED	
Battery Pack	26.50
BORLAND	
Sidekick with Phone Link	49.00
DREAMS OF THE PHOENIX	
Day Keeper Calendar	24.00
Twelve-C Financial Desktop	24.00
DUBL-CLICK SOFTWARE	
Calculator Const. Set	58.50
ELECTRONIC ARTS	
Custom Calc Set	33.50
ENTERSET	
Quick Set	25.00
Quick Point	25.00
MAINSTAY	
Type Now	25.75
HARVARD ASSOCIATES	
Desk Toppers	28.50
SILICON BEACH SOFTWARE	
Accessory Pack I	20.00
VIDEX	
Mac Calendar	48.50

GRAPHICS SOFTWARE

ALTSYS	
Fontographer	232.00
Fontastic	23.50
ANN ARBOR SOFTWARE	
Advanced Animation Toolkit I	40.50
Animation Toolkit II	85.00
Animation Toolkit I	29.00
In-ation	82.00
Full Point	51.00
APPLE COMPUTER	
Mac Draw	CALL
AXLON	
Card Shoppe	35.00
Art Portfolio	34.00
Art Portfolio II	48.00
BRODERBUND	
Printshop	ICALL
CASSADY COMPANY	
Fluent Fonts	28.00
Fluent Laser Fonts	CALL
CENTURY SOFTWARE	
Laser Font Patamar	18.40
Laser Font Williamette	18.50
Ultrafont	18.50
Ultrafont's Technical & Business	30.50
Technical & Business Fonts	18.50
DIABLO VALLEY DESIGN	
Mac Grid	24.50
CHALLENGER SOFTWARE	
Mac 3D	112.50
CRICKET SOFTWARE	
Crocket Graph	128.00
DIVERSION INC	
Jumbo Color Pens	13.00
Underware Pens	9.00
Underware Ribbon	9.00
DRUID	
Classic Fonts	24.50
Graphic Letters	24.50
ENABLING TECHNOLOGIES	
Easy 3D	55.00
ENTERSET	
Quick Point	25.00
HAYDEN SOFTWARE	
DaVinci Commercial Interiors	112.00
DaVinci Interiors	26.50
DaVinci Houses	26.50
Video Works	54.00
DaVinci Building Blocks	44.00
DaVinci Landscapes	26.50

Home Design	44.00
Art Grabber W/Body Shop	27.50
INNOVATIVE DATA DESIGN	
Mac Draft	135.00
Paste Ease	28.50
KENSINGTON	
Professional Type Fonts-Headin	39.00
Graphic Accents	28.00
Professional Type Fonts-Text	28.00
MAGNUM SOFTWARE	
Slide Show Magician	31.00
Mac Pic Volume 1	26.00
Mac Pic Volume 2	26.00
MANHATTAN GRAPHICS	
Ready Set Go	99.00
MESA GRAPHICS	
Plot It	66.00
MICRO MAPS	
Mac Atlas World	49.00
Mac Atlas USA	49.00
MICROSPOT	
Mac Plot	125.00
SUMMAGRAPHICS	
Mac Tablet 9x6	240.00
Mac Tablet 12x12	328.00
SUNCOM INC	
Macfont 1	17.00
T. MAKER	
Click Art Publications	27.00
Click Art Effects	27.00
Click Art Letters	27.00
Click Art Personal Graphics	27.00

ACCOUNTING SOFTWARE

ARRAYS/CONTINENTAL	
Home Accountant	CALL
CHANG LABS	
Rags to Riches GL	94.00
Rags to Riches AP	94.00
Rags to Riches AR	94.00
Rags to Riches Inventory	94.00
DIGITAL ETC.	
Mac Accountant	75.00
INTERMATRIX	
Chequebook	25.00
MONOGRAM	
Dollars & Sense	79.00
Forecast	37.50

CALL TOLL FREE 1-800-382-2242

Connecticut Orders Call (203) 929-8522

IN CANADA 1-800-843-0074

ACCESSORIES

AMERICAN TOURISTER	
Mac Carrying Case-Amer Tourist	53.00
APPLE COMPUTER	
Mac Security Kit	CALL
ASSIMILATION PROCESS	
Mac Numeric Turbo	CALL
Mac Port Adaptor	CALL
Mac Turbo Touch	CALL
Mac Daisy Wheel Connection	CALL
Mac Epson Connection	CALL
AST RESEARCH	
Ramstack 1.5 MB	995.00
Ramstack 512K	550.00
Ramstack 2 MB	1575.00
Ramstack 1 MB	795.00
AUTOMATION FACILITIES	
Micro Clean	CALL
Floppyclean Refill	CALL
Floppyclean 3 1/2	CALL
CRT Work Station Kit	CALL
Printer Keyboard Kit	CALL
CREIGHTON DEVELOPMENT	
Proprint W/Cable	51.00
Proprint	37.00
Proprint W/Ab Switch & 2 Cable	134.00
CURTIS MANUFACTURING	
Ruby Surge Suppressor	43.00
Emerald Surge Suppressor	30.00
Sapphire Surge Suppressor	24.00
DIVERSIONS INC.	
Underware Color Ribbon	8.50
Underware Jumbo Pens	13.00
Underware Colorpens	8.50
Underware Colorpack	15.00
Underware Black Ribbons	8.50
ENVIRONMENTAL SOFTWARE	
Mac Cover Complete-Environment	12.00
Dust Cover Laserwriter-Mac Att	12.50
Dust Cover Keypad-Mac Attire	5.00
Dust Cover Printer 15-Mac Atti	9.50
Dust Cover Disk Drive-Environm	5.00
Dust Cover Printer 10-Mac Atti	9.00
ERGOTRON	
Mac Tilt	62.00
Mac Buffer 256K	CALL
Mac Buffer 512K	CALL
Mac Buffer 1024K	CALL
GTCO CORPORATION	
Macintizer	435.00
HABA SYSTEMS	
Haba Window Dialer	19.00

HANZON CORPORATION

Hanzon Board & Cable	75.00
INNOVATIVE CONCEPTS	
Flip N File II/Micro	15.00
Flip N File I/Micro	7.00
INNOVATIVE TECHNOLOGIES	
Easel The Pocket	11.00
I/O DESIGN	8.25
Mac Carrying Case-I/O	CALL
Imagewriter Carrying Case-I/O	36.50
KALMAR DESIGNS	
Microcabinet-Double	20.00
Microcabinet	12.20
KENSINGTON	
Swivel/Tilt-Kensington	21.00
Swivel-Kensington	19.50
Disk Case-Kensington	18.50
Dust Cover Printer 15-Kensingt	7.50
Starter Pack-Kensington	51.00
Dust Cover Disk Drive-Kensingt	6.00
Control Center-Kensington	57.00
Printer Stand	15.75
Polarizing Filter	30.50
A/B Box-Kensington	58.50
Surge Suppressor-Kensington	31.50
Disk Drive Cleaning Kit	18.00
Dust Cover-Kensington	8.00
Dust Cover Printer 10-Kensingt	8.00
Mouse Cleaning Kit W/Pocket	14.90
Mouse Pocket	6.00
KETTE GROUP	
Maxnifty ABCD Port Switch	31.50
Maxnifty Stereo Music System	54.00
Maxnifty A/B Switch	21.50
KOALA TECHNOLOGIES	
Mac Vision	167.00
Kat	131.00
KRAFT	
Quick Stick	44.00
MACADAM PUBLISHING	
Windowware Phone Book	29.95
Windowware Calendar	29.95
MAGNUM SOFTWARE	
Mouse Mover	12.00
MEGAHAUS	
Meagdesk	58.75
MICRORAIN	
Mac Station II	69.00
MICROSOFT	
Mac Enhancer	152.00
MJ ELECTRIC	
Mac Guard	54.50
MPH COMPUTERS	
Mac Be Cool	96.00

NEW IMAGE TECHNOLOGIES

Magic Digitizer	275.00
Mac Tote	59.00
PRACTICAL COMPUTER APPLICATIONS	
Mac Backup	47.00
SOUTH BAY SYSTEMS	
Mouse Pad	9.00
SUPEREX	
Mac Speak	14.00
T MAKER	
Click On Worksheet	45.50
THUNDERWARE	
Thundercan	166.00
VIDEO 7	
Mouse Stick	35.50

BLANK DISKS

BASF 3 1/2 SS/DD	10.00
BASF 3 1/2 DS/DD	14.00
Verbatim 3 1/2 SS/DD	20.50
Elephant 3 1/2 SS/DD	18.50
Fuji 3 1/2 SS/DD	17.50
Maxell 3 1/2 SS/DD	16.50
Memorex 3 1/2 SS/DD	20.00
Sony 3 1/2 SS/DD	15.00
Sony 3 1/2 DS/DD	26.00

COMMUNICATION SOFTWARE

APPLE COMPUTER	
Mac Terminal	CALL
COMPUERVE	
Compuserve Starter Kit	18.00
DATAVIZ	
Mac Link	58.00
Mac Link W/Cable	90.00
DILITHIUM PRESS	
PC to Mac & Back	75.75
DOW JONES SOFTWARE	
Straight Talk	57.00
DREAMS OF THE PHOENIX	
Mouse Exchange BBS	24.00
Mouse Exchange Terminal	24.00
HAYES MICROCOMPUTING	
Smartcom II	83.00
MAINSTAY	
Telescope	74.00
Polantr	2.00
In Touch	73.00

SOURCE ON LINE

Source On-Line Info Network	22.00
VIDEX	
Mail Center for Six	265.00
Mail Center for Two	168.00
AEGIS	
Mac Mail Apple Talk	34.00
Mac Mail Telecom	34.00
HABA SYSTEMS	
Haba Dialer	19.00
Haba Dialer/Window Dialer	42.00
Haba Cam	42.00
INTERMATRIX	
Phone Link	16.00
SOUTHEASTERN SOFTWARE	
Mac Transfer	28.00

MODEMS

APPLE COMPUTER	
Apple Personal Modem 300/1200	CALL
COMPUABLE	
Cable Mod to Hayes	15.50
HAYES MICROCOMPUTING	
Interbridge	CALL
Smartmodem 1200	355.00
Smartmodem 2400	570.00
Smartmodem 300	128.00
Transtet	255.00
Transtet 1000 512K	265.00
Transtet/Mac Acc. Kit	27.00
KENSINGTON	
Portable Modem 300 Baud	85.00
MICROCOM	
Mac Modem 2400 W/Software	553.00
Mac Modem 1200 W/Software	385.00
NOVATION	
Cat Comm Communication System	274.00
Novation 2400 Baud	CALL
PRENTICE	
Popcom X 100	253.00
PROMETHEUS	
Promodem 1200 W/Mac Software	318.00
US ROBOTICS	
Courier 2400	380.00
Password 1200	195.00

PRINTERS

APPLE COMPUTER	
Laserwriter	CALL
Imagewriter	CALL
Imagewriter 15	CALL

Imagewriter II 32K Buffer	77.00
Imagewriter II Cut Sheet Feed	160.00
BROTHER	
Hr 35	CALL
HR 25	CALL
HR 15 XL	317.00
EPSON	
AP-80	CALL
DX 10	CALL
LX 80	205.00
LX 90	CALL
DX 20	CALL
LQ 800	CALL
LQ 1000	CALL
LQ 1500	CALL
SO 2000	CALL

JUKI	
6100S	375.00
5510S	449.00
6300S	639.00
NEC	
Elit 360	376.00
OKIDATA	
1935 Mac/Lisa	CALL
1925 Mac/Lisa	CALL
TOSHIBA	
351	1020.00
1340	390.00
351 Tractor	150.00

DISK DRIVES

APPLE COMPUTER	
Macintosh Hard Disk 20MB	CALL
Mac 512K	CALL
Mac +1 Meg	CALL
Mac External 800K Drive-Apple	CALL
CORVUS	
5.5 MB Mac Omnidrive	979.00
Omni Talk	275.00
45.1 MB Mac Omnidrive	3399.00
11.1 MB Mac Omnidrive	1379.00
21.6 MB Mac Omnidrive	1959.00
HABA SYSTEMS	
Haba Disk 800KB	240.00
IOMEGA	
5 MB Cartridge-Iomega	38.00
Head Cleaning Kit-Bernoulli	56.75
Bernoulli Box 5MG	1290.00

SIVE MACINTOSH E BEST PRICES!!!

PRICE BY \$1

Inside Macpaint	12.50
Presentation Graphics	12.50
Lotus Guide to Jazz	12.50
Printed Word The	12.50
Macintosh Software Book of	12.50
Multiplan Book-Microsoft	12.50
Inside Macproject	12.50
Macwork Multiplan	12.50

EDUCATIONAL SOFTWARE

ADDISON WESLEY	
Smart Eyes	34.00
ATI	
How to Use Multiplan	38.00
Mac Coach	38.00
Teach Yourself Excel	38.00
Teach Yourself Jazz	38.00
BRAINPOWER	
Powermath	50.00
Chipwits	25.00
Thinkfast	20.00
CADME	
Nutcalc	47.00
DAVIDSON AND ASSOCIATES	
Spell It	26.75
Word Attack	26.75
Math Blaster	25.00
Speed Reader II	35.00
FIRST BYTE	
Smooth Talker	47.00
Kidtalk	38.00
Spelltr Bee	38.00
FORETHOUGHT	
Typing Intrigue	28.00
FORTNUM SOFTWARE	
Mac Chemistry	88.00
GREATWAVE SOFTWARE	
Concertware +	35.00
HARVARD ASSOCIATES	
Mac Manager	35.00
HAYDEN SOFTWARE	
Music Works	44.00
Turbo Turtle	34.00
HIPPOPOTAMUS SOFTWARE	
Hippo Computer Almanac	17.50
MARK OF THE UNICORN	
Professional Composer	234.00

MICROSOFT	
Entrepreneur	28.50
Learning Multiplan & Chart	36.00
PALANTIR	
Mac Type	24.00
Word Play	25.00
Math Flash	25.00
QUEUE INTELLECTUAL SOFTWARE	
Starting a New Business	43.00
RUBICON PUBLISHING	
Song Painter	CALL
Deja Vu-Rubicon	21.75
SCARBOROUGH	
Mastertype	22.00
Run for the Money	12.00
Make Millions	28.00
SIMON & SCHUSTER	
Mac Art Department	23.00
Typing Tutor III	30.50
Paper Airplane Construction SE	22.50
SPECTRUM HOLOBYTE	
Tellstar Astronomy Program	25.00
Tellstar Astronomy Level II	40.00
SPRINGBOARD	
Art a la Mac People + Places	21.00
Art a la Mac Variety Pack	21.00
TERRAPIN	
Mac Logo	63.00
THINK EDUCATIONAL	
Mac Edge II	25.00
Mind Over Mac	25.00
Mac Edge +	25.00
TIMWORKS	
Evelyn Wood Dynamic Reader	34.00

ENTERTAINMENT

ACTIVISION	
Alter Ego-Male	34.00
Mindshadow	23.00
Borrowed Time	25.00
Championship Star Baseball	19.00
AEGIS	
Pyramid of Peril	21.00
Mac Challenger	20.00
Red Flag	21.00
ANN ARBOR SOFTWARE	
Grid Wars	21.00
Lunar Explorer	29.00

AXLON	
Mac Match	29.00
BLUE CHIP SOFTWARE	
Squire	27.00
Baron	27.00
Tycoon	27.00
Millionaire	27.00
BRAINPOWER	
Torpedo Run	27.00
BRODERBUND	
Cyborg	22.50
Ancient Art of War	25.50
Lode Runner	22.50
CBS SOFTWARE	
Murder By The Dozen	15.00
CHALLENGER SOFTWARE	
Legacy	26.00
CREIGHTON DEVELOPMENT	
Mac Command	17.00
ELECTRONIC ARTS	
Pinball Construction Set	25.00
Deluxe Music Construction Set	30.00
One on One	25.00
Skyfax	CALL
EPYX	
Rogue	22.50
Temple of Apshai Trilogy	22.50
Winter Games	22.50
EXPERT SYSTEMS	
Mac Gammon	15.50
GENERAL COMPUTER COMPANY	
Ground Zero	23.50
HAYDEN SOFTWARE	
Word Challenge II	22.50
Sargon III	26.00
Perplex	22.50
Masterpieces	22.50
Holy Grail	28.00
Computer Novel Construction SE	28.00
HENDERSON ASSOCIATES	
Real Poker	18.00
HIPPOPOTAMUS SOFTWARE	
Hippo Jokes & Quotes	17.00
INFOCOM	
A Mind Forever Voyaging	25.00
Cutthroats	22.00
Deadline	27.00
Enchanter	22.00
Hitchhikers Guide to the Galaxy	22.00
Infidel	25.00

Planetfall	22.00
Seastalker	22.00
Sorcerer	25.00
Spellbreaker	27.00
Starcross	27.00
Suspect	25.00
Suspended	25.00
Wishbringer	22.00
Witness	22.00
Zork I	22.00
Zork II	25.00
Zork III	25.00
KASTEL TECHNOLOGY	
Trivia Savant	22.00
MAGNUM SOFTWARE	
Gypsy	22.75
MARK OF THE UNICORN	
Mouse Stampede	19.50
MILES COMPUTING	
Mac Wars	25.00
Mac Attack	25.00
Fusillade	19.50
Overlords	30.00
Harrier Strike Mission	25.00
MINDSCAPE	
James Bond A View to a Kill	22.00
Rambo	22.00
Balance of Power	28.00
Bratocuss	28.00
Ractor	24.50
Deja Vu-Mindscape	28.00
Stephen Kings The Mist	22.00
Goldfinger	22.00
Dick Francis-High Stakes	22.00
MIRAGE CONCEPTS	
Trivia	11.50
NEWSOFT	
New Gammon	18.50
ORIGIN SYSTEMS	
Ultima III	36.00
PBI SOFTWARE	
Fokker Triplane	34.00
Strategic Conquest	28.50
Feathers & Spore	20.75
PENGUIN	
Crimson Crown	22.50
Graphics Magician	44.50
Pinsate	22.50
Transylvania	22.50
Xyphus	22.50
Quest	22.50

PRACTICAL COMPUTER APPLICATIONS	
Mac Golf	33.00
PROFESSIONAL SOFTWARE	
Trivia Fever Volume II	12.00
Super Sports Trivia	15.00
Trivia Fever	20.00
PSION	
Pision Chess	30.50
PRIORITY SOFTWARE	
Forbidden Quest	19.00
Gateway	24.00
SIERRA ON LINE	
Ultima IV	33.50
Frogger	21.50
Championship Boxing	21.50
SILICON BEACH SOFTWARE	
Enchanted Scepters	20.00
Airborne	18.00
SIR TECH	
Wizardry I	32.00
SOFT LIFE	
Mac Slots	25.00
SPECTRUM HOLOBYTE	
Gato	24.50
Orbiter	25.00
STRATEGIC SIMULATIONS	
Gemstone Warrior	19.50
Computer Baseball	21.00
SYNAPSE	
Brimstone	25.00
Essex	25.00
Mindwheel	25.00
TELARIM	
Dragon World	25.00
Amazon	25.00
Fahrenheit 451	25.00
Rendezvous with Rama	25.00
UNICORN SOFTWARE	
Futura	23.00
Utopia	23.00
VIDEX	
Mac Checkers & Reversi	17.200
Mac Vegas	32.00
Funkpak	21.00
Mac Gammon & Cribbage	26.00

ANY COMPARABLE ADVERTISED

MICROSOFT PRESS	
Mac Work Mac Play	12.50
Macinations-Microsoft	12.50
Apple Macintosh Book	12.50



THE LOOK OF PASCAL

LAST MONTH WE LOOKED AT PROGRAMMING the Macintosh in Pascal. Using *TML (MacLanguage Series) Pascal*, we started creating a "Shell" program. We left that program when it contained the basic routines required to open a window and create menus for an application. Now we'll continue examining the same Shell program and see how an application will actually manipulate the windows and menus that have been created.

This article uses the program listing from last month's article. If you do not have access to this article, you can get the listing from the Macintosh Users section of CompuServe's MAUG forum (keyword: MACUS). The file name is MUSHELL.PAS and it's found in DL3.

Understanding the method of programming on the Macintosh requires understanding the philosophy behind the Macintosh User Interface. A Mac application is expected to be driven by the user. All the menus that appear in another computer's modes, appear in the Mac's menu bar. Data from different files will usually appear in

The Shell program meets the Mac interface.



separate windows. This means that Mac programs must be able to respond to any number of inputs from the user in a fairly random fashion.

On another computer, in order to save a file the user must first use commands to get into the file maintenance mode of the program. At this point only the menu which allows loading, saving and deleting files (on that disk) will appear on the screen. This simplifies life for programmers, since the user will only be allowed to perform functions that are given in that menu. With the Macintosh, on the other hand, the user might be editing a file, and save the work while the document remains visible on the screen. Since all of the menus appear at once on the

Macintosh, programmers are faced with having to have their software ready to respond to any user input at any time. To do this the Mac uses an Event Manager.

In the Shell program, the third procedure that is called in the main program block is called *MainEventLoop*. This procedure is relatively small and only does a few things, but it serves as the control center of a Macintosh application. Note that there are two variables declared. The first is *Event*, which is an *EventRecord* containing information passed by the Event Manager for use by the application. The second is *ProcessEvent*, which is a Boolean variable. *MainEventLoop* itself is a *repeat..until* structure that continues to loop until the global variable *Finished* is set to *True*. Inside this loop the first routine called is the Toolbox routine *SystemTask*. This procedure calls the Desk Manager, which handles updating desk accessory windows and also tells desk accessories to do whatever regular functions they are to perform. *SystemTask* needs to be called frequently by the program in

by Steven Martin

THE LOOK OF PASCAL

order to allow desk accessories to work properly in the program; once each time through the `MainEventLoop` should be sufficient.

The next routine called is the Toolbox function `GetNextEvent`, which takes two parameters: an `Eventmask` and a variable `EventRecord`. The `Eventmask` is an integer value with bits set to tell the Event Manager which events we want it to pass back to us. For example, we could mask out any keydown events if our program does not handle key presses by the user. In general, it is best to let the Event Manager pass all events to the program; if we don't want to handle certain events, we can just leave them alone. The constant `EveryEvent` is predefined by the compiler to be equal to the hexadecimal number `$FFFF`. Our own variable, `Event`, is passed to `GetNextEvent` which will return the value of the next event. `GetNextEvent` returns a boolean value of `True` if there was an event to be handled, and `False` if not. The variable `ProcessIt` is set to this value so that we can tell if we need to handle any events during this pass of the loop.

WHAT EVENT?

The Pascal type `EventRecord` is defined as follows:

```
EventRecord = Record
  What:      Integer;
  Message:   LongInt;
  When:      LongInt;
  Where:     Point;
  Modifiers: Integer;
End;
```

If there has been a new event in `MainEventLoop` first look at what event it was with `Event.what` in a `Case` statement. There are several predefined constants that match certain events that occur. The Shell program handles four events: `mouseDown`, if the mouse button has been pressed; `keyDown`, if a key has been pressed; `activateEvt` (Activate event), if a window has been activated; and `updateEvt` (Update Event), if one of our windows has been moved and needs to be updated. Note that `SystemTask` handles the updating of any desk accessory windows so the program need not worry about those.

The program has four procedures defined to handle each of the different events. These are appropriately called `DealwthMouseDown`, `DealwthKeyDown`, `DealwthActivate` and `DealwthUpdate`. To each of these routines we pass the current `Event` so that they can be told what to do.

MOUSING AROUND

The procedure `DealwthMouseDown` must first find out where the mouse was when the button was pressed. This information is held in the `Event.where` variable, which is a `QuickDraw Point`. While this gives us the absolute location of the mouse on the screen, we need to know exactly what was under the mouse when it was pressed. This could be very difficult to find out when windows are being moved around. However, the Toolbox function `FindWindow` will help us out. `FindWindow` accepts two parameters: the first is a point where the mouse button was pressed at, and the second is a variable of type `WindowPtr`, which `FindWindow` returns to identify which window was pointed to. `FindWindow` also returns an integer that provides information on exactly what object the mouse was over when it was pressed. Again, several predefined constants are available so that we can use a `Case` statement to determine what to do:

`inMenuBar` events are passed to our procedure `ProcessMenuIn`. This routine accepts one parameter, which is of type `LongInt`. Use the Toolbox routine `MenuSelect` to convert the mouse location point into a `LongInt` holding the information about the menu selection. `ProcessMenuIn` then converts this number into the `Menu` number of the particular menu selected, and the `Item` number of the item under the menu selection. This information is then used in a `Case` statement.

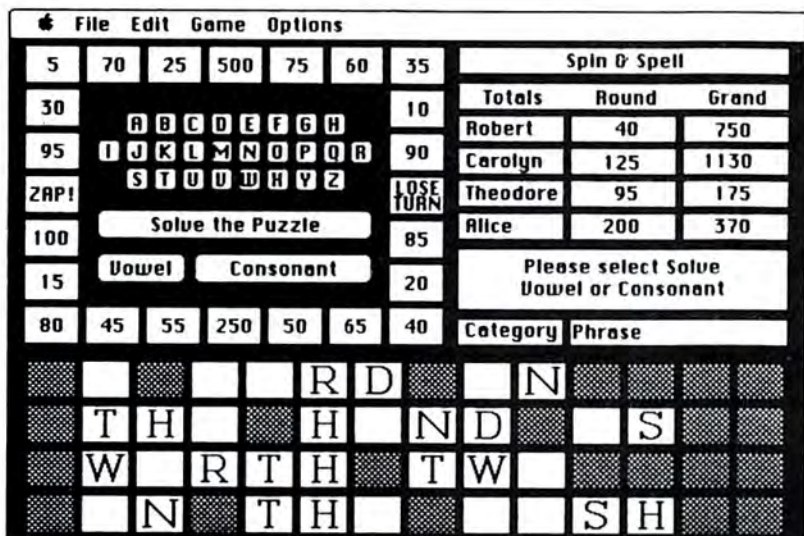
The Shell program has only two menus: the Apple menu and the File menu. The only selection under the File menu is `Quit`, which is used to set the boolean variable `Finished` to `True` so that `MainEventLoop` will terminate the program. The Apple menu will be used to select desk

accessories by using the Toolbox routine `GetItem` which returns the name of the desk accessory selected, and then calling `OpenDeskAcc` with that name, which causes the Desk Manager to do all of the necessary functions to create a desk accessory's windows and menus. Finally, after `ProcessMenuIn`'s `Case` statement is completed, we call `HiliteMenu` with a value of zero which will cause any highlighted menu titles to be turned off.

`inSysWindow` occurs if the mouse down occurs in a desk accessory window. To handle such events we only have to call the Desk Manager routine `SystemClick` with parameters that tell it the event and which window the event took place in. The `System` then takes care of handling the desk accessory.

`inContent` happens if the mouse was pressed over the application window's content area. If that is not the window currently in the front (or active), use the Toolbox routine `SelectWindow` to move it to the front and activate it. Whatever window was in front is moved behind that window and deactivated.

`inGrow` means that the mouse-down happened in the grow icon of the window. If the window wasn't active, then we simply make it so with `SelectWindow`. If it was, then we call our routine to resize the window. `ReSizeWindow` takes two parameters: a `WindowPtr` to tell it which window to resize, and a point which contains the information about where the mouse was when pressed. The first procedure called by `ReSizeWindow` is `GrowWindow`. This Toolbox routine displays an outline of the current window. `GrowWindow` takes three parameters: the `WindowPointer` of the window being resized, the point where the mouse was to start with and the `GrowArea` rectangle defined in `SetUpLimits`, which describes the area of the screen where the window will be allowed to grow in. `GrowWindow` returns a `LongInt` that contains the window's new height in the high word, and the new width in the low word. If this `LongInt` is equal to zero, then the window size was not changed and nothing need be done.



SPIN & SPELL

- A challenging word game for the entire family.
- Complete with puzzles and categories
- Create your own puzzles and categories with the built in puzzle maker.
- Exciting Family fun for up to 4 players
- Includes grade school level puzzle set.



Software designed with you in mind.

Southeastern Software

7743 Briarwood Drive
New Orleans, LA 70128

504/246-8438
504/246-7937

Dealer inquiries invited.

\$39.95



We accept Visa and M/C

For Free Information
Please Circle 260 On Reader Service Card.

MacBufferTM

The First Print Buffer System for the Macintosh that Really Works, Saves Time, and is Available Now.

Tired of your Mac waiting for the Imagewriter throughout the day? MacBuffer is the solution that works. MacBuffer controls the printer leaving the Mac free to use. MacBuffer's 256K, 512K, or 1 Megabyte of memory, and a super fast data transfer rate can improve your productivity up to 400%. MacBuffer comes with all cables, ready to install. Other features include:

- Compatible with existing Macintosh software and Imagewriter I and II
- Two Macs can share one MacBuffer and printer
- Local Copy and Single Sheet Modes.

Based on either price or performance, MacBuffer is unequalled. For more information see your local Apple dealer or contact Ergotron, Inc.

ERGOTRON inc

P.O. Box 17013 • Mpls., MN 55417 • (612) 854-9116 • 800/328-9839

Ergotron and MacBuffer are trademarks of Ergotron, Inc.



For Free Information
Please Circle 183 On Reader Service Card.

THE LOOK OF PASCAL

When the window is resized the *System* will have to update the scroll bar areas; therefore, *ReSizeWindow* calls the routine *Update_Scroll_Bar_Area* which uses the Toolbox routine *InvalRect* to erase the scroll bars (each 16 pixels across by convention) and signal the Window Manager to draw new scroll bars during the next *Update* event. Next, the Toolbox procedure *SizeWindow* is called to actually resize the window on the screen. *SizeWindow* accepts four parameters: a *WindowPtr* to the window being sized, the new Height and Width of the window, and a boolean flag which we set to true if we want an *Update* Event to be forced on the Event Queue. This finishes the routine to resize a window.

inDrag is a *MouseDown* event in the drag region (usually known as the window's title bar). It is handled by a call to the Toolbox routine *DragWindow* that takes three parameters: a *WindowPtr* to identify which window is being moved, a point which references where the mouse was when the drag began, and the program's global rectangle *Drag Area*, which was defined by *SetUpLimits*. *DragWindow* causes an outline of the window to be moved around the screen according to the movements of the mouse, until the button is released. If the mouse cursor is outside of the area defined by *DragArea*, then the window will not be moved.

The last *MouseDown* event is *inGoAway*, which means the mouse button was pressed while in the Close box of a window. To handle this event the Toolbox function *TrackGoAway* is called. It has two parameters: the *WindowPtr* and the position of the mouse when it was pressed. *TrackGoAway* does nothing until the mouse button is released. If the mouse is not in the Close box when the button is released, then *TrackGoAway* returns the value of False. If the mouse button is still in the Close box, then *TrackGoAway* returns True and the program calls *DisposeWindow* with the *WindowPtr* of the active window. *DisposeWindow* releases the memory used by the Window and takes the

window off of the screen, causing the next window down to become the active window.

KEYBOARD EVENTS

Keyboard events are handled by the routine *DealwithKeyDowns*. Since this program does not handle any text editing, the only keydowns that need to be handled are command key equivalents for menu selections. The value of the key pressed is held in the low order byte of the *Event.message* field. We use the standard function *CHR(Event.message MOD 256)* to find out what character it is. The *Event.modifiers* field contains information about which special keys might also have been pressed. These include the *OPTION* and *COMMAND* keys. To find out which one has been pressed use the Toolbox utility routine *BitAnd*, which takes the bitwise *AND* of two parameters passed to it. To find out if the *COMMAND* key bit was set the global constant *CmdKey* has been provided in the compiler. If *BitAnd(Event.modifiers, CmdKey)* does not equal zero, then the *COMMAND* key was pressed and we call the *ProcessMenuIn* routine to handle the menu selection. But first, in order to know what menu has been selected use the Toolbox function *MenuKey* which takes the value of the character pressed, and returns the *LongInt* code that tells us which menu was called for.

Since the program does not handle text editing, we won't concern ourselves with any key presses that did not include the *COMMAND* key.

GETTING ACTIVE

DealwithActivates is called if the application's window has been made the front window. In this case the value of *Event.message* will contain the Window pointer of the window being activated. Since the *Event.message* field is a *LongInt*, use type coercion to convert to a variable of type *WindowPtr*. Once we know which window it is, we can call *DrawGrowIcon* to redraw the grow box icon in the window's lower right corner.

Next, it is important to realize that an *Activate* event occurs when either

a window is being activated or deactivated. To find out which is happening look at the *Event.modifiers* field. If this is odd, then it is an activation. If it is even, then it is a deactivation. For the Shell program we deal simply with the activate event by calling the Toolbox's *SetPort* routine with the *WindowPtr* to cause all subsequent *QuickDraw* graphics work to be directed to the window. At this stage, don't worry about deactivating the window.

THE LATEST UPDATE

The last event handled by the *MainEventLoop* is *Updates*. This event is called whenever the system determines that a portion of the window needs to be redrawn. This can occur if a window that was above the active window has been moved or closed.

DealwithUpdates gets the pointer to the window from *Event.message* in the same way that *DealwithActivates* did. In order to update the window we must call some *QuickDraw* drawing routines. However, ours may not be the frontmost window. Therefore, call the procedure *GetPort* which saves the currently active window's pointer in a temporary variable, and then call *SetPort* with our window's pointer so that *QuickDraw* routines will be sent there.

Before the window can be redrawn, call the Toolbox procedure *BeginUpdate*. This will ensure that only those portions of the window that are visible, and need updating, are actually drawn. All that the window contains is a blank rectangle with a Grow icon. Therefore, call *EraseRect* and *DrawGrowIcon* to make the window look right. After that call *EndUpdate* to tell *QuickDraw* that we are finished, then reset the active window to the one we have stored in *TempPort* by calling *SetPort(TempPort)*.

That's all for this month. What we covered here will find application in virtually all Mac programs. Next month we'll start customizing the Shell by adding voice routines using *MacinTalk*.
Steven Martin is a Denver-based programmer and author.

Joe MacOwner has opened the page
to an unusual sight. A simple line that reads:
"5% DISCOUNT ON ALL SOFTWARE DURING THE MONTH OF AUGUST!"
Mr. MacOwner is about to make a connection into a new dimension
of satisfaction. The connection will be made in



We carry over 780 products for MacIntosh owners.
Some brands available are:

ABVENT
ACTIVISION
AEGIS DEVELOPMENT
AFFINITY
ALDUS CORP.
ALLEGRO SOFTWARE
ALSOFT
ALTSYS
AMERICAN COVERS
AMERICAN EDUCATIONAL
AMERICAN SOFTWARE
ANCHOR AUTOMATION
ANN ARBOR SOFTWARES
APPLIED IDEAS
APPLIED MICRO SYSTEMS
ARRAYS CONTINENTAL
ARTSI
ARTWORX
ASSIMILATION
AUTOMATION FACILITIES
AXLON INC.
BANTAM SOFTWARE
BATTERIES INCLUDED
BECK TECH
BLUE CHIP
BLYTHE SOFTWARE
BORLAND
BOSTON SOFTWARE
BRAINPOWER
BRODERBUND
BUTTON DOWN SOFTWARE
C-ENTERPRISES
CAMDE CORP.
CASADY
CBS SOFTWARE
CENTRAL POINT SOFTWARE
CENTURY SOFTWARE
CHALLENGER SOFTWARE
CHANG LABS
COMPSERVO
COMPUFACT
COMPUTER FRIENDS
COMPUTER SOFTWARE DESIGN
CONCEPTUAL INSTRUMENTS
CONSULAR
CONTINENTAL
COUNTER POINT
CREATIVE SOLUTIONS
CREIGHTON DEVELOPMENT
CRICKET SOFTWARE
CRYSTAL CANYON COMPUTING
CURTIS
D2 SOFTWARE
DATA & INFORMATION
SOFTWARE
DATA SPACE
DATA VIZ
DATAFOOD
DATALOGICA
DATAPAK SOFTWARE
DATASOFT
DAVIDSON & ASSOC.
DAYNA COMMUNICATIONS
DESKTOP SOFTWARE
DEVONICS
DIABLO VALLEY DESIGN
DIGITAL ETC. SOFTWARE
DILITHIUM PRESS
DIVERSIONS INC.
DOUBLE-CLICK SOFTWARE
DOW JONES & COMPANY
DREAMS OF THE PHOENIX
DRUID
ELECTRONIC ARTS
EMERGING TECHNOLOGIES
ENABLING TECHNOLOGIES
ENTER SET

ENVIRONMENTAL
SOFTWARE CO.
EPYX
EQTRON
EREZ
ERGOTRON
ERIC SOFTWARE
ESOF ENTERPRISES
EXPERT SYSTEMS
EXPERTELLIGENCE
FIRST BYTE
FLIP TRACK LEARNING
FORETHOUGHT
FORTNUM SOFTWARE
FOUNDATION SYSTEMS
FUTURE DESIGN SOFTWARE
FVB SOFTWARE
GREAT PLAINS SOFTWARE
GREAT WAVE SOFTWARE
GREEN JOHNSON INC.
GTCC DIGITIZER
HABA SYSTEMS
HARRIS TECHNICAL SYSTEMS
HARVARD ASSOCIATES
HAYDEN SOFTWARE
HAYES
HEIZER SOFTWARE
HENDERSON ASSOC.
HIPPOPOUTAMUS SOFTWARE
HUMAN EDGE
HUMAN TOUCH
IDEAFORM
IMAGE
INFOCOM

5% DISCOUNT
on all
software

during the month of August.
See our July ad in MacUser for a
partial listing of our prices.

INFOSPHERE
INLAND DATA
INNOVATIVE DATA DESIGN
INNOVATIVE TECHNOLOGIES
INTERMATRIX
IOMEGA
JAM SOFTWARE
JASIK DESIGNS
KALMER DESIGNS
KENSINGTON MICROWARE
KETTE GROUP
KNOWLEDGE ENGINEERING
KOALA
LAYERED
LEGISOF/NOLO PRESS
LIVING VIDEO TEXT
MAC PACKS
MACWARE
MAGNA
MAGNUM SOFTWARE
MAINSTAY
MAINSTREET SOFTWARE
MANHATTAN GRAPHICS
MANX
MARK OF THE UNICORN
MDIDEAS INC.
MEACOM
MEGAHAUS
MEGAMAX INC.
MEMOREX
MICA

MICRO ANALYST
MICRO-W
MICROMAX SYSTEMS
MICROPLANNING
MICROSOFT
MICROSPOT
MILES COMPUTING
MINDSCAPE
MIRAGE CONCEPTS
MIRROR TECHNOLOGIES
MONOGRAM
MOUSE PAD
MOUSE SYSTEMS CORP.
MOUSE TRAK
NEVINS MICROSYSTEMS
NEW CANAAN MICRO CODE
NEW IMAGE TECHNOLOGY
NEW SOFT
NORELL DATA SYSTEMS
ODESTA
OMNITREND SOFTWARE
OPEN SYSTEMS
ORGANIZATIONAL
DEVELOPMENT
PALADIN SOFTWARE
PALANTIR SOFTWARE
PALO ALTO SHIPPING CO.
PARADISE SYSTEMS
PARAGON COURSEWARE
PBI SOFTWARE
PCPC
PEACHTREE
PENGUIN
PERIPHERALS, SUPPLIES & C
PERSONAL BIBLIOGRAPHIC
POLARWARE
PRACTICAL COMPUTER
APPLICATIONS
PRENTICE
PROFESSIONAL SOFTWARE
PROTHEUS
PROVUE
PRORITY SOFTWARE
PSION
QUEUE INTELLECTUAL
SOFTWARE
RING KING
RUBICON PUBLISHING
SATORI
SCARBOROUGH
SCREENPLAY
SHAPE CHANGER SOFTWARE
SIERRA INFORMATION
SIERRA ON-LINE
SILICON BEACH SOFTWARE
SIMON & SCHUSTER
SINGULAR SOFTWARE
SIR TECH
SMB DEVELOPMENT ASSOC.
SOFTSTYLE
SOFTSYNC
SOFTVIEW
SOFTWARE PUBLISHING
SOFTWARE VENTURES
SONY
SPECTRUM HOLOBYTE
STATE OF THE ART
STATSOFT
STONEWARE
STRATEGIC
SUMMAGRAPHS
SUNCOM
SYMMETRY CORP.
SYNAPSE
T-MAKER
TARGET SOFTWARE
TECHNICAL SERVICES
TECMAR

TELARIUM SOFTWARE
TELOS
TESSERAET SOFTWARE
THE FREESOFT CORP.
THINK EDUCATIONAL
SOFTWARE
THUNDERWARE
TIMEWORKS
TOM PROGRAMS
U.S. ROBOTICS
VCS
VERBATIM
VIDEX
VISICORP
WILLIAM C. BROWN CO.
ZEDCOR INC.

SUPER SPECIALS

SONY DISKETTES

Single sided
box/10 18.00

Double sided
box/10 27.00

FANNY MAC

With surge
suppressor 75.00

CIE TERMINALS

Tri Printer Model 40
Prints 350 CPS Data
Processing & 240 x 144
DPI Graphics .. 1452.00

HARDWARE SPECIALS

5% discount not included on these
products.

AST RESEARCH

AST-4000 74MB Ext. HD/60MB
back-up tape 4895.00

CORVUS

11 meg Hard Drive 1550.00
21 meg Hard Drive 2300.00
45 meg Hard Drive 3800.00
126 meg Hard Drive 6600.00

IOMEGA

Bernoulli Box;
10 meg SCSI 1765.00
2-10 meg File Server 2455.00
2-10 meg SCSI 2475.00
2-20 meg SCSI 3145.00
20 meg SCSI 2345.00

LODOWN

10 meg SCSI 689.00
20 meg SCSI 890.00
40 meg SCSI 1790.00
80 meg SCSI 3490.00
20 meg back-up tape 790.00
60 meg back-up tape 1590.00

MDIDEAS, INC.

HD-20 Hard Drive/SCSI
Port 830.00
HD-30 Hard Drive/SCSI
Port 1190.00

MICAH

20 meg Internal HD 1250.00
MIRROR TECHNOLOGIES
20 meg back-up tape 845.00
400K Drive 165.00
800K Drive 260.00

85 meg External HD 2990.00
Magnet 20 meg Int. HD. 1119.00
Magnet 20 meg Ext. HD. 969.00
PCPC
MacBottom 10 meg 795.00
MacBottom 20 meg 1075.00
SUMAGRAPHS
12 x 12 Tablet 349.00
U.S. ROBOTICS
Password 1200 Modem CALL

ORDERING INFORMATION

We accept VISA, MASTERCARD,
and AMERICAN EXPRESS

To order, call us any time Monday
thru Saturday 6:00 AM to 6:00 PM
Pacific Standard Time. For fast deli-
very if ordering by mail, send cash-
ier's check, certified check or money
order. Fortune 1000 and Govern-
ment checks honored immediately.
Personal and other company checks
allow 2 weeks to clear. Visa, Master-
Card and American Express, in-
clude card number and expiration date.
Washington residents add
8.1% sales tax.

OUR POLICY

★ FREE AIR EXPRESS SHIP-
PING: Purchase \$125.00 or more of
SOFTWARE and for no additional
charge we will ship your products by
air.

★ If we must ship a partial order we
never charge on the shipments that
complete the order.

★ For order status or general infor-
mation on products, call (206)
883-1975.

Hardware/10 day Return Policy. If
you are not satisfied, for any reason
with any HARDWARE component
purchased from The Saving Zone
within 10 days of receipt, we will re-
fund your entire purchase (less
shipping).

SOFTWARE - Due to federal regu-
lations on copying software and
that all products are new and include
factory warranty, ALL SALES ARE
FINAL. Defective software will be
replaced immediately with same
item only. Products purchased in
error will be subject to a 20% re-
stocking fee. ALL RETURNS must
have an authorization number. Call
(206) 883-1975 to obtain one before
returning defective products for re-
placement.

SHIPPING CHARGES:

Software - \$3.00 Minimum charge
U.S. Mainland. With C.O.D. ship-
ments add an additional \$2.50. U.S.
Postal, APO and FPO add 3%
(\$5.00 min.). Alaska or Hawaii add
6% (\$10.00 min.). Canadian orders
add 10% (\$15.00 min.). Foreign
orders, except Canada add 18%
(\$25.00 min.).

Hardware - Please call for shipping
charges.
Not responsible for typographical
errors.

THE SAVING ZONE 7102 180th
AVE NE SUITE A107, REDMOND,
WA 98052

WE CARRY PRODUCTS FOR ALL COMPUTERS.

1-800-248-0800 WA State: 1-800-243-4200; MON.-SAT., 6AM-6PM P.S.T.

ARRIVE IN STYLE!

Omnis Developer Conference Westin Copley Place, Boston August 11-12, 1986 (preceding MacExpo)

Join the rapidly growing number of profitable Omnis developers creating complete business solutions in a fraction of the time of traditional programming. Whether you want to address the office management needs of small business or create a powerful, multi-user, manufacturing inventory control system for Fortune 1000 companies, Omnis 3 Plus is the only tool you'll ever need.

Learn from successful Omnis Developers how to sell your applications into a wide variety of markets including medical, legal, real estate, and retail. Meet with Omnis experts who have developed generic, customizable programs for accounting and sales man-

agement. Compare leading network solutions and top Omnis applications in the exhibit rooms.

Blyth and Apple executives and other industry leaders will address key marketing and technical issues. More than 25 break-out sessions will cover topics ranging from marketing strategies for new companies to the multi-user, networking concerns of large corporations.

With Omnis 3 Plus, your next application will take you less time to create and give you more money to spend. Space is limited so please reserve now. Call or write today for more information.

BLYTH SOFTWARE

Blyth Software, Inc.
2929 Campus Dr., Suite 425
San Mateo, CA 94403
(415) 571-0222

☐ YES. I would like to attend the Omnis Developer Conference. Please send further information.

Name _____

Company _____

Address _____

City _____

State _____ Zip _____

Phone () _____

Mail to:

Blyth Software, Inc.
2929 Campus Dr., Suite 425
San Mateo, CA 94403
Attn: Developer Conference



OMNIS 3 PLUS.
ELEGANCE AND POWER.

TIP SHEET

Monthly tips and techniques that save time and trouble.

Found a trick, shortcut or smarter way to get something done with a program? Share your hints with The Rest of Us by mailing them in to Tips, 25 West 39th Street, New York, NY 10018. We'll pay \$25 for every hint we use, plus we'll print your name and hometown in the magazine. So what are you waiting for? Here's your chance to be rich and famous. Well, at least famous!

SYSTEM

Never use a colon in a filename. Colons are specifically used to separate filenames from volume (disk) names. If a colon is used, the standard file package (either MFS or HFS — the old file system or the new Mac Plus hierarchical system) looks for the file on the volume in front of the colon. No volume of that name results in an error message.

JOHN BOSWYTH, SAN FRANCISCO, CA

GENERAL

For those who don't have new ROMs, and have little or no desire to use HFS, there's an easy way to organize related groups of files for easy access from within an application program. Give a common prefix to each category (e.g., invoices for *MacUser* would be titled MUSER.November, MUSER.December, etc.). In an application's open dialog box, all files within a related group will be listed together.

WALTER SORG, WILLIAMSTON, MI

FINDER

When throwing a program into the Trash from the desktop, the message "Are you sure you want to remove the application X?" inevitably pops up. This feature can be disabled quite easily. If you're using *Finder 4.1*, use *Fedit* or a similar disk editor, search for the hex string "3F05 4EBA 266C 4A1F 660A," and modify it to "3F05 4E71 4E71 4A1F 600A." If you're using *Finder 5.2*, use Apple's *ResEdit*, find and open the LAYO resource, open ID = 128, and one of the options you'll find is "Skip trash warnings." Select the number 1 radio button, and close everything up, saving the changes.

JOEL McNAMARA, SALT LAKE CITY, UT

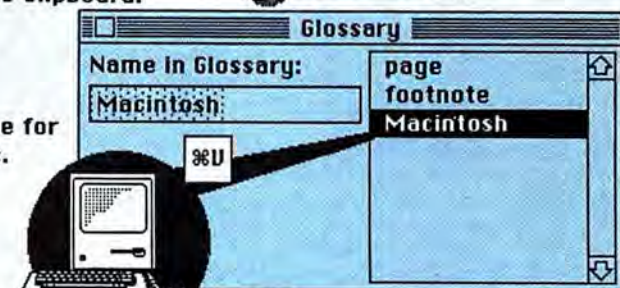
DISKS

Sometimes double-sided disks for the new double-sided disk drives in the Mac Plus fail to initialize on the first try. Here's a solution that works most of the time. Insert the disk, and

1 Copy graphic to Clipboard.

2 Open Glossary.

3 Type a name for the graphic.



4 Paste in graphic.

WORD

Need more space on your *Word* disk? You can get rid of the Scrapbook, since *Word* allows graphics entries to be stored in the Glossary. Create the glossary entry as usual, but instead of

format it as single-sided. When the icon appears on the desktop, select it and choose ERASE DISK from the *Finder*'s Special menu. This time, choose double-sided, and the disk should initialize as such with no problem.

MICKEY PULLEN, FAIRBANKS, AK

JAZZ

Although *Jazz* can load data in a number of formats, it can't export data to other programs in formats other than text. It is possible, though, to load data from a *Jazz* spreadsheet into *Excel*. Save each individual column of data as a text file, and then load each text file into *Excel*, pasting it into its own column. Unfortunately, formula information is not transferred, just the raw data, so you'll have to re-enter the appropriate formulas.

R. STEVEN DELL, DALLAS, TX

EXCEL

There's a fast way to select commands within most dialog boxes in *Excel*. By typing the first letter of a radio button command, that command is selected, without actually clicking the mouse in the button.

GARY LIEBER, GOLETA, CA

pastings in text, paste in a graphic element from the Clipboard. This technique is especially useful for Mac-generated signatures, letterheads, and any other commonly used graphics.

MARVIN BENSMAN, GERMANTOWN, TN

HYPERDRIVE

By using a slash (/) in a drawer name, that drawer can be loaded onto the desktop by pressing the COMMAND key and whatever character immediately follows the slash. For example, to load the "Paint/Draft" drawer, press COMMAND D.

SIOUX ROBERTS, CLEARWATER, FL

IMAGewriter

Using the *ImageWriter* driver 2.1 or 2.2 with the *ImageWriter II*, you can get bidirectional printing, thus decreasing printing time nearly 25 percent. To do this, when in the Print... dialog box, hold down the SHIFT, the OPTION, and CAPS LOCK keys while hitting the OK button.

STUART GITLOW, NEW YORK, NY

Usually, the letters of a font remain the same as the font size gets larger. One case where that's not true is Geneva. The lowercase y in 12-point Geneva has a different descender than the 9-point y, and the two have distinctly different letterforms than the 24-point lowercase y. While this difference is not crucial, you'll get a different y than what appears on the screen in your documents

compiled by David Biedny

Turn Your Mac into an Underground Agent™

Let it transfer information as you sleep.

HELLO. My name is Bond. Bill Bond.

I'm the gentleman who cut the code for the telecommunications program known as Underground Courier™. For a year now members of the Mac Underground™ Information Network have been using Courier to rendezvous with Mac Underground SafeHouses™ throughout the U.S.

Now there's another use for Courier. But before I tell you about it, let's define some of these weird Underground terms.

Bond's Official Underground Glossary for the Un-initiated

Mac Underground • (mack•uhn•dur•grownd): the premier Mac electronic information source with daily industry bulletins, Mac magazine abstracts (article summaries), select public domain software, in-depth product reviews, technological essays and opinion pieces, free member classifieds, member product discounts, demos, games, shareware, fonts, clip-art.

Underground Bishop • (uhn•dur•grownd•bish•ahp): a clear-eyed soul with guts, stamina and determination who operates one of the many Underground SafeHouses scattered across the continent.

Underground SafeHouse • (uhn•dur•grownd say•fowse): 1. The host telecommunication program designed to mate with Courier and allow the rapid transmission of Mac files in all their graphic (etc.) glory; 2. A Mac, a 2400 BAUD modem, and a hard disk housing Mac Underground's daily information (and often additional proprietary data)—operated by a Bishop with a dedicated phone line that Underground members can call and thereby copy files.

Underground Courier • (uhn•dur•grownd cooh•ree•yur): the outrageously simple program used by Underground members to rendezvous with SafeHouses.

Rendezvous • (rahn•day•voo): to make contact with an Underground SafeHouse by using a simple menu selection in Underground Courier.



Mac Underground's own Mr. Bond.

Enter Underground Agent

NOW I can tell you what Underground Agent is: another incredibly easy-to-use telecommunications program from Mac Underground. Jerry Daniels designed it and I created the source code.

Here's How It Works:

- Double click the Agent Icon
- Click on the name of your modem port.
- Click on the name of the folder where Couriers can "Copy" files.
- Click on the name of the folder where Couriers can "Drop" files.
- Turn on your modem and go to sleep.

Agent will send and receive "as is" any file that the Mac can create—graphics, sound, animation, fonts, or applications. Anyone with a Mac, a phone, Courier and your phone number can now copy your published files or send you files WHILE YOU SLEEP, EAT & PLAY.

Become an Agent!

- **Underground Members: \$39.95** includes the Agent software and optional listing in the MU Agent Directory.
- **Non-Members: \$79.90** includes the Agent software, an optional listing in MU Agent Directory, a year's membership in Mac Underground, and a copy of Courier.

• **MAC UNDERGROUND** •
The Macintosh™ Information Source
607 N.Court • Fairfield, Iowa 52556
For orders and questions: (515) 472-9613

Free Brochure or Member Sign-Up:
HOTLINE: 800-328-0184
Minnesota HOTLINE: (612) 566-0221

TIP SHEET


if you print in high-quality (or best) mode on an ImageWriter (I or II). That's because the Mac uses a font twice the selected size (if it's available in the System) to produce high-quality output. Standard output uses the screen font.

MARTIN BEBOS, DALLAS, TX

FontSize	
9 point	y
10	
12	y
14	
18	
24	Y
36	
48	
72	


Geneva has three different lowercase "y" characters: note the descenders on the 9 and 12 point sizes, and the totally different 24 point version.

CHEAPPAIN


 CheapPaint has the ability to access multiple Scrapbook files, much like Multi-Scrap, a popular shareware desk accessory. Unfortunately, scrapbook files created with Multi-Scrap can't be opened directly from CheapPaint. To fix this, use ResEdit or any other program that can change the Type and Creator of a file, open a Multi-Scrap file, and change the type from SCRP to ZSYS, and the creator from MSCR to MACS. The file can now be accessed from within CheapPaint.

FRED TERRY, LAWRENCE, KS

MAC PLUS

 After going into a few folders from within the standard OPEN or SAVE dialog box, you can step back through the tree by clicking on the small disk/volume icon in the upper right side of the dialog box. Each click steps back one level in the tree.

STEVEN MITCHELL, NEW YORK, NY

 Be careful about what you attach to the SCSI port. It might look like a standard RS-232 port, but it isn't.

Macintosh is a trademark of Apple Computer, Inc. Underground Courier, Underground SafeHouse, Underground Agent and Mac Underground are trademarks of Online Publishing Systems, Inc. Mac Underground is a service of Online Publishing Systems, Inc.

For Free Information
Please Circle 106 On Reader Service Card.

TIP SHEET

Putting in a cable that isn't configured for a SCSI device could cause some serious internal damage to the Mac.

JAMES CASEY, NEW HAVEN, CT

MACPAINT

If you hold the SHIFT key down while moving either the screen outline (active window) or the graphics elements in Show Page mode, movement will be constrained to horizontal, vertical and 45 degree diagonal movements.

THOMAS PARR, CHURCH FALLS, VA

APPLETALK

When using AppleTalk, be sure all users have the same version of the print driver (*LaserWriter*, *LaserWriter Prep* and *AppleTalk ImageWriter*). If the *System* discovers different versions active on the same network, it will stop everything and ask for all printers on the network to be restarted (reinitialized).

ERIN ADAMS, LOS ANGELES, CA

LASERWRITER

The LaserWriter can produce great acetates for overhead projectors and also to prepare color separations. The type of acetate used is impor-

tant, as some can't withstand the heat in the LaserWriter, and can melt and damage the hardware. Clear Acetate for Plain Paper Copiers (3M's #503, for example) will do the job.

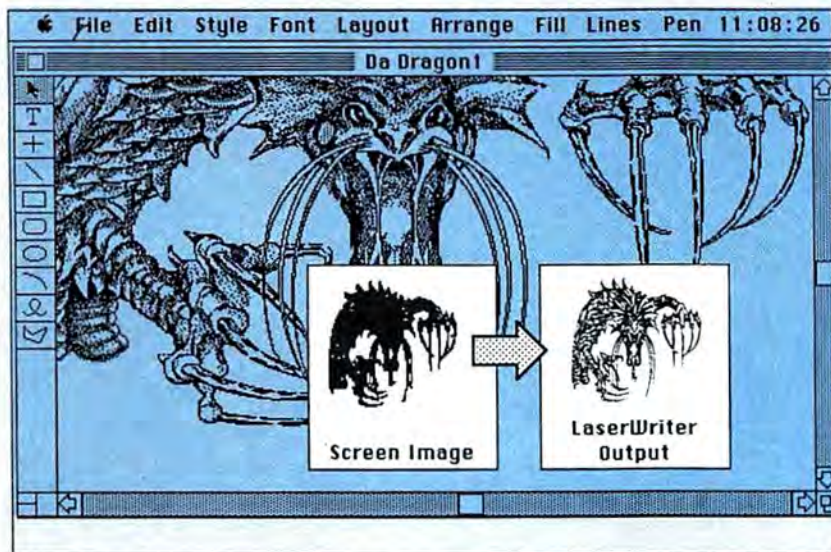
FRED SPAZZOLO, NEW PALTZ, NY

HARDWARE

Most people forget that the Mac has an internal battery (the compartment is located in the upper right side on the back of the machine). The battery will eventually give out (usually after about 2 years or so). The correct replacement battery is Eveready 523BP, Ray-O-Vac RPX21, DuraCell PX21 or Panasonic PX21 (they're all the same 4.5-volt battery). These batteries aren't very common, but can be found in most electronics specialty stores. Some of the larger Mac mail order houses might also have them in stock. The correct list price is around \$4.75 each; don't be suckered into paying a lot more.

LARRY STANLEY, BOULDER, CO

Static can have devastating effects on your equipment. If you happen to "shock" your Mac with static electricity (after an extended feline-petting session or a walk around that new carpeting), the cursor may freeze on the screen. Try disconnecting the mouse from the machine, and then reconnecting it. Many times the cursor will come back to life, and you can save work that may otherwise have been lost. If that doesn't work, then try using command key equivalents to save the current work in progress (for



To tighten up bitmapped (*MacPaint*) graphics on the LaserWriter, draw the object as large as possible in *Paint*, copy the design to the Clipboard, and bring it into *MacDraw*. Once pasted in, GROUP the graphic

(that's not necessary with *MacDraw* 1.9), and shrink it by selecting and dragging any corner handle. Though it becomes muddy on the screen, it will print scaled down with most of the original detail.

SUE KNOFF, LA CROSSE, WI

Developed with
the Power of Omnis 3

P.O.S/Mac The Point-of-Sale System for your Retail Business.

POINT OF SALE

Process Invoices
Prepare Price Quote
Process Payments

Daily Maintenance
Monthly Maintenance
Yearly Maintenance
File Maintenance

Report Processing

System Configuration
Utilities

Invoicing, Inventory Control, Accounts Receivable got you down? Do you wish you could handle bundles, serial numbers, floor plan tracking and sales commissions? Then... P.O.S/Mac is for YOU.

Features include:

- Invoice Preparation
- Price Quote Preparation
- Inventory Control
- Accounts Receivable
- Reports

Suggested Retail Price \$995
Demo Available

Call for Information
(717) 686-5592



Software
Complement

Multi-User version will be available in August 1986.
Requirements: Macintosh 512K or Plus, Omnis3 Runtime, Hard Disk and ImageWriter Printer.

Macintosh is a trademark of Macintosh Laboratory Inc. and is being used with the expressed permission of its owner.
Omnis 3 is a registered trademark of Blyth Holdings Ltd.

For Free Information
Please Circle 263 On Reader Service Card.

TIP SHEET

programs that have command key combinations for saving work). After saving the work, always reboot the Mac, even if everything seems normal.

ALAN GORDON, N. WOODMERE, NY

MACWRITE

To shift-select by word rather than by character, double-click on the first word, then drag the cursor. Text is highlighted word by word, rather than letter by letter. This is particularly useful when trying to select text in scaled or smaller fonts, especially small LaserWriter screen fonts.

RICHARD BILLINGER, SEATTLE, WA

Setting tabs, margins, indentation and line spacing can be quite slow when working with a large document, because *MacWrite* reformats everything under the ruler every time you make a change. To speed up the process, insert a new ruler above the ruler already there, set the formatting to what you want, and then SELECT and CLEAR the ruler beneath it. All underlying text will then reformat to the specifications in the new ruler.

TOM PIOWAR, WASHINGTON, DC

MACINTOSH XL

Holding down the APPLE key while pushing the XL's power switch will restart the machine from the hard disk and return you to the desktop. Using this technique avoids having the reload *MacWorks* into memory. Hold down the OPTION key, push the same power switch, and the XL will boot and prompt you for a floppy disk to start up from.

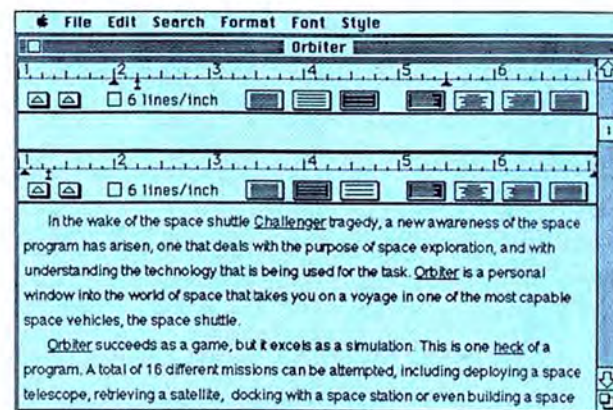
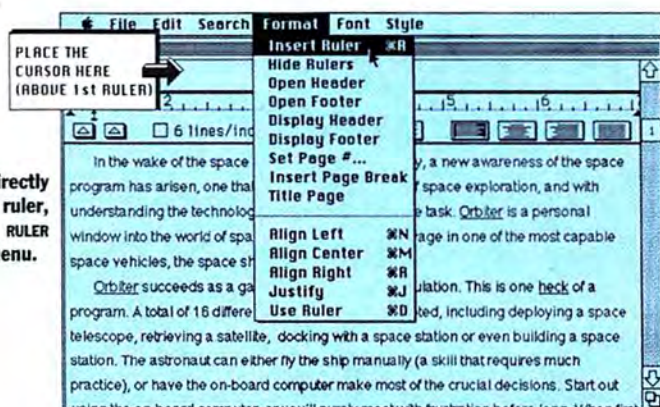
GARY LIEBER, GOLETA, CA

SWITCHER

When the *Finder* is loaded into *Switcher* 4.8+ (if you plan on using the *Finder* under *Switcher*, always load it before anything else), the SHUT DOWN command in the Special menu changes to QUIT (which will release the *Finder*, but not reboot the computer). Also, when ending a *Switcher* work session, the last installed application remains active. When you quit *Switcher* (without quitting the last application), that application will return to the screen, with whatever work was in progress.

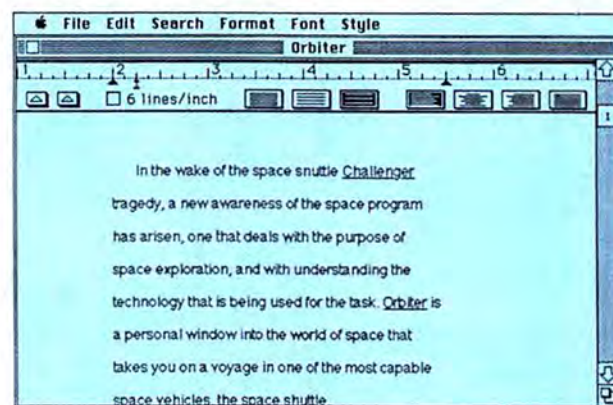
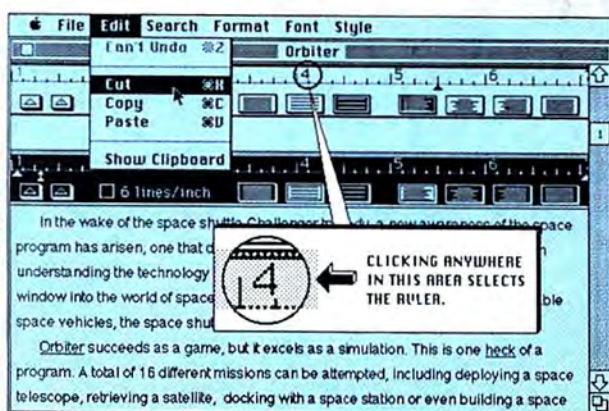
DAVID SCHARGEL, MASSAPEQUA, NY

Place the cursor directly above the current ruler, and select INSERT RULER from the Format menu.



Make all formatting changes (margins, line spacing, justification, tabs) in the new ruler. Note that the text doesn't change yet.

Select the ruler beneath it (by clicking in the indicated area), cut it out, or press the Backspace key.



The text now reformats itself (in one pass) to the specifications in the remaining ruler.

COVER UP



Macintosh Plus
Cover Ups Available Now

COVER UPS: Contemporary dust covers made of first quality 400 denier rip stop nylon. **COVER UPS** are water resistant and anti-static. They will not tear, crack or create lint problems as do many vinyl and cloth covers. All seams and hems are double stitched for that finished look. **COVER UPS** will outlast the useful life of your computer, insuring years of worry free protection. We specialize in dust covers for Apple products and update our product line frequently. *Don't hesitate to protect your new Apple!* Individual covers available for most components, plus specially designed one piece covers for larger sets, such as the Apple II's, IBM PC's, and COMPAQ's. Available in six attractive colors: Bone (similar to the Mac), Blue, Brown, Rust, Smoke (gun metal grey), and Tan.

Macintosh/Mac Plus Sets (Specify)

	Prices
#M1B Macintosh, Keyboard, and Mouse	\$19.95
#M1 Macintosh, Keyboard, Imagewriter ¹ , and Mouse	\$27.95
#M2 Macintosh, Keyboard, Imagewriter ¹ , External Drive (400/800K), and Mouse	\$29.95
#M5 Macintosh, Keyboard, Large Imagewriter, and Mouse	\$29.95

Apple IIc Sets

#C1 Apple IIc CPU, Monitor ² , and Mouse (Separate covers)	\$18.95
#C2 Apple IIc CPU, Monitor ² , External Disk Drive, and Mouse	\$24.95
#C3 Apple IIc CPU, Monitor ² , Imagewriter ¹ , External Disk Drive, and Mouse	\$29.95
#C4 Apple IIc CPU, Monitor ² , Scribe, External Disk Drive, and Mouse	\$29.95

Apple IIe Sets

#E1 Monitor ³ atop IIe CPU (One piece cover. Components available)	\$23.95
#E11 E1 with Imagewriter ¹ (Two covers)	\$31.95
#E2 Monitor ³ atop Profile DuoDisk atop IIe CPU, (One piece cover. Components available)	\$26.95
#E21 E2 with Imagewriter ¹ (Two covers)	\$34.95

- 1 - Substitute Imagewriter II for Imagewriter. Any set add \$1.00.
- 2 - Substitute Laserwriter for Imagewriter. Any set add \$5.00.
- 3 - Substitute IIc Color Monitor for Green Monitor. Any IIc set add \$1.00.
- 3 - Substitute IIe Color Monitor for Monitor II. Any IIe set add \$1.00.

Other COVER UP Sets Available Including IBM and Compaq.

STAND-UPS: Universal printer stands designed to raise your printer for easy viewing and provide ample space below for paper storage. Our **STAND-UPS** are metal with a textured powder coat finish (same as your printer), and include molded rubber booties to protect your printer and desk top. Available in black or computer white. **STAND-UPS** are truly the first reasonably priced printer stands. Retail Value \$23.95 Direct Order \$18.95

SLIP-UPS: Our own special mouse pad. Help keep your mouse clean and rolling easy. Two sizes and four colors to choose from: Blue, Brown, Bone, and Red.

Lil Slip-Up — 6" x 8" Pad (Complete screen coverage and more - Pictured above)	Only \$ 4.95
Big Slip-Up — 8" x 9½" Pad (Room to spare)	Only \$ 7.95

Imagewriter Ribbons (First Quality, Satisfaction Guaranteed)

Black:	\$4.50/ribbon	Box of six Only \$21.95/\$3.66 ea.
Colored: (Mix or match)	\$6.00/ribbon	Box of six Only \$26.95/\$4.50 ea.

Available in six colors: Red, Blue, Green, Brown, Yellow, and Purple.

Scribe Ribbons

Black:	\$6.00/ribbon	Box of six Only \$26.95/\$4.50 ea.
--------	---------------	------------------------------------

◀ **PAK-UPS:** Now you can take it with you — your diskettes that is. Designed to conveniently hold 2, 4, 6, or 8 diskettes (3½"). (5¼" PAK-UPS available soon.) PAK-UPS are a lightweight convenience carrier for your diskettes that will easily fit in your briefcase or vest pocket. Velcro closure holds your diskettes safe and secure. Available in eight colors: Black, Brown, Blue, Bone, Green, Red, Smoke, and Tan.

Retail Value \$11.95 Direct Order \$9.95 or 2/\$16.95

ORDERING: Phone or mail order. We accept Visa & M/C.
SHIPPING: Continental U.S. UPS Ground \$3.00, 2nd Day Air \$4.00.
SCHOOLS: Purchase Orders Accepted.



SPECIAL: FREE SLIP-UP with the purchase of any COVER-UP set.
For a limited time only when you purchase direct.



Computer Cover Co.

P.O. Box 3080, Laguna Hills, CA 92654
CA (714) 380-0085 - Others (800) 235-5330

Macintosh/Mac Plus, Apple IIc, Apple IIe, Mac XL are all registered trademarks of Apple Computer.

Developed with
the Power of Omnis 3

Manage Your Kingdom.



Property Management

- Leasing
- Accounting
- Repair Management



MacLord

MacLord Systems, Inc.

5029 La Mart Drive, Suite A
Riverside, CA 92507
Phone (714) 788-4020

For Free Information
Please Circle 264 On Reader Service Card.

For Free Information
Please Circle 202 On Reader Service Card.



by Dan Cochran

ANSWERS FROM THE MAC TEAM

Got a Mac problem? Something that you'd like explained? Something you can't find the answer for anywhere else? Apple's Dan Cochran will answer your questions every month in this space. When the questions are too tough for him, he'll get the answers from other members of the Mac team. So ask what you need to know and get your answers straight from the source!

Send your questions to Dan care of **MacUser**, 25 West 39th Street, New York, NY 10018. Dan will read all of your questions, but, unfortunately, he may not be able to answer individual queries. Watch this space for the pick of each month's Q & A crop.

Here's one for the Mac Team. 1) The new *System* and *Finder* delivered with the MacPlus work on both the Plus and the 512K. 2) There is some code in ROM in the Plus that is new or on disks supplied with the 512K. Therefore there must be some things in the *Finder* and/or *System* that you do not need if you are ONLY going to run on the Plus (since they are in ROM). So in the quest for the smallest possible *System* file, you should be able to remove some of the resources that are both in ROM and on disk. Yes? My questions are, what are the resources that can be removed from the *Finder*, *System File*, or applications if you are only going to run on the Plus?

AL BEST
RICHMOND, VA

That's a good question. A cursory look at the ROM-based Macintosh Plus *System* resources (using TMON) reveals that *DRVRS* 2, 3, 4, 9 and A are in ROM (respectively, *Print*, *Sound*, *Sony*, *ATP* and *MPD*). So are *SERD* 0, *MDEF* 0, *WDEF* 0, *PACK* 4, 5 and 7, *CURS* 1 through 4, and the *FONT Chicago*. I won't guarantee that this is the definitive list, but it's more accurate than *Technical Note #57*, which is being revised.

Theoretically you could remove these, but *Technical Support* doesn't recommend doing so. There may very well be some applications

that expect to find these as RAM-based resources. Try it at your own peril.

My clock doesn't work. I've replaced the battery and tried resetting the clock but it always returns to the same date and time (10/14/87 and 20:56:49). Is it the clock chip? If so, can it be replaced? What other problems can I expect if the clock chip is defective?

RAY DAVIS
BEAUFORT, SC

From your description of the problem it does sound like you've got a defective clock chip. However, there's no way to know for certain unless you take your machine to a dealer. They have the appropriate software to diagnose your problems. If the clock chip is defective they'll most likely swap out the entire motherboard. A defective clock crystal should be independent of other system-related timing functions, so I wouldn't expect that you'd encounter any additional problems other than those you've reported.

Many of my disks have files that have generic icons (the little rectangle with the dog-ear) when I boot them up. One example is the *MacWrite/MacPaint* update disk that I received from my dealer. On this disk are two files with generic icons; one is named "Paint 1" and the other is named "Paint 2." I thought these were *MacWrite* documents that would explain the system updates, but when I double-click on them to open them with *MacWrite* I get the message "An application can't be found to open this document." I tried every application I have and nothing works. The same thing happens with *Microsoft File*. Every now and then I notice a new file has been created (not by me!) named "MF1" or "MF2." What are these files, and is there any way to tell which application opens a

generic icon without having that application available on the Macintosh?

JON SMITH
NEW YORK, NY

The files you're referring to really aren't application documents at all. Rather, they are temporary work files created by the applications while they are active. When you quit an application, the application will usually automatically delete these temporary files (which are represented as generic icons) and you won't know they ever existed. Many applications, including *MacPaint*, *MacWrite* and *File*, create these temporary files for saving data, for keeping information about the last thing you did (in case you want to "Undo" a command), or for other purposes.

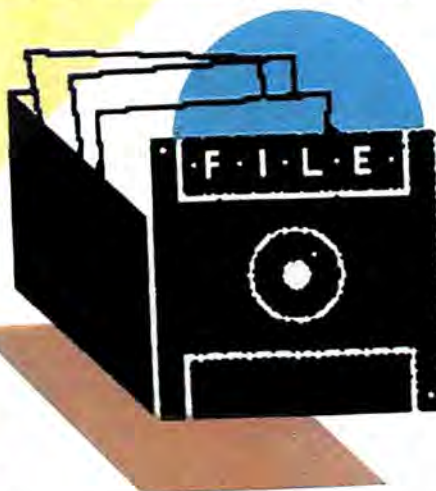
You can actually see these temporary files in action if you use Apple's *Switcher* program with *MacWrite*, *MacPaint*, and the *Finder* installed under *Switcher*. Open a *MacWrite* document, open a *MacPaint* document, and then switch to the *Finder*. You'll see "Paint1," "Undo File," and some other weird generic icons on your desktop. If you're running under *Switcher*, DON'T EVER throw these files away while you're switched to the *Finder*.

The reason that these files appear on some of your disks is quite simple. If an application is not terminated normally (e.g., you either bomb, reboot, or turn your system off), the application of course doesn't have the opportunity to go in and delete these mysterious beasts. Therefore, the next time you boot that disk you're likely to find them on your desktop. For the most part they are useless from a user's point of view, as they can't be opened by any application, and even if they could there's not much anything of consequence there to deal with. Drag 'em to the trash and be done with it.

I'm currently running a Mac XL with internal 10-meg hard drive. Normally I start up the machine for the day's work each morning. I try to just let the machine run the entire day till the office closes. I've heard some people say that it is better to let the drive run constantly...right through the night! What is the ideal operating procedure for hard disk users? How much potential damage can occur by turning the machine on and off a few times a day? My objective is to treat the machine with the best possible care to extend the life of the components. Please help!!

PAUL GREENBERG
NEW YORK, NY

I referred this question to Al Zisser, our product manager for the HD-20 and hard



COPY II MAC™

BACKS UP PROTECTED SOFTWARE.

Copy II Mac does more than just sector copy. Its bit copy program has the built-in power and flexibility to handle most protection schemes automatically and supports single and double-sided drives. (We update Copy II Mac as often as needed to handle new protections; you as a registered owner may update at any time for \$15 plus \$3 s/h.)



RUNS PROTECTED SOFTWARE FROM YOUR HARD DISK.

Copy II Mac makes using your hard disk (including the Apple hard disk-20) as convenient as it should be. No longer will you have to use the 3 1/2" disk with some of the most popular business software. Call for current list.

GIVE YOUR MAC MORE MUSCLE.

Copy II Mac can even repair some damaged disks and recover accidentally deleted files.

System Requirements: Macintosh or Macintosh Plus, 1 drive. (2 drives, all available memory and hard disks fully supported.)

Call 503/244-5782, M-F, 8-5:30 (West Coast time) with your   in hand. Or send a check for \$39.95 U.S. plus \$3 s/h, \$8 overseas.

\$39.95

Central Point Software, Inc.
9700 S.W. Capitol Hwy. #100
Portland, OR 97219

Central Point
Software
INCORPORATED

Backup utilities also available for the IBM, Apple II and Commodore 64/128.

For Free Information
Please Circle 105 On Reader Service Card.

MACSPIN™



MACSPIN can help anyone who needs to analyze and understand complex numerical data.

\$99.95

Visa/MC/Amex, COD, POs
Dealer Inquiries Welcome

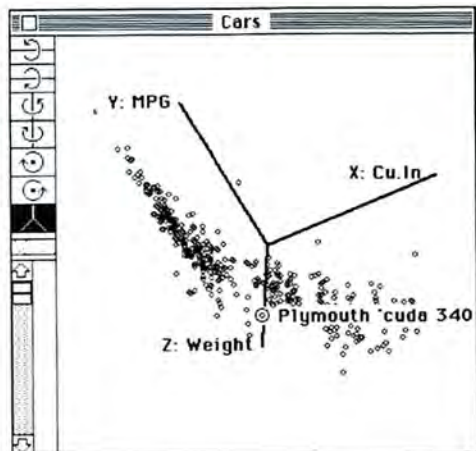
D² SOFTWARE
3001 N. Lamar Blvd. #110
Austin, TX. 78705
(512) 482-8933

MACSPIN is a trademark of D² Software, Inc.

When two dimensions leave you flat, enter the world of MACSPIN, and discover the hidden depths of your data!

"...plotting data in [MacSpin's] manner can show connections that ordinary words and visual aids would miss..."

MacUser, May 1986



The only way you'll ever look at data again!

For Free Information
Please Circle 176 On Reader Service Card.

Developed with
the Power of Omnis3

Get Omnis3 Speed, Power and Flexibility in Mac-Controller.™

The Ultimate Office System
for the Apple Macintosh.™

Featuring:

- General Ledger
- Accounts Receivable
- Accounts Payable
with Check Writing
- Inventory Control
- Purchase Orders
- Order Entry
- Invoicing
- Sales & Commission
Reports

For Information call:



Logisoft, Inc.

P.O. Box 84413
Los Angeles, CA 90073
(213) 393-6293

System Requirements:
Mac 512K or Mac + w/Hard Disk & ImageWriter
or LaserWriter.

Macintosh is a trademark of Macintosh Laboratory Inc. and is being used with the expressed permission of its owner.
Omnis 3 is a registered trademark of Blyth Holdings Ltd.

For Free Information
Please Circle 265 On Reader Service Card.

drives. Al says that the stress on the mechanical and electrical components incurred by powering on and off several times a day is far worse than the wear subjected by leaving the machine on all day. At Apple we leave our disks on pretty much 24 hours a day. I doubt that there is one perfect solution for all brands of hard disks, but for both the XL and HD-20 we recommend that you restrict the number of times you power on and off the device as much as possible. It won't hurt to power the machine on when you come in and power off when you leave at night. But for optimum drive life, it's probably best to turn it off only when you know you won't be using it for 3 to 4 days.

I currently own a 128K Macintosh. I'll be moving to Hong Kong in August for a 10-year commitment with my church group. The first 2 years of this time will be devoted to full-time study of the Chinese language. I have some questions which were generated by your recent article regarding a Japanese word processor. First, is there any word processor available in Chinese? Second, what's necessary to connect my Mac to the Hong Kong power source?

AL WARNER
SOUTH NORWALK, CT



I've got some good news and some bad news. Wu Associates of Aron, Connecticut has a Chinese Word Processor called Sei Ma. You can reach them at (203) 673-4796.

The bad news is that you're certainly in for some expenses and probably some hassles if you intend to bring your Macintosh to Hong Kong. If you bought your Macintosh in the United States you most certainly

don't have an international power supply, which can easily be modified for both domestic and international current. And these international power supply/analog board exchanges aren't easy to come by domestically. An alternative would be to purchase an add-on voltage transformer, but they can be expensive and sometimes unreliable as well.

Even if you brought your Macintosh to Hong Kong where you probably could find a local dealer to install an international power supply you'll need appropriate export papers from the Department of Commerce and appropriate import papers from the Hong Kong government.

If you're not up to all that hassle, leave your 128K Macintosh here with your church group and buy a new one in Hong Kong. You won't have any trouble bringing it back to the United States and you'll then have a machine with an easily adaptable international power supply.

I recently acquired a LaserWriter which I really enjoy. The problem is that I do a lot of form design with MacDraw and became dependent on the Key Caps option (OPTION-H) to generate those little boxes. I now find that the standard LaserWriter fonts no longer support this capability. Is there a solution?

ANDY MARTIN

Pascal for the Mac! Only \$99.95

The MacLanguage Series™ Pascal compiler.



Pascal

- Creates double-clickable applications
- Creates desk accessories

Complete access to:

- QuickDraw
- Print Manager
- Packages
- MacinTalk Speech
- AppleTalk LAN
- Toolbox
- Operating System
- Serial Drivers
- 3D Graphics
- and much more...

Three Compilation Modes:

- Compile to Object code (MDS .Rel files)
- Compile to Assembly source code (MDS .Asm files)
- Check Syntax only of a program

Other TML Pascal Development Tools:

Database Toolkit	\$89.95
MiniEdit Source Code example	\$19.95
MacExpress™	\$195.00

The TML Source Code Library. **NEW PRODUCT!**



GrafMDEF

- 18 source code examples (over 1Mb on 3 disks)
- Complete User Manual documenting each example

Example programs demonstrate how to program...

- Print Manager
- Serial Drivers
- Standard File Dialog
- Split-scrollable windows
- MacinTalk Speech
- Pop-up Menus
- Function Keys
- Menu Definitions
- Window Definitions
- Desk Accessories
- Control Definitions
- List Definitions

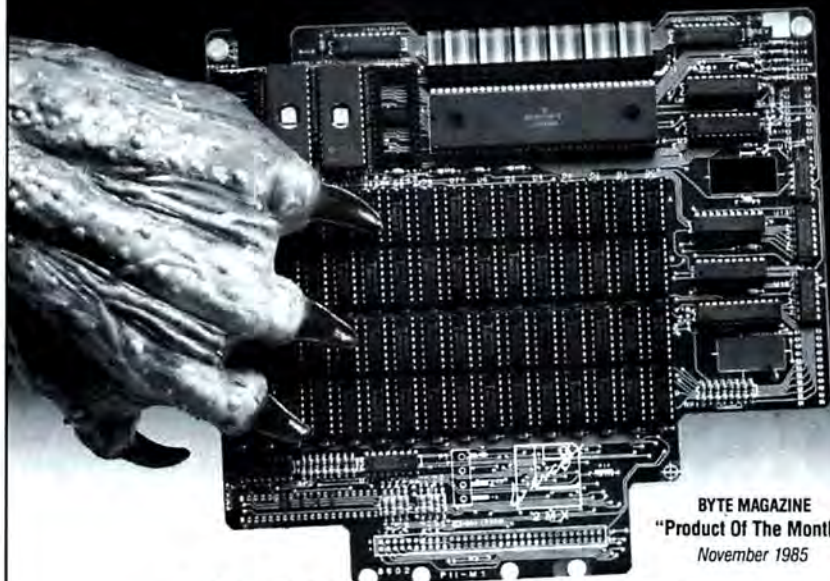
All for Only \$79.95

TML Systems

PO Box 361626, Melbourne, FL 32936 (305) 242-1873 Please enclose \$5.00 shipping and handling with all orders

For Free Information
Please Circle 149 On Reader Service Card.

LEVCO'S 2 MEG EXPANSION BOARD CREATES MONSTER MEMORY FOR YOUR MACINTOSH™



BYTE MAGAZINE
"Product Of The Month"
November 1985

THE MONSTERMAC™ CLIP-ON.

BOOST SPEED BY 30%

Now you can turn your friendly Macintosh into a real Monster. Levco's MonsterMac enables the memory in your computer to run up to 30% faster than a standard Macintosh. This proven upgrade also provides 256K of PROM space, and the first real Macintosh expansion port for peripherals such as the new Levco OverDrive SCSI internal 20 megabyte hard disk. The whisper-quiet Levco MacBreeze™ piezoelectric fan is included to keep your Macintosh running cool, even when the demands are hot. MonsterMac also provides a true motherboard emulation mode, to functionally "turn off" the extra memory for those rare programs that don't understand a world beyond 512K.

YOUR MOTHER WILL LOVE IT

Levco offers the MonsterMac with clip-on convenience, for simple, quick installation and no modifications to your Macintosh motherboard. MonsterMac works with old or new Apple ROMs and with either 128K or 512K Macintoshes. Most importantly, MonsterMacs are available *now!*

"The MonsterMac receives the highest recommendation for its speedy 2 megabytes, its compatibility with all the test software, and the lure of a real bus expansion port."
MacWorld, February 1986



6160 Lusk Blvd.
Suite C-203
San Diego, CA 92121
(619) 457-2011

SAVE \$50 ON A MONSTERMAC!

Levco is offering a \$50 rebate for those who purchase a MonsterMac before October 31, 1986. Just send this coupon to Levco with your MonsterMac order, or bring it to a participating authorized Levco dealer for an installed MonsterMac. Call Levco for the participating dealers in your area.

Offer good only on purchases made after April 1, 1986.

Customer Use

Name: _____

Company: _____

Address: _____

Phone: _____

Levco Use

Dealer: _____

Installation Date: _____

MonsterBoard Serial Number: _____

Mac Motherboard Serial Number: _____

Mail completed coupon to: Levco 6160 Lusk Blvd. Suite C-203, San Diego, CA 92121

Offer void where prohibited by law. One coupon per customer.

MonsterMac, MacBreeze and OverDrive are trademarks of Levco. Macintosh is a trademark licensed to Apple Computer, Inc.

Developed with
the Power of Omnis 3

Introducing QUICK EASY SIMPLE PLUS.

Many profitable video stores already agree—QUICK EASY SIMPLE is as easy to use as a cash register and more powerful than many chain store minicomputers.

Even better, QUICK EASY SIMPLE PLUS now handles reservations, equipment rentals, paid memberships, and demographics.



QUICK EASY SIMPLE, and the new QUICK EASY SIMPLE PLUS. From \$395. See your dealer, or call us, today.

(619) 483-1453

WORKING COMPUTER

P.O. Box 86602
San Diego, CA 92138-6602

For Free Information
Please Circle 185 On Reader Service Card.

For Free Information
Please Circle 266 On Reader Service Card.

Second, are you aware of any commercial enterprises that will digitize images into a MacPaint document, preferably using an Abaton Scanner?

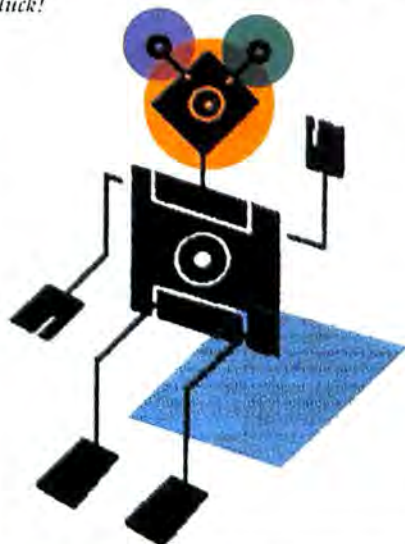
REX MCCLURE
DUBOIS, PA

I've searched through all the standard LaserWriter fonts and I can't find a single character that generates a box like you require. Since the LaserWriter fonts reside in the LaserWriter ROMs there's little opportunity to change them (unless you have some patience, a PROM burner and a desire to void your warranty). The answer is to find a suitable bit-mapped font that has the boxes you need. The idea is to use the standard LaserWriter built-in fonts for your text requirements and use a bit-mapped font with a suitable box character only for the boxes you need. Of course, if you only do your form design in MacDraw you can roll your own boxes and use the alignment commands to square them with your text.

As to where to find that required character I might suggest Zarf Dingbats, a LaserWriter Plus font that has some characters very suitable for forms design. And if you get a LaserWriter Plus upgrade they'll be built right in to the LaserWriter. If

that's not acceptable you have two other choices. Either find a suitable third-party bit-mapped font (of which there are many) or use the Resource Editor to create a box character in one of the unused character positions within one of your bit-mapped screen fonts (like Geneva).

As for your second question, I'd suggest you call Abaton directly and ask them. Their number is (818) 905-9399. Good luck!



I have a question for you. How can we change our system file using resource editors such as ResEdit or Redit to change our system date file from MM/DD/YY to DD-MM-YY?

ISRAEL J. LAWRENCE
SAN FRANCISCO, CA

I'll tell you how to do it using ResEdit. Boot ResEdit and open your Sytem file. Open the set of resources named INTL (International). Open the resource INTL 0 and change the constant "dateOrder" from 0 (MM/DD/YY) to 1 (DD/MM/YY). You'll also want to change the constant "dateSep" (date separator) from "/" to "-". The "International Utilities Package" chapter of Inside Macintosh describes all of the various constants and data types contained in the INTL resource types if you're interested in further modification. Of course, this will only change the date format as displayed by the system's Alarm Clock. A lot of applications override the system INTL resources with their own INTL resources or procedures. This fix won't, for instance, change the format of the date as displayed in MacWrite headers or footers. You'll have to either include the same system INTL 0 resource in your MacWrite document or get a localized version of MacWrite.

ANDY MARTIN

We RENT Mac Software !!

MacStore TM

28 Tealwood
New Braunfels
Texas 78130

National **1-800-847-0026**

Ask about our frequent renter program !

We'll match any software rental price in this issue.

We have hundreds of other titles available for the Mac. If you don't see what you want - call us !

Accessory Pak 1	8.90	Mac Golf	9.45
Art Grabber	8.90	Mac Labeler	8.90
Back to Basics G.L., A.P. or A.R. (each)	26.55	Mac Muscle	8.90
Battery Pak	8.90	Mac Project	26.29
Bulk Mailer	27.60	Mac Publisher & Mac Publisher II	Call
Business Filevision	56.25	Mac Spell Right or Mac Spell +	13.85
Click Art, Effects, Letters, Publications (each)	8.90	Mac Stronomy	13.20
Click-on Worksheet	13.33	Mac Terminal	26.14
Consultant	30.80	Mac 3 D	28.80
Copy II Mac	8.90	Mac Tracks	8.90
Championship Boxing or Baseball	8.90	Mac the Knife 1, 2, or 3 (Art, Fonts, Ripper)	Call
Davinci (We have them all!)	Call	Management Edge, Sales Edge	Call
Dollars and Sense	16.70	MegaFiler, MegaForm, MegaMerge	Call
Excel	52.75	Mind Prober	8.90
Factfinder	22.95	Musicworks	13.19
Filemaker	26.20	My Office & Executive Office	Call
Filevision & Business Filevision	Call	Omnis III	70.95
Fluent Fonts, Fontastic, Font Explorer,	Call	Overview	36.80
Laser Fonts, SuperFonts, UltraFonts...	Call	Picture Base or Postmaker	8.90
Flight Simulator (Microsoft)	8.90	Pinball Construction Set	8.90
Gato or Orbiter	8.90	Professional Composer	76.45
Gridwars	8.90	Quick Disk, Quick Word, Quick Paint (each)	8.90
Helix	49.50	Ready Set Go	19.90
Infocom games	Call	Smooth Talker	15.36
Jazz	89.90	Tempo	16.33
Keystroke	64.68	Think Tank 128 & 512	Call
Languages (Asm, Basic, C, Cobol,	Call	TurboCharger	15.91
Expertisp, Fortran, Pascal)	Call	Video Works	16.63
Microsoft Chart, File, Multiplan, Word	Call	Will Writer	8.90
Mac Attack	8.90	Accessories	
Mac Cad	62.56	Sony Disks (10)	14.45
Mac Challenger or Mac Command	8.90	800K External Drives (double sided)	269.00
Mac Draft	34.45	1200 Baud Modem	186.00
Mac Draw	32.47	Mac Bottom 20 Meg Hard Disk	979.50

No membership fee • 16 day rentals • Rental applies to purchase

The store logo is a trademark of MacStore, Inc., the apple logo is a trademark of Apple Computer, Inc.

In Texas **1-800-222-1537** After tone ask operator for extension 993265
or dial direct **512-629-5419**



ONLY \$89.95

CHOOSE MAC 'N FROST FOR THE FOLLOWING ENHANCEMENTS

- Quiet, Reliable Cooling
- Safe Surge Protection (More Than 100 Joules)
- Power Distribution Center
- Innovative Diskette Storage
- Touch Me Static Discharge Plate
- 1 Year Warranty
- Optional Modern Line Protector

Mac 'N Frost offers a new standard in cooling and protection for your Macintosh by complementing the existing convection air cooling system. Enjoy major cost savings by alleviating expensive maintenance and repairs. Mac 'N Frost is engineered for high efficiency cooling which

reduces premature internal component failure, while also maintaining constant line filtering and surge suppression. No tools required for installation or removal.

RHELECTRONICS, INC.

566 Irelan Dr., Buellton CA 93427
PST (805) 688-2047

For Free Information
Please Circle 165 On Reader Service Card.

For Free Information
Please Circle 190 On Reader Service Card.

Manx Aztec C

The C for the Macintosh

Frees the Genius in You!

Now you have the Freedom to
Create and Produce

You want results. You want to create something new, or revitalize an older work. You don't want to get bogged down in administrative details, or waste time chasing elusive problems. You don't want to wait for slow compilations, or spend days shaving bytes and milliseconds from programs.

Manx Aztec C produces the results you want, minus these distractions and hassles. Aztec C is loaded with features that cut through the non-creative tedious tasks, giving you the time and freedom to create the results you want.

With Manx Aztec C, you quickly produce fast executing compact code. It does the squeezing and trimming, so you don't have to. You are free to be creative.

With the ingenious **make** utility, you just make the changes. **Make** follows the project "blue print" to incorporate your changes. It quickly and accurately executes only the required compilations and utilities in the proper sequence.

With **sdb**, Manx's Source Debugger, you quickly solve problems and in stantly test improvements. In short order, problems are corrected, code is optimized, and changes are applied.

With the **Profiler**, you quickly and accurately find program "hot spots". You change an algorithm, redesign a subroutine, and your program soars. You have freed the genius in you.

You Be The Judge

All Aztec C systems purchased directly from Manx have a 30 day satisfaction guarantee. If you don't like it, send it back.

Find out today, why Manx Aztec C has one of the highest user satisfaction ratings in the industry.

Portability

Moving software to new systems is a breeze with Manx Aztec C. Only Aztec C is available for PC/MS-DOS, CP/M-86, Amiga, Macintosh, Apple II, TRSDOS, and CP/M-80. New systems are added on a regular basis.

MANX

Manx Software Systems
One Industrial Way
Eatontown, NJ 07724

MS is a registered TM of Microsoft, Inc., CP/M TM DRI, HALO TM Media Cybernetics, PANEL TM Roundhill Computer Systems, Ltd., PHACT TM PHACT Assoc., PRE-C, Plink-86 TM Phoenix, db Vista TM Raima Corp., C-terp, PC-lint, TM Gimpel Software, C-tree TM Faircom, Inc., Windows for C TM Creative Solutions, Apple II, Macintosh TM Apple, Inc., TRS-80 TM Radio Shack, Amiga TM Commodore Int'l.

Reviews

"An excellent effort... blows away the competition for pure compile speed, code size and run time."

Computer Languages April '85

"Aztec C is the most comprehensive and professional package of the five in our test group... Aztec C offers features and advantages that the others cannot begin to touch."

BYTE November '85

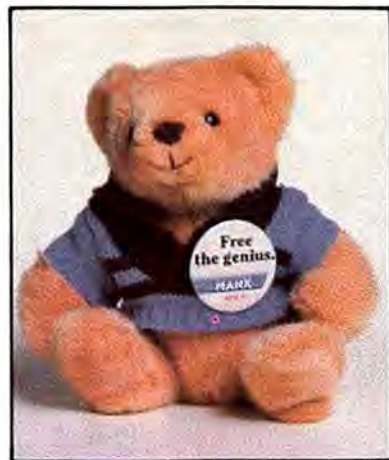
"... the best C compiler/assembler/linker available for developers."

MacUser May '86

Features: excellent HFS and Mac Plus support • Source Debugger • Optimized C • UNIX Shell • Mouse Enhanced Shell • Easy access to Mac Toolbox • UNIX library functions • Librarian • MDS Support • MPW Support • 68881 support • 68k Asm • Overlay Linker • UNIX make • create clickable applications and desk accessories • 32 character variable names • unlimited data size • RAM disk • Resource maker • many source examples including RAM disk, Mouse Editor and Terminal emulator • Z (vi) editor • Library Source • c • One year of updates • c

Items marked -c are supplied only with Aztec C68k-c.

Aztec C68k-d	\$299
Aztec C68k-c	\$499
C' Prime(C+Asm+Linker+Lib)	\$ 99
Cross Compilers	\$499
Hosts: Mac or PC-DOS	
Targets: PC/MS-DOS, Amiga, Apple II, Macintosh, 8080/8085/Z80 ROM, 68K ROM, 8086/80x86 ROM, 6502 ROM	
Cross Compiler + C68k-c	\$750
Cross Compiler + C86-c	\$750



Manx Aztec C turns un"bear"able programming tasks into child's play.

To order, or, for information

Call Today

1-800-221-0440

In NJ or outside the USA call

(201) 542-2121 Telex: 4995812

Developed with
the Power of Omnis 3

GENERIC Application by Profitware™

GENERIC Application™ is a development tool for Omnis 3™ that dramatically increases developer productivity by cutting 30% to 60% from the programming time required for each new business application developed. Complete documentation included. Additional seminar training available.

Features:

- Customer and employee files & entry screens with full demographic info
- Invoice entry, editing & tracking
- Payment & credit entry against invoices
- Aged accounts receivable tracking
- Inventory tracking
- Full reporting features...invoices and monthly statements
- Multi-user
- Scrolling screens
- Generic layouts
- "Developer" screens



Profitware™

10951 Sorrento Valley Rd., Ste 1-H
San Diego, CA 92121, USA
(619) 453-2660
Compuserve 76011,667
Telex: 188954 Profitware
MCI: Profitware (292-2014)

For Free Information
Please Circle 267 On Reader Service Card.

For Free Information
Please Circle 194 On Reader Service Card.

MINIFINDERS



Have you often wished for a personal assistant to help in picking software? These *MiniFinders* may not breathe and move, but they do tell you what products are hot and, better, what these products do. Each of these items has been carefully reviewed and selected by the MacUser editorial staff. Each has been rated from 1 to 5 mice. Ratings are relative within categories, and they can change as categories expand and new products advance the state of the art. You won't see many low ratings or bombs, since we're telling you about the cream of the crop, but we will warn you about the really bad products so that you don't spend your money on them. **Red names indicate this month's additions.** The letters at the end of the entries indicate whether a product is copy protected (CP) or not (NCP). CP? indicates that we don't know. If a product has been reviewed or QuickClicked in MacUser, the date of the review is shown. Next time you have to find products you can count on, count on MacUser!

MINIFINDER INDEX

BUSINESS ACCOUNTING	122
COMMUNICATIONS	126
DATABASES	123
DESK MANAGERS.....	128
EDUCATION.....	140
ENTERTAINMENT	140
GRAPHICS & DESIGN	124
HARDWARE & ACCESSORIES.....	147
INTEGRATED SOFTWARE.....	122
LANGUAGES.....	132
MUSIC	147
NUMBER CRUNCHING.....	123
ORGANIZATIONAL TOOLS	128
PERSONAL FINANCE	123
UTILITIES.....	131
WORD PROCESSING.....	128

INTEGRATED SOFTWARE

Crunch is an icon-driven relational spreadsheet that features
**** versatile charting and database capabilities. Strong financial logic, date and mathematical functions. Spreadsheets can be linked. The manual is clear and concisely written. Macros are not supported. \$195. Paladin, 2895 Zanker Rd., San Jose, CA 95134. CP (Jan 86)

Ensemble lets users create a database of words, pictures, and/or
*** numbers; graph data; generate custom forms and link files for applications such as mail merge. Can perform calculations and math functions on data. Capacity limited by RAM and disk size. \$299.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

Excel is THE power spreadsheet. Of the Mac, of the world. Has
***** 256-column by 16,384-row capability. Features include a powerful, easy to use macro function (with a recorder to make creation simple) and elaborate charting facilities. Can link multiple spreadsheets. 512K+ Mac and external drive required. \$395. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. CP (Prem)

Jazz provides well integrated modules for word processing, graphs,
**** worksheets, databases and communications. Each of the modules is substantial. HotView, where data placed in any module automatically updates all other documents that use that data, is best feature. Jazz provides adequate coverage of most data and communications needs of small businesses. Requires 512K+ and external drive. Version 1A requires 800K drive. \$595. Lotus, 55 Cambridge Parkway, Cambridge, MA 02142. CP (Prem)

Quartet is an integrated program that works on a 128K Mac, built
**** around a powerful spreadsheet with a full range of functions. It can also be used as a database and provides good quality charts from spreadsheet data. Documentation is adequate, but not too well organized. \$199. Haba Systems, 15154 Stagg St., Van Nuys, CA 91405. CP

BUSINESS ACCOUNTING

Accountant's Choice is a powerful system built around a relation-
**** al database, with functions accessed through menus. Standard reports are provided but most can be customized. Multiple journals allowed. Number of accounts determined by disk space. General Ledger can stand alone or integrate with other modules, not yet available. Requires 512K+, printer and external drive. \$695. Sierra Information Systems, 10201 Torre Ave., Cupertino, CA 95014. CP (Dec 85)

BPI General Accounting is easy to use system six journals, AR,
**** AP, Payroll and GL on one disk. Offset amounts automatically post to ledgers. Up to 8000 accounts, transactions limited by disk space. Number up to \$999,999,999.99. Detailed records, wide range of reports. Switcher and HFS compatible. \$425. Requires 512K. BPI Systems, 3001 Bee Cave Rd., Austin, TX 78746. NCP (Aug 86)

CheckMark is a Ledger with five preset journals: Cash Disburse-
**** ments, Receipts, General, Sales, and Purchases. Other modules are planned. Account ranges are preset. Menus and data entry are very straightforward. Flexible summary reports are built in, but customer and vendor information is very minimal. \$295. CheckMark Software, PO Box 860, Fort Collins, CO 80522. CP

Gallery Finance is a one-write system with General Ledger, Cash
**** Disbursements, Payables and Receivables in a single package. Additional modules to be added. Data entered in a journal is automatically posted to appropriate record card. Excellent manual includes tutorial on basic accounting principles. Requires 512K+, printer and external drive. \$795. Micromax Systems, 6868 Nancy Ridge Dr., San Diego, CA 92121. CP (Dec 85)

Hardisk is a complex integrated hard disk system (General Ledger,
**** Receivables, Payables, Inventory, Payroll and Job Cost modules) that does not use Mac interface. Fully menu driven. Manual is detailed but complicated, with a few extra pages that make it Mac-specific. Flexible reporting, statements and account numbering; huge numbers of accounts, transactions, profit centers and detailed financial analysis. Requires hard disk and printer. \$695 per module. Great Plains, Box 9739, Fargo, ND 58109. CP? (Dec 85)

MacOneWrite Cash Disbursements is a simple, one-write check
*** writing system. Limited functionality, but does allow some detailed information. Menus clear and easy to follow, but check printing can be confusing. Other modules planned. 512K+ and printer required. \$245. Sierra, PO Box 485, Coarsegold, CA 93614. CP (Dec 85)

Rags to Riches integrated accounting modules (General Ledger
**** and Accounts Receivable) uses Mac interface to the hilt. Information entered in one window automatically transfers. Menu commands all have command keystrokes, as can accounts. No detailed or flexible reporting. Very easy to use, although it can be confusing to operate with several windows on screen. Requires 512K+ and printer. \$195 per module. Chang Labs, 5300 Stevens Creek Blvd., San Jose, CA 95129. CP (Dec 85)

Strictly Business General Ledger features clear, well-outlined
***** set-up procedures and operations. Very flexible, with a custom chart of accounts; user-defined journals; up to 99 profit centers per company with up to 100 departments each; and customized reports. Program print spools and allows printing of multiple documents. Requires 512K+, printer and external drive. \$395. Future Design, 13681 Williamette Dr., Westminster, CA 92683. NCP (Dec 85)



PERSONAL FINANCE

Dollars & Sense is a bookkeeping program suitable for personal, home and small-business use. Easy to use, with a good manual and excellent on-screen help. Will handle up to 120 separate accounts or money categories. Uses standard double-entry accounting techniques. Reports can be generated and either viewed on-screen or printed. Has simple graphing and charting facilities. \$149.95. Monogram, 8295 S. La Cienega Blvd., Inglewood, CA 90301. CP

Electric Checkbook does exactly what the name says: keeps a running account of checkbook transactions, balances checkbook to bank statements, tracks bills, and even prints out checks. Provides detailed financial statements, calculates net worth, lists expenses by category and tracks your personal cash flow. \$79.95. State of the Art, 3191-C Airport Loop, Costa Mesa, CA 92626. CP

Financial Cookbook provides nearly 3 dozen "recipes" to help users figure out financial formulas (i.e., mortgage costs at different percentage rates) by inputting pertinent data. Very user-friendly. \$44.95. Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. CP

Financial Utilities Pack is a set of applications that allow users to figure annuities, compound and simple interest, depreciation and amortization. Simple and well documented. \$69. Cognitive Software, PO Box 26948, Austin, TX 78755. NCP

Forecast is a tax estimating and what-if program designed to work with and use *Dollars & Sense* files. Straightforward, easy to use program. \$69.95. Monogram, 8295 S. La Cienega Blvd., Inglewood, CA 90301. CP

The Home Accountant is a complete and easy to use financial system. Data entry is intuitive. All kinds of reports, including charts and checks, are easily generated. Entered data will update all relevant material. \$150. Arrays, 11223 South Hindry Ave., Los Angeles, CA 90045. NCP (Apr 86)

Profit Stalker II, Technical Analysis Toolkit for the Macintosh, is a program for the generation of charts and graphs in order to organize data on stocks, mutual funds and commodities. The data can be downloaded with the program or manually entered. There are plentiful options, free upgrades and excellent support. A class act. Requires 512K+ and a Hayes-compatible modem. \$250. Buttondown Software, PO Box 19493, San Diego, CA 92119. NCP (Aug 86)

DATABASES

Business Filevision is a masterpiece of Macintosh programming, the only true graphic database on any micro. Much more powerful than the original, accepts *MacPaint* graphics. \$395. Telos Software, 3420 Ocean Park Blvd, Santa Monica, CA 90405. CP (Feb 86)

Factfinder is a free-form information organizer (medium-duty database). Users enter data on to factsheets in any manner desired and select keywords. Searches are by name or keyword. Only one factsheet can be open at a time. Publisher offers free telephone support (800 number). \$149.95. Forethought, 1973 Landings Dr., Mountain View, CA 94943. NCP (Feb 86)

File is a flexible data manager. Creates files for a variety of data, including simple graphics. Files are created in simple row/column format, but reports and forms are easily customized by moving field names around on a blank form. \$195. Microsoft, 16011 NE 36th Way, Redmond, WA 98052. CP

FileMaker is a nonrelational database that combines lots of power with ease of use. Data entry is extremely flexible and all items in all fields are indexed so that multiple criteria searches are both simple and fast. Calculation fields make the creation of invoices and similar documents a snap. Reports can include graphics and multiple data layouts are easy to construct. \$195. Forethought, 1973 Landings Dr., Mountain View, CA 94943. NCP

Filevision is a simple database that can change the way you think about data and data organization. Records are based around user created graphics screens. Screens and records can be linked in complex ways. \$195. Telos Software, 3420 Ocean Park Boulevard, Santa Monica, CA 90405. CP

Helix is a relational database that makes extensive use of icons. Excels in database setup and forms generation. Setup is made easy by the adherence to the Mac interface. The manual is clear, thorough and well-indexed. Too complicated for most simple database applications, excellent where a relational database application is required. Requires a 512K+ Mac and external drive. \$395. Odesta, 4084 Commercial Blvd., Northbrook, IL 60062. NCP (Mar 86)

The Housekeeper is a home inventory database. Users can keep track of assets for both tax and casualty purposes. Specialized reports are easily generated. \$59.95. Aegis Development, 2210 Wilshire Blvd., Santa Monica, CA 90403. NCP (Dec 85)

Interlace is a flexible relational database that makes it simple to create single or multiple files and establish links between files. Excellent report generator gives full control over appearance, style of output. Requires 512K+, second drive or hard disk highly recommended. \$129 retail, \$95 direct. Singular Software, 5888 Castano Dr. San Jose, CA 95129. CP (Apr 86)

MacBase is a forms-oriented relational database. Unfortunately, precise forms are hard to create. Allows calculated fields and has quick and powerful search capabilities. Best when much data is to be looked up, but not frequently entered. Requires 512K+. \$195. Eqtron Corp., 330 Bay St., Toronto, Ont. M5H 2S8, Canada. NCP (Jul 86)

MegaFiler is a simple file manager. Its limited capabilities have been far surpassed by cheaper and easier to use programs. Valuable only in conjunction with *MegaForm*. \$195. Mega-haus, 5703 Oberlin Dr., San Diego, CA 92121. CP

Omnis 3 is a power database, featuring concurrent multiple file management. Can handle 24 files, 12 at a time, and is fully relational. Allows user to create custom environments including user-defined menus, commands and dialogs. Good report generation capability. Comes in single and multiple user versions. \$495 (single user version). Blyth, 2655 Campus Drive, San Mateo, CA 94403. CP (Mar 86)

OverVUE is a power-packed relational database that has extensive sorting, summarizing and report generation capacity. Has macros and a charting function. Good manual. The program tries to anticipate every need conceivable in manipulating data. It can exchange files with a very wide variety of other programs (including IBM software). \$295. ProVUE, 222 22nd St., Huntington Beach, CA 92648. NCP (Nov 85)

Professional Bibliographic System is a database designed for storing and retrieving bibliographies. Predesigned forms for 20 types of entries. Citations automatically formatted with correct punctuation for printing. \$295. Personal Bibliographic Software, PO Box 4250, Ann Arbor, MI 48106. CP (Feb 86)

Record Holder is a flexible, easy-to-use form-oriented data manager. Set up is particularly simple and the search features are powerful. \$49.95. Software Discoveries, 99 Crestwood Rd., Tolland, CT 06084. NCP (Apr 86)

NUMBER CRUNCHING

ClickOn Worksheet is a 50-row by 20-column spreadsheet that loads onto any system disk as a desk accessory. Though small in size, it has remarkable capabilities for a desk accessory. It produces line, bar and pie charts and changes in the worksheet automatically reflect in charts. \$79.95. T/Maker Company, 2115 Landings Dr., Mountain View, CA 94043. NCP

Multiplan, the first Mac product from someone other than Apple is beginning to show age. Still a very capable basic spreadsheet with simple sorting, 63 columns by 255 rows, many built-in functions, other standard spreadsheet features.

MINIFINDERS



\$199.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. CP (Mar 86)

ProAnalysis is a powerful real estate investment analysis program. This program uses the Mac interface as well as any program yet published. Analytic power combined with report generating so good you have to see it produces an extraordinary product. Requires 512K+. \$295. Technalysis Services, 14555 DeBell Rd., Los Altos Hills, CA 94022. CP

StatView is a high-powered statistical calculation package. Easily and efficiently handles all the common statistical techniques and many uncommon tests. Has a user-definable area as well. Easy to use and well documented. \$199.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP (May 86)

StatWorks is a general-purpose statistics package that is both powerful and easy to use. Handles all standard tests and procedures. Single variable and multivariate statistics are supported. \$125. Cricket Software, 3508 Market St., Philadelphia, PA 19104. NCP (May 86)

GRAPHICS & DESIGN

Animation Toolkit I lets users prepare "film clips" of moving objects which play back at varying speed, like old-fashioned flip books. Drawings are built pixel by pixel in frames, using some of the tools from *MacPaint*. They can be copied and altered easily from frame to frame. Each film clip plays repetitiously as it is being constructed. A limited animation tool, but a lot of fun. \$49.95. Ann Arbor Softworks, 308 1/2 S. State St., Ann Arbor, MI 48104. CP

Art Grabber with Body Shop is a desk accessory that lets users browse *MacPaint* documents, selecting and copying as they choose. Selections can be larger than screen size. Also included are *MacPaint* documents and templates to allow the creation of people in your art. \$49.95. Hayden, 600 Suffolk St., Lowell, MA 01853. NCP

Chart is the standard to be matched in presentation graphics programs. Users can easily create area, bar, column, line, pie, scatter and combination charts. A total of 42 styles are provided. Limited to 100 data items (64 in a series) on a 128K Mac, approximately twice that on a 512K Mac. \$125. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. CP

ClickArt Special Effects is a *MacPaint* enhancement desk accessory. Allows the user to distort, stretch, rotate and use perspective on *MacPaint* documents. A necessary addition for all serious users of *MacPaint*. \$49.95. T/Maker, 2115 Landings Dr., Mountain View, CA 94043. NCP (Apr 86)

ColorPrint facilitates color printing on the standard ImageWriter. *MacPaint* files set up as overlays are read into *ColorPrint*, and the program controls proper positioning registration and colored ribbon switching. Good results require lots of hard work, but it's cheaper than an ImageWriter II. \$49.95. Esoft Enterprises, PO Box 179, Owasso, OK 74055. NCP (Mar 86)

Cricket Graph easily generates 12 graph types. Multiple windows can be displayed. *Graph* prints in up to 8 colors with up to 16 patterns. Self-generating macro formatting. *Switcher*, HFS, LaserWriter and plotter compatible. \$195. Cricket Software, 3508 Market St., Philadelphia, PA 19104. NCP (Jun 86)

DaVinci Building Blocks features predrawn blocks of brownstone, garden, and skyscraper portions that can be cut and pasted together to form landscape and architectural drawings. Fun for even non-pro's. \$79.95. Hayden, 600 Suffolk St., Lowell, MA 01853. NCP

Easy3D is a three-dimensional, solid modeling masterpiece. Four variable light sources, powerful sculpting tools and an exquisite user interface make this program a must-have for Mac graphics enthusiasts. Requires a 512K+ Mac. Enabling Technologies, Inc., 600 South Dearborn, Chicago, IL 60605. NCP (May 86)

Fluent Fonts is a two-disk collection of fonts. Forty-nine different items are included. All install easily in user Systems. Most

are well executed and some are extraordinarily nice. This is a real bargain for font lovers. \$49.95. Casady, PO Box 223779, Carmel, CA 93922. NCP

Fontastic is the best font editor now available for the Mac. Features a large editing window with a grid to make positioning easy. Select letters to edit by clicking on a matrix of the font. Allows scaling of existing fonts and previewing the various styles (italic, bold, etc.). \$49.95. Altsys, PO Box 865410, Plano, TX 75086. NCP (Dec 85)

Fontographer is a complex, but excellent laser font creator. Fonts created have 300 bits per inch resolution. The fonts are actually downloadable PostScript files. \$395. Altsys Corp., PO Box 865410, Plano, TX 75086. CP

FullPaint is an expanded version of *MacPaint*. Features include full-screen drawing, multiple documents open simultaneously, brush editing, movable tool palettes, special text effects and much more. It fills the gaps left by *MacPaint*. \$99.95. Ann Arbor Softworks, 308 1/2 State St., Ann Arbor, MI 48104. CP (Jun 86)

Home Design is a home planning tool that includes three disks full of *MacPaint* files of household items needed to design a home. *Art Grabber Installer* is included for easy maneuvering of items. The professional home designer, as well as the amateur will feel at ease using this program. \$79.95. Hayden, 600 Suffolk St., Lowell, MA 01854. NCP (Jun 86)

Human Forms allows users to create perfectly proportioned humans in any posture or position. Contains over 1000 separate body parts. Tiny X marks make limb, head and detail placement perfect. Requires *MacPaint*. \$59.95. Bert Monroy, 205 Luquer St., Brooklyn, NY 11231. NCP

Icon Switcher changes icons for applications and the documents they generate, permitting you to customize icons for personal work. New icons can be built pixel by pixel in the program or created in *MacPaint* and pasted in. \$19.95. PBI Software, 1155B-H Chess Drive, Foster City, CA 94404. NCP

The Mac Art Dept. is a collection of over 150 graphic images ranging from foods to hands holding signs to borders. Best suited for letterheads, memos, other business use. \$39.95. Simon & Schuster, Computer Software Div., 1230 Ave. of the Americas, New York, NY 10020. NCP (Mar 86)

Mac-a-Mug is an Identikit type program for creating faces from facial feature files. Uses scroll bars that are slow and jerky. Lots of creative fun. 512K+ Mac required. \$59.95. Shaherazam, PO Box 27731, Milwaukee, WI 53226. CP (May 86)

Mac the Knife/Vol. 1: Treasury contains over 500 pieces of clip art in the form of *MacPaint* documents and two new fonts. The art is well organized and mostly high quality. The rulers, for on-screen measurement, and the disk label templates are particularly useful. If you only plan on getting one clip art disk, this would be a good choice. \$39. Miles Computing, 21018 Osborne Street, Canoga Park, CA 91304. NCP

Mac the Knife/Vol. 2: Fonts contains over two dozen new fonts. Some of these (Paris and Stuttgart, for example are real stunners). If you do a lot of word processing try Paris 9 point (it's a big 9 point) as your text face and use High quality printing. Some fonts have single key fractions (1/2, 1/4). \$49. Miles Computing, 21018 Osborne Street, Canoga Park, CA 91304. NCP

Mac The Ripper is a two-disk set of highly stylized graphics and large display typefaces. Both are extremely well done, and represent the high-end of the clip-art disk category. \$49.95. Miles Computing, 21018 Osborne Street, Canoga Park, CA 91304. NCP (May 86)

MacDraft is an object-oriented graphics program. It sports advanced features such as variable scaling, single degree rotation, complex arcs and a FatBits-like magnification mode. It has some annoying quirks and a few bugs, and is best used to complement *MacDraw*, not replace it. \$239. Innovative Data Design, 1975 Willow Pass Rd., Concord, CA 94520. CP (Feb 86)

MacDraw is an object-oriented structured graphics program. Can be used to design forms, create presentation materials and

SHOW ANY FACE WITH PRIDE.

Unlimited Fonts For Laser Writing With Fontographer.

Only Fontographer™ can give you the superior quality of laser writing with an unlimited number of fonts. Allowing you to go far beyond the restricted number available before.

Fontographer's powerful design tools make it easy to create custom characters in any size. Use graphic effects, like drop shadows, slants and rotations. Plus you can build Macintosh™ screen fonts automatically.

Create your own fonts* from anything you draw. Logos, signatures, line drawings, or any scanned inputs. All with full laser writing resolution and complete convenience.

Fontographer. The professional font editor that lets you show your face with pride. Any face. With exclusive laser writing compatibility.

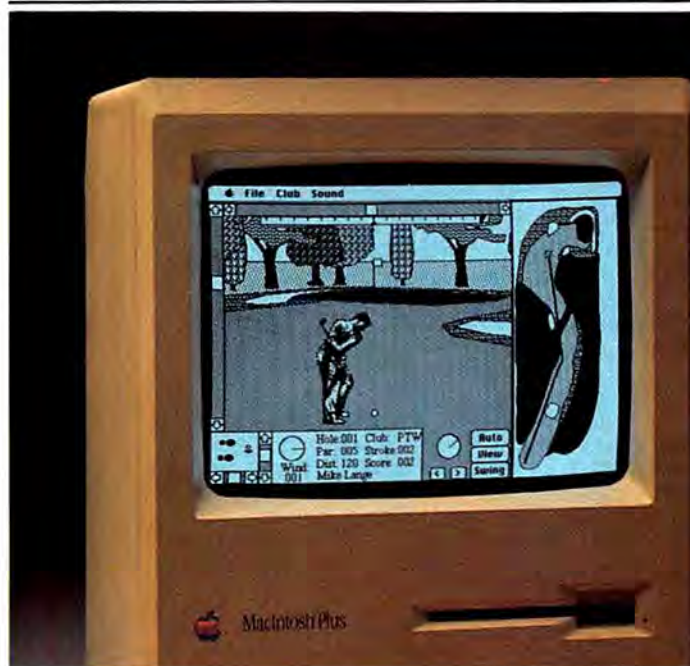
ALTSYS
CORPORATION

720 Avenue F, Suite 108 • Plano, TX 75074 • (214) 424-4888

*If you design a font using Fontographer you particularly like, send it to us. We might add it to our Font Library. And pay you the royalty on every sale!

Macintosh is a trademark of Apple Computer, Inc.
Fontographer is a trademark of Altsys Corporation.

For Free Information
Please Circle 99 On Reader Service Card.



The MacGolf™ Challenge.

Sit down, boot up and find yourself surrounded by the sights and sounds of the fairway – with MacGolf, the premier simulation golf game for Macintosh™ users.

MacGolf challenges beginners and experts with 3-dimensional animated

golfers and graphics, realistic (digitized) sound effects, and two 18 hole golf courses. Up to four people can play.

MacGolf works on a 512K or Macintosh Plus and costs only \$59.95. Get MacGolf at your nearest dealer

today. Or call Practical Computer Applications at (612) 427-4789.

MacGolf™

Macintosh is a trademark licensed to Apple Computers, Inc. MacGolf is a trademark of Practical Computer Applications, Inc.



MINIFINDERS



do technical illustrations. Drawing sizes up to 8 feet by 10 feet are possible. Text can be easily generated and integrated in the graphics. *MacPaint* documents can be pasted into *MacDraw*, but not manipulated. \$195. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Nov 85)

*** **MacModel** is an economical 3D package with shading. Somewhat sketchy Mac interface, shading speed slow (but acceptable), grainy image resolution. On-line help screens are a welcome addition. Frequent updates and low price make this a reasonably good buy. \$40. A.P.P.L.E. CO-OP, 290 SW 43 St., Renton, WA 98055. NCP (Aug 86)

***** **MacPaint** is the graphics program that started a whole new genre. Still the best freehand graphics tool. Version 1.5 supports 512K+ Macs and the LaserWriter. Multiple tools, patterns and features too numerous to describe. A work of art for artists. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Nov 85)

*** **MacPublisher** is a tool for creating newsletters. Allows multiple page issues. Layout is fairly easy but hard to do precisely. Runs on a 128K Mac but is slow; a 512K should be considered a requirement. Printer support, including LaserWriter, is good. Ideal for informal newsletters, not yet a professional tool. \$99.95. Boston Software Publishers, 19 Ledge Hill Rd., Boston, MA 02132. CP

***** **MacPublisher II** is the souped-up version of *MacPublisher*. Allows *MacWrite* and *Word* files to be imported and edited from within the program; saves each element separately; allows up to 96 pages in an issue (limited by memory); supports kerning, borders, cropping, telecommunications, command keys and a wide variety of printers; and it runs on 128K, single-drive Macs. \$195. Boston Software Publishers, 1260 Boylston St., Boston, MA 02215.

*** **Mac3D** is a very Macish 3D drawing package. Easy to use, many primitive shapes, good LaserWriter support, and lots of 3D goodies will please Mac graphics fans. Not a fully professional CAD package, though, and no shading. \$195. Challenger Software, 18350 Kedzie Ave., Homewood, IL 60430. NCP

*** **Magic Slate** is a graphics and design program with built-in special effects and custom features. Fun but sometimes difficult to use. Great for pattern design, block and geometric graphics and watercolor-style "washes." Requires 512K+. \$99. Devionics, PO Box 2126, Covina, CA 91722. CP (Feb 86)

***** **M.U.D. (MacroMind Utility Disk)** is a disk of various utilities for *MusicWorks* and *VideoNorks* owners. It also contains *CheapPaint* and *Art Grabber+*, two graphics desk accessories that are musts for graphics enthusiasts. Hayden, 600 Suffolk St., Lowell, MA 01854. NCP (Feb 86)

*** **PageMaker** is an advanced layout and makeup program. Can easily create multiple page documents. Output is optimized for LaserWriter. Good documentation. \$495. Aldus, 411 First Avenue South, Seattle, WA 98104. CP (Nov 85)

***** **PictureBase** is a program and accompanying desk accessory for organizing *MacPaint* and *MacDraw* elements and files. Graphics are organized into libraries, and can be searched for by keywords. A multitude of display options, and an advanced interface make this package indispensable for quick access to graphics files. \$69.95. Symmetry Corporation, 761 E. University, Mesa, AZ 85203. NCP (Jun 86)

*** **PosterMaker** can enlarge *MacPaint* drawings by up to 3200 percent. Full-screen cut and copy are supported, so any portion of a *Paint* document can be selected and scaled. Borders can be added automatically. Includes some nice digitized graphics files. \$39.95. Strider Software, Beecher Lake Rd., Pembine, WI 54156. NCP (Jul 86)

***** **ReadySetGo** is a page makeup program for 512K+ Macs. Users build up pages from blocks of text, graphics and rules. Resizing and scaling of blocks are supported. Each block can be precisely positioned. Text and art may be pasted in from another source or created within the program. Good LaserWriter support. \$195. Manhattan Graphics, 163 Varick St., New York, NY 10013. NCP (Apr 86)

*** **Slide Show Magician 1.3** is useful for creating full screen audio-visual presentations on the Mac. Frame branching, improved editing capabilities, external cassette recorder synchronization and digitized sound capabilities make this much more powerful than the original. \$59.95. Magnum, 21115 Devonshire St., Chatsworth, CA 91311. CP (Mar 86)

***** **Storyboarder** produces working animated storyboards for use in film and video production. Imports graphics from *MacPaint*; allows screen masking to simulate television, 35mm or 70mm screen widths; allows limited animation and special effects. Storyboards can be printed in several formats. \$495. American Intellware, 330 Washington St., Marina Del Ray, CA 90292. CP

***** **VideoWorks** is a full-featured animation package. Professional quality animations are easily accomplished using the tools provided. Features frame-by-frame and real-time modes. Comes with an art disk of predrawn images and *Art Grabber* (which allows the user to use any part of a *MacPaint* document in *VideoWorks*). Includes many special video and sound effects, and on-disk examples. \$99.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP (Nov 85)

COMMUNICATIONS

*** **HomePak** is a package consisting of *HomeTerm*, an excellent simple telecommunications program with strong macro features; *HomeFind*, an electronic filer as bad as *HomeTerm* is good; and Apple's *Edit*, a simple, non-HFS-compatible text-file editor. \$49.95. Batteries Included, 30 Mural St., Richmond Hill, Ontario L4B 1B5, Canada. NCP

***** **InTouch** comes with its own communications command language able to do unattended sessions. Supports Xmodem, MacBinary and Kermit. Has a macro key function. Many sample set up documents and command language files provided. \$145. Palantir, 12777 Jones Rd., Houston, TX 77070. CP (Prem)

*** **MacTerminal** provides basic telecommunications and terminal emulation for the Mac user. Doesn't have macros nor any sort of auto redial/auto logon capability. Best for those needing faithful VT100 or IBM 3278 emulation — it is superb at those. \$99. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Prem)

***** **Microphone** is a high-powered terminal program that's easy enough for novices. Very powerful command language allows full automation of communications, if desired. \$74.95. Software Ventures, 2907 Claremont Ave., Berkeley, CA 94705. NCP (Jun 86)

***** **Red Ryder** is a full-featured telecommunications program that supports MacBinary, Xmodem and Kermit. Remote service procedures, auto procedure writer and keyboard macros allow automation of many operations. It is shareware and a real bargain. \$40. The FreeSoft Corp., 10828 Lacklink, St. Louis, MO 63114. NCP (Prem)

***** **Smartcom II** balances power and ease of use. Capable of unattended operation and has a very powerful command language. Supports MacBinary, Xmodem, and Hayes Verification protocols. The large screen buffer can easily be archived both to the printer and to disk. \$149. Hayes, 5923 Peachtree Industrial Blvd., Norcross, GA 30092. NCP (Prem)

*** **Telescope** is the power telecommunicator's terminal program. Can be configured to emulate any terminal and has all the advanced features (except unattended operation). The documentation does not adequately explain the many features and much of the power will be unavailable to all but the pros (who can figure it out on their own). \$125. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP (Prem)

***** **VersaTerm** features include DEC VT100 and VT52, Tektronix 4014 graphics terminal and Data General DG200 emulation. Supports Xmodem and MacTerminal Xmodem protocols and MacBinary. *VersaTerm* is easy to use and well documented. \$99. Peripherals, Supplies & Computers, 2232 Perkiomen Ave., Mt. Penn, PA 19606. CP (Prem)

21 Million Bytes: \$789

WhisperDrive 21™ can dramatically accelerate the performance of your Mac Plus.

The mass storage solution you have been waiting for has arrived. Over 21 megabytes of fast, reliable hard disk memory now at an affordable low price. Engineered with superior plated media technology for an ultra-hard, durable disk surface that will keep your data secure from damage. WhisperDrive comes conveniently preformatted, with Apple's latest HFS System and Finder plus utilities already on disk. Simply plug it in to the Mac Plus SCSI port. It automatically boots up directly from the hard disk.



Features:

- Quiet, rugged and compact
- SCSI expansion port built-in
- Internal power supply, no fan
- Six-foot SCSI cable included
- Sophisticated software supports nested HFS and MFS volumes
- Full year limited warranty

Palo Alto MicroSystems

ENGINEERING EXCELLENCE FOR THE FUTURE

369 Christopher Court • Palo Alto, California 94306

(415) 424-8740

Our Other Great Products

\$889 WhisperDrive™

21-megabyte internal hard disk drive system

\$329

2-Meg Mac Plus RAM upgrade with sophisticated RAM disk. Install it yourself in a jiffy!

\$39

Hummingbird™ Super-Quiet piezo-electric internal fan keeps your Mac running cool

Risk Free Guarantee

If you are not completely happy with your purchase return it within 30 days for a full refund.

MacPlus and Apple are trademarks of Apple Computer, Inc. WhisperDrive and Hummingbird are trademarks of Palo Alto MicroSystems.

For Free Information
Please Circle 248 On Reader Service Card.

TURN ON SCSI POWER



MACPORT™

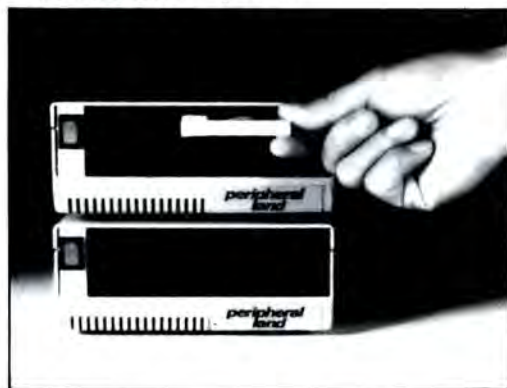
Add a SCSI Interface to your existing Mac 512K with MACPORT. Supports most SCSI disks designed for the MacPlus. Especially designed for the PL20 and PL30. Comes with bracket to exit off the battery opening.

512K SCSI
UPGRADE **\$99**



PL SERIES

The quickest SCSI hard disk drive for the MacPlus.*Boots directly upon power up, comes preformatted. Just plug in and run. Includes cable and a park utility.



MACBACK+™ SCSI TAPE BACK-UP

A 20 meg tape backup SCSI device. Works with all SCSI drives. A fast and efficient way to back up your hard disk. STOP WASTING TIME WITH FLOPPIES.

20 MEG
30 MEG
80 MEG

SCSI HARD DISK DRIVES



3677 ENOCHS STREET
SANTA CLARA, CA 95051
TEL. 408-733-7600

THE SCSI EXPERTS

For Free Information
Please Circle 254 On Reader Service Card.



WORD & OUTLINE PROCESSORS

Document Compare allows users to compare any two MacWrite documents. Differences in spelling, punctuation, formatting and wording are detected. Differences appear highlighted and the documents can be printed out with differences highlighted. Not HFS compatible. \$99. The Model Office Company, Inc., The Gooderham Flatiron Building, 49 Wellington Street East, Toronto, Canada M5E 1C9. CP (May 86)

1stMerge is a mail-merge program that integrates data files with documents after a blueprint for documents has been designed. Features on-screen help, and the ability to add and search records. Requires MacWrite. \$95. DeskTop Software, 244 Wall St., Princeton, NJ 08540. CP

Hayden: Speller checks spelling errors in MacWrite, and Word documents against a dictionary of 20,000 common words and user-created dictionary. Reasonably fast and quite simple to use. \$79.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

Just Text is a professional level word processor and page makeup program that generates PostScript output. Comes with a set of LaserWriter utilities that allow total manipulation of art and text. Requires LaserWriter or other PostScript compatible output device. \$195. Knowledge Engineering, GPO Box 2139, New York, NY 10116. NCP (Dec 85)

LaserFonts are new fonts designed for the LaserWriter. Users download them to their machines. Very high quality and very simple to use. *Willamette* (in Medium, Light and Extra Light) looks like Avant Garde. *MicroFonts* provides tiny, expanded and condensed versions of the LaserWriter's own fonts. \$29.95 each. Century Software, 2306 Cotner Ave., Los Angeles, CA 90064. NCP

Le Conjugueur is a desk accessory that simplifies finding the right spelling for a French verb. Type a verb, select a person and a tense, and *Le Conjugueur* presents the correct form (and can even insert it for you). Good for casual French speakers or students. \$49.95. Editions Ad Lib, 220 Grande-allee, Quebec City, Quebec, Canada, G1R 2J1. NCP (Aug 86)

Liberty Spell Checker is a fast, effective interactive checker. The dictionary is smaller than average, but well chosen. Unfortunately, it has a few misspelled words. \$59.95. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP

MacIndexer is a good writer's utility that takes much of the mechanical work and time out of preparing an index. Works with MacWrite and Word. Can generate word frequency counts. \$49.95. Boston Software Publishers, 1260 Boylston St., Boston, MA 02215. CP (Jul 86)

MacLightning is an interactive spelling checker that is both very fast and has an extensive, well thought out dictionary. Exists in the System as a desk accessory. \$99.95. Target Software, 14206 SW 136th St., Miami, FL 33186. NCP

MacSpellRight is a spelling checker that works with MacWrite 4.5 (not 2.2!). Allows the user to create custom dictionaries. Works from within MacWrite. \$89. Assimilation, 485 Alberto Way, Los Gatos, CA 95030. NCP

MacWrite is the basic word processor that comes with the Mac. While it doesn't have every bell and whistle, it is more than adequate for most users. Features include document size limited by disk space, global search and replace, page numbers indicated in the scroll bar and excellent LaserWriter compatibility. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

MegaForms is a well designed forms generator and processor. Forms design is easy. Can use data from MegaFiler. The form filling and print functions are slow, possibly too much so for large scale use. \$295. Megahaus, 5703 Oberlin Dr., San Diego, CA 92121. CP (Feb 86)

QuickWord is a word processing accessory that adds sophisticated glossaries to MacWrite. Simple to install and use, yet powerful and efficient. \$49.95. EnterSet, 410 Townsend St., San Francisco, CA 94107. NCP

Spellswell is an effective and powerful standalone spelling checker. It has many advanced features such as capitalization and homonym checking and comes with a large, well-chosen dictionary. Full-featured, easy to use, with keyboard equivalents for menu commands. \$49.95. Greene, Johnson, Inc., 15 Via Chualar, Monterey, CA 93940. NCP (May 86)

Word is a power word processor for the Mac. It has just about every feature your heart could desire. Supports keyboard commands as well as the mouse. Does mail merge and multicolumn text. Integrates with the rest of the Microsoft line. \$195. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. CP (May 86)

ORGANIZATIONAL TOOLS

Acta is an outline processor in desk accessory format. It has practically all the power of a standalone program, and then some. Can save files as Acta outlines, MacWrite or text files. A must-have for those who do outlining. \$59.95. Symmetry, 761 E. University Dr., Mesa, AZ 85203. NCP (Jul 86)

DecisionMap organizes data to facilitate decision making. Unique weighting abilities make this a powerful tool. The decision analysis process is long and some times complex, but never difficult. \$145. SoftStyle, 7192 Kalanianoale Hwy., Honolulu, HI 96825. CP

MacProject allows a user to plan and track a project from beginning to end. Uses CPM to produce schedules with start and finish dates for each task. Can report on resource interdependencies and generate all needed printed reports. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Mar 86)

MicroPlanner is a heavy-duty project planner. Excellent, but slow, at the mechanics of project planning. Reports are its weakness. Speed is much improved when a hard disk is used. \$395. MicroPlanning Software USA, 235 Montgomery St., San Francisco, CA 94104. CP (Mar 86)

Mindsight is a professional level decision support and business planning package. Can work with IFPS on mainframes, and is able to transmit models in both directions. Powerful and easy to use. Requires 512K+. \$195. Execucum Systems, PO Box 9758, Austin, TX 78766. CP

ods/Consultant is a program that lets users organize ideas and helps in thinking through and solving problems. Easy to use thanks to extensive use of icons and on-screen help. This program introduces some low-level AI (artificial intelligence) concepts. \$200. Organization Development Software, 1011 E. Touhy Ave., Des Plaines, IL 60018. CP (Apr 86)

ThinkTank 128 is a basic outline processor. The interface is not the standard Mac interface, but is simple to use and efficient. Printer support is limited, but files can be printed in a draft-style mode. Only for 128K owners; 512K+ owners should get *ThinkTank 512*. \$99.95. Living Videotext, 2432 Charleston Rd., Mountain View, CA 94043. CP

ThinkTank 512 is a very fast and intuitive organizational tool that can handle word processing chores in the midst of structuring a plan or outline. Full keyboard control is possible. Can store and paste graphics into outlines. Slide show features allows high-quality presentations to be created. Good report formatting and printing capability. \$195. Living Videotext, 2432 Charleston Rd., Mountain View, CA 94043. CP (Jan 86)

DESK MANAGERS

BatteryPak is a set of 8 handy desk accessories including scientific and RPN calculators, a background text file printer and a 250-page note pad with search and phone dialing capabilities. Comes with an installer and the best manual we've seen in a long time. \$49.95. Batteries Included, 30 Mural St., Richmond Hill, Ontario, L4B 1B5, Canada. NCP (Dec 85)

Power Plus!



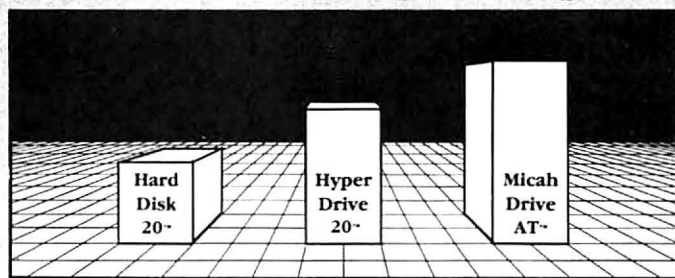
Power plus means the fastest, coolest operating, most rugged and reliable internal hard disk you can get for your Macintosh® or Macintosh Plus®. The MicahDrive AT®.

Besides great speed and 22.4 mb of formatted capacity, The MicahDrive AT® comes complete with print spooling, security, backup, and hard disk management software that provides 100% MFS or HFS compatibility. And since the MicahDrive AT® can boot directly from the hard disk with 64K ROMs or 128K ROMs, you needn't worry about incompatibility when you upgrade your Macintosh® to a Macintosh Plus®. The reinstallation is quick and easy.

With the Macintosh Plus®, the MicahDrive AT® supports an additional 1 to 3 mb of add on memory with MicahMemory® expandable RAM.

Because it's internal, the MicahDrive AT® leaves more room on your desk while leaving your Mac portable. And it's all backed by a one year limited warranty.

Relative Data Transfer Speed Comparison



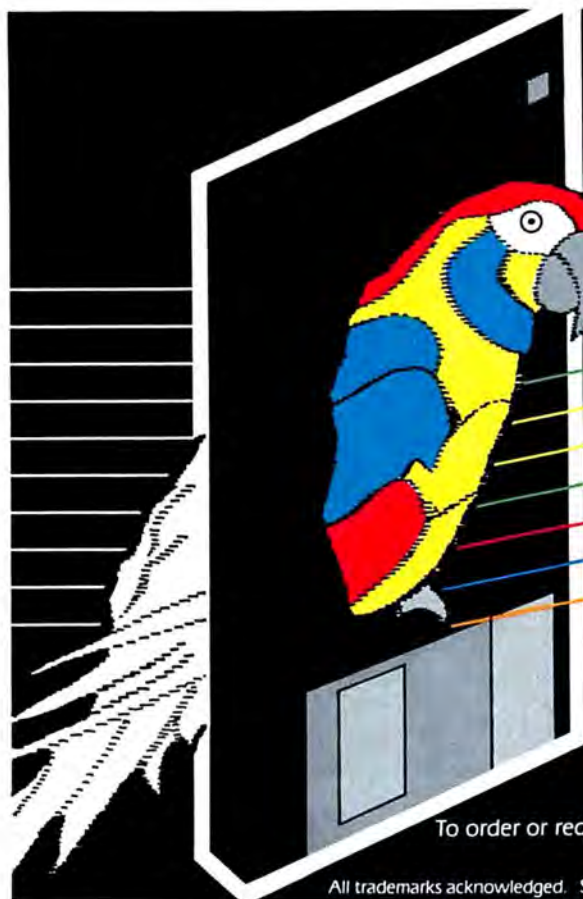
To find out more about the MicahDrive AT®, and the name of your nearest authorized Micah dealer dial up MicahLink® -our 1200 baud, 24 hour a day BBS at (415) 771-1119 or call (415) 331-6422 during regular business hours.

MICAH

2330 Marinship Way, Suite 111, Sausalito, CA 94965 (415) 331-6422, Telex: TWX 510 600 1221

For Free Information Please Circle 163 On Reader Service Card.

MicahDrive AT, Power Plus and MicahLink are trademarks of Micah, Inc.. HyperDrive 20 is a trademark of General Computer Corp.. Macintosh is a trademark licensed to Apple Computer, Inc.. Macintosh Plus and Hard Disk 20 are trademarks of Apple Computer, Inc..



COLOR YOUR MAC

- ColorPrint™ Software
- Color graphics for Imagewriter II
- Compatible with MacPaint™ & MacDraw™
- Over 60 color combinations • Also available for Imagewriter I
- ColorChart™ Software
- Stand alone color business graphics for Imagewriter II
- 100+ charts & graphs
- Runs on 128K Mac™, 512K Mac & Mac Plus
- More powerful than any other Macintosh Chart program
- Four color Imagewriter II ribbons available.

Color Software Priced Light As A Feather
ColorPrint™ \$29⁹⁵ / ColorChart™ \$39⁹⁵

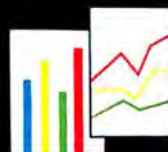
I/O DESIGN & ESOFT ENTERPRISES

P.O. Box 272 Rumson, NJ 07760

To order or request information see your local dealer or call us today:

1-800-241-2122, in New Jersey 201-747-0943

All trademarks acknowledged. Simulated artwork based on ColorPrint™ & ColorChart™ capabilities.



We accept
 VISA, MasterCard
 or personal checks.

For Free Information
 Please Circle 187 On Reader Service Card.

Buried in Business Forms? Let MacFill-In™ dig you out!

- MacFill-In's "Smart Scan" turns any MacPaint™ file into an on-line data entry form.
- MacFill-In lets you TAB quickly from blank to blank... or go to any blank with a simple click.
- Dates, times, sequence numbers and computed values are filled in automatically... you may never need your calculator again.
- To get you started, MacFill-In comes with 18 predrawn forms, including Invoice, Cash Receipt, Work Order, and many more. Use them as-is, or customize them to meet your business needs.

MacFill-In is NOT copy protected.

30 day, money back guarantee.

(512K Macintosh & Finder 4.1 or later are required.)

Cognitive Concepts
 1219 Phelps Avenue
 San Jose, CA 95117

\$39

California Residents add local sales tax

☐ VISA ☐ MASTERCARD ☐ CHECK/ MONEY ORDER

CREDIT CARD #

EXPIRATION:

NAME:

ADDRESS:

CITY:

STATE:

ZIP:

SIGNATURE:

For Free Information
 Please Circle 220 On Reader Service Card.

MINIFINDERS



Front Desk lets small businesses and offices easily keep track of personnel schedules, activities and payments. The program can keep track of up to 15 employees, functioning as a day-, week- and month-at-a-glance calendar. \$149.95. Layered, 85 Merrimac St., Boston, MA 02114. CP (Dec 85)

MacOffix combines many of the simple and necessary office functions in one easy-to-use package. Features include simple word processing, forms design, form letter production, report generation and filing. Good design nearly makes the manual unnecessary. \$79. Emerging Technology, Inc., 4760 Walnut St., Boulder, CO 80301. CP

Mighty Mac is a personal data manager for those with lots of appointments to keep track of. Features include an on-screen calendar, a Directory, Reminder function (with audio and visual alarm), and an Event function some of which include a note pad for added notes. Very good search capabilities for accessing information. \$59.95. Advanced Logic Systems, 1195 E. Arques Ave., Sunnyvale, CA 94086. CP (Aug 86)

My Office lets you handle your files and papers in much the same way you did before you got a computer. Excellent use of graphic symbols makes this program the easiest to use of its type. \$129.95. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP (Prem)

Quickset is a set of desk management and organizational tools that can be used as desk accessories or applications. Modular design allows users to add only selected items to System disks. Functions include note filer, card filer, calendar, phone dialer, financial and statistical calculators and a file encryptor. \$49.95. EnterSet, 410 Townsend St., San Francisco, CA 94107. NCP (Dec 85)

Sidekick is a set of desk organization applications and accessories. Functions include phone dialer and logger, desk accessory terminal, calculator, clock, editor and more. When required resource files are included modules take up a lot of disk space, and are best used with a hard disk. \$84.95. Borland International, 4585 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Dec 85)

Top Desk is a set of 7 self-installing (and self-removing) DAs. Menu Key adds Command key sequences to programs, View allows looking at and moving data between up to 8 MacWrite documents, BackPrint allows background printing from most applications, Shorthand adds a glossary, Blank is a screen saver, Encrypts scrambles files for protection, and Launch transfers to another application. \$59.95. Cortland Computer, PO Box 9916, Berkeley, CA 94709. NCP (May 86)

UTILITIES

Accessory Pak 1 is a set of useful applications and utilities. *Paint* Cutter alone is worth the price. That program allows users to browse and manipulate full page MacPaint documents. \$39.95. Silicon Beach, 11212 Dalby Pl., San Diego, CA 92126. NCP (Nov 85)

Copy II Mac was one of the first back-up programs available for the Mac. Does efficient sector and bit copies and in its latest version can back-up virtually all Mac software. Features graphic displays of copy progress. Comes with *MacTools*, a multiuse utility that can recover many damaged files. \$39.95. Central Point Software, 9700 S.W. Capitol Highway, Portland, OR 97219. NCP (Apr 86)

Disk Ranger is a speedy cataloguing program that doubles as an efficient labelmaker. Comes with pinfeed labels. Works with regular and hard disks. Can catalog HFS systems. \$49.95. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP (Mar 86)

Dubl-Click Calculator Construction Set lets users design personalized calculators with a variety of standard and special functions. Multiple functions can be attached to a single key. Finished calculators can be saved as installable desk accessories or as clickable applications. \$59. Dubl-Click

Software, 18201 Gresham St., Northridge, CA 91321. NCP (Apr 86)

Fedit is the best disk editor available for the Mac. The program also includes extremely powerful disk and file repair and recovery facilities. All Mac owners should have this tool on hand for emergencies. \$40. MacMaster Software, 939 E. El Camino Real, #122, Sunnyvale, CA 94087. NCP

Hard Disk Util uses patch files to allow users to mount and run specified programs on their hard disks. The list of patches is constantly expanding. \$89.95. FWB Software, 2040 Polk St., San Francisco, CA. NCP

Mac Disk Catalog II is a utility that will quickly organize a moderate size disk library. Easy to use with powerful reporting and label-making features. \$49.95. New Canaan MicroCode, 136 Beech Rd., New Canaan, CT 06840. NCP (Dec 85)

MacLabeler lets users instantly index and print labels for all the disks in a burgeoning collection. Choose border type and orientation of your label; index by folder or document. Starter set of labels is included. \$49.95. Ideaform, PO Box 1540, Fairfield, IA 52556. CP (Prem)

MacLink lets users transfer data between Macs and PCs. Simple to install and run, high-performance software. Can do special format transfers such as 1-2-3 to *Multiplan* and *WordStar* or *MultiMate* to *MacWrite*. Contains both Mac and PC disks, interface cable is optional. Has Mac and MS-DOS disks. \$125, \$155 with 8-ft interface cable. DataViz, 16 Winfield St., Norwalk, CT 06855. NCP

MacMate combines RAMdisk and print spooling functions in a compact package. Both parts are efficient, work well and have on-screen help. \$49.95. SMB Development Associates, PO Box 3082, Chatsworth, CA 91311. NCP

Mac Memory Disk creates a RAMdisk on 512K Macs. The RAMdisk's size is user selected up to 316K. Has auto startup and auto file transfer features. \$29. Assimilation, 485 Alberto Way, Los Gatos, CA 95030. NCP

MacNosy is a global disassembler. A very advanced user can use this program to look into the code of virtually any program. This advanced tool can take you places no other Mac program could dream of going if you have the skill to guide it. The documentation is sparse. For pros only. \$85. Jasik Designs, 343 Trenton Way, Menlo Park, CA 94025. NCP

Mac + II lets you run Apple II software on the Mac. Emulation speed is only 35 to 45 percent of a real Apple II, so graphics especially suffer. Games also run slow. Runs *AppleWorks* (Apple II integrated software). Good for ex-Apple II owners who have large software collections. \$149.95. Meacom, PO Box 272591, Houston, TX 77277. CP

MacQwerty is a set of three keyboard utility programs. *Reconfigure* allows users to assign any character to any key, *Standard* sets up a normal qwerty keyboard and *Dvorak* changes the key arrangement to the very efficient Dvorak layout. \$35. Paragon Courseware, 4954 Sun Valley Rd., Del Mar, CA 92014. NCP (Jul 86)

MacServe converts a Mac and a hard disk into a disk and print server. Uses the AppleTalk network and is easily hooked up. Users can partition the hard disk into multiple volumes (read-only for common access and read-write for private access). Runs in the background, so users can work on all machines in the network. Comes with a backup and restore utility. \$250. Requires 512+ or Mac XL. Infosphere, 4730 SW Macadam, Portland, OR 97201. CP

MacZap is a three-part disk and memory utility. It can be used to recover some damaged files and disks, compare disks, analyze disk structure and make back-up copies of most disks. \$60. Micro Analyst, 5802B Gloucester, Austin, TX 78723. NCP (Jan 86)

myDiskLabeler is an excellent label making program. It can read directories, or use large or small icons, or anything else the user desires. This simple and intuitive program comes with 54 precut labels on pinfeed paper. HFS compatible. \$44.95; with color printing ability (on the ImageWriter II), \$54.95.

MINIFINDERS



Williams and Macias, PO Box 19206, Spokane, WA 99219.
NCP (Aug 86)

Ncryptor is a simple, safe program that lets users password their files. The same program is used for encoding and decoding. This is the best product in its category. \$39.95. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP

Packer is a simple utility that compresses files. It can be used to save disk space and also protect files. Typical space savings range from 20 to 50% depending on the original file type and size. This is the best program of its type so far. \$29. Bobbing Software, 67 Country Oaks Dr., Buda, TX 78610. NCP (Jul 86)

Quick & Dirty Utilities, Volume One is a disk chock full of the handiest programs you have ever bought. Included are a super disk cataloguer, a desk accessory mover and more. Several desk accessories including a menu bar clock and a terminal are on the disk. "File info" and "Q&D Filer" are two file management desk accessories that you'll wonder how you got along without. \$39.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP (Nov 85)

Switcher is Andy Hertzfeld's contribution to Mac productivity. This program lets users run several programs at once (up to 8 on a 1-megabyte or larger machine). Switching between the programs is near instantaneous. Slick and easy to use; every 512K Mac user should get it. Requires 512K+. \$19.95 from Apple, free from MAUG on CompuServe, from Delphi and included with some third-party applications. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

TurboCharger is a disk-cache program. Can dramatically speed up operation (250 to 500% improvements are common). Features include auto-startup and write buffering. Only works on a 512K Mac but is a must for one. \$95. Nevins Microsystems, PO Box 1249, Capitola, CA 95010-1249

TurboDownload is a desk accessory designed specifically to increase the speed of Xmodem data transfers from national databases to your Mac. Speed increases range upward from 50% to over 300% at 2400 baud. \$39.95. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP

II in a Mac is a graphically oriented Apple II emulator with unique features, such as text and graphics copy from Apple screen to Mac Clipboard. 40 column screen is too small, 80 column better. Suffers speed problems associated with "virtual machine" emulation. More consumer-oriented interface, and less compatible with Apple II software than competition. \$69. Micro-W Distributing, Inc., 1342B Route 23, Butler, NJ 07405. CP

TypeNow is a desk accessory that allows the Mac and ImageWriter to function as an electronic typewriter. Type can be placed into blanks in complex forms easily. Typing can be recorded and played back or "boilerplate" stored and used as needed. \$39.95. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP (Jan 86)

LANGUAGES

Aztec C is a C language program system that will appeal to users with a UNIX background. It uses many UNIX conventions and in the more expensive versions comes with standard UNIX utilities, including the VI editor. Good, solid system. \$199 basic system, can't produce standalone applications; \$299 development system, can produce standalone applications; \$499 commercial system, development system plus utilities and strong technical support by publisher. Manx Software Systems, PO Box 55, Shrewsbury, NJ 07701. NCP (May 86)

Hippo-C Level 1 offers a good basic learning environment for

BEST DESK ACCESSORY AWARD! A+ Magazine

SAVE TIME AND GET ORGANIZED WITH THESE MACINTOSH ACCESSORIES.
ALL ON ONE DISK, FOR ONE LOW PRICE!

- 1 Calendar with Daytimer: keeps track of appointments, deadlines, important dates. Includes global search, automatic dial, and Calendar Manager with print command.
- 2 250-page Phonepad: stores and retrieves phone numbers instantly. Includes mini-wordprocessor for taking notes, free-form database, and Print Contents.
- 3 Automatic Modem/Phone Dialer: dials any phone number listed in Phonepad or Calendar.
- 4 Scientific Calculator: Hewlett-Packard RPN notation, statistical, logarithmic and trigonometric functions, and much more.
- 5 RPN Calculator: simplified and streamlined for everyday calculating. Continuous memory and full display control.
- 6 9-function Disk Utility: from within any application you can trash, copy, find, move and rename files, lock/unlock files, change default drive, access disk and file size/date information.
- 7 High-Speed Launcher: transfer to any other application - without going through the Finder.
- 8 Print Text: prints hardcopy of any document or program - while you keep working. Many formatting options.
- 9 Windows: gives a complete listing of every window in your system, and lets you bring any window to front of screen.



BATTERIES INCLUDED

BATTERYPAK WORKS WITH ANY 128K MACINTOSH AND THE NEW MACINTOSH PLUS! ALSO INSTALLS ON ALL HARD DISK DRIVES.

30 Mural Street, Richmond Hill, Ontario L4B 1B5 Canada (416) 881-9941 Telex: 06-986-266 17875 Sky Park North, Suite P, Irvine, California, USA 92714 (416) 881-9816 Telex: 509-139 If you can't find Battery Pak at your local retailer, you can order it direct from us for \$49.95 (plus \$5.00* for shipping and handling; Call 1-800-387-5707 (U.S. only). New enhanced version 1.2 now available! Update your disk for only \$10.00* with the return of your original disk. *Suggested U.S. list price. All prices shown are in U.S. funds. WRITE TO US FOR OUR FULL COLOR CATALOG OF SOFTWARE FOR ATARI, ATARI ST, APPLE, MACINTOSH, COMMODORE, AMIGA AND IBM SYSTEMS. © 1986 BATTERIES INCLUDED, APPLE, ATARI, COMMODORE AND IBM ARE REGISTERED TRADEMARKS RESPECTIVELY OF APPLE COMPUTERS INC., ATARI INC., COMMODORE BUSINESS MACHINES INC., AND IBM BUSINESS MACHINES INC.



ONLY \$49.95*

Not copy protected!

"A 'wish list' of desk utilities." (A 4 disk rating)

- Tom Neudecker/InfoWorld

"Hands down winner!"

- Sharon Aker/A+ Magazine

"Packed with accessories."

- Gordon McComb/MacWorld

"Simple to use and gets the job done."

- Steven Schwartz/Macazine

"Worth every penny."

- L. Kuttan/Computer Shopper

"The best we've seen." ("five mouse" rating)

- Steven Bobker/Macuser

MDC IITM MAC DISK CATALOG II



**STOP SEARCHING FOR LOST FILES.
LET MDC-II FIND THEM FAST!**

MDC II for the 512K Mac, Plus and XL has the features you've been looking for: • Insert Disks to Catalog them • Fully indexed database • Find and Select files and volumes • 4000 to 6000 entries on a 512K • Volume IDs • 16 Standard and 16 User definable Categories • Category Learn Mode • Edit all fields • Print Reports, Diskette Labels and 3X5 Cards.

New Version for HD20 & HFS

MDC II - \$49.95 • Mac Disk CatalogTM for the 128K - \$39.95 • Pinfeed MDCLabelsTM Red, Blue, Green, Yellow, Gray or mixed 150 - \$11.95 • 250 - \$19.95 • 500 - \$39.95. Shipping & Handling \$3.00 (\$5.00 foreign) per order. Visa & MasterCard Accepted.

**new canaan
MicroCode**

136 Beech Rd. New Canaan, CT 06840 (203) 966-6969

For Free Information
Please Circle 135 On Reader Service Card.

Free Demo Diskette

ADVANCED COPY PROTECTION New Hard Disk Support

The world's leading software manufacturers depend on Softguard copy protection systems.

Now Softguard introduces the MACLoK KitTM—a complete software duplication/copy protection system for Macintosh computers.

- New hard disk support with install/uninstall
- No source code changes
- Compatible with all Macintosh systems
- Each protection system unique
- Stops all copybusters

Call 408/970-9240

SOFTGUARD

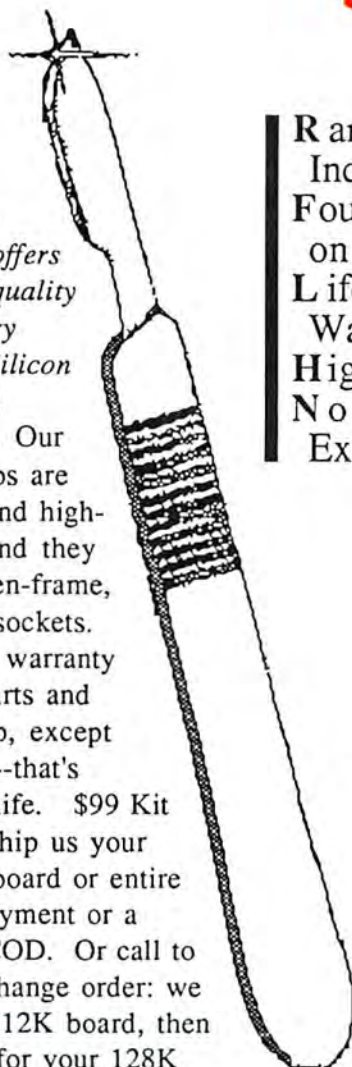
2840 San Tomas Expy., Suite 201
Santa Clara, CA 95051

For Free Information
Please Circle 191 On Reader Service Card.

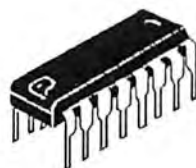
5 1 2 K • U P G R A D E

Brain Surgery: \$169

Mac Doctor Electronics offers the highest quality 512K memory upgrade in Silicon Valley at the fairest price. Our memory chips are low-power and high-reliability, and they reside in open-frame, gold-plated sockets. Our 120-day warranty covers all parts and workmanship, except the memory—that's covered for life. \$99 Kit available. Ship us your Mac motherboard or entire Mac with payment or a request for COD. Or call to place an exchange order: we ship you a 512K board, then you trade it for your 128K board using our loaner tools.



RamDisk & Switcher
Included
Four Month Warranty
on Parts and Labor
Lifetime Memory
Warranty
Highest Quality Parts
No Down Time with
Exchange Boards



Volume
discount
available.
Dealer
inquiries
welcome.



Mac Doctor Electronics

405-1 Lytton Ave, Palo Alto, CA 94301

Phone Orders: (415) 321-3358

For Free Information
Please Circle 162 On Reader Service Card.

MacMate *SUPERFAST* 20™

20 MEGABYTE HARD DISK SYSTEM FOR MAC PLUS

\$849.95

- SEAGATE reliability using the proven ST225™
- SCSI interface for *SUPERFAST* performance
- Software utilities, cables, and instructions
- Quiet, compact, fast, and portable

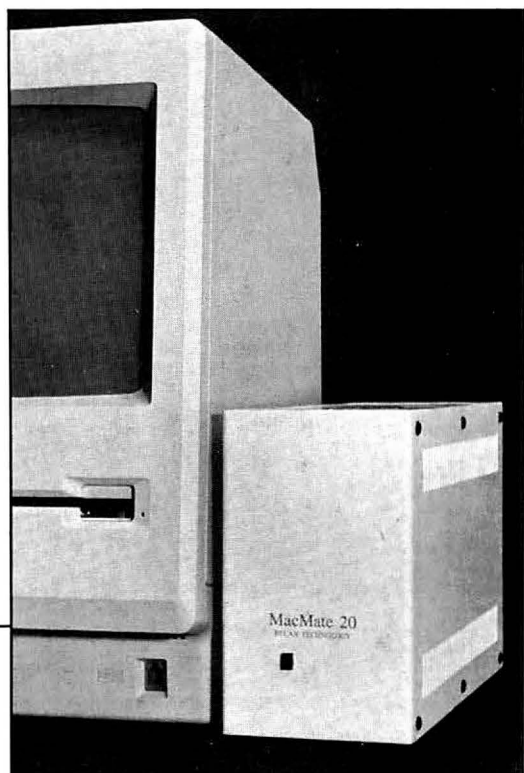
SCSI interface for 512k or 128k
\$149.95

- Upgrade kit for Macintosh 512k and 128k
- Complete instructions and documentation

MACINTOSH IS A TRADEMARK OF APPLE COMPUTER. MACMATE IS A TRADEMARK OF GL SYS.

GL SYSTEMS
P.O. BOX 14310
FREMONT, CA. 94539
415-471-6449

VISA
MASTER CARD



For Free Information
Please Circle 246 On Reader Service Card.

GREAT GRAPHICS ARE AS EASY AS CHILDS PLAY WITH The MacMemories™ Series

13 diskettes of turn of the century graphics.

MacMemories™
"The Artist for
the Rest of Us"
by
ImageWorld, Inc.
PO Box 10415
Eugene, OR
97440



(503) 485-0395
1-800-457-6633



\$39.95 each*

\$399.95 Medallion Set*
(all 13 disks and the
Image Index booklet)
or send \$5 for Image
Index (credited to
first order)

* suggested
retail

This ad was
prepared on the
Macintosh™ and
the LaserWriter
Printer.



**Images Which Bring the Genius of Artists and Illustrators of
Yesteryear into Partnership with Your Own Creativity.**

MacMemories™ is a trademark of ImageWorld, Inc. Macintosh is a trademark licensed to Apple Computer, Inc.

For Free Information
Please Circle 223 On Reader Service Card.



... newcomers to the C programming language. The program's limits and restrictions are severe and standalone applications cannot be created. A good place to begin the study of C. \$149.95. Hippopotamus, 985 University Ave., Los Gatos, CA 95030. CP

**** **MacAsm** is a software development system that allows programs to be written in assembly language. Programmers can assemble, edit and test software, and an integrated resource compiler lets independent applications run from their own icons. \$125. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP

**** **Mac C** is a good, highly Mac-oriented implementation of this popular development language. Assembler and linker built-in. \$375. \$475 with Toolkit and floating point package. Consulair, 140 Campo Dr., Portola Valley, CA 94025. NCP

**** **MacExpress** is a development environment or shell. Programmers use it to save time and effort when developing standalone applications for the Mac. Easy to use for those with a strong technical background. \$50 test drive package, \$495. AL-Soft, Inc., PO Box 927, Spring, TX 77383. NCP (Feb 86)

**** **MacForth** is an implementation of the popular Forth programming language. Level 1 is a simple, introductory version with limited support of the Mac Toolbox. Excellent tutorial and references sections in the manual. Level 2 supports the Mac Toolbox fully. Level 3 extends the language so that professionals can produce standalone applications. All levels are supported by the publisher via telephone and electronic BBSs (the publisher even has a private SIG on CompuServe). \$149 (Level 1), \$249 (Level 2), \$499 (Level 3). Creative Solutions, 4701 Randolph Rd., Rockville, MD 20852. NCP

**** **Mach1** is a multitasking implementation of Forth that allows local variables and text files. Can create standalone applications. Several windows can be up with different operations in each,

operating concurrently. Execution is fast. \$49.95. Requires 512K. Palo Alto Shipping, PO Box 7430, Menlo Park, CA 94026. NCP (Apr 86)

**** **Macintosh 68000 Development System** is a fairly traditional assembly language package. The two-disk set provides an excellent editor (*Edit*), an efficient assembler, a linker, an executive, a resource compiler called *RMaker*. The files included in this two-disk set have all the basic equates, process definitions, and trap calls. \$195. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

**** **Macintosh Pascal** is Apple Computer's version of this very popular programming language. Loaded as it is with innovative teaching features, this interpreter is an excellent introduction to Pascal. The documents are mostly references, get a good tutorial textbook. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. CP

**** **MacScheme** is a LISP dialect with "artificial intelligence" capabilities. Has a large appetite for RAM. Interpreted language with Toolbox access limited to a small part of QuickDraw. Includes many examples and a LISP tutorial. \$125. Semantic Microsystems, 4470 S.W. Hall St., Beaverton, OR 97005. CP? (Jun 86)

**** **Megamax C** is an easy to use, full version of C. Has a compiler, linker, disassembler, editor and much more. Good for beginners. Excellent documentation. \$299.95. Megamax, PO Box 851521, Richardson, TX 75085. CP

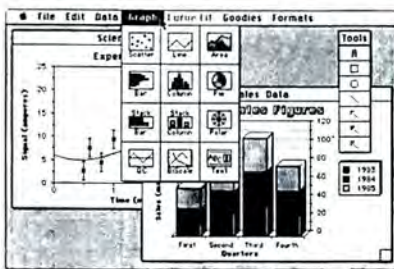
**** **Microsoft BASIC** was the Mac's first programming language. This interpreter (it's not a compiler) now supports the Toolbox and the whole Mac interface can be implemented in your programs. For nonprogrammers there are lots of programs available (in user group libraries and magazines) to run. There have been several versions. \$150. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. NCP

cricket
software introduces...

cricket
GRAPH

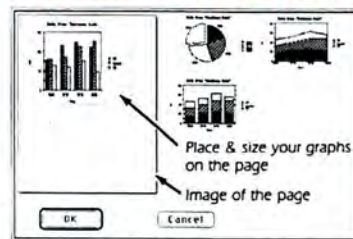
The most revolutionary
business & scientific graphics package
available for the Macintosh™ I

- Sixteen bar patterns & plot symbols
- Selection of fonts, sizes & styles
- Text, lines & arrows added anywhere
- Large data sets of 2000 or more points
- Regression curve fits
- Error bars (both x & y)
- Enter & edit data quickly
- Easy importing of data
- Depth for 3-D "pizzazz"
- **Graphic Macros** for speed & ease
- **Color** selection
- Quality Control Charts (8 types)
- Unbelievably easy to use
- and lots more!



Suggested Retail Price \$195
Demo available for \$6.95

THE PROOF IS IN THE PRINTED PAGE!



Actual Image of Page Layout Window

You can create professional quality graphs!

- Position and size each graph on the page
- Multiple graphs per page
- Overlay one or more graphs
- Print on ImageWriter or LaserWriter
- **Color graphs** using...
ImageWriter II
Color plotters (HP & others)
Film recorders and others!

Call or write for more information.

cricket
software 215 • 387-7955
3508 Market St. Suite 206 • Philadelphia, PA 19104

for ordering or to have a brochure sent

1-800-345-8112
In PA 1-800-662-2444

Requires 512K ImageWriter and LaserWriter are trademarks of Apple Computer, Inc.

For Free Information
Please Circle 134 On Reader Service Card.

DISK WAR

3.5"

\$1.39
ss/dd

\$1.79
ds/dd

3.5" DISKETTES

ss/dd	1.39
ss/dd color pack A	1.49
ds/dd	1.79
ds/dd color pack A	1.89

Color pack A: Red, orange, yellow, blue, green

ACCESSORIES

40 disk storage case for 3.50"	7.99
Imagewriter ribbon (available in 3 pack only)	each 2.99

No Mumbo Jumbo

No Add-ons or Extra Costs • You Buy Direct • Made in the USA

BONUS! Free Disk Drive Head Cleaner With Order of 100 Disks (\$12.99 value)

All Items In Stock All The Time

Your Order Will Be Shipped Same Day If You Order Before Noon.

LIFETIME WARRANTY

U.S./DISK provides you with a NO RISK warranty. If one of our disks fails, send it back and we will replace it with two disks. If for any reason, you are not satisfied with our diskettes, return them within 30 days, and we will GLADLY refund your money. All returns require proof of purchase.

Customer service hours are: Monday thru Friday 8:30 AM TO 4:30 PM. (Pacific time) Order by toll-free phone, mail or telex (703197). Pay by MasterCard, Visa, Amex, or C.O.D. or send a check with your mail order (please call for shipping charges if you do, and allow 10 days for your check to clear.)

U.S./DISK Inc.

511-104 Encinitas Blvd. Encinitas, CA 92024

ORDER TOLL FREE TODAY

800 992-1992 NAT'L.

800 992-1993 CA

For Free Information
Please Circle 261 On Reader Service Card.

AD INDEX

PAGE # ADVERTISER, READER SERVICE

17.....	Advanced Logic Systems, Inc., 241	C2 & 1.....	Living Videotext, 245
83.....	Affinity Microsystems, Ltd., 118	139.....	LM Software, 233
6-7.....	Aldus Corp., 262	137.....	Logic Extension Resources, 255
125.....	Altsys Corp., 99	64-67.....	MacConnection, 82
132.....	Batteries Included, 51	133.....	MacDoctor Electronics, 162
79.....	Bede Technology, 126	95.....	MacMemory Electronics, 115
110.....	Blyth Software, 85	26.....	MacPacks, 249
113.....	Blyth Software, 263	73.....	MacRentals, 152
115.....	Blyth Software, 264	120.....	MacStore, Inc., 165
117.....	Blyth Software, 265	112.....	MacUnderground, 106
119.....	Blyth Software, 266	144.....	Mainstay Software, 120
121.....	Blyth Software, 267	121.....	Manx Software Systems, 194
12-13.....	Borland International, 128	143.....	Meta Software, 268
45.....	Bravo Technologies, Inc., 234	129.....	Micah, Inc., 163
139.....	Capilano Computing Systems Ltd., 224	C4.....	Mindscape Inc., 90
91.....	Cauzin Systems, 151	139.....	Moustrak, Inc., 170
117.....	Central Point Software, Inc., 105	133.....	New Canaan MicroCode, 135
141.....	Champion Software, 211	144.....	Nordic Software, 227
130.....	Cognitive Concepts, 220	100-103.....	Northeastern Software, 76
45.....	CompServCo, 68	8.....	Odesta Corp., 232
32.....	CompuServe, 208	89.....	Optimum Computer Luggage, 180
115.....	Computer Cover, 202	127.....	Palo Alto Micro Computer, 248
135.....	Cricket Software, 134	143.....	Paragon Courseware, 104
97.....	DataViz, 229	64-67.....	PC Connection, 82
146.....	Desktop Software Center, 48	97.....	PDS Video Technology, 139
143.....	Diehl Graphsoft Inc., 242	127.....	Peripheral Land, 254
117.....	D ² Software, Inc., 176	125.....	Practical Computer Applications, NA
97.....	Dubl-Click Software, Inc., 108	52-53.....	Programs Plus, 69
107.....	Ergotron, Inc., 183	146.....	ProVUE Development Corp., 159
73.....	Format Software, 239	120.....	RH Electronics, 190
30-31.....	General Computer Corp., 81	109.....	The Saving Zone, NA
23.....	General Electric Information Services, 269	24.....	Silicon Beach Software, 80
134.....	GL Systems, 246	28.....	Singular Software, 193
27.....	Great Plains Software, 256	133.....	Soft Guard Systems, 191
99.....	Great Wave Software, 113	99.....	Software Discoveries, 146
10.....	GW Instruments, 203	61.....	Software Ventures Corp., 216
5.....	Hayes Micorcomputer Products, 130	107.....	Southeastern Software, 260
35.....	Human Touch, 252	51.....	Spectrum Holobyte, Inc., 40
134.....	Image World, Inc., 223	10-11.....	SuperMac Technologies, Inc., NA
139.....	Imagine Software, 257	37.....	Target Software, 195
141.....	Imagine Software, 258	43.....	Template Systems, 230
143.....	Imagine Software, 259	39.....	Thunderware, Inc., 236
C3.....	Infosphere, Inc., 110	118.....	TML Systems, 149
14.....	Innovative Data Design, Inc., 129	136.....	U.S. Disk, Inc., 261
130.....	I/O Design, 187	137.....	Vision Technologies, Inc., 161
4.....	Kraft Systems, 42	26.....	Williams & Macias Microcomputer Products, 219
119.....	Levco, 185	71.....	Zedcor Inc., 177

COMPLETELY FREE!**NO COST!****NO OBLIGATION!**

FREE INFORMATION FAST!

ON MACINTOSH PRODUCTS & SERVICES

Here's how you can get more information on products or services advertised in **MacUser**.

COMPLETELY FREE!

- Print your name and address clearly in the spaces provided on the card opposite.
- Circle the number(s) on the card corresponding to the reader service number(s) for advertised products or services in which you're interested. You can request information on any products or services in which you are interested, providing a reader service number appears in each advertisement.

NO COST!

- For quick reference, we have included both the page number and the reader service number on the Ad Index.
- Any comments you may have about **MacUser** are welcome in the space provided.
- You can use this card, if you wish, to order a one- or two-year subscription to **MacUser**. Just circle number 300 for a one-year subscription or circle number 299 for a two-year subscription. We'll bill you later.

NO OBLIGATION!

- Detach and mail the card. Literature on the products or services you have indicated will be sent directly to you from the advertiser, free of charge. No postage is necessary if your card is mailed in the United States.

MacUser**READER SERVICE CARD**

August 1986

Use before January 31, 1987

Please print your name and address clearly and include a Zip code to ensure a fast response.

Name _____

Company _____

Title _____

Address _____

City _____

State _____ Zip _____

Phone _____

Comments about **MacUser** _____

● You can use this card, if you wish, to order a one- or two-year subscription to **MacUser**. Just circle number 300 for a one-year subscription or circle number 299 for a two-year subscription. We'll bill you later.

1	11	21	31	41	51	61	71	81	91	101	111	121	131	141	151	161	171	181	191	201	211	221	231	241	251	261	271	281	291
2	12	22	32	42	52	62	72	82	92	102	112	122	132	142	152	162	172	182	192	202	212	222	232	242	252	262	272	282	291
3	13	23	33	43	53	63	73	83	93	103	113	123	133	143	153	163	173	183	193	203	213	223	233	243	253	263	273	283	293
4	14	24	34	44	54	64	74	84	94	104	114	124	134	144	154	164	174	184	194	204	214	224	234	244	254	264	274	284	294
5	15	25	35	45	55	65	75	85	95	105	115	125	135	145	155	165	175	185	195	205	215	225	235	245	255	265	275	285	295
6	16	26	36	46	56	66	76	86	96	106	116	126	136	146	156	166	176	186	196	206	216	226	236	246	256	266	276	286	296
7	17	27	37	47	57	67	77	87	97	107	117	127	137	147	157	167	177	187	197	207	217	227	237	247	257	267	277	287	297
8	18	28	38	48	58	68	78	88	98	108	118	128	138	148	158	168	178	188	198	208	218	228	238	248	258	268	278	288	298
9	19	29	39	49	59	69	79	89	99	109	119	129	139	149	159	169	179	189	199	209	219	229	239	249	259	269	279	289	299
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300

MacUser**READER SERVICE CARD**

August 1986

Use before January 31, 1987

Please print your name and address clearly and include a Zip code to ensure a fast response.

Name _____

Company _____

Title _____

Address _____

City _____

State _____ Zip _____

Phone _____

Comments about **MacUser** _____

● You can use this card, if you wish, to order a one- or two-year subscription to **MacUser**. Just circle number 300 for a one-year subscription or circle number 299 for a two-year subscription. We'll bill you later.

1	11	21	31	41	51	61	71	81	91	101	111	121	131	141	151	161	171	181	191	201	211	221	231	241	251	261	271	281	291
2	12	22	32	42	52	62	72	82	92	102	112	122	132	142	152	162	172	182	192	202	212	222	232	242	252	262	272	282	291
3	13	23	33	43	53	63	73	83	93	103	113	123	133	143	153	163	173	183	193	203	213	223	233	243	253	263	273	283	293
4	14	24	34	44	54	64	74	84	94	104	114	124	134	144	154	164	174	184	194	204	214	224	234	244	254	264	274	284	294
5	15	25	35	45	55	65	75	85	95	105	115	125	135	145	155	165	175	185	195	205	215	225	235	245	255	265	275	285	295
6	16	26	36	46	56	66	76	86	96	106	116	126	136	146	156	166	176	186	196	206	216	226	236	246	256	266	276	286	296
7	17	27	37	47	57	67	77	87	97	107	117	127	137	147	157	167	177	187	197	207	217	227	237	247	257	267	277	287	297
8	18	28	38	48	58	68	78	88	98	108	118	128	138	148	158	168	178	188	198	208	218	228	238	248	258	268	278	288	298
9	19	29	39	49	59	69	79	89	99	109	119	129	139	149	159	169	179	189	199	209	219	229	239	249	259	269	279	289	299
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300

COMPLETELY FREE!

NO COST!

NO OBLIGATION!

FREE INFORMATION FAST!

ON MACINTOSH PRODUCTS & SERVICES



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

COMPLETELY FREE!

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 217 CLINTON, IA

Postage will be paid by addressee

MacUser

Reader Service Dept.
PO Box 2041
Clinton, Iowa 52735-2041



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

NO COST!

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 217 CLINTON, IA

Postage will be paid by addressee

MacUser

Reader Service Dept.
PO Box 2041
Clinton, Iowa 52735-2041

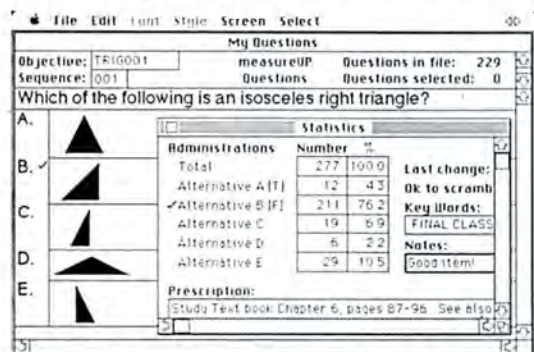


NO OBLIGATION!



Do you measureUP?

Educators and trainers – good news! measureUP™ brings advanced desktop publishing power to personnel testing!



Look at these features:

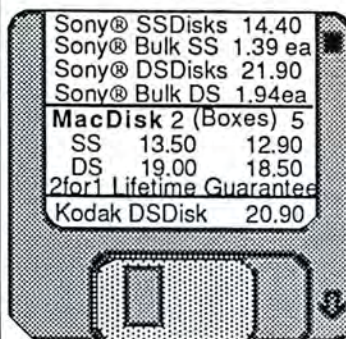
- mix text and graphics
- multiple fonts, sizes, and styles
- objective-based test generation
- multiple-choice, true/false, and free format question types
- large question database support
- full question data import/export
- versatile printed header/footers
- selective alternative scrambling
- prescriptive training information
- question statistics support
- available for 512k or MacPlus



Logic eXtension Resources (714) 980-0046
9651 Business Center Drive, Cucamonga, CA 91730

measureUP is a trademark of Logic eXtension Resources.

Mac Disks



Sony® SSDisks 14.40
Sony® Bulk SS 1.39 ea
Sony® DSDisks 21.90
Sony® Bulk DS 1.94ea
MacDisk 2 (Boxes) 5
SS 13.50 12.90
DS 19.00 18.50
2 for 1 Lifetime Guarantee
Kodak DSDisk 20.90

Software :
MS Flight Simulator 34
Mac Lightning 54
Mac Golf 35
Copy II Mac 20
FullPaint 68

Hardware :
Haba 800K disk drive 249
Volsmodem 12 159
Avatex 1200 baud 100*
* (free Compuserve Starter kit)
Numeric Turbo 109
Mac Bottom 21Mb 995
Ribbons 3.95 6 or more 3 ea
Color 4.95 6 or more 4 ea

Upgrades :

128-512k 139
512-1024k 219
128-2024k 339
MagicSCSI 149
(Add SCSI port to Mac)
180 Day warranty
on all upgrades.
1 meg kits available

Magic20™ Hard Drive
It Is So Fast You'll Think It's Magic™
20 & 30 Megabytes Supports HFS
AutoBoot Backup software
Automatic Head Park
Password Security, Print Spooling
The fastest drive that we have seen!

\$895.00

Magic30™ \$1095

\$30 Minimum on all orders. Shipping minimum \$3 additional.
Visa, Mastercard, C.O.D. Texas residents add sales tax.

1 (800) MAC-DISK

In Texas or for Info. call (512) 473-8393

Vision Technologies Inc. 2200 Guadalupe St. Austin TX 78705

For Free Information
Please Circle 255 On Reader Service Card.

For Free Information
Please Circle 161 On Reader Service Card.

Call Us!

1-800-MAC-USER

MOVING? If you're moving soon and you're a subscriber, please try to let our subscriptions department know six weeks in advance so that we can ensure you don't miss a single copy of MacUser. Just dial. . .

1-800-MAC-USER

CALL US! It's a toll-free call and a real live MacUser human being will answer between the hours of 9:00 AM and 5:30 PM (Eastern Standard Time) to process your new information and confirm the details.

1-800-MAC-USER

SUBSCRIBE! You can also dial this number to order a subscription to MacUser. You'll get the same whopping 48% discount off the newsstand price as described in our regular subscription card.

1-800-MAC-USER

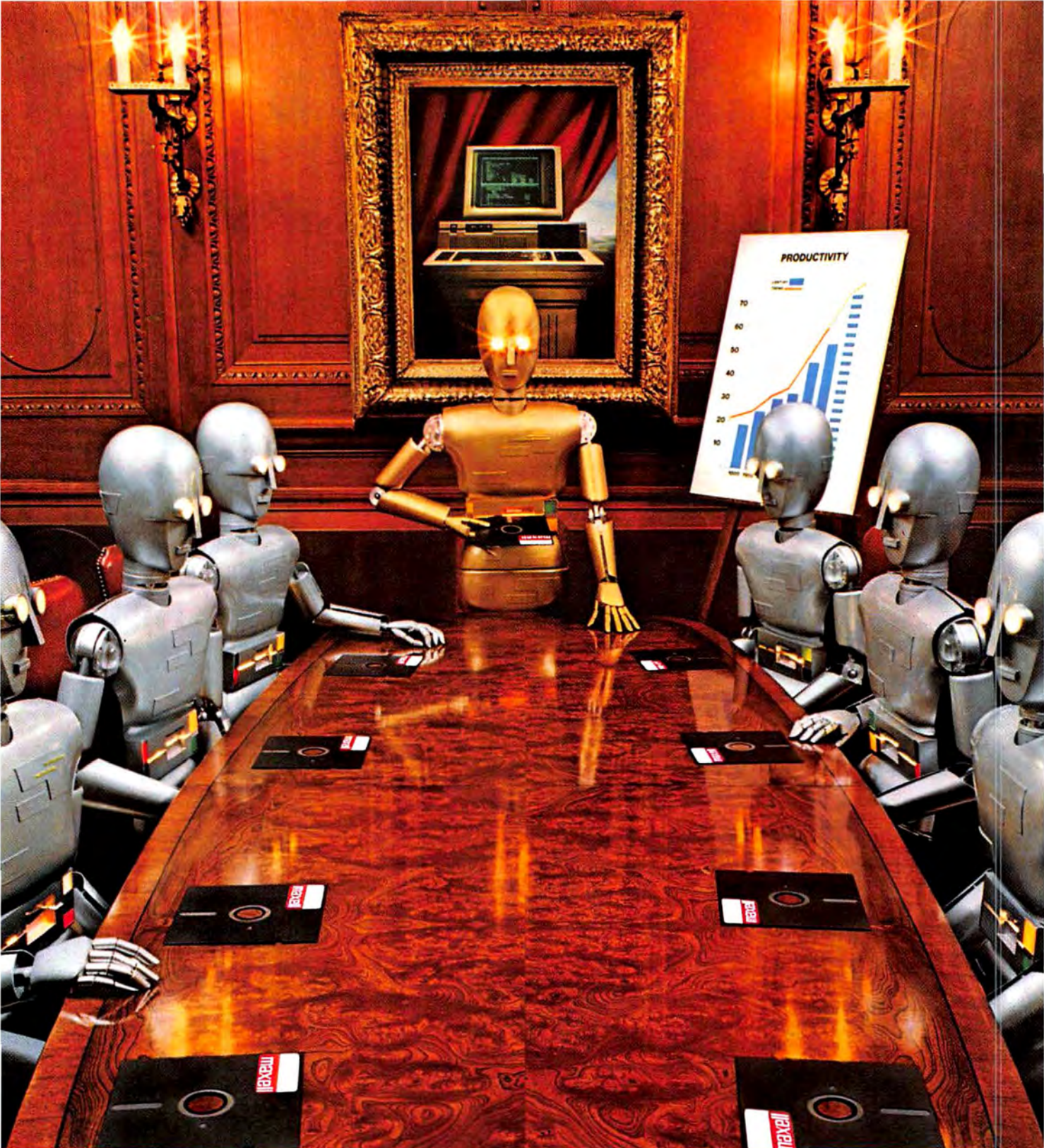
SUBSCRIPTION QUERY? And if you have a query or complaint relating to your subscription, we'll do our best to solve it for you while you're on-line. If you call outside of "human hours," an answering machine will take details.

1-800-MAC-USER

PRODUCT INFORMATION If you would like information on products or services advertised in MacUser, you can save yourself the trouble of using the Reader Service Card elsewhere in this issue and call us instead. Please be sure to have a list of the products for which you want further information on hand before you call.

1-800-MAC-USER

*Connecticut residents only, please call (203) 853-1858 for all subscription inquiries.



When computers get down to business, they move up to Maxell.

Maxell is ready when you are with the newest technology in magnetic media. A perfect example is this double-sided 3½" microdisk.



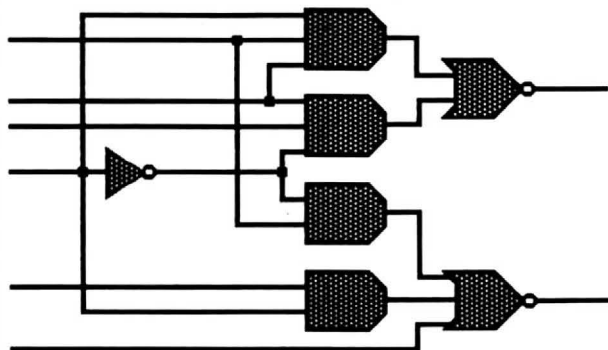
maxell.
THE GOLD STANDARD

Maxell Corporation of America, 60 Oxford Drive, Moonachie, NJ 07074
For Free Information Please Circle 61 On Reader Service Card.

Logic design on the Macintosh™ with

LogicWorks™

- schematic diagram entry.
- "live" interactive simulation.
- user-definable devices.
- PROM and PLA support.



Only \$159.95 (U.S.) directly from:

Capilano Computing Systems Ltd.

LogicWorks is also available for the Amiga™

Trademarks:

Macintosh - Apple Computer, Inc.

Amiga - Commodore Business Machines, Inc.

LogicWorks - Capilano Computing Systems Ltd.

P.O. Box 86971, N. Vancouver,

B.C., Canada, V7L 4P6

(604) 669-6343

Offices open 8:30 - 5:00 Pacific Time

For Free Information

Please Circle 224 On Reader Service Card.

MacSpec™

Would you like to compose a specification
without thinking about the word processor?

MacSpec is the answer

Your only concern is input of data! **MacSpec**
is a new word processor/editing program
that allows quick and easy composition of
technical papers, proposals, and specifications

MacSpec will automatically:

- Indent and number sections
- Re-number sections when moved
- Build table of contents with page numbers
- Increase productivity

Let **MacSpec** handle the mundane tasks
while you concentrate on ideas and text.

MacSpec - \$199.95



LM Software™

P.O. Box 93

Belmont, CA 94002

(415) 594-0627

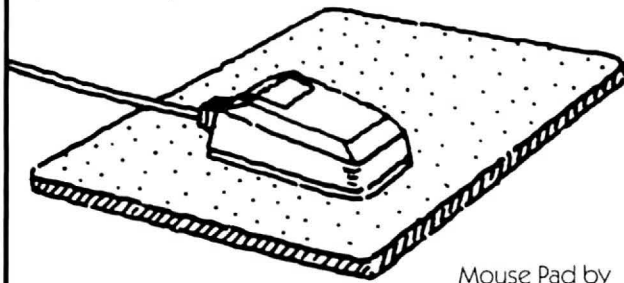
For Free Information

Please Circle 233 On Reader Service Card.

By word of mouse.

Go ahead. Just ask one of the thousands of satisfied
Mac owners who rely on the Moustrak. The genuine,
original desktop pad that reduces mouse wear, keeps
the rollers clean and the tracking smooth.

Each Moustrak is made from the highest quality
materials available, in a variety of colors, sizes and
prices. All at your dealer now.



Mouse Pad by

MOUSTRAK™

For your local dealer, call 1-800-221-MOUS
In Calif. (707) 963-8179

As distributed by MacUser at Mac Expo, San Francisco

For Free Information

Please Circle 170 On Reader Service Card.

*** Remember, in 20 minutes
you're supposed to be at
Rico's for lunch with Peggy.**



**This reminder brought to you by Smart Alarms™,
the friendly desk accessory that won't let you forget.**

IMAGINE
SOFTWARE

For Free Information

Please Circle 257 On Reader Service Card.

MINIFINDERS



Microsoft Logo, from Microsoft's MacLibrary, written by LCSi. An excellent implementation of Logo, taking full advantage of the Mac's user interface. Uses three windows. Turtle looks like a turtle, and its screen actions are very precise. Windows can be resized and moved about. \$124.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. NCP

QUED (Quality Editor for Developers) is the ultimate source code editor. Loaded with useful and well thought out features, it will make any programmer's life much easier. It is not a word processor, however. \$65. Paragon Courseware, 4954 Sun Valley Rd., Del Mar, CA 92014. NCP (Mar 86)

TML (MacLanguage Series) Pascal is a good Pascal compiler, capable of producing standalone programs. Can use most existing Lisa Pascal programs with only slight modification. Requires 512K. \$99.95. TML Systems, PO Box 361626, Melbourne, FL 32936. NCP (Jun 86)

EDUCATION

ChipWits is a combination game and teaching tool. Players create programs to maneuver robots through a set of 8 mazes. The programs are written in ChipWit's built-in icon-based programming language (IBOL). IBOL is a nearly perfect introduction to programming for nonprogrammers. \$49.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP

DietMac is a database consisting of about 800 foods with nutritional information, from which to choose from for planning daily menus. The Modify Food Data option allows users to customize and update data. Some on-screen help. \$79. Tess Data Systems, Inc., 17070 Red Oak Drive, Houston, TX 77090. CP (May 86)

MacEdge and **MacEdge II** each contain 8 reading or math drill programs for basic skills. Programs follow one of three formats, a bit contrived. Contrivances are design flaws — they require learning format as well as skill. Exception is *Alphabet Train*, a clever game with great graphics and sound, poor font definition. \$49.95 each. Think Educational Software, 16 Market St., Potsdam, NY 13676. CP

MacStronomy is a good package for novice sky watchers. Has expandable database of sky objects that can be customized by the user. New version is very fast. \$75. Etlon Software, PO Box 649, Lafayette, Co 80026. CP (Apr 86)

MacType offers structured typing instruction. Can teach both standard and Dvorak keyboards. Features include certificates for reaching certain levels. Can be used in a multistudent environment. \$49.95. Palantir Software, 12777 Jones Rd., Houston, TX 77070. CP

MasterType is proof that learning to type can be fun. In this arcade-style action game words descend from four corners towards the center ship; the user must type them correctly. Features 18 skill levels, tracks errors, recommends lessons and provides comparison scores. \$49.95. Scarborough Systems, 55 South Broadway, Tarrytown, NY 10591. CP

NotePro is an educational package that teaches users to organize and make best use of their notes. Consists of five well designed parts, which can be individually or as a whole. \$59.95. Learning Skills, PO Box 8038, Reno, NV 89507. NCP (Jul 86)

Nutri-Calc uses a large database of nutritional information. Users can plan healthy diets and print shopping and menu lists. \$79.95. CAMDE, 46 Prince St., Rochester, NY 14607. CP

PowerMath is an equation solver. Handles problems ranging from the simplest to the extremely complicated. Step-by-step solutions make this a powerful teaching tool. Results can be displayed numerically or graphically. Slow, but potent program. \$99.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP

Score Improvement System for the SAT is a no-nonsense drill and practice session covering practice tests, vocabulary,

reading comprehension, math and quantitative comparisons. On-line tutoring for wrong answers. \$99.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP (May 86)

Spanish Grammar III is a teachers' tool consisting of ten modules for students who need tutoring in the Spanish language. Previous knowledge of the language is necessary. Uses multiple choice and fill-in formats. Keeps a Teacher's Management Report for up to 40 names. \$34.95. Queue, 5 Chapel Hill Dr., Fairfield, CT 06432. CP (Apr 86)

Speed Reader II builds skills sequentially to develop faster, more efficient reading and improve retention. Scores kept, and can be graphed. High school level selections included, other levels available on data disks. \$69.95. Davidson & Associates, 3135 Kashiwa St., Torrance, CA 90505. CP? (Apr 86)

Tellstar I & II are the best Mac astronomy programs. Has extensive database, quick sky plotting and can locate specific celestial objects. Level II has southern hemisphere star table, Messier objects. \$49.95 (level I), \$79.95 (level II). Spectrum HoloByte, 1050 Walnut, Boulder, CO 80302. NCP (Apr 86)

Turbo Turtle is a turtle graphics program primarily designed as a learning tool for children. Uses Logo commands for graphics, but is not a full Logo implementation. Simple to use, good introduction to Logo for young children. \$59.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

ENTERTAINMENT

A Mind Forever Voyaging is a departure in text adventure games.

It has a more extensive vocabulary and a more involved story than most of the genre. The story here is gripping, but there are only puzzles to solve. Still, this is a trip in the imagination well worth taking. Requires 512K+. \$44.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP (Apr 86)

Airborne is classic arcade-style game with "real" sound effects. The player defends against an assault from flying enemies. Game noises digitized from actual recordings add to the game. \$34.95. Silicon Beach, 11212 Dalby Pl., San Diego, CA 92126. CP

Alter Ego simulates the entire lifetime of a fictional character. The player's reaction to each multiple-choice event shapes the character's future relationships, job, health, etc. Spectacularly impressive the first time you play; after that there are too many similarities to previous characters. Female edition should be available soon. \$59.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (June 86)

The Ancient Art of War gives users a chance to refight some famous campaigns on both strategic and tactical levels. Campaigns can also be designed from scratch. Very playable, addicting game. Requires 512K+ Mac. \$49.95. Brotherbund, 17 Paul Dr., San Diego, CA 94903. CP (Apr 86)

Balance of Power is the world's first computer peacegame. This simulation allows players to become either the President of the United States or General Secretary of the Soviet Union. Extraordinary artificial intelligence routines and general play make this a classic. \$54.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60022. CP (Prem)

Baron is the world of real estate, in a financial simulation. Buy and option properties in five key areas; invest in industrial, residential, or land property; or put cash aside in high-interest accounts. \$59.95. Blue Chip, 6740 Eton Ave., Canoga Park, CA 91303. CP

Borrowed Time casts players as detectives who have to solve their own murder — before it happens. This game requires players to think and act like a detective to solve the game. Good sentence parser, sketchy Mac interface. \$44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (May 86)

Brataccas is the Mac's first true action adventure in which players use the mouse or keyboard to control Kyne, the heroic fugitive scientist, as he moves around a planet outpost in search of clues and information. Terrible, confusing instruc-

CALL US

1-800-MAC-USER

MOVING? If you're moving house soon and you're a subscriber, please try to let our subscriptions department know six weeks in advance so that we can ensure you don't miss a single copy of MacUser. Just dial...

1-800-MAC-USER

CALL US! It's a toll-free call and a real live MacUser human being will answer between the hours of 9:00 AM and 5:30 PM (Eastern Standard Time) to process your new information and confirm the details.

1-800-MAC-USER

SUBSCRIBE! You can also dial this number to order a subscription to MacUser. You'll get the same whopping 48% discount off the newsstand price as described in our regular subscription card.

1-800-MAC-USER

SUBSCRIPTION QUERY? And if you have a query or complaint relating to your subscription, we'll do our best to solve it for you while you're on-line. If you call outside of "human hours," an answering machine will take details.

1-800-MAC-USER

PRODUCT INFORMATION If you would like information on products or services advertised in MacUser, you can save yourself the trouble of using the Reader Service Card elsewhere in this issue and call us instead. Please be sure to have a list of the products for which you want further information on hand before you call.

1-800-MAC-USER

Last, please help us to help you by not calling our editorial offices on the East or West Coast with subscription inquiries. We do not have the records available on screen there and can't give you any sensible answers to questions about subscriptions. Conversely, our subscriptions people aren't set up to handle editorial brickbats and roses. You'll find our editorial telephone numbers listed under the masthead on page 4. Thank you for subscribing to MacUser!

1-800-MAC-USER

*Connecticut residents only, please call (203) 853-1858 for all subscription inquiries



Spelling Champion™

The *FAST* Spelling Checker for MacWrite™

You may open the dictionary to look up a word

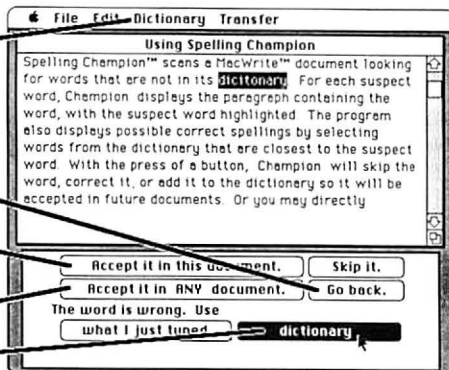
You may edit directly in the text

Press here if you change your mind

Or here to add to document's dict.

Or here to add to the dictionary

Or here to use the suggested spelling



- Finds errors that some others miss, such as "fromed" and "back-up."
- Handles any size document.
- Works on any Macintosh™
- Handles abbreviations and hyphenated prefixes.
- Segregates words newly added to the dictionary for later double checking.
- 100,000+ word dictionary.
- Finds and fixes errors in MacWrite™ 4.5 documents. Finds errors in MacWrite™ 2.2 documents.

Only

\$39.95

Wis residents: add 5% sales tax

Send check or money order to:
Champion Software
5201 South Hill Drive
Madison, WI 53705

Spelling Champion is a trademark of Champion Software. Macintosh & MacWrite are trademarks of Apple Computer, Inc.

For Free Information
Please Circle 211 On Reader Service Card.

For Future Reference ...

Keep your copies of **MacUser** in these specially designed binders or library file cases. Binder holds 12 issues. Box file holds 10-12 issues. Binder and box file are constructed of heavy bookbinder board with maroon leatherette cover. **MacUser's** logo is hot-stamped in gold. Very attractive!



Please send me:

Box Files—

- ☐ 1 for \$6.95
- ☐ 3 for \$20.00
- ☐ 6 for \$36.00

Binders—

- ☐ 1 for \$8.50
- ☐ 3 for \$24.75
- ☐ 6 for \$48.00

Jesse Jones Ind.

Dept. MU
P.O. Box 5120
Philadelphia, PA 19141

name _____

address _____

city _____

state _____

zip _____

Unconditionally guaranteed! Add \$2.50 for each unit outside U.S.A. U.S. funds only. Allow 4 to 6 weeks for delivery.

*** Remember, you need to
reserve the Conference Room
for next month's board meeting
by this afternoon.**



This reminder brought to you by **Smart Alarms,™**
the friendly desk accessory that won't let you forget.

IMAGINE
SOFTWARE

For Free Information
Please Circle 258 On Reader Service Card.

MINIFINDERS



tion manual mars an otherwise brilliant game. Excellent graphics, unusual sentence parser. \$44.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP

Brimstone is a full-text adventure that follows the exploits of Sir Gawain as he journeys down to the pits of Hell and back again. A good example of an interactive novel, although the third-person narrative can be disconcerting. \$39.95. Synapse/Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP (Jul 86)

Championship Boxing allows statistical replay involving famous boxers. Players can modify existing boxers and can create their own fighters. Good sound and graphics. \$39.95. Sierra, PO Box 485, Coarsegold, CA 93614. CP (Mar 86)

Cutthroats casts players in this full-text adventure as a deep-sea diver, hired by a band of toughs to locate shipwreck treasure. The game is very closed-ended, requiring almost Pavlovian obedience. Multiple endings. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

Cyborg is a text adventure game with an interesting twist. Robot brain is implanted in concert with yours. It scans, evaluates, and reports, then carries out actions. Word and sentence understanding is very good. Absorbing game for adventurers. \$39.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP

Deadline is a text adventure in which the player is a detective called in to investigate what seems like a simple drug overdose. The family lawyer thinks it was really a murder. You have 12 game hours to find the killer! \$49.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

DejaVu is an unusually good version of the old card game "Concentration." Great graphics and sound, one- or two-player modes. Improves concentration painlessly. \$39.95. Rubicon, 6300 La Calma Dr., Austin, TX 78752. CP (Mar 86)

Deja Vu A: Nightmare Comes True is a graphic adventure that breaks new ground. Innovative use of the Mac interface in truly playable and exciting game. A great introduction to graphic adventure games. \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (Jan 86)

Dinner at Eight is a useful recipe filing system that includes a collection of recipes from a nationwide sampling of restaurants. Users enter number of diners and program scales recipes accordingly. \$59.95. Rubicon, 6300 La Calma Dr., Austin, TX 78752. CP (Jan 86)

Dragonworld is an illustrated adventure in which the player attempts to save The Last Dragon from the Duke of Darkness. Several on-screen illustrations at once. Outstanding documentation lists all words recognized by the program's sentence parser. \$49.95. Telarium, 1 Kendall Sq., Cambridge, MA 02139. CP

Enchanted Scepters is a surround sound graphic adventure game. It has a limited vocabulary and virtually no story. Offers extensive and varied scenes and utilizes the Mac interface to the fullest. A worthwhile adventure experience. \$39.95. Silicon Beach Software, PO Box 261430, San Diego, CA 92126. CP (May 86)

Flight Simulator puts you at the controls of a small plane (prop or jet) and lets you roam North America. As difficult as real flying. Mac version has features not found on earlier versions, including spotter aircraft. Not all features available on 128K. \$49.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98052. CP

Fokker Triplane is about as near to flying as you can get seated in front of a computer. Very realistic simulation and excellent graphics. Well designed and implemented. \$59.95. PBI Software, 1155B-H Chess Dr., Foster City, CA 94404. CP (Feb 86)

Gateway comes with 3 full-color prints. You inherit a boring old building from a supposedly rich uncle, eventually learning that the building is a "gateway" to a lost civilization. \$49.95. Priority, 635 Sanborn Rd., Salinas, CA 93901. CP (Prem)

Gato puts players in command of an American submarine in World

War II. This superb simulation game uses all of the Mac's graphic capabilities to really make you feel that "you are there." \$39.95. Spectrum Holobyte, 1050 Walnut St., Boulder, CO 80302. CP (Nov 85)

Grid Wars is a three-dimensional arcade-style game. Good playability, for those that enjoy shoot-em-ups. Bizarre graphics. \$39.95. Ann Arbor Softworks, Inc., 308½ S. State Street, Ann Arbor, MI 48104. CP (Apr 86)

Gypsy is a computerized, customizable Ouija board. More than just a software package, users get a pasteboard playing surface and a Mouse Mover with 99 ball bearings. \$39.95. Magnum, 21115 Devonshire St., Chatsworth, CA 91311. CP (Prem)

Harrier Strike Mission pits you against a well defended island. You fly an advanced Harrier jumpjet from a carrier offshore. Fair graphics and reasonable flight simulation prove that color isn't necessary in a flight simulator. \$49.95. Miles Computing, 21018 Osborne St., Bldg. 5, Canoga Park, CA 91304. CP (Feb 86)

Hippo Computer Almanac is a collection of interesting facts that users access using a question and answer format. This is a game or toy, not a real almanac. \$34.95. Hippopotamus, 985 University Ave., Los Gatos, CA 95030. CP (Jan 86)

Legacy is a two-part text/graphic adventure. A magical orb in Drab Castle must be found through the use of spells and careful adventuring. Well-constructed game. \$45. Challenger Software, 18350 Kedzie Ave., Homewood, IL 60430. CP

Lode Runner is a 150-screen action-strategy challenge that requires a joystick for truly effective play. Move around a grid of ladders and platforms collecting treasure; dig a hole to trap pursuers. Build your own challenges. \$39.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP

The Lüscher Profile is a psychological profile generator that bases its conclusions on users' responses to seven different color tests (color charts are enclosed in the package). Select your favorite colors, shades and shapes and the program displays or prints a two- or three-page personality profile. \$39.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (Aug 86)

MacAttack puts the player in command of a super tank defending the wastes of Alaska against invaders. This 3D simulation pits you against attacking tanks and warplanes that fire heat-seeking missiles. Defeating the horde brings a graphic fireworks display. \$49. Miles Computing, 21018 Osborne Street, Canoga Park, CA 91304. CP

MacChallenger lets players land a space shuttle. The graphics of this flight simulator are crude and it's a hard machine to fly, but it's also a lot of fun. Version 2.0 lets you record your landing attempt (that's what most of them are!) and then review it from any of ten camera angles, a truly unique touch! \$49.95. Aegis Development, 2210 Wilshire Blvd., Santa Monica, CA 90403. CP (Feb 86)

MacInooga ChooChoo is a set of electronic toy trains. Run on the layouts provided, or create your own, as complex as you wish. Create scenery using built-in tools or import fancier MacPaint scenery. \$39. Fortnum, 31 W. Sierra Madre Blvd., Sierra Madre, CA 91024. NCP (Apr 86)

MacJack II is a blackjack game pitting users against the house. Includes good graphics, insurance, splitting and doubling, and table limit that rises with your stake. Plays very well, and can be quite addictive. \$39.95. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP

MacVegas contains seven complete casino-style games: baccarat, blackjack, craps, keno, poker, roulette and slots. All are fairly standard, but generally well designed. House rules can be selected from a menu. The games are all fun to play, but not particularly absorbing. \$59. Videx, 1105 Northeast Circle Blvd., Corvallis, OR 97330. CP

MacWars is a Mac version of the popular "Star Wars" arcade game. Three-dimensional graphics are sluggish at times, digitized sound is somewhat less than terrific, and playability is limited. Doesn't work on Mac Plus. Spend your quarters on the arcade version. \$49.95. Miles Computing, 21018

MINICAD™ offers two fully integrated CAD systems, 2D drafting & 3D surface modeling in ultra-high precision.

- Engineers appreciate Minicad's 9 decimal precision.
- The 2D/3D integration provides Designers and Artists with the flexibility to explore ideas.
- Architects can create perspective displays as well as detailed floorplans.

MiniCad™

Computer Aided Design
by
Diehl Graphsoft Inc.

- 15 Layers with color & acetate attributes
- Multi-object data base
- Read-Write to text files
- 27 3D primitives
- Cut-Paste between 2D & 3D
- Direct links between 2D & 3D
- Wire frame, solid or shaded objects
- Transfer to clipboard or "PICT" file
- Rotation on any axis
- Unlimited Zoom
- User select perspective

- Advanced auto-dimensioning
- "Stable" data-base retains true dimensions
- Laserwriter or Imagewriter to 6 x 7 sheet grid
- Compatible with all Mac Plotter driver software
- Add virtually any scale to 16 pre-set values.

DIEHL GRAPHISOFT Inc.
3246-K Normandy Woods Dr.
Ellicott City, MD. 21043 301-461-9488

\$ 395.00

For Free Information

Please Circle 242 On Reader Service Card.

Systems *design* at the speed of thought.

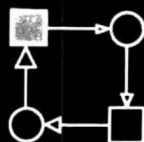
design helps you visualize and analyze complex networks, processes and organizations.

design maintains and redraws relationships as you refine your ideas.

- Multipage diagrams
- Top-down and bottom-up descriptions
- Integrated graphics and text
- Binary, hierarchical and pointer relationships
- Expandability for simulators and analyzers

design: the technology for professional thinkers.

\$200



Meta Software

55 Wheeler Street
Cambridge, MA 02138
(617) 576-6920

Available for Macintosh 512K and Macintosh Plus

For Free Information

Please Circle 268 On Reader Service Card.

DISKORDER™

\$50.00

Cleans up and organizes your hard & floppy disks. Saves catalog of all files with full paths to each file. Mass copies files by name, date or type. Updates your files. Works with HFS.

ELECTROFONTS™

\$90.00

The ONLY analog & digital circuit drawing font. Includes SCIFONTS - the best scientific and math font. Now also DOWNLOADABLE LAZERWRITER FONTS.

\$200.00

MacQWERTY™

\$35.00

Dvorak & custom keyboard reconfiguration.

MacTAG™

\$49.00

TEACHER'S ASSISTANT GRADER - will calculate grades, sort, rank, histogram & do individual reports up to 500 students. Roster up to 45 columns.

QUED™

\$65.00

The ultimate QUality EDitor for developers. Need we say more?

For more information or to order, call or write:

PARAGON COURSEWARE
4954 Sun Valley Rd, Del Mar, CA 92014
Tel. (619) 481-1477

VISA M/C O.K. + \$3.00 for shipping, Cal. res +6% tax

For Free Information

Please Circle 104 On Reader Service Card.

* Remember, order *Smart Alarms*™ now before you forget.

This reminder brought to you by *Smart Alarms*™, the friendly desk accessory that won't let you forget.

1. Lets you write your own personalized reminders.
2. Set as many as 1600 reminders at a time, far into the future.
3. Your reminders appear on screen in a dialog box when they're due, no matter what program you're running.



4. You can respond to your reminders at once, or simply send them away and they'll automatically return later.
5. Recurring reminders can be set to appear daily, weekly, quarterly or even yearly, all with a single mouse click.

PLUS: *Smart Alarms* comes with a full-featured Appointment Calendar desk accessory. Features include standard Mac editing, up to 32K text per day, Print, and full Search capabilities. In addition, appointments you select from this calendar automatically become Smart Alarm reminders with a simple menu choice!

Not copy protected.

Ask your dealer
or order from:
(415) 769-4033

IMAGINE
SOFTWARE
2000 Center St., #1260
Berkeley, California 94704

ONLY \$49⁹⁵

(plus \$3.00 shipping,
CA res. add 6% tax)
Mastercard/Visa OK.

For Free Information

Please Circle 259 On Reader Service Card.

MACKIDS™

The Learning Edge

MacKids . . . Complete learning activity packages for kids from preschool to junior high to use with the Macintosh.™

Whether they're learning to tell time, count money, or master the fundamentals of coordinate geometry, kids who have MacKids have an edge.

Because MacKids is fun.

It's easy to use.

And it's challenging.

Give your kids an enthusiasm for learning they'll never outgrow.

Give them MacKids—The Learning Edge.

To order games or a free catalog call or write:

Macintosh is a trademark licensed to Apple Computer, Inc.

Shipping and handling included in U.S.A.
Visa, Mastercard, and prepaid orders accepted.

\$34.⁹⁵

- **ClockWorks** (ages 5 to 12). A variety of lessons let kids learn to tell time on both digital and analog clocks.
- **ShapeWorks** (ages 3 to 7). Thirteen lessons teach young children to distinguish different shapes, patterns, and sizes.
- **CoinWorks** (ages 5 to 12). Seven lessons teach kids the value of money, how to make the change, how to know if they have enough money to buy something, and more.
- **FlashWorks** (ages 7 and up). This general-purpose flashcard system lets kids use MacWrite to create flash card decks for German, Spanish, addition, and geography.
- **Naval Battle** (ages 5 to 12). Kids learn the basics of coordinate geometry while Mac tries to sink their battleships.
- **Kindergarten/Preschool Fun Pack** (ages 3 to 7). Three different programs teach kids to count, recognize letters, and connect dots in numeric or alphabetical order.

Nordic Software

3939 North 48th Street
Lincoln, Nebraska 68504
(800) 228-0417
In Nebraska: (402) 466-6502



For Free Information
Please Circle 227 On Reader Service Card.

u•til•i•ty \yu-'til-et-e\ n. 1. software that makes your computing life more simple.

Files, disks, more disks and hard disks... early warning signs of information overload! Soon you may be spending more time organizing files and disks, backing them up or waiting for them to print than doing actual computing. Now there's relief with these great utilities that make your computing life more simple!

Disk Ranger

Organization's a snap as Disk Ranger catalogs and labels your disks with ease. Use the global catalog to find files and eliminate duplicates. HFS and MacPlus compatible! It's great for hard disks; the folder name that contains a file is provided. Print on 50+ pin-feed labels. Not copy protected; rated a "best buy" by Macazine!

Order now, only \$49.95

FlashBack

Worry no more about hard disk crashes and lost data. FlashBack **backs up HFS hard drives in a flash!** Be selective and backup any category of files that you want. It's "goof-proof" and won't even allow you to make a mistake. FlashBack is not copy protected, works on MacPlus and is great for peace of mind.

Call now, only \$59.95

Mainstay

28611B Canwood, Agoura, CA 91301
For information, call 818 991-6540.

MacSpool

Liberate yourself from the ImageWriter! MacSpool returns control of the Mac much sooner than normal, allowing you to **work while printing**. Great for text and graphics. Works with most applications like MacWrite, Word, MacPaint — even screen shots. Change programs while printing. It's not copy protected and works on the MacPlus.

Buy now, only \$49.95

See your dealer or call (orders only) 800 824-7888 operator 706. Thank you.

**Add \$3 shipping per order,
CA residents add 6.5% tax.**

For Free Information
Please Circle 120 On Reader Service Card.



Osborne St., Canoga Park, CA 91304. CP

Make Millions is a fascinating business simulation in which the player competes against the computer to take control of five companies, then run them profitably. Different strategic options and human-seeming associates make simulation more complete. Appeals to the closet capitalist in all of us. \$49.95. Scarborough Systems, 55 South Broadway, Tarrytown, NY 10591. CP

Millionaire is a financial simulation based on the stock market. "News" affects stock prices, so read it religiously. Turn a pittance into a fortune to win the game. \$49.95. Blue Chip, 6740 Eton Ave., Canoga Park, CA 91303. CP

Mind Over Mac features five games. Entertainment for the whole family. Good graphics paired with synthesized sound and on-screen help. \$49.95. Think Educational Software, 16 Market St., Potsdam, NY 13676. CP (Feb 86)

Mind Prober is a demonstration of a very simple expert-style system. How well do you know your friends? Answer certain statements as either true or false, and the computer prints a 3- to 5-page psychological profile of subject in business, stress, sex and other situations. \$50. Human Edge Software, 2445 Faber Pl., Palo Alto, CA 94303. CP

The Mist is an all-text "interactive novel" based on a short story by Stephen King. Vivid graphic and sometimes gory descriptions compensate for the game's muddled sentence parser. The story is involving, while the game is overly lock-step. \$39.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (May 86)

NewGammon is animated backgammon that will challenge even good players. Features include variable skill levels and strategies and options to play the Mac or watch the Mac play itself. Many positions are included so that you can learn how to play them without having to set up a whole game. An arcade-like high speed play mode is also included. \$39.95. Newsoft, PO Box 4035, Newport Beach, CA 92661. CP

Orbiter puts a real space shuttle on the Mac screen. A multitude of controls, intelligent on-board computer with speech capabilities, real-time graphics and 16 distinct missions help this program succeed as both a game and a simulation. Recommended. \$49.95. Spectrum HoloByte, Inc., 1050 Walnut Street, Suite 325, Boulder, CO 80302. NCP (Jul 86)

Perplexx is a board word game based on *Scrabble*. Players can vary the rules and board to suit their tastes and skills. Up to four can play and the game can either be an active player or a scorer and arbiter. Has a 90,000+ word dictionary. \$39.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

Pinball Construction Set lets users create their own pinball games, as elaborate or as easy as desired. Uses *MacPaint* for backgrounds and has lifelike sounds (on 512K+ Macs). No documentation to speak of. \$40. Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. CP (Jan 86)

Planetfall leaves users shipwrecked on a seemingly deserted planet, with only Floyd the Droid to help figure out how to get home. Two possible endings. This full-text game is written in a tongue-in-cheek style. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

Psion Chess is as good a micro chess player as you'll find. This 1984 World Micro Champion makes superb use of graphics and the Mac interface. Switch between 6 languages for a touch of spice. \$59.95. Psion, 40 Lindeman Dr., Trumbull, CT 06611. CP (Mar 86)

Real Poker is five-card draw against five other players with Old West names, distinct personalities and playing styles, in a saloon setting. Dealing and play are very fast. Game evaluates your hand, suggests cards to keep/discard. Dynamic, exciting, addictive game. \$39.95. Henderson Associates, 980 Henderson Ave., Sunnyvale, CA 94086. CP

Rogue is a strategy dungeon adventure in which each quest is completely different. Randomly generated rooms, monsters and treasures keep even veterans on their toes. \$39. Epyx, 1043 Kiel Ct., Sunnyvale, CA 94089. CP (Feb 86)

Sargon III is a capable chess program with 9 levels of play,

problem-solving modes, take back, change color, hint, manual play, etc. Easy Play option blocks *Sargon* from stealing search time during player's move, effectively doubling number of levels. Pieces are moved graphically. Disk stores 107 classic games for review and replay. \$49.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP (Mar 86)

Strategic Conquest is large scale, strategic conflict on the Mac.

This very involved war game will be enjoyed by those who like this genre. \$49.95. PBI Software, 1155B-H Chess Dr., Foster City, CA 94404. CP (Dec 85)

Tycoon is a financial simulation based on the ups and downs of commodities market. Build a fortune in pork bellies and Swiss francs, checking the "Financial Journal" for news affecting the market. \$59.95. Blue Chip, 6740 Eton Ave., Canoga Park, CA 91303. CP

Ultima II players take the part of a character who travels through land, sea, air, space and even time itself in a quest to find and defeat the evil sorceress Minax. Good Mac interface; excellent game; confusing graphics. \$59.95. Sierra, PO Box 485, Coarsegold, CA 93614. CP

Ultima III allows up to four characters to cooperate to explore the vast wilderness of Sosaria; dungeons, oceans, and the Moon Gates to help solve the adventure. \$59.95. Origin Systems, 340 Harvey Rd., Manchester, NH 03103. CP

Webster's Revenge is a *Boggle*-like word search game. Super graphics make it a pleasure to play. The dictionary is adequate and the user can always overrule it if necessary. Multiple skill levels make this a game for all. \$34.95. Shapechanger Software, 113 E. Tyler, Athens, TX 75751. CP

Winter Games lets up to eight players compete against each other in Olympic events including figure skating, bobsledding, biathlon and ski-jumping. Excellent animation, good graphics, good theme music. \$39. Epyx, 1034 Kiel Ct., Sunnyvale, CA 94089. CP (Mar 86)

The Witness is a full-text adventure that casts the player as a detective assigned to get to the bottom of a death threat. When the victim is killed, you have only one night to find the real guilty party. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02142. CP

Wizardry is an outstanding dungeon exploration adventure pitting a party of up to six characters against the guardian monsters of the evil wizard Werdna. Capture his amulet to earn your reward. Even after solving the game, you'll want to go back into the dungeon. \$59.95. Sir-Tech, 6 Main St., Ogdensburg, NY 13669. CP

Word Challenge is a *Boggle* lookalike. Features multiple (26) skill levels and an extensive dictionary. Even "pro" *Boggle* players should find a level that will challenge them. \$39.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

WordPlay is a word game with over 50 crossword puzzles for different levels of expertise. User friendly, it offers on-screen Help menus. A Work mode allows development of new puzzles for the creative. \$49.95. Palantir, 12777 Jones Rd., Houston, TX 77070. NCP (Mar 86)

Xyphus is a role-playing game pitting four characters (fighters or wizards) against multiple scenarios that grow increasingly harder. Excellent Mac interface and icon control. \$39.95. Penguin, PO Box 311, Geneva, IL 60134. CP

Zork I is a full-text adventure game that lets players explore a strange underground empire. Parser understands full sentences; players can take many different routes to final success. Beware of the thief, who steals random objects. The ultimate text game. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

Zork II is where the adventure continues in the underground empire. A wandering wizard keeps things interesting, though there's a way to beat him if you persevere. \$44.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

Zork III is the final chapter in the trilogy. Players come up against the ultimate enemy — the Dungeonmaster himself. More closed-ended than previous *Zorks*. \$44.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

OverVUE. Best Database of the Year.



Choosing a database manager is no easy task. It's by far the most confusing and fiercely competitive field in Mac software. But now your buying decision is crystal clear, because the editors of MacUser and the readers of MACazine have both selected OverVUE as the Best Database of the Year.

Said MacUser (Jan. 1986), in selecting OverVUE for its **Editors Choice Award**: "OverVUE 2.0 is a deceiving program in that the more you use it, the more you realize what it can do.

Power, speed and logical menus make this a dream database."

When MACazine (Jan. 1986) bestowed OverVUE with its **Readers' Choice Award**, they wrote: "We selected OverVUE because of its ease of use, clairvoyance and statistical capabilities. The fact that OverVUE was subsequently selected by our readers as Best Database simply confirms our original assessment: the product is a jewel and the customer support a bonus!"

OverVUE's clean sweep of these two prestigious awards only confirms what everyone else has been saying all along:

Infoworld (July 8, 1985): "...it is Macintosh software done right."

Icon Review (Fall 1985): "OverVUE 2.0 is our favorite database workhorse...it simply offers the best balance of power and ease-of-use available on the market today."

Nibble Mac (Oct. 1985): "OverVUE is not only easy to set up, it's the easiest for data entry. Its tools for entering repetitive data minimizes typing time."

Online Today (electronic version — Nov. 1985): OverVUE 2.0 is a heavy-duty data management tool...It does all the things a good relational database manager should."

OverVUE's features and power make it the ultimate database choice. Clearly, users and editors alike think OverVUE is something special. We think you will, too.

So visit your nearest software dealer and purchase your very own copy of OverVUE, the Best Database of the Year.

Write for information concerning our new Mail Management and Personal Finance Templates.



ProVUE Development Corp.
222 22nd Street • Huntington Beach, CA 92648 • 714/969-2431

For Free Information
Please Circle 159 On Reader Service Card.

YOUR SOURCE For

Macintosh™ SOFTWARE AND ACCESSORIES

BRAND NAME MAC products at DISCOUNTED PRICES.

**SOFTWARE
HARD DRIVES
MODEMS
DISKETTES
DISKETTE CASES
PRINTERS
CARRYING BAGS
...AND MORE!**

New products are being added to our inventory weekly. Call today for our latest list and prices.

(404) 446-2295

or

MAIL THE COUPON BELOW

Please send me your latest list of products for the "MAC", along with your discounted prices.

NAME _____
STREET _____
CITY _____
STATE _____ ZIP _____
PHONE _____

DESKTOP

software center

DESKTOP SOFTWARE CENTER
4115 FRANK NEELY RD., NW
NORCROSS, GA. 30071

For Free Information
Please Circle 48 On Reader Service Card.



MUSIC

- ConcertWare+** is an enhanced version of *ConcertWare*. Has
 **** different instruments and the ability to use any four of a set of eight at any point in a musical piece. Can read and use *ConcertWare* and *MusicWorks* files. \$69.95. Great Wave Software, PO Box 5847, Stanford, CA 94305. NCP (Nov 85)
- Deluxe Music Construction Set** is a good general purpose music
 **** program. An active piano keyboard and instant audio feedback make this program perfect for educational applications, and the advanced notational capabilities will satisfy most advanced musicians. \$50. Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. CP (Mar 86)
- MusicWorks** allows the user to create and play simple musical
 *** compositions. Music entry is by either a grid or a staff and is very easy. Users can select various instruments and modify each to produce new effects. Compositions are limited to 64 measures and overall limitations make this a beginner's program. \$79.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP (Prem)
- Performer** is a strong contender for the high-end of the MIDI
 **** sequencer market. Only those experienced with MIDI should get this, but if you are, this is one of the best sequencers out for the Mac. Files can be transported to *Professional Composer* for editing. Serious omission: No direct track or segment looping. \$295. Mark of the Unicorn, 222 Third St., Cambridge, MA 02142. CP
- Professional Composer** is aimed at music professionals. Pro-
 *** duces performance-quality sheet music; has only limited playback facilities. \$495. Mark of the Unicorn, 222 Third St., Cambridge, MA 02142. CP (Prem)

HARDWARE & ACCESSORIES

- A+ Mouse** is a replacement mouse. It works by optical tracking on
 **** a special mousepad. Good choice if the original mouse fails. \$99. Mouse Systems, 2336H Walsh Ave., Santa Clara, CA 95051.
- DiskBook** holds up to 32 disks securely, opening from the side
 **** instead of the top to prevent disks falling out when the case is opened. Sides are snugly fitted to keep contents secure; velcro closing. \$34.95. MicroStore, PO Box 37, St. Peter, MN 56082
- The Easel** is a compact and portable carrier for up to 20 disks. Can
 *** be converted into a standup rack for desktop use. Solidly made, attractive and useful. \$19.95. Innovative Technologies, 5731 La Jolla Blvd., La Jolla, CA 92037.
- Ergotron** is a Mac (and external drive) holder that allows a full
 **** range of swiveling and tilting. Very strong, this well made unit is also very easy to use. \$99.95. Ergotron, PO Box 17013, Minneapolis, MN 55417.
- Hard Disk 20** is Apple's entry in the exploding hard disk sweep-
 **** stakes. This quiet, small unit uses Apple's new Hierarchical File System (HFS). The lack of utility software (spooler, backup, security) is its only drawback. \$1499. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. (Feb 86)
- HyperDrive HD20** is an internal 20-megabyte hard disk. It only
 **** adds about 5 pounds to the Mac's weight. Good, full featured unit with all common utilities: spooler, security program and backup utility. It could use memory a bit more efficiently, and it remains to see how well it will work with Apple's new HFS. \$2195 installed in a 512K+ Mac. General Computer Company, 215 First St., Cambridge, MA 02142.
- Macbottom 20** is a small, external unit that sits under the Mac
 **** and connects to the external drive port (not SCSI). Good, reliable, but noisy unit. Requires 512K+. \$1595. PCPC, 6204 Benjamin Rd., Tampa, FL 33614.
- MacCharlie** is one of the most unusual Mac products imaginable.
 **** Its components slip around the Mac and the keyboard and convert the Mac into an IBM PC clone. Amazingly it works well. The enlarged keyboard has a few bugs but is a joy to use. \$1,195 with 256K RAM and one floppy drive. \$1,895

with 640K RAM and two floppy drives. Dayna Communica-
 tions, 50 S. Main St., Salt Lake City, UT 84144. (Dec 85)

- MacIntizer** is a graphics tablet and absolute positioning device
 **** that replaces the mouse. Various scales are possible. \$599. GTCO Corp., 1055 First St., Rockville, MD 20850. (Jan 86)
- MacNifty Sound Digitizer** turns ordinary analog sound input into
 **** digital waveforms which can then be manipulated using the *Sound Cap* software it comes with. Capable of truly stunning effects. Requires 512K+. \$129.95. Kette Group, 6860 Shingle Creek Pkwy., Minneapolis, MN 55445.
- MacNifty Stereo Music System** converts Mac sounds to simulat-
 **** ed stereo by splitting highs and lows between two powerful speakers. User controls bass, treble, balance, low and high impedance output, and most importantly, volume. Hear your music compositions the way they were meant to be played. \$79.95. Kette Group, 6860 Shingle Creek Pkwy., Minneapolis, MN 55441.
- MacNifty Switch** allows any port on your Mac to connect to two
 **** peripherals. Turn the knob to switch between the two devices. \$34.95. Kette Group, 6860 Shingle Creek Pkwy., Minneapolis, MN 55441.
- MacTablet** is a stylus-driven graphics tablet. Users can easily
 **** sketch or trace art using this absolute-positioning device. Has a working area the size of the Mac screen. Allows concurrent use of the mouse. \$495. Summagraphics Corp., 777 State St. Extension, Fairfield, CT 06430. (Jan 86)
- Mac Turbo Touch** is a mouse replacement device. Features
 **** include 2.5-inch diameter track ball with control buttons to either side. Users either love it (and refuse to use anything else) or hate it; very few so-so's on this product. Takes a few days to get used to. \$129. Assimilation, 485 Alberto Way, Los Gatos, CA 95030.
- MacVision** is a digitizer that uses an ordinary video camera for
 **** input. Capable of extremely fine results and special effects. Easy to use and well documented. \$399.95. Koala, 3100 Patrick Henry Dr., Santa Clara, CA 95052.
- Maglic** is both the most intimidating and easiest to use digitizer
 **** available. Use a regular video camera for input. Once the crowded screen is mastered, any effect is possible. \$399, \$549 with camera. New Image Technology, 10300 Greenbelt Rd., Seabrook, MD 20706.
- MouseTop** is unquestionably the cutest mouse cover on the
 **** market. Gray, plush fur, round felt ears and button nose and eyes make your mouse look authentic. \$5.49; \$5.95 for MouseTop wearing wire-frame glasses. H&H Enterprises, PO Box 2672, Corona, CA 91718.
- Moustrak** is a fabric covered foam mousing pad. It will increase
 **** the efficiency of your mouse while helping to keep it clean. Pad comes in a variety of colors. Particularly useful in the typical office desk top environment. \$10. Moustrak, 1 Weatherly, Mill Valley, CA 94941.
- NoLabelSystem** is a plastic permanent labeling system in which
 **** users slide new tabs into a transparent plastic case on the disk. The tabs stick out of the case slightly, making them easier to read while in the drive. NLS-3.5 set contains 100 plastic pockets, 100 white tabbed insert cards, 100 color tabbed cards and instructions. \$19.45 plus \$3 shipping. Weber & Sons, NLS Dept., 3468 Hwy 9, Freehold, NJ 07728.
- Numeric Turbo** combines a track ball with an enhanced numeric
 **** keypad. The keypad includes working cursor keys and other direct function keys that bypass the Mac's Command and Shift keys. The track ball takes some getting used to and some never learn to like it. Assimilation, 485 Alberto Way, Los Gatos, CA 95030.
- ThunderScan** replaces the ribbon cartridge in an ImageWriter,
 **** which is required to use it. Laser scans art that can be run through the ImageWriter, producing high-quality digitized images. The images can be manipulated as they are created or afterward. Mac Plus compatible using optional adapter. Output has been optimized for LaserWriter. \$229. Thunderware, 21 Orinda Way, Orinda, CA 94563. NCP

YOUR FIRST UTILITIES

(continued from page 98)

will allow you to have all eight slots filled.

You will probably want to save various "configuration" documents of the programs you use the most often. Then simply clicking on such a document will load the programs you want into the *Switcher* and you'll be set to go. Of course, a hard disk comes in very handy or you will find yourself doing the "Floppy Shuffle." If you have a Mac you need the *Switcher* — so as to have more than one Mac! The *Switcher* Construction Kit retails for \$19.95.

THE REAL NITTY-GRITTY

Although few novices will be able to access all of its power right away, everyone with a Mac needs a copy of *Fedit*. The *Fedit* program is a shareware disk editor from author John Mitchell (MacMaster Systems, 939 E. El Camino Real Dr., Suite 122, Sunnyvale, CA 94087). It's available through user groups and on-line services or direct mail (include local sales tax).

Fedit is the type of program that entire articles, even books, could be written about. It allows you to get right down to the tiniest bits of information on your disks — to manipulate those bits and to thus do everything from saving trashed files to restoring blown directories. It is a very powerful tool. The documentation for *Fedit*, which you receive after you send in the shareware fee, is enough to get most people going, although additional reading of various books on the Mac's disk technology are needed to really get to know *Fedit*'s possibilities.

The more advanced users can follow the description we're about to give. But please do not be put off by the "jargon" as — once you have *Fedit* — it will put you onto the road of investigating and understanding such terminology on your own.

Fedit will allow you to examine both disk files and volumes. Both resource and data forks of a file may be examined in either their ASCII or hex code incarnations. There are search facilities that will locate both hex and ASCII strings. You may read sector by sector or jump to any

sector, or read any group of sectors sequentially. The various disk sectors may be read into a buffer and written to a file on disk, or they may be written back (modified) to the same file or onto a different file's sectors to replace information.

Fedit features a full range of miniature utilities to look at everything on the disk. You can get a volume sector map, see and set all file finder attributes and even, with one simple command, recover deleted files.

Fedit is so powerful that it is really impossible to do it justice with a short explanation. Let's just say that we have no hesitation in recommending it to anyone and feel that everyone who purchases it will be very happy that they did so. Learning to do such things as recover files is an insurance policy that can save you hundreds of hours of aggravation in the future. *Fedit*'s shareware fee is \$40.

CUTS LIKE A KNIFE

If you use *MacPaint* for more than just doodling, then you need *Paint Cutter* from Silicon Beach Software. It's part of their "Accessory Pak 1" disk, and is as necessary for a *MacPaint* artist as a palette is for a non-techie working in oils.

Paint Cutter allows you to work with up to eight *MacPaint* documents (on a Mac Plus) at once. As they're loaded, their names appear in the Pictures pulldown menu. When you choose to view one of the loaded-in documents you simply pick which one and — presto — it's on-screen.

Once a document is on-screen you can drag a selection area anywhere on the picture. You can even drag the selection area past the boundaries of the screen and the picture will scroll so as to accommodate you.

Once you have selected the area, it may be cut or copied to either the Clipboard or the Scrapbook, or the selection may be saved to disk. In this manner you can quickly mix and match different areas of separate *MacPaint* drawings, just by cutting from one and pasting to the next.

Paint Cutter also features options to rotate and flip the selection, even to invert it. And, there is a SHOW

COORDINATES feature that will keep track of where the mouse is on an X-Y axis as you move the pointer on-screen (and the X-Y axis may be measured in inches, centimeters or pixels with the origin of the axes completely settable). "Accessory Pak 1" with *Paint Cutter* retails for \$39.95.


ALL WORK, NO PLAY? NEVER!

There are people who will disagree with me that *Timeout* is a utility. After all, it's just a game in the form of a desk accessory. But *Timeout* meets my own definition of a utility — which is that it allows you to use other programs to greater advantage. I've pulled down my *Timeout* game many times and played a few rounds to help me think about something I was writing in *MacWrite* — or to while away a few moments to clear my head while spreadsheeting. I think people work better if they can take a short play break.

Timeout is my favorite DA game and is, I think, just what the doctor would order in such cases. It is basically the game of Breakout — with a time limit. Two double rows of "bricks" appear and the mouse controls a paddle below. A ball falls and the player must bounce the ball into a wall and knock out bricks.

The action is smooth and well-animated. A user-settable slider allows for the choice of 13 speeds and the amount of time in the time limit may be set from its default value of two minutes to up to ten. The sound effects are great.

Timeout is shareware available through various user groups and downloadable from CompuServe or (send a disk and a SASE and fee) from author Greg Kuperberg, 767 Heard Avenue, Auburn, AL 36830 for an astonishingly low fee of \$2.00!

Not everyone will need all of the various utilities mentioned here. But we hope that this selection of both classic and new utilities has given you some idea of how to begin your own library of utilities. Have fun and turn on the power! 

Neil L. Shapiro is a prolific author and *MacUser's* Editor at Large.

PRINT A COLOR, ANY COLOR

(continued from page 78)

down in order to come out right.

With *Silicon Press*, it's easy to align text and graphic elements perfectly so that they are centered in the display areas of the folded card. Since the inside of the card has to be printed upside down, it has to be a graphic element pasted into the design window — even *Silicon Press* won't let you type upside down.

Take advantage of the merge capability of *Silicon Press*, and personalize your cards. And, do them in color.

IN LIVING COLOR (ALMOST)

It's simple to arrange multicolored printouts when each separate graphic object is still a single color unto itself. It takes more work to produce a multicolored image, but the results are worth the effort.

ON COLOR, AND MORE COLOR

The first thing you learn about color ribbons is that they're expensive (\$20 to \$25, list; \$10 to \$20, discount). The second thing you learn is that they last only a short time. The third thing you learn is how to make them last longer.

There are four bands of color on the ribbon: yellow, red, blue and black. Green, orange and purple are also available, created by a double pass using two of the primary bands. Using the secondary colors ruins the primary bands quickly — the ink from the first pass rubs off on the band used for the second pass. The yellow band in particular is soon ruined by picking up blue ink; you'll get an uneven greenish-yellow when you try to print in

yellow. So, to make your ribbon last longer, use the secondary colors sparingly, if at all.

Of course, if you're rich (or can charge the cost of a ribbon to some expense account), don't worry about using green, orange and purple. In fact, you can get even more than seven colors out of *Silicon Press*. Overlaying identical graphic elements with different color definitions creates new colors: orange and blue, for instance, results in a shade of brown. Or, be even more creative and try some color "cross-hatching." Put alternate stripes or checks of different colors next to each other, or print a close pattern of one color on top of a block of another color.

The first step is to decide what parts of the image are going to be which color. Print a few black and white copies from *MacPaint* and go at them with colored pencils, markers or crayons — whatever you can borrow from the kids.

The next thing to do (we're still in *MacPaint* here) is make multiple on-screen copies of the image you've chosen, one copy for each color — including black. Next, from each copy, erase everything except what you want to be printed in that color.

Keep in mind that patterned sections in clip art items are patterned because there's no color to work with. You may want to change some patterned areas to solid black so a solid block of color will be printed; patterns printed in color give shaded effects. Small areas of yellow don't show up well on white paper, so outline yellow elements with black.

When black and another color are used alternately in small areas, such as the black and yellow of the Jack's curls, or the black and red of the band beneath his neck, it's difficult to design the individual color images so they will blend perfectly in the final product. Instead, you can do a solid block of the color, then just overprint the black details on top of and around the block.

IT'S IN THE MAIL

Mailing labels seem a little humdrum after newsletters, greeting cards, and a full-color Jack of Spades. But, they are a necessary part of most businesses, and a handy part of overactive social lives, and they don't have to look humdrum when you do them in *Silicon Press*.

Mailing labels that contain your return address as a permanent part of the design can include a company or personal logo. Even labels that need only the recipient's name and address on them can be made special by the addition of a seasonal design: a wreath at Christmas, a snowman in winter, flowers for spring...it takes only a minute to change the graphic included in the label design.

And, you can do it in color. ☐

Sharon Zardetto Aker is a Contributing Editor of *MacUser* and the author of numerous Mac books and articles.

Basic Colors



Red



Green



Blue



Orange



Purple



Yellow

Alternating Patterns



Red
and
Orange



Yellow
and
Blue



Blue
and
Purple



Yellow
and
Red



Red
and
Blue



Yellow
and
Orange

Pattern Over Solid



Black
over
Red



Blue
over
Yellow



Green
over
Blue



Red
over
Yellow



Red
over
Blue




Green
over
yellow

MAC OF HORRORS

(continued from page 90)

quest. This style of adventure game was the most popular genre in the early- to mid-Apple II days, although it's lost favor recently to less cerebral "simulation" style games.

Transylvania and *The Crimson Crown* provide Mac users with a chance to explore some of the most eerie corners of legend and the macabre. Despite clunky graphics and an overemphasis on superlinear puzzle-solving, both games are well-written with liberal doses of humor to lighten up the horror. Whether you play one scenario or both, it will be a hauntingly funny trip that should color your dreams through many nights long after you complete the quest and save the Kingdom. 

Joyce Worley and Bill Kunkel are veteran computer game critics, authors and game designers.

TRANSYLVANIA:

Overall Rating:	■ ■ ■ ■ □
Follows Mac Interface:	■ ■ ■ ■ □
Printed Documentation:	■ ■ ■ ■ □
On-Screen Help:	None
Performance:	■ ■ ■ ■ □
Support:	■ ■ ■ ■ □
Consumer Value:	■ ■ ■ □ □

Comments: Adventure game in which players explore various haunted areas in search of a kidnapped princess. **Best Feature:** Humorous touches flesh out the story. **Worst Feature:** The graphics look like what happens when you photocopy a color photograph. The illustrations should have been redesigned to take advantage of the Mac's resolution. **List Price:** \$39.95. Published by Penguin Software, PO Box 311, Geneva, IL 60134. (312) 232-1984.

THE CRIMSON CROWN:

Overall Rating:	■ ■ ■ ■ □
Follows Mac Interface:	■ ■ ■ ■ □
Printed Documentation:	■ ■ ■ ■ □
On-Screen Help:	None
Performance:	■ ■ ■ ■ □
Support:	■ ■ ■ ■ □
Consumer Value:	■ ■ ■ □ □

Comments: Sequel to *Transylvania*. **Best Feature:** Lots of puzzle-solving, for those who like it; amusing text. **Worst Feature:** Graphics should have been redesigned for the Mac's high resolution display. **List Price:** \$39.95. Published by Penguin Software, PO Box 311, Geneva, IL 60134. (312) 232-1984.

YOU CAN TAKE IT WITH YOU

(continued from page 57)

normally used for telephone communications because the signals are passing through a high-speed port along a single-use, short distance cable. In *Red Ryder*, the baud rate is listed in the status bar at the top of the window. Simply click on the number until it reaches 9600.

Next, select NO PARITY. In *Red Ryder*, click on the letter at the top of the page until it reads "N". In other terminal programs, the baud rate and parity selections are made from a dialog box.

The Model 100 was previously set to send 7 bits, so you now need to set the Mac to receive 7 bits. In *Red Ryder*, this is also done in the status bar.

Red Ryder needs to know which port you will be using for your connection. Pull down the Modem menu and select the printer port. (If this option has already been selected, it will not be on the menu.) Then select SEND LINEFEED AFTER CARRIAGE RETURN.

When you are ready to receive the file, pull down the File menu and select the RECEIVE FILE — STRAIGHT ASCII PROTOCOL option, then tell the Mac where to save the incoming file and give the file a name in the dialog box presented.

TRANSFERRING THE FILE

To send the file from the Model 100 press the F3 function key (in TELCOM, F3 represents UPLOAD). Then type in the name of the file to send, including the extension, .DO, that distinguishes a document from an application. Press ENTER.

The Tandy will prompt you to type in a line width. If you set a line width of 132, for example, the Tandy will send a carriage return at the end of each group of 132 characters. By ignoring the line width and pressing ENTER, you tell the Model 100 to send the file as saved, in which case carriage returns will only appear at the end of paragraphs. If the file is going into a word processor, it is best to send it without a line width, so ignore the "Width?" prompt and just press ENTER.

You will see the file transfer on your screen, and the file will auto-

matically be saved to the location specified in the "ASCII Receive" dialog box in *Red Ryder*. It takes about 2 seconds to transfer each 1K (approximately 150 words) of text, so if you filled your available memory on the 100 it would take about 35 seconds to complete the transfer.


The first thing to do after completing a transfer is to check that the file is intact on the Mac. If it is, delete the file from the Model 100, and you're ready to use your "portable Mac" again.

TOP OF THE LINE

Tandy also produces the Model 200, with a movable screen that displays 16 lines X 40 characters. Besides the larger adjustable screen, the 200 can be expanded to 72K with three separate RAM banks, and comes with *MSPlan*, a subset of *Multiplan*. *MSPlan* is also available on chip for the Model 100 at a cost of \$150 and both machines can send *Multiplan* SYLK files to the Macintosh.

The process of transferring files from the Model 200 to the Mac is essentially the same as the one described above for the Model 100, with one major exception: the serial port on the Model 200 has a slightly different pin configuration and will not work with a standard Image-Writer cable. It requires making a special cable before it'll connect properly to the Mac (see Figure 2).

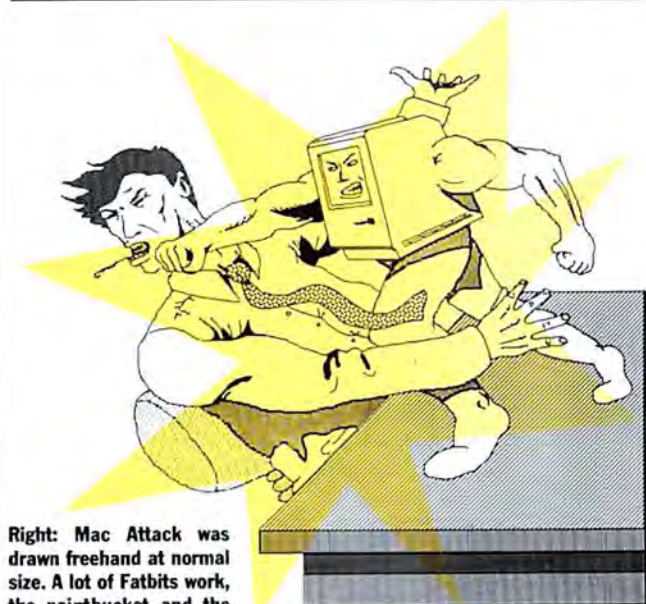
A HAPPIER ENDING

Alan Kay wrapped up a rousing presentation and received a long, loud ovation from the audience. I finished typing the last words of his speech into my portable Mac, turned it off and stuffed it into my backpack. As soon as I got home I transferred the file over an Image-Writer cable, booted *MacWrite*, and opened the text file that had been sent. In short order, the file was formatted, saved and printed out, ready for inclusion in tomorrow's newsletter. Now if only there were a way to transfer *MacPaint* doodles. 

Michael D. Wesley is the West Coast Editor of *MacUser*. Gilbert Rankin is the intern in *MacUser's* West Coast office.

PICTURE PALETTE

The Mac is by far the best medium for producing beautiful, high resolution graphics quickly & easily. Send your Mac graphics, along with a short description of how you accomplished your results, to **MacUser Palette**, 25 West 39th Street, New York, NY 10018. We'll pay \$25-\$100 for every picture we print, plus we'll print your name, home town & methods. Show off your talents to the people who count—MacUser readers.



Right: Mac Attack was drawn freehand at normal size. A lot of Fatbits work, the paintbucket and the small paintbrush rounded things out. Steven Cas-
teel, Spokane, WA



Above: Drawn freehand from her album. Keith
Mortensen, Sunnyvale, CA



Above: I first sketched the outlines that were to become the major shapes onto clear acetate. I then used the mouse to transfer the outlines to the MacPaint palette. The shapes were then filled with patterns, and finally, toned with the spraycan. Ross Frid, Cadillac, MI

Left: I drew the outline of the eagle with the small paintbrush, then enhanced the drawing with various patterns using different paintbrush sizes and the spraycan. Susan Spencer, Ormond Beach, FL



by John C. Dvorak

NEW IDEAS FOR TIRED MARKETS

I was sitting around the fire with a bunch of retired marketing executives talking about the amateurish marketing done by today's computer firms. Oh, I know, I harp on this all the time, but with good reason. There always seems to be something missing from the whole business, don't you think?

The first question raised was why doesn't Apple get together with Kellogg's, Post or Ralston and design a cereal called "Macs" — crispy little Macintosh computers, perhaps sugar-coated. The formula would be much the same as that for Sugar Pops (are tops). Each Mac would be bite-sized. The company can then go a step further and develop a morning cartoon show based on the computer and the cereal. Some typical 9-year-old cartoon superhero (with a dog) can use the Macintosh to help save the world from domination by evil aliens and foreign robots. If they wanted to have real fun, the evil aliens could all be dressed in three-piece suits.

Another overlooked angle for the marketing gurus at Apple is to turn the Macintosh into a Transformer. A Transformer, for those of you out of touch with today's 8-year-olds, is a robot that turns into a plane, a car, a washing machine or a volume of Gibbons' *Rise and Fall of the Roman Empire*. They quickly change back and forth from a robot (with a ton of limitless firepower) to a car or the appliance or the book in an effort to either save or destroy the universe, depending on their political affiliation. Now, it seems to me that a Macintosh Transformer would be a hot item and a potential TV show. The little computer could turn itself into an outrageous flying robot covered with deadly rockets able to blow anything out of the sky.

The idea behind all this is to create a computer consciousness among the youth of the country in hopes that this carries on to adult life so the kids will grow up to be happy-go-lucky owners of Apple computers. I don't know if it will

work, but I have noticed a swing towards Japanese products, in general, ever since the Japanese began shipping their cartoons over here about a decade ago. Coincidence? Maybe.

Whatever the case, let's hope that IBM doesn't get hold of these promotional concepts. Who wants to see an IBM PC Transformer? Luckily, IBM is so stuffy (in a corporate sense) that I doubt it would dare tarnish its image as a *Serious* business-oriented company with a cartoon OR a cereal. By the way, this is why the company will NEVER be a success in the low end of the market. IBM just can't get down and funky with the masses. It's a shame, too. I would love to see a cereal box with the IBM logo emblazoned along the top. "IBM — breakfast of yuppies. No sugar, no additives, nothing but wholesome wheat and corn. Plus fiber for all you irregular and uptight executives."

I suppose the IBM cereal would simply be in the shape of a square block.



Kind of symbolic of, uh, square blocks. Perhaps the company could make its IBM logo into the shape of a cereal morsel. It would be a popular brand with the competitors like, say, a marketing guy from DEC. "I eat IBM for breakfast!" That would give them some solace, perhaps. The IBM cereal might also be in the shape of a little featureless man. Each one would be identical and have no private parts, just like the real thing.

There are other promotional opportunities that are overlooked by the button-

down geniuses who run the marketing show. What about following the lead of baseball? I wonder if computer cards a la baseball cards would be a hit. I'm just not sure whether we should have computer celebrities (all three of them) or photos of famous hardware on the card. I guess we can skip that idea. But, there's always the possibility of a candy bar! The Mac Bar or the Apple Bar. It could be apple flavored, too. There could be gum in the shape of little Macintoshes or even gummy bears in the shape of a computer. Gummy Macs, we'd call them. Hot best-sellers is my guess.

And where is the Apple-sponsored Indy racer? The bigger question is, where is the commemorative Macintosh-shaped bottle of Jim Beam? Now there's an idea whose time has come. Do I have to point out the obvious to these guys?

Another overlooked promotion is a huge hot air balloon in the shape of a Macintosh. THAT's something even I would take a special trip to see.

How about a new soft drink? Apple is commonly referred to as a vertically integrated advertising agency. Maybe they should make some hay with the name "Apple" whether or not it has anything to do with computers. I know they sell a lot of T-shirts and cufflinks at the company store. And Apple sure has the right man at the helm and the right bucks in the bank (\$400 million cash-oo's) to go head to head with the big soft drink companies. It can start with the obvious — Macintosh Apple Cider and move into Apple Cola and Apple Root Beer. And why stop there? Go right into Apple Ale and Apple Steam Beer. The company can go to France and buy a calvados manufacturer and release Apple Apple Brandy. Are these ideas hot or what?

If the company wants to go all the way then it can open up an amusement park called Apple-Land. The rides would be named after computer terms. The Battering RAM would be the hot roller coaster. There'll be rides called the Cold Boot, Memory Lane, the Megabyte Monster and the CRT! Pretty scary, kids. The most thrilling ride would be a giant Octopus-like ride called the Hung Disk.

Apple-Land would have lots of cornball exhibits about the history of computers and why they are important. Main Street would greet the newcomers visiting the park. But instead of buildings, the visitors would find themselves walking along a printed circuit board trace and looking up at large chips. You'd be an electron. What a thrill.

Gee, maybe I should be a consultant with great ideas like this. ☺

MacServe.

For those who understand the power of sharing.

It's called teamwork. All the members of a team benefit from sharing knowledge and resources.

Now your workgroup can take advantage of an easy to use and reliable way to share your choice of hard disks and printers. Not only will your teamwork improve exponentially, but you'll save lots of money while you make each member of your group a Power User. Then watch what MacServe does for the prosperity and morale of your operation!

Increase productivity

Everyone in your group will benefit from direct access to common databases (such as Omnis 3) and

libraries of documents. And, MacServe's printer spooling is a great relief, because you can share a printer and still get back to work sooner.

Reliable and Convenient

MacServe lets you divide hard disks into segments or "volumes" with speed and security advantages even for single Macintosh configurations. It's faster than accessing a whole disk and much more reliable than any file serving scheme yet devised. And disk sharing is incomparably more convenient than using and swapping floppies with your colleagues!

The complete Apple network

MacServe networking software and Apple's Hard Disk 20 finally make Apple networking a reality. But MacServe does not limit you to Apple's hard disks and printers — your group can also share any of the leading hard disks — and all at the same time. Add more Macs, disks, and printers as you need them. MacServe requires no special or dedicated hardware.

Call your Apple dealer now

Leading Apple dealers are now delivering a networking system that really works. MacServe has arrived.

For Free Information
Please Circle 110 On Reader Service Card.

MacServe™

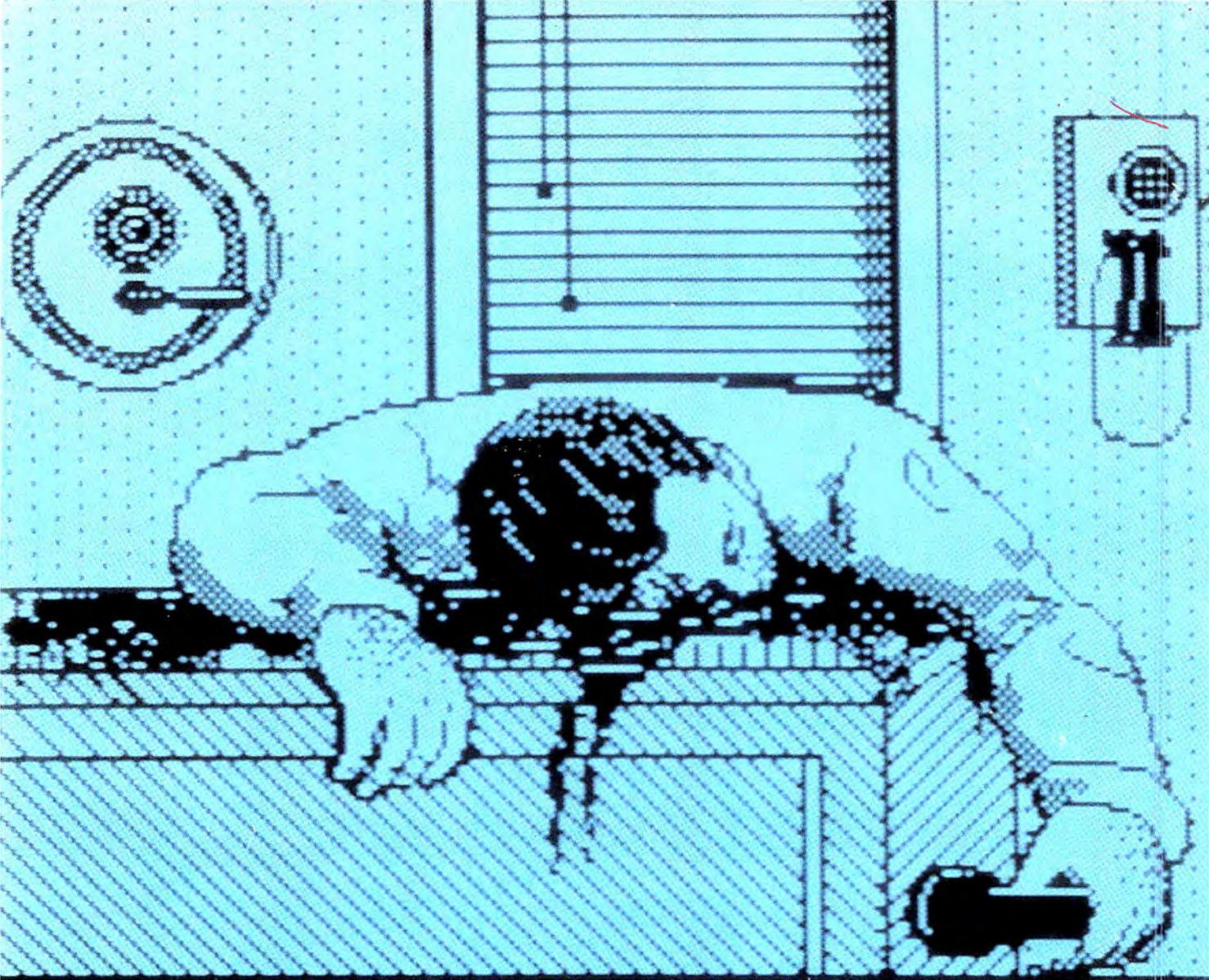
Sharing Resources through AppleTalk



Macintosh Plus

Macintosh Plus is a trademark of Infosphere, Inc. Macintosh is a trademark licensed to and AppleTalk is a trademark of Apple Computer, Inc. Omnis is a trademark of Blyth Holdings, Ltd.

4730 S.W. Macadam Ave., Portland, Oregon 97201
503/226-3620



If you think you've played this game before, you're dead wrong.

Your head is pounding with a bump that's bigger than a cue ball. Your clothes are stained with blood that's, frankly, not your type. And the overcoat that hangs by your side hides a warm revolver. As you stumble from room to room, nothing is familiar. Especially the stiff slumped over the desk.

It all adds up to one thing. *Deja Vu, A Nightmare Comes True*™ the exciting new state of the art Mindscape adventure designed specifically for the Macintosh™.

And because everything you encounter

in this bizarre maze reacts to your every move, there's only one person who can control the outcome of this mystery. And guess what? Only you can clear yourself of the murder.

So pick up Mindscape's new *Deja Vu* graphic/text adventure. It's like no other software program you've ever experienced.



Mindscape 
Software that challenges the mind.

Deja Vu, A Nightmare Comes True is available for the Macintosh.

Mindscape, Inc. 3444 Dundee Road, Northbrook, Illinois 60062 1-800-221-9884. (In Illinois 1-800-942-7315)

Copyright © 1985 Mindscape, Inc. All Rights Reserved. Macintosh is a trademark of Apple Computer, Inc. Deja Vu is a trademark of ICOM Simulations, Inc. Mindscape is a trademark of Mindscape, Inc.

For Free Information Please Circle 90 On Reader Service Card.