

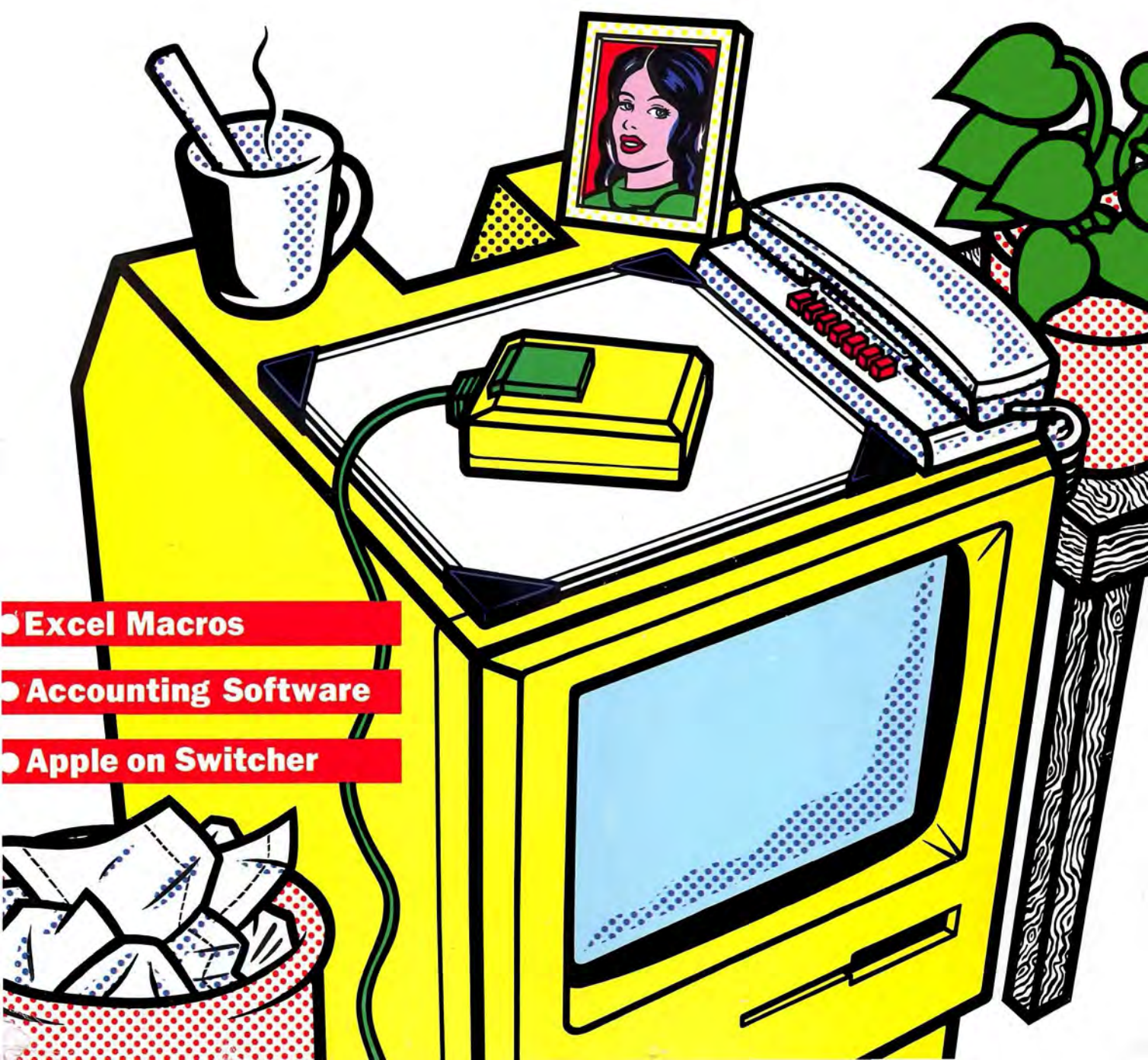
OVER 175 PROGRAM REVIEWS!

December 1985 \$3.50

# MacUser

THE MACINTOSH™ RESOURCE

## MAC GETS DOWN TO BUSINESS



● Excel Macros

● Accounting Software

● Apple on Switcher



# PRESENTING THE MOST INNOVATIVE SPACE AGE ACCESSORIES



## TAKE YOUR PICK FROM THE TWO MOST PORTABLE 3 1/2" MICRO DISK CARRIERS

THE POCKET PAK — TOP  
THE EASEL — BOTTOM

Introducing the little one, **THE POCKET PAK**, the pocket version of the micro disk carrier. This useful product will carry up to six micro disk, and is small enough to fit into the inside of a coat, jacket or purse—perfect for the college student, college professor, and the executive on the move! **Priced at only \$13.95 retail!**

The world's most popular portable, disk handler **THE EASEL**, solves your storage and transport needs—A "no-nonsense" approach to disk handling. Holds up to 20 diskettes. **THE EASEL** design allows you to read your disks at a glance. Both **THE EASEL** and **THE POCKET PAK** fold to a thickness of less than one inch, fitting easily into your computer bags, briefcase, or desk drawers. It's specially treated anti-static material protects your valuable disks. Best of all is the price! Retail \$19.95. Available in a beautiful variety of colors. Ask for these products at your favorite computer store, university and retailbook centers. Dealers inquiries welcome.

Call toll free for information USA 1-800-525-2226, California 1-800-824-6097, San Diego (619) 456-0722



Innovative Ideas For Innovative People

5731 La Jolla Blvd., La Jolla, CA 92037

Microsoft Word & Excell are trademarks of Microsoft. Filemaker & Macware are trademarks of Forethought. Omnis & Thinktank are trademarks of Blyth Corp. & Living Video Text, respectively. Pagemaker & Macworks are trademarks of Aldus Inc. & Apple Inc., respectively. Overview & Macaccountant are trademarks of Proview Development & Digital Etc., respectively. Mac Lion & Sony are trademarks of Computer Software Design & Sony, respectively and Datalife is a trademark of Verbatim.

Please circle 39 on reader service card.

COMING SOON —  
The Library™, The Wiz™, The Pyramid™, The Mac Care Kit™  
Look for our special coupon promotion!



**NEW: MACINTOSH VERSION!!!**

# Borland's SideKick® Will Clear Your Desk In 30 Minutes And Increase Your Productivity By 50%

SideKick, the Macintosh Office Manager, brings information management, desktop organization and telecommunications to your Macintosh. Instantly, while running any other program.

## A FULL-SCREEN EDITOR/MINI-WORD PROCESSOR

lets you jot down notes and create or edit files. Your files can also be used by your favorite word processing program like MacWrite™ or Microsoft® Word™.

## A COMPLETE TELECOMMUNICATION PROGRAM

sends or receives information from any on-line network or electronic bulletin board while using any of your favorite application programs. A modem is required to use this feature.

## A FULL-FEATURED FINANCIAL AND SCIENTIFIC CALCULATOR

sends a paper-tape output to your screen or printer and comes complete with function keys for financial modeling purposes.

**A PRINT SPOOLER** prints any text file while you run other programs.

**A VERSATILE CALENDAR** lets you view your appointments for a day, a week or an entire month. You can easily print out your schedule for quick reference.

**A CONVENIENT "THINGS-TO-DO" FILE** reminds you of important tasks.

**A CONVENIENT ALARM SYSTEM** alerts you to daily engagements.

**A PHONE LOG** keeps a complete record of all your telephone activities. It even computes the cost of every call. Instantly access the state, region and time zone for all area codes.

**AN EXPENSE ACCOUNT FILE** records your business and travel expenses.

**A CREDIT CARD FILE** keeps track of your credit card balances and credit limits.

**A REPORT GENERATOR** prints-out your mailing list labels, phone directory and weekly calendar in convenient sizes.

**A CONVENIENT ANALOG CLOCK** with a sweeping second-hand can be displayed anywhere on your screen.

**ON-LINE HELP** is available for all of the powerful SIDEKICK features.



**SideKick, the Macintosh Office Manager.**

**NOT COPY-PROTECTED**

**84.95**

### THE CRITICS' CHOICE

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

**Jean-Louis Gasseé, V.P. of Product Development, Apple Computer, Inc.**

*"SideKick allows concurrency, meaning that you could say, call a client with the phone dialer, begin to time the call and switch into Jazz to look at a spreadsheet to discuss with the client. The log would continue to run in the background."*

**Lisa Raleigh, SAN JOSE MERCURY NEWS**




4585 Scotts Valley Drive, Scotts Valley CA 95066  
Phone (408) 438-8400 Telex 172373

Copyright 1985 Borland International BI-1015A

SIDEKICK is a registered trademark of Borland International, Inc. Macintosh is a trademark of McIntosh Laboratory, Inc. MacWrite is a trademark of Apple Computer, Inc. Jazz is a trademark of Lotus Development Corp. Microsoft is a registered trademark and Word is a trademark of Microsoft Corp.

Please circle 128 on reader service card.

# SIDEKICK



Available at better dealers nationwide.

Yes, I want the Best. Please send me SideKick! This price includes shipping to all U.S. cities.

Amount (CA 6% tax) \_\_\_\_\_

Payment ☐ VISA ☐ MC ☐ BankDraft ☐ Check

Credit Card Expir Date \_\_\_\_\_ / \_\_\_\_\_

Card # \_\_\_\_\_

Call (800) 556-2283 for the dealer nearest you. To order by Credit Card call (800) 255-8008, CA (800) 742-1133.

SideKick Not Copy-Protected Quantity: \_\_\_\_\_ at **\$84.95**  
(CA res. add \$5.10 tax per copy)

Name \_\_\_\_\_

Shipping Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_\_

Software for your Macintosh

**60-DAY MONEY-BACK GUARANTEE**

**NOT COPY-PROTECTED**

CCD's and Purchase Orders WILL NOT be accepted by Borland. California residents add 6% sales tax. Outside USA add \$10 and make payment by bank draft, payable in US dollars drawn on a US bank.



# MacUser C O N

VOL 1 NO. 3 DECEMBER 1985

## POWER COMPUTING

### 40 **MACROMAKER; NEW USES FOR EXCEL**

Put *Excel*'s most powerful feature to work for you with these pre-built macros. *by Richard Reich*

### 46 **CORRALLING YOUR DESK ACCESSORIES**

*QuickSet*, *SideKick*, and *Battery Pak* round up useful accessories for your desk. *by Sharon Zardetto Aker and Steven Bobker*

### 52 **CALLING YOUR MAC TO ACCOUNT**

A Buyer's Guide to accounting software for the small business, with an in-depth review of nine leading contenders.

*by Michael D. Wesley*

### 60 **MACCHARLIE: WHERE IS THE SIN IN SYNERGY?**

Can a Mac find happiness running MS-DOS? A review of this fascinating PC-compatible attachment for the Mac.

*by Michael D. Wesley*

## PRODUCT SURVEY

### 67 **NOT A CREATURE WAS STIRRING, NOT EVEN A MOUSE**

Holiday gift giving made easy for the Mac user in your life.

*by Tracie Forman Hines*



Where's the Sin in MacCharlie?, 60



Apple's Switcher is ON, 120





# T E N T S

## MAC OFFICE

### 76 IS IT JUST TEXT?

Use *Just Text* for professional quality word processing and true typeset output. *by Steven Bobker*

## TELECOMMUNICATIONS

### 84 YOUR FIRST CONNECTION

Open a whole new world with your Mac and a modem. Here's how to get started. *by Neil L. Shapiro*

## MUSIC

### 90 MIDI TO THE MACS

Use MIDI and the Mac to control synthesizers and other digital musical instruments. *by David Biedny*

## ENTERTAINMENT

### 96 NOVELS OF THE MIND

It's all a figment of your imagination when you play text adventure games. *by Tracie Forman Hines*

## RESOURCES

### 102 BASIC: A DIP INTO THE ROM, PART II

The second article in our series shows how to access QuickDraw routines through *MS BASIC*. *by Sharon Zardetto Aker*



Mo...Da...Modem!, 84

## COLUMNS

### 9 THE EDITOR'S DESKTOP

Play it to the Limit! *by Neil L. Shapiro*

### 15 FROM THE REST OF US

Readers speak out. *Letters from the Mac Community*

### 25 WEST COAST REPORT

Go East, Young Mac! *by Michael D. Wesley*

### 31 THE MACINTOSH BOUNDARY

What's In a Name? *by Doug Clapp*

### 120 THE HELP FOLDER

Apple Talks About *Switcher*. *by Dan Cochran*

### 152 THE DEVIL'S ADVOCATE

Love Can Make You Crazy! *by John C. Dvorak*

## DEPARTMENTS

### 18 NEW ON THE MENU

The first winner in our Bug contest!

### 34 QUICK CLICKS

Nine hard-hitting reviews of practical (and some not so practical) programs.

### 124 MINIFINDERS

Capsule reviews that tell the real story

### 151 ADVERTISER'S INDEX



Mac Gifts for Mac users, 67



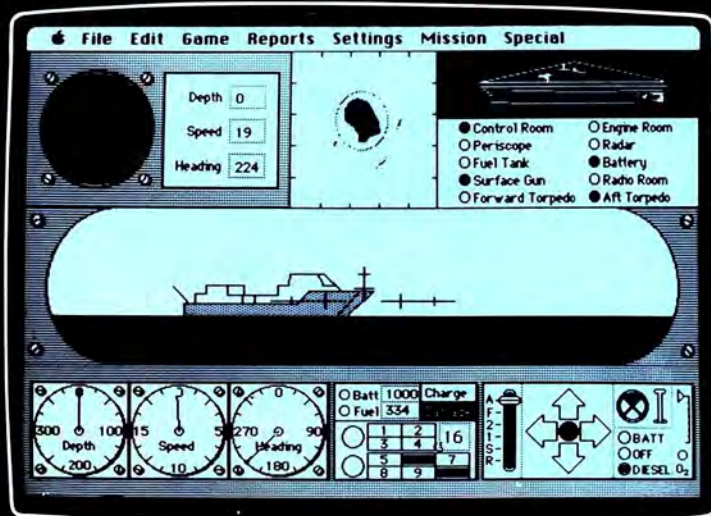
Cover by David Coulson



# GATO™



## WW II GATO-Class Submarine Simulation 3-D Graphics with Sound



Macintosh Version

Also Available for Apple® IIe/c or  
IBM® PC Series (includes PCjr.)

SPECTRUM HOLOBYTE, INC., 1050 Walnut, Suite 325, Boulder, CO 80302 (303) 443-0191. Check your local computer store or wherever software products are sold. Dealer inquiries call: (800) 621-8385 x262. Macintosh Version by Mindbender. IBM and Apple are registered trademarks of International Business Machines Corp. and Apple Computer, Inc. respectively.

Please circle 40 on reader service card.

## About MacUser

**EDITOR IN CHIEF** Neil L. Shapiro  
**WEST COAST EDITOR** Michael D. Wesley  
**TECHNICAL EDITOR** Steven Bobker  
**FEATURES EDITOR** Richard Herbst  
**ASSOCIATE EDITOR** Tracie Forman Hines  
**ASSISTANT EDITOR** Daisy Genovese  
**EDITORIAL ASSISTANT** Gilbert Rankin  
**CONTRIBUTING EDITORS** David Biedny  
Doug Clapp  
Dan Cochran  
Ian McKinnell  
**CONTRIBUTING ANTI-EDITOR** John C. Dvorak  
**CONTRIBUTORS** Sharon Zardetto Aker  
Richard Reich

**ART DIRECTOR** R. Wippo Meckler  
**ASSOCIATE ART DIRECTOR** Lisa Orsini  
**DESIGN ASSOCIATES** Marybeth Cunniff  
Peter King  
**PRODUCTION DIRECTOR** Alan Jeffries  
**PRODUCTION MANAGER** Randi B. Kantor

**NATIONAL ADVERTISING DIRECTOR** Steven J. Rosenfield  
**ADVERTISING MANAGERS**  
**NORTHWEST** Meredith Browning  
**NORTHEAST** Richard M. Coombs  
**SOUTHWEST** Gary Meyer  
**SOUTHEAST/MIDWEST** Christine Pines  
**ADVERTISING SERVICES MANAGER** Mindy Roland

**PUBLISHER** Felix Dennis  
**EXECUTIVE PUBLISHER** Melvyn A. Williams  
**VICE-PRESIDENT** Susan Freeman  
**CIRCULATION DIRECTOR** Jay Annis  
**ASSISTANT TO THE PUBLISHERS** Susan Huang  
**ADMINISTRATIVE ASSISTANT** Cyndy DeLucia  
**RECEPTIONIST** Cynthia Reel  
**PRESIDENT** Robert G. Bartner  
**CHAIRMAN OF THE BOARD** Peter Godfrey

MacUser (ISSN 0884-0997) is published monthly by MacUser Publications, Inc. © Copyright 1985, MacUser Publications, Inc., all rights reserved. Business and Editorial Offices: 25 West 39th Street, New York, NY 10018. Telephone: (212) 302-2626. West Coast Offices: 425 Brannan Street, San Francisco, CA 94107. Telephone: (415) 896-1530. European Offices: 14 Rathbone Place, London W1P 1DE. Tel: 01-631 1433. U.S. subscription rates are \$23.00 for 12 issues and \$42.00 for 24 issues. Canada and Mexico subscription rates in U.S. funds are \$27.00 for 12 issues and \$49.00 for 24 issues. For other countries, subscription rates in U.S. funds are \$37 for 12 issues and \$67.00 for 24 issues and must be prepaid. Foreign orders sent surface mail. Single copy price is U.S. \$3.50 (Canada \$4.50). For back issue orders outside of U.S. and Canada (subject to availability) add 50 cents per copy for shipping and handling. For subscriber service questions write MacUser Subscriptions Dept., 25 West 39th Street, New York, NY 10018. Application to mail second-class is pending at New York, NY. POSTMASTER send address changes to MacUser, 25 West 39th Street, New York, NY 10018.

# 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 United States of America.



How can we price our high-quality Mac programs so low? The reason is simple. Our programs are so superior that once you have purchased one, you will want to purchase others! Your repeat business assures us volume sales, thus allowing us to bring you more low-cost software. Try us — you'll see!

# Look What \$39.95 Can Buy!

"It's refreshing to see people able to dream big without pricing to match!"

— The MACazine,  
April '85

"The company will maintain a \$39.95 price policy for everything. Check it out."

— John Dvorak,  
InfoWorld,  
June 17 '85

## Dreams of the Phoenix<sup>Inc.</sup> Products Provide:

**Matchless  
Value**

**Ease of  
Use**

**No Copy  
Protection**

**More For  
Your Money**



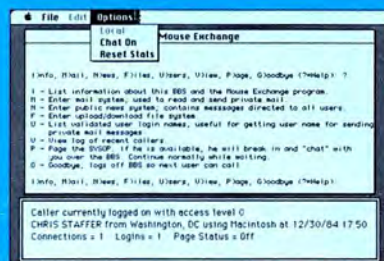
**Day Keeper™ Calendar.** This program helps you organize your day to day appointments, goals, expenses, and customer billing. It makes personal time management easy with flexible reporting and sophisticated searches. Day Keeper is designed for the individual who needs easy and complete time accounting. *Works on the 128K Macintosh, and with 'Switcher' — takes advantage of the larger screen on the Macintosh XL.*

"One of the finest application programs on the Mac; a bright, breezy bit of programming whose very friendliness and usability belie the underlying complexity of the programming and power of technique."

— Neil Shapiro, Sysop MAUG. "Day Keeper is a pure calendar-oriented program, a single application = lower cost...the programmers were able to focus all attention to the detail of 'the calendar,' so the application itself exhibits a jewel-like polish in its operations" — The MACazine, May '85.

**Mouse Exchange™ BBS.** A remote bulletin board system that has security for private mail, plus a public news system. Upload and download files in ASCII, XMODEM, or MacBinary. It uses multiple windows. *Works with the 128K Macintosh, requires an Apple, Hayes, or US Robotics modem.* "... (Mouse Exchange BBS) is already a classic in telecommunications" — The MACazine, April '85. "Almost all of the Mac boards that are up use this package." — John Dvorak, InfoWorld, June '85.

**Mouse Exchange™ Terminal.** This program is a simple, yet sophisticated terminal emulator from the people who brought you 'Free Term' on Apple's software supplement. It emulates multiple types of terminals, has a built-in screen editor, and easy-to-use macros and dialer functions. Upload and download in ASCII, XMODEM, and MacBinary. *Works on the 128K Macintosh, and with ALL modems.*



**Quick & Dirty™ Utilities Volume One and NEW! Volume Two.** Both disks are full of useful desk accessories and application tools. Volume One has 16 different utilities, including VT52 and XMODEM terminal desk accessories, super note pad, font manager, disk cataloger, and much more! Volume Two includes an editor desk accessory, a BASIC desk accessory, a pie & bar chart creator, mass disk copier, desk accessory maker, and many other goodies! *Some individual utilities may require 512K RAM.* "Now, let it be said that 'Quick & Dirty' has nothing to do with how these utilities act or are programmed. Instead, it seems to mean that they're quick to use and they get the job done without many flourishes but with a good, workmanlike attitude." — The MACazine, April '85. "Quick & Dirty Utilities is a disk chock full of the handiest programs you have ever bought...you'll wonder how you got along without (them)." — MacUser, Premiere Issue '85.

**NEW! Twelve-C™ Financial Desk Accessory.** This desk accessory exactly emulates the Hewlett-Packard 12C Financial Calculator, including programming! Whether you're in business school or on your way to your first million, you'll find this to be the perfect analysis tool. A must for people in the world of finance, real estate, and investment. *Works on the 128K Macintosh.* "Dreams of the Phoenix has the answer for all of us who just can't give up that special financial calculator." — MacUser, Premiere Issue '85.



Available at better dealers nationwide. Call us for the dealer near you.

*Dreams of the Phoenix<sup>Inc.</sup>*  
P.O. Box 10273 • Jacksonville, Florida 32247 • (904) 396-6952  
"Where Dreams Come to Light"

**By Mail:** We will pay shipping if you pay by check. **By Phone:** C.O.D. Only. Credit Cards and Purchase Orders WILL NOT be accepted. **Other Charges:** Florida residents add 5% sales tax. Outside USA add \$5.00 and make payment by bank draft, payable in US dollars drawn on a US Bank.

Day Keeper™, Mouse Exchange™, Quick & Dirty™, Twelve-C™ and Dreams of the Phoenix, Inc.™ are trademarks of Dreams of the Phoenix, Inc.

Please circle 55 on reader service card.



When the Macintosh first came out, everyone looked at it and said, "Wow, wait 'till the gaming wizards get ahold of this baby..." And some of them did. But some of the "quick and dirty" products that have appeared have left some entertainment software for the Mac a little disappointing.

Here at **Miles Computing**, software designers who simply will not put up with second best, or half-baked concepts, have delivered entertainment products of such intensity of effort and such depth that our designers say "Wow, wait 'till people get ahold of *this*..."



**MacAttack!** was the first, an amazing best-selling programming feat. It's a 3-dimensional tank battle zone simulation where you defend a city in your radar-equipped Sherman Tank. You must survive by out-manuevering conventional and heat-seeking missiles coming from your opponents who can only be eliminated by accurate shooting on your part. Deadly tanks and planes roam about in this unique game with three levels.



**Harrier Strike Mission** is follow-up to MacAttack! in a tour-de-force of Assembly language utilizing sensational 3-D graphics. This flight combat simulator features the famous Harrier Jump Jet, a fighter aircraft which can maneuver like a heli-

copter but has all the punch of the latest in modern jet armament. You are pitted against an enemy-occupied island firing heat-seekers, not to mention fighter aircraft in mid-air combat. You must take off from an aircraft carrier, take out the command post and fuel depot on the island and return to your ship. With two skill levels and your choice of day or night mission, mouse or joystick controls, it's the ultimate 3-D flight combat simulator.



Then there's **Fusillade**. You're the last person stuck on Planet Fusill, and must defend a city from power-hungry kamakazee

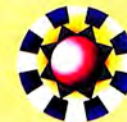
# Miles Computing Entertainment Software. The Promise Fulfilled.

looters in a fast-action shoot-out which escalates at dizzying speed as wave after wave attacks your position in over 30 knuckle-whitening levels. Mouse, keyboard or joystick controlled.



If real trouble is what you're looking for, **MacWars** has it. Miles Computing just can't keep away from 3-D, and this one has a black planet strewn with a deadly obstacle course of surface and sky targets through which you fly your laser cannon-

equipped and shielded space ship. On the way to the enemy's planet-sized space station you must survive waves of enemy space paraphernalia, and only your mouse or joystick stand between you and destruction as the waves keep coming, and coming, making things "rather difficult indeed" for you.



For those who want to exercise brain muscles, we have **Overlords**. The object is galactic domination, with power struggles. Struggles against whom? Well, up to 32 players, that's who!

Players can be either people or the Macintosh itself, or can even be linked up via Apple Computer's Apple Talk network, the very first game to do this. You can have multiple players on one computer, or link up to other computers, each player with its own strategy and personality. You can use the

ships that come with it, over a dozen, or design your own, and by zooming in and out over the Galaxy, set out for high adventure.

Miles Computing Entertainment Software. The Promise Fulfilled.

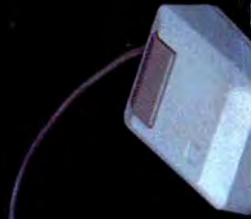
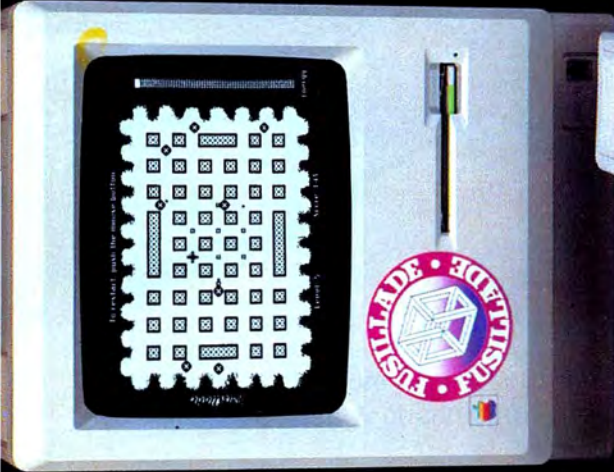
Miles Computing, Inc., 21018 Osborne Street, Building 5, Canoga Park, California 91304. (818) 341-1411.

Fusillade, Harrier Strike Mission, MacAttack, MacWars, Overlords, Miles Computing and the Miles Computing logo are registered trademarks of Miles Computing, Inc. AppleTalk is a trademark of Apple Computer, Inc. Macintosh is a trademark licensed to Apple Computer, Inc.

Please circle 96 on reader service card.



**MILES**  
Computing





# THE KEEPER.™



## THE FIRST SMART FILE SERVER FOR THE MACINTOSH™ OFFICE.

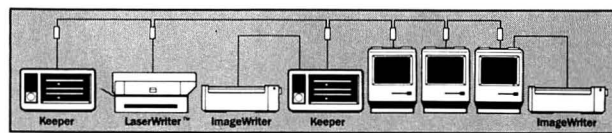
### First—And Only.

The Keeper is the only shared storage device that uses the built-in intelligence and power of an internal microcomputer. There's no need to tap the strength of the network by "dedicating" a Macintosh to run the Keeper. It's the easiest, most cost-effective way to store and, share information on the AppleTalk™ network.

### There's Room for Everybody.

As the network grows, multiple Keepers can be added for more storage, with each providing up to 64 dynamically sized disk volumes which can be shared by every user simultaneously. Because disk volumes expand and contract automatically when files are added or deleted, there's no need for complicated calculations to "partition" the disk. And with removable hard disk cartridges, storage is virtually unlimited. The Keeper is

available in 10, 20 or 30 megabyte capacities, as well as in combination with a 5 megabyte cartridge drive.



*Typical network setup using two Keepers*

### Brains and Brawn.

The powerful Keeper file server is all you need to vastly enhance a variety of essential functions: It acts as a print server and spooler for the ImageWriter™ and Macintosh network. It offers versatile back-up capabilities and security options. It operates as a stand-alone hard disk for a single Macintosh. And it does it all while maintaining the simplicity of the Macintosh itself.

Now that's smart.



6301 Manchaca Road/Austin, Texas 78745  
800-531-5002/In Texas, call 512-441-7890

The Keeper and The Keep are trademarks of Micro-Design. Apple is a registered trademark, and ImageWriter, LaserWriter and AppleTalk are trademarks of Apple Computer, Inc. Macintosh is a trademark licensed to Apple Computer, Inc.

Please circle 70 on reader service card.





# PLAY IT TO THE LIMIT

THE MACINTOSH IS A TOY COMPUTER.

Before you think that I've lost my mind, or that my esteemed colleague John Dvorak is masquerading as the editor this month, let me explain that I think all microcomputers are toys. At least, they are if they're what computers should be.

The Macintosh is a *great* toy.

Spreadsheets, word processing, accounting software, all of these products have their important place. But, to me, what makes a computer really exciting is when it's used as a tool to extend the human imagination, to change how people spend their solitary leisure hours, and to impact on how they socially interact with other people.

## Measure by Measure

Games are a very important part of any computer's software repertoire. Sure there are many individuals who would never think of mousing off a spreadsheet template to launch an adventure game. But games do something else besides entertain the user, they are a yardstick with which to measure the amount of creativity that can be jammed into a CPU. In some respects, games delineate the farthest boundaries of a computer's graphic and even number-crunching abilities.

The same computer power needed to move a complex, bit-mapped image across a screen faster (or slower) than the twitchiest reflexes, is the same power that (speedily or not) recalculates a spreadsheet. Utilization of such power is a function of the creativity of the programmer and of the resources of the computer system. Often, these are resources undreamed of by the computer's original design team.

Someday, if you feel like going on an antique hunt, take a look at a 1979 version of *Space Invaders* on an Apple II and compare it to a modern program such as *Skyfox* (from Electronic Arts).

To have set out to program graphics like *Skyfox*'s in 1979 on an Apple II would have been to dream the impossible dream. Indeed, no one at Apple Computer would likely have believed the machine capable of such graphic potential.



## Doubting Thomases

But, what about color? The Mac today is already capable of *Skyfox*-like graphics but in black-and-white. When the Mac first came out many people quickly pointed out that without color the Mac could "never" be a game machine. In fact, some gaming software companies immediately went on record against even planning any products for the new, black-and-white machine.

I was greatly disturbed by this at the beginning of the Macintosh marketplace. Without game programmers pushing away at the Macintosh, pulling and prodding QuickDraw into a roiling mass of entangled code and original routines, I feared the Macintosh might never reach its true potential.

Well, the Macintosh has already proven that early critics were color-blinded.

Certainly there are some game concepts upon which the lack of color has a negative impact. But, the best creative games—on the Macintosh as on any other computer—are those which take full advantage of the unique potentials of the machine upon which the software runs. The programs that push, the programs that insist the computer do a little bit more, a little bit faster, those are the game programs which will change not only gaming on the Mac but also business graphics, spreadsheeting speed and more things that we cannot foresee.

But history always tends to repeat itself, particularly in computing where it sometimes seems that no one has any idea at all of what happened as long as two or three years ago. (And, when you talk of five or six years ago people think of Paleolithic cave dwellers squatting about a campfire with their Altairs.)

Every computer I've yet seen goes through a period when creativity of programming takes a second place to getting products to a marketplace. And every computer I've yet seen has gone through some period wherein gaming software copies or mimics other fields.

It used to be that computer programmers would hustle off to the coin-op arcade with a barrel of quarters, a Polaroid camera, and a notebook. Pretty soon there were more versions of *Defender* and *Space Invaders*, *Star Castle* and other coin-op ware then you could shake a joystick at.

Then Atari Inc. stepped in and, with a series of full-page ads, made it very clear that—at least for games they had designed—they were willing to legally protect their audio/visual presentations. Suddenly you saw less outright copies of existing arcade games and a funny thing began to happen.

The microcomputer arcade games got better. As designers concentrated on the machines they were working on, it became apparent that creativity would pay off in better and more exciting products.

In the gaming world of today's Macintosh we are now seeing a repeat of the "new program code equals new idea" phase of marketing. While some games, such as *Balance of Power*, *Deja Vu*, *Harrier Strike Mission* and others take the Macintosh to new realms of excitement I also note a disturbing new trend toward mimicry.

Strangely enough, the programmers are not mimicking other computer systems—be it coin-op or micro—but are picking up on ideas from the boardgaming field. Perhaps it is because the Mac's resolution lends itself to reproducing printed materials on-screen.

For example: Name a game that is composed of a four-by-four matrix of randomly generated letters. The object of the





# There Are TWO Reasons To Use a Modem

## No. 1--To Reach The Mac Underground™

Mac Underground is a nation-wide network of "SafeHouses" that supply serious Mac users with outrageous industry intelligence and state-of-the-art equipment. You reach the Underground using a 300, 1200 or 2400 baud modem.

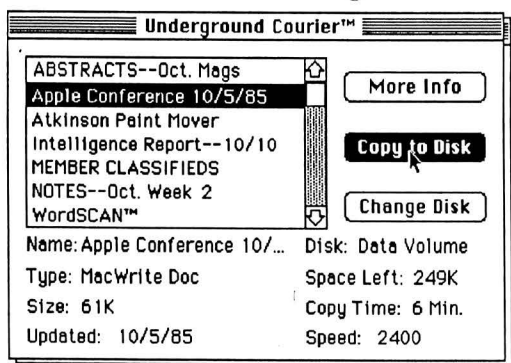
The content of their daily and weekly reports--coupled with the low cost of their hardware--has made dealers and suppliers take frequent trips to their restrooms.



"Mac Underground is a unique organization, founded and run by honest, friendly, straight-ahead people. Highly recommended"  
Doug Clapp and Pat Ryall from *The Complete Macintosh Sourcebook*.

"The Mac Underground is a sociological footnote to the technological revolution."--Marc Halberstadt, Publicist with *Antic Magazine*.

## No. 2--To Use Underground Courier™ Software



Underground members use Courier to make modem contact with a SafeHouse.

Once inside a SafeHouse, members can copy choice public domain programs, in-house software, weekly and daily intelligence reports all over the phone.

Courier also represents a landmark in telecommunications. It requires no typing or prior knowledge of teletype jargon--just pointing and clicking!

"Un-bleepin' believable!!! Courier is a BLAST!! Better than you said it would be."--John Patrick Russell, Computer Island

"This could become THE standard in telecommunications."  
Mel Beckman, Senior Programmer at Pace Financial--an IBM VAR.

## A \$39.95 One-Year Membership Includes:

- Courier software that lets you copy Underground files over the phone!
  - *Daily Intelligence Reports* covering industry break-throughs
  - *Notes from the Mac Underground* pondering industry opportunities each week
  - *Select Public Domain Programs* complete with instructions
  - *Mac Abstracts* summarizing Mac developments as reported in Mac mags
  - *Member Classifieds* for seekers or sellers of used equipment & talent
- No "online" charges (other than the cost of an AT&T call)!
- Access to fine new equipment at dealer cost plus 10%!

## A Message from the Director

If you've ever read my *On the Road* column in MACazine--and enjoyed it--I would encourage you to join the Mac Underground. In our Underground publications I have virtually NO editorial restrictions! The result? You get material I could never put in the Mac mags.

When you call us (or write) we'll give you the phone number of the SafeHouse nearest you. We'll also send you a free copy of **Underground Dossier!** See you online?

**MAC UNDERGROUND HEADQUARTERS**  
607 North Court Street, Fairfield, IA 52556  
Voice (515) 472-9613 10AM to 4PM Central



Jerry Daniels, Director of Mac Underground-USA

Mac Underground, Underground Courier, Underground SafeHouse and WordSCAN are registered trademarks of Online Publishing Systems, Inc.

game is to spell out words from letters which touch one another.

The game, of course, is called *Boggle* and is one of the country's most popular word-games. Brought out by Parker Brothers this collection of plastic cubes and gaming paraphernalia has been the focal point of thousands of parties.

Today you can buy at least two versions of this game programmed for the Macintosh. Both games add a computerized opponent for solitaire play but when we called one of the companies involved, the woman at the other end assured us that her program was "just like *Boggle*. It is *Boggle*."

Parker Brothers refused comment on the issue other than to say that neither company had licensed rights to the *Boggle* game. But the issue is not really one of licenses nor even of legality. It is, instead, an issue of creativity.

*Boggle* was not designed to be played on a computer. It translates well, the programs are fun. But what if the amount of effort needed to program had been better directed toward utilizing the Macintosh as a computer, as a graphic, whiz-bang machine that could do much more than plastic and cardboard? I don't know what the programmers *could* have accomplished. A three-dimensional board? Constantly shifting letter positions? The point is, they went for the copy.

There are many other examples of such unoriginality and not all involve the boardgaming world. Many programs on the Mac are being brought out by people who did the same programs for the Apple II years ago. So far, no one has gone so far as to forget to add pulldown menus but, graphically, some of these Apple II clones are a riot when viewed on the Macintosh. The Apple II's 'high-resolution' mode does not approach the Mac's pixel power; although the Apple II is color. There's one game that we can't help but break out laughing at whenever we launch it. The screen shows a scrollable world map but the continents are blocky, squarish, totally devoid of the detail possible (see *Balance of Power* for how a map should be drawn on the Mac). It just looks as if someone turned the color control on an Apple II monitor fully counterclockwise.

We've made the argument in the past that users owe programmers the reward of paying for their products rather than pirating them. But there is also a point that programmers owe their audience their best shot at pushing the Macintosh to the creative limit.

When you program on the Macintosh, don't be afraid to push. It's the only way to get from here to tomorrow.

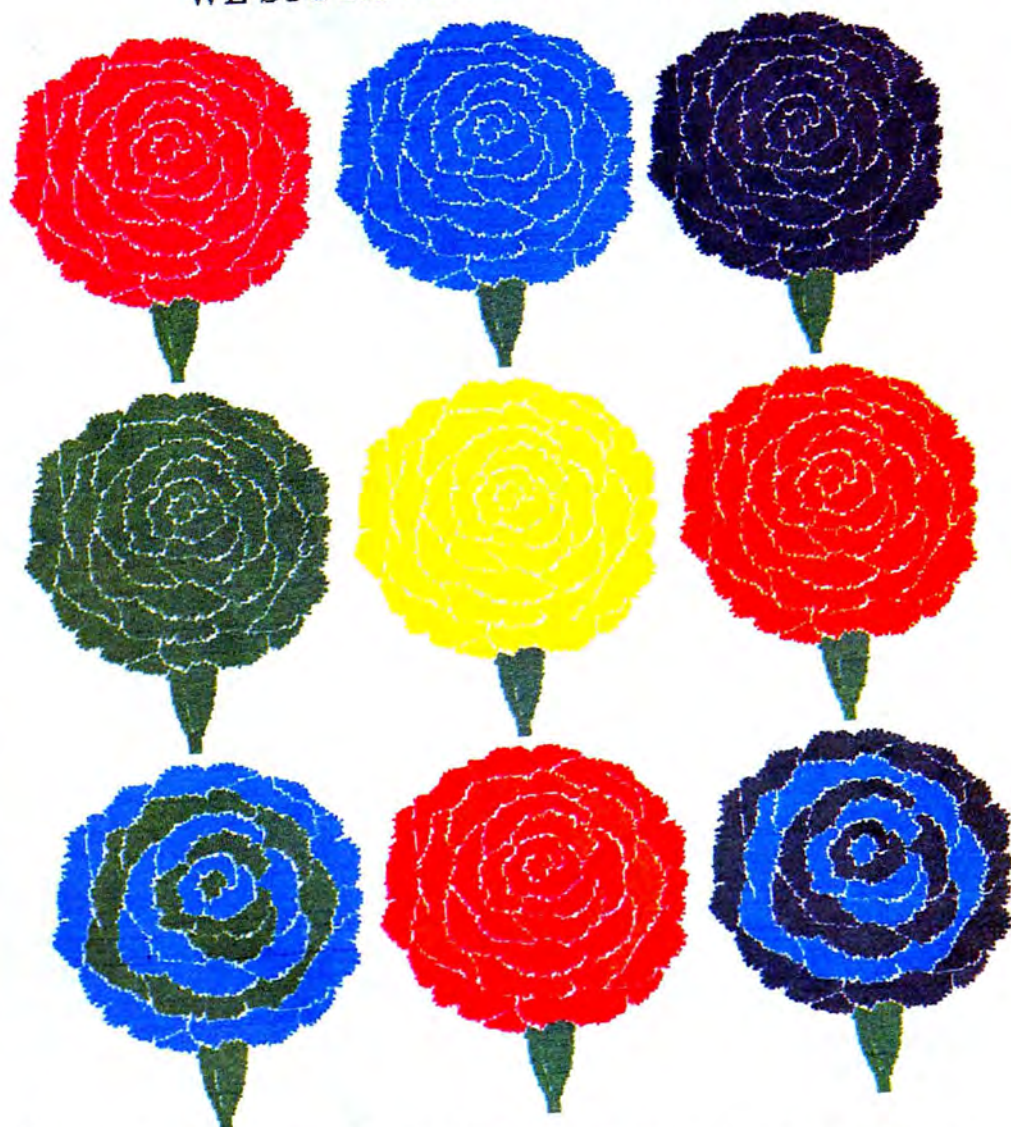
Please circle 106 on reader service card.



WE STOCK CARNATIONS IN THESE COLORS



WE STOCK THESE CARNATIONS



## NOW MACINTOSH COMES INTO FULL BLOOM.

INTRODUCING THE COLOR PINWRITER PRINTER SYSTEM FOR MACINTOSH.

One thing a Macintosh™ does brilliantly is create graphic images. But only in black and white.

But now your images don't have to stay black and white. Any image or text created with MacPaint™, MacWrite™ or other Macintosh software can be printed in eight colors including black and white. All it takes is the new NEC Colormate™ kit and an NEC Color Pinwriter™ dot matrix printer.

Colormate software is easy to use. In fact it works much like MacPaint. It includes everything you need to connect an NEC Color Pinwriter or Pinwriter printer including a cable.

And color is not the only bright thing about an NEC Color Pinwriter. The graphics resolution is superior

to the Imagewriter™ and just about every other dot matrix printer in the world. And it prints in three different speeds and in 8 different type styles.

So visit your dealer and ask him how you can make your Mac bloom. For more colorful information, call 1-800-343-4418 (in MA 617-264-8635).

Or write: NEC Information Systems, Dept. 1610, 1414 Massachusetts Ave., Boxborough, MA 01719.

**NEC PRINTERS. THEY ONLY STOP WHEN YOU WANT THEM TO.**



**C&C** Computers and Communications

Pinwriter and Colormate are trademarks of NEC Corporation.

Macintosh is a trademark licensed to Apple Computer, Inc. MacPaint and MacWrite are trademarks of Apple Computer, Inc.

# NEC

NEC Information Systems, Inc.

Please circle 98 on reader service card.



# Presenting the end of drafting as we know it: MacDraft™ from idd

Now anyone can generate professional quality drawings quickly and easily with MacDraft from idd. Its ease of use will attract the most casual user, yet its sophistication will impress the professional as well.

This extraordinary Macintosh™ software lets you create scaled drawings so accurate, they can be used for construction or manufacturing applications. MacDraft

helps turn your concepts into reality, with more flexibility and accuracy than pencil and eraser.

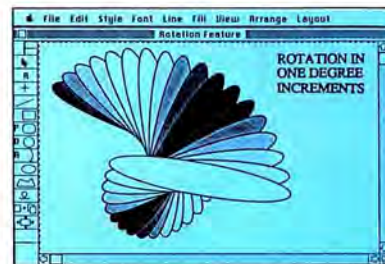
**ZOOM:** Zoom in on an area of your drawing, and magnify it up to 8x its original size to create intimate detail. Zoom out and see as much as 4x4' in a single window.

MacDraft offers a full complement of commonly used scales. Each has its own grid network. You create a library of frequently used shapes in any scale, copy and paste those shapes from one scale to another. Sizes will automatically be adjusted to the new scale. Work in decimals, fractions or metrics. Line lengths and angles are displayed to scale throughout the drawing process. This saves the task of computing the size of each object.

When you place a dimension line on your drawing, MacDraft displays the proper size of the object regardless of the scale.

MacDraft lets you zoom in on your drawing and magnify it up to 8x, enabling you to draw in intimate detail. With a resolution of 512 points per inch, you draw

with amazing precision. Zoom out and see as much as 4x4' in a single window. You maintain full drawing capabilities at any view.



**ROTATE:** Turn objects the way you want them, 1° at a time, through a 360° cycle.

Objects can be rotated singly or in groups, 1° at a time, through a full 360°. This allows you to place objects anywhere on the document with incredible precision.

MacDraft allows you to automatically distribute multiple objects along a line—even if those objects are not the same.

Create rectangles with rounded corners. The corners are in proportion to the rectangle's size to prevent distortion. Dynamically change the radius of these corners to any size, based on scale.

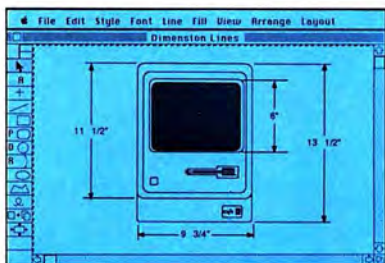
Draw circles in one of two easy ways. To project between two points, choose circle by diameter. To project about a center point, choose circle by radius. Draw arcs in 2 ways: 1—Define the length

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



of the radius and project the arc to the desired angle; 2—Define any three points the arc passes through.

**F**or irregular shapes use MacDraft's polygon and freehand drawing tools, including dynamic editing and automatic closure. MacDraft will smooth your polygon or freehand shape to give you a contoured effect. Add line segments to your polygon or extra points to your freehand shape after each has been created.



**DIMENSION LINES:** MacDraft will display the proper size of the object, regardless of the scale of the drawing.

The continuous drawing mode allows you to maintain the flow of drawing. If you draw beyond the current viewing window, MacDraft will automatically scroll in that direction.

**M**acDraft offers 9 different line styles including thick, thin and even --- dashed. Sophisticated text-editing lets you type letters, numbers and punctuation. These can be displayed in a variety of types and sizes.

MacDraft conforms to the Macintosh™ concept of copy and paste, allowing you to paste in objects from other applications such as MacPaint™ and MacDraw™.

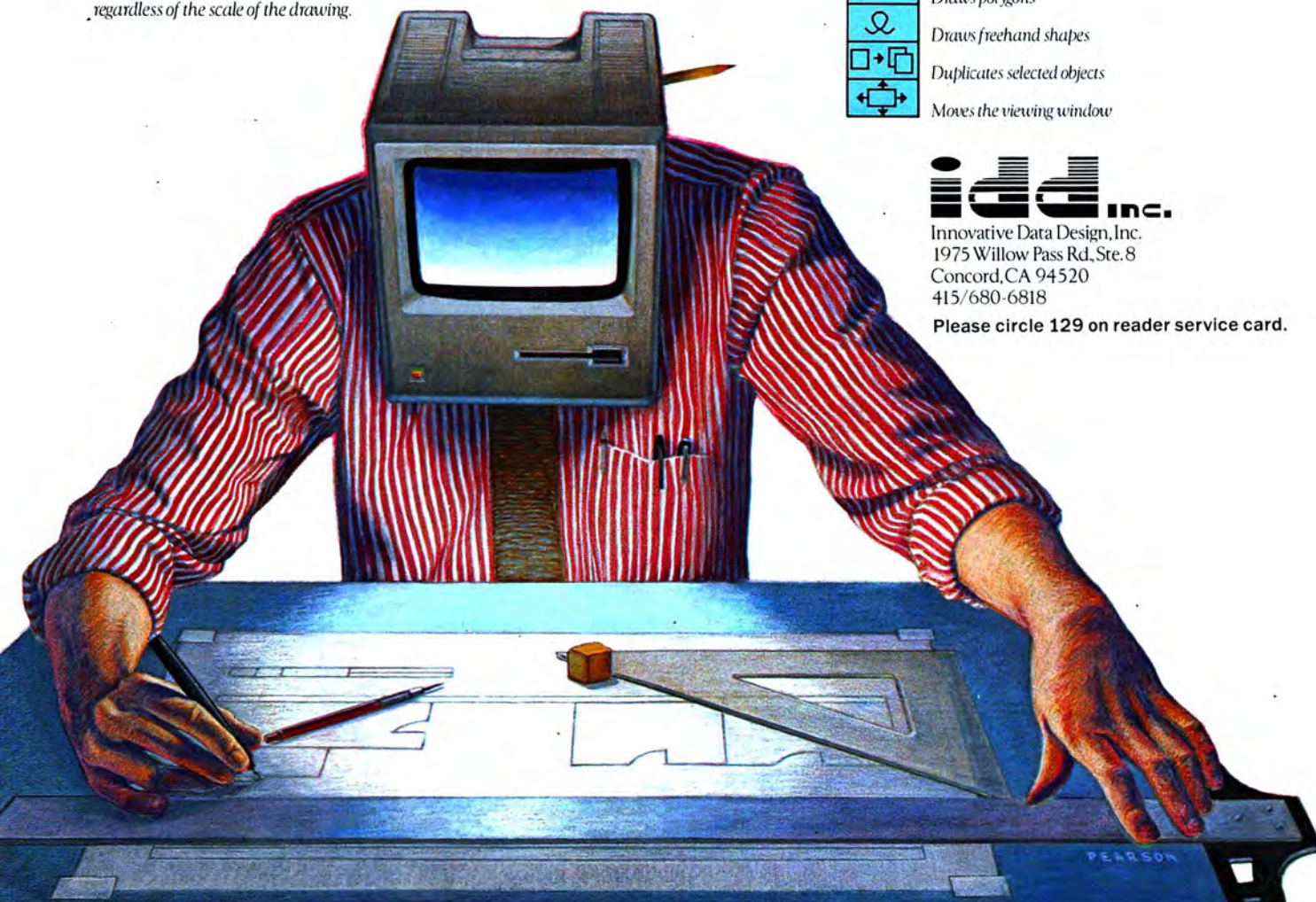
Incredibly, MacDraft is only \$239. A good old-fashioned value that just may convince you to put away your drafting pencil. Forever!

	Fill pattern and line style indicators.
	Pointer selects, edits, moves objects
	Text editing and insertion mode
	Draws horizontal or vertical lines
	Draws diagonal lines
	Draws square-cornered rectangles
	Draws rounded-corner rectangles w/proportional or constant radii
	Draws circles by diameter or radius
	Draws arcs by radius or 3 points
	Draws ovals
	Draws polygons
	Draws freehand shapes
	Duplicates selected objects
	Moves the viewing window

**idd inc.**

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

Please circle 129 on reader service card.





If you've been waiting to buy a hard disk for your Mac till Apple introduced their version, the long wait is over.

And look what they've given you. A disk drive that has the same footprint as your Mac. Makes it 3½" taller. And does who-knows-what to its carefully thought-out ergonomics.

That's why we think you should take a closer look at the Paradise MAC 10 and MAC 20.

Start with the case: instead of jacking your screen way up in the air, our drive sits right next to your Mac. And looks like it belongs there. In terms of styling, proportion, and balance, it's a perfect fit.

And that's just the surface. Inside, you'll find a full 10 or 20 MB. A lightning-fast 85 ms average seek time. An extra serial port. And the kind of reliability that lets us give you a one-year warranty.

So if you've been waiting for a hard disk that matches your Mac inside and out, go look at the MAC 10 and MAC 20. At better Apple dealers who know a good thing when they see one.

# The perfect hard disk for your Macintosh might not be an Apple.

Paradise Systems, Inc., 217 East Grand Ave., South San Francisco, CA 94080  
(800) 822-2020 Ext. 314 (CA) or (800) 527-7977 Ext. 314 (Outside CA)

Trademarks: Paradise, MAC 10, MAC 20—Paradise Systems Inc. Macintosh, MAC—Apple Computer, Inc. Paradise Systems reserves the right to change specifications without notice.

**PARADISE**  
SYSTEMS, INC.





I am a junior in high school and have owned my Mac for close to a year and a half now. I picked up a copy of the premier issue of MacUser at the MacWorld Exposition in Boston in August and found it quite helpful. The articles "The Art and Craft of Desk Accessories" and "The Gourmet's Icon Cookbook" gave me information that I couldn't find anywhere else. However, the source code listing for "Show Picture" is very long, and I have no guarantee it will run after I've typed it in. Will you provide "Show Picture" and future listings of source code on disk? It would be a great help to me and surely to others as well.

I have high hopes for MacUser. It will no doubt be an important tool for me. Please enter my subscription for MacUser for one year and bill me later.

Thank you.

Shawn Lee  
Somerville, NJ

*The source code will run. How can I say that? I typed it in and it compiled and ran. You cannot change anything though—disk names are significant.*

*We unfortunately can't supply listings on disk. All listings will be available in the programming section of the Mac special interest group on national databases, such as CompuServe and Delphi.*—Steve Bobker

OK, here is my check for 12 more issues of MacUser—starting with the November issue.

Some comments after reading your premier issue:

1. I like the "MiniFinder" section. It reminds me very much of the now defunct magazine for the Apple II computer, Softalk. In fact, I would like it very much if your magazine could evolve into a format similar to the one adopted by the Softalk magazine.

2. The next section I like is the "Inside Mac" section. But, I think "The Art and Craft of Desk Accessories" article suffered because of the unreadable small print of the listing. Why even bother to print such tiny characters?

3. I wish you will run some tutorial articles in the future. I think a lot of "intermediate" Mac users out there would ap-

preciate serial articles on languages such as MacForth, Basic, Pascal and Assembly. Tutorials on some programs such as Excel would also be welcome. In other words, there are many books in the bookstores teaching these things. If you could serialize such books in your magazine, it would be most valuable.

4. In summary, I hope your magazine will not contain too much "fluff". Review articles should be critical instead of sounding like ones written by the PR department of the product producer. Each issue should contain some articles that would put your reader in front of the Mac to use his intellect to explore further the possibilities of the Mac.

Good luck.

Thomas Kwei  
Wappingers Fall, NY

Congratulations on a dynamite premier issue, and best wishes for many more of the same! I agree with your statement of purpose, which is to "teach (us) how to take that hammer and build a boat with it." Too much page-space is already devoted in the existing Mac-magazines to expounding on new product features that could be gleaned from the manufacturer's own literature. Sure, tell us about the features, but also indicate what can and cannot be accomplished with the product as a consequence of those features. The most hopeful note in that direction I've seen in the first issue was in Steve Bobker's "Terminal Programs..." article. To my knowledge, this is the first mention, even as an aside, that the Microcom Mac-Modem is of exceeding little value for communicating with anything but another MNP-supporting modem: i.e., hardly anybody. While I realize that no magazine is going to willingly tread on an advertisers' toes, the unwillingness of the other magazines to point out this rather crucial limitation in their reviews strikes me as abandoning their responsibility to their readership. I hope that MacUser will continue to be as forthright in its reviews, and let the bombs fall where they're deserved!

"The Macintosh Boundary" is another big winner in my estimation. I'd like to see more *subjective* reports on using new language-development packages, rather than just another list of the "features". If Doug Clapp, or some other brave soul, can be induced to put in the time and

effort, I'd love to see a write-up on actually *using* my own pet love-hate project, NEON™. I think the "Inside Mac" feature has the potential for becoming the first programming tutorial actually directed to the majority of first-time Mac programmers: the terrified and more-than-slightly bewildered ones! While "MacTutor" does a fine job of instructing those "skilled in the art", it assumes a great deal of pre-existing knowledge of those little details that make a program run instead of crashing. It's precisely those "little details" that need to be explicitly spelled out, and that the typical programming article (or documentation, for that matter) leaves out because "everybody knows that!" Kudos and keep up the good work to Chris and Bill!

That's about it for now, except to wish that your 10th Anniversary edition be even more "Insanely Great" than your first issue!

Ed Arnold  
Chicago, IL

I disagree entirely with your "Hackers are pirating this and hackers are pirating that..." page 146. PROGRAMMERS ARE NOT THE PROBLEM, THIEVES ARE THE PROBLEM. You properly use the word hacker on page 3, "Roll your own DAs. An article for the Ultimate Hackers among us." So I guess this was just a slip. Though "An article for the Ultimate Hackers among us," feels more like a clause than a sentence.

Another error: "As soon as you remove the last desk accessory you have destroyed that disk!" You italicized this gem of misinformation! I have removed the last DA without destroying the disk. A disk w/o any DAs will cause problems for the finder (Get Info got garbled), and it can not be booted. But a disk w/o DAs is not destroyed. Just copy a new system file to the "destroyed" disk and it will be fine.

Paul Matzke  
Madison, WI

Enjoyed the first issue. However, I do have a nagging question that needs an answer. If a contributing editor meets the contributing anti-editor, do they kinda make an explosion like on STAR TREK, or what???

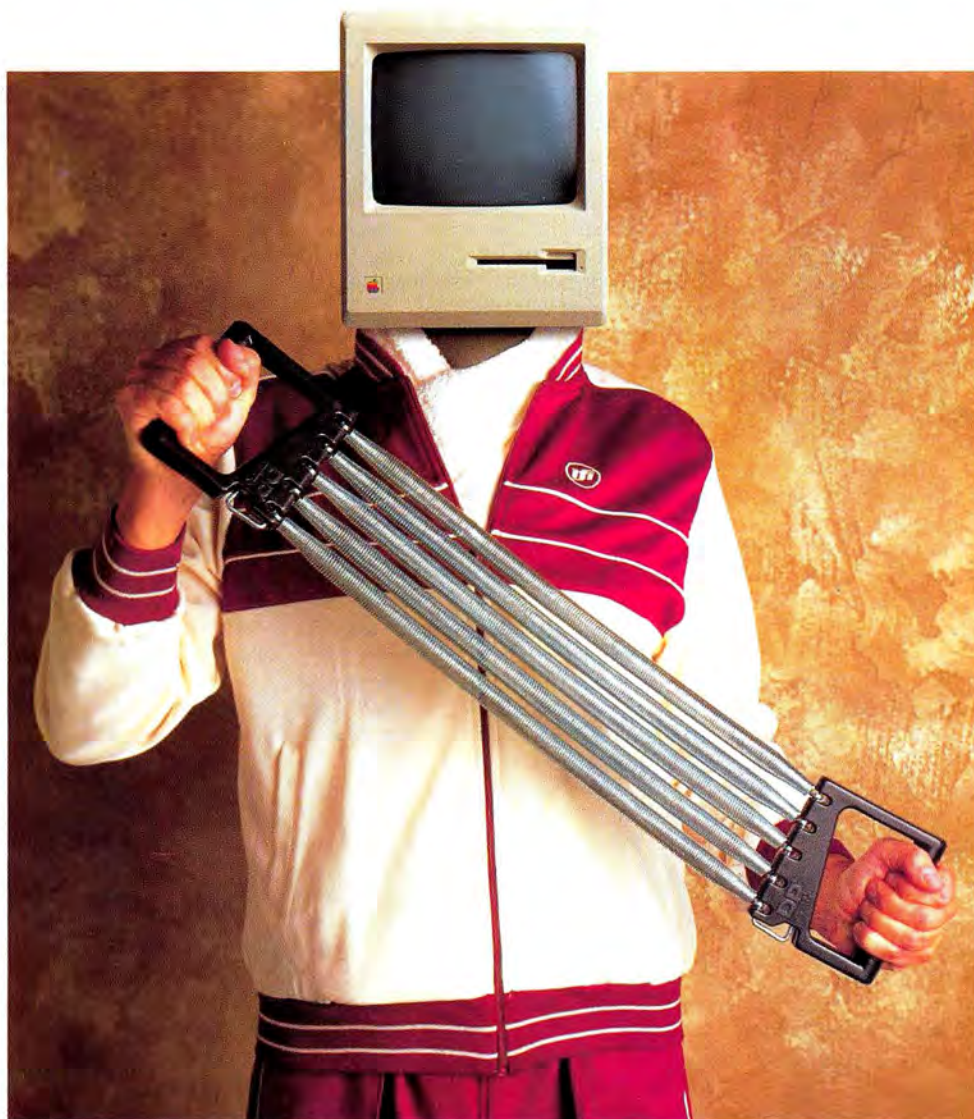
Good luck with the magazine!

Alfonso Qwerty  
The Mouseketeer Newsletter

*Do you have a question or comment about MacUser? Address it to: Letters to the Editor, MacUser Magazine, 25 W. 39th St., New York, NY, 10018*



# MAC & THE POWER USER



PHOTOGRAPH BY PETER SMITH

Notwithstanding the opinions of our esteemed contributing editor, Mr. John Dvorak (see page 152), there's an awful lot of rubbish talked about the Macintosh and the serious user.

## Is the Mac a wimp computer?

MacUser magazine doesn't think so. We believe the Macintosh is one of the *most* powerful personal computers in the world.

In common with every other computer, it has its limitations, its quirks and those tasks to which it is best suited. But that having been said, the vast majority of Macintosh

users truly coax only a fraction of the Mac's potential out of their system.

That's where MacUser comes in. As The Macintosh Resource, we'll bring out the best in you and your Mac. Increasing your productivity. Ensuring you value for money in your hardware and software purchasing decisions. Showing you new ways to solve old problems. Keeping you up to date issue after issue, article after article, review after review.

A subscription to MacUser should pay for itself, literally, many, many times over in the course of a

Macintosh owner's year. By subscribing to MacUser you save over \$20.00 off the newsstand cost. And if you ever feel we shortchange you editorially, we guarantee to refund any unused portion of your subscription on demand. No questions asked.

Because we're certain that together, MacUser and your Mac system are going to make a winning combination. Go for the burn! Fill our the coupon opposite and get the power of MacUser on your team.

**MacUser**  
THE MACINTOSH RESOURCE



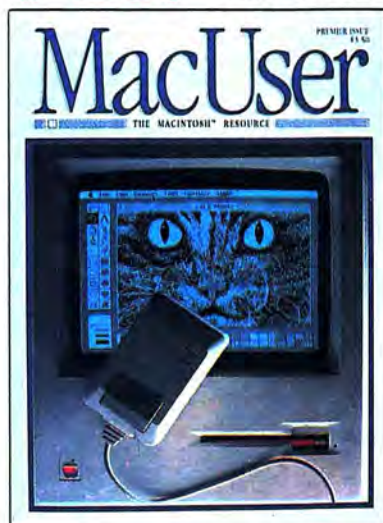
# TAKE ADVANTAGE OF MacUser's INTRODUCTORY SUBSCRIPTION OFFER and SAVE \$20!

## The Next 12 Issues For Just \$21.84

Only \$1.82  
an issue—

Saves you  
48% over  
the regular  
newsstand  
price.

### YES!



Your subscription may be tax-deductible

Please enter my subscription to **MacUser**.  
Send me 12 monthly issues at the Special  
Charter Subscription rate of \$21.84. I'll save  
48% over the newsstand price.

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

Card No. \_\_\_\_\_ Expires \_\_\_\_\_

Signature \_\_\_\_\_

Name \_\_\_\_\_

Company \_\_\_\_\_

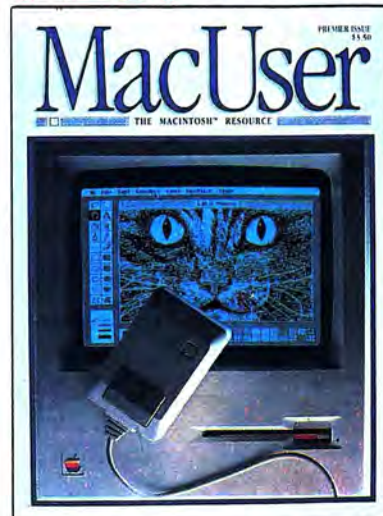
Address \_\_\_\_\_

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.

3127

### YES!



Your subscription may be tax-deductible

Please enter my subscription to **MacUser**.  
Send me 12 monthly issues at the Special  
Charter Subscription rate of \$21.84. I'll save  
48% over 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.

3127



# 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 07754-9990**



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 07754-9990**





# MacNifty™ your Mac

With MacNiftys From The Kette Group, Inc.



**New!!**



**Mr. MacNifty...A Hero For The Rest Of Us**



**MacNifty Switch:** Your Mac will never turn its back on you! With MacNifty Switch you won't have the problem of turning your Mac around to change plugs for any nine pin port. MacNifty switch will allow any port on your Mac to have two different peripherals attached at once and with the turn of the knob you can switch between any two devices. Examples of using the switch are; use your modem port for both a modem and a digitizer. Have two different printers on your printer port. If you have a hard disk drive the MacNifty Switch offers a main frame of options. This remarkably powerful switch retails for only **\$34.95**. Order today and never see the back of your Mac again.

**NEW ABCD Port Switch:** For those of you who have found even more things to plug into your Mac than we thought of...you can now get the MacNifty ABCD 4 port serial switch for **\$54.95**.



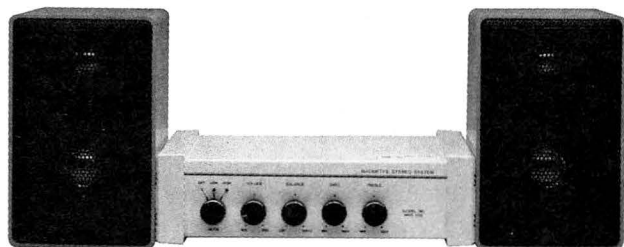
**New!!**

**Keyboard:** Music, music, music will come floating from your Mac with the new MacNifty Polyphonic Keyboard. Our new keyboard comes standard with a music driver, but to get the most from the keyboard, you should buy Concertware Plus from our friends at Greatwave Software. With the keyboard and Concertware Plus, you can touch the keys and see the notes appear on the musical staff. You will be able to design your own sound envelopes and turn your MacNifty Keyboard into a concert music synthesizer. Keyboard only **\$149.95**, Concertware Plus **\$69.95**.

All MacNifty products carry a limited lifetime warranty. We accept Visa and MasterCard or C.O.D. orders. Dealer inquiries are invited. State taxes will be applied where applicable.



**MacNifty Joystick Converter:** How would you like to mouse around with a joystick? Sound impossible? Not with a MacNifty Joystick converter. All you have to do is plug in our converter to your mouse port and joystick away. You say you don't have a joystick? Well, we thought that some of you might not, so we've included our own. This nifty little joystick fits nicely in your palm and makes playing games, using spreadsheets or almost any application a real joy. For even more power with your MacNifty Joystick Converter, the hyperwarp control can decide just how fast your cursor moves. For only **\$44.95** take control of your mouse.



**MacNifty Stereo Music System:** To hear or not to hear, that is the question. The answer is the MacNifty Stereo Music System, it will bring out the true power of your Macintosh sound capabilities. The MacNifty Stereo takes the mono sound from your Mac's audio output and produces synthesized stereo separation. The MacNifty Stereo Music System let's you hear the power of the Macintosh in bold studio quality sound for only **\$79.95**. Order today and hear what you've been missing.

#### Music System Features:

##### Twin Matched Speaker System

- Main bass woofer
- High bass tweeter
- Complete set of interface cables

##### Main Power Amp Controls

- Bass • Treble • Volume
- Balance • Low and High impedance input

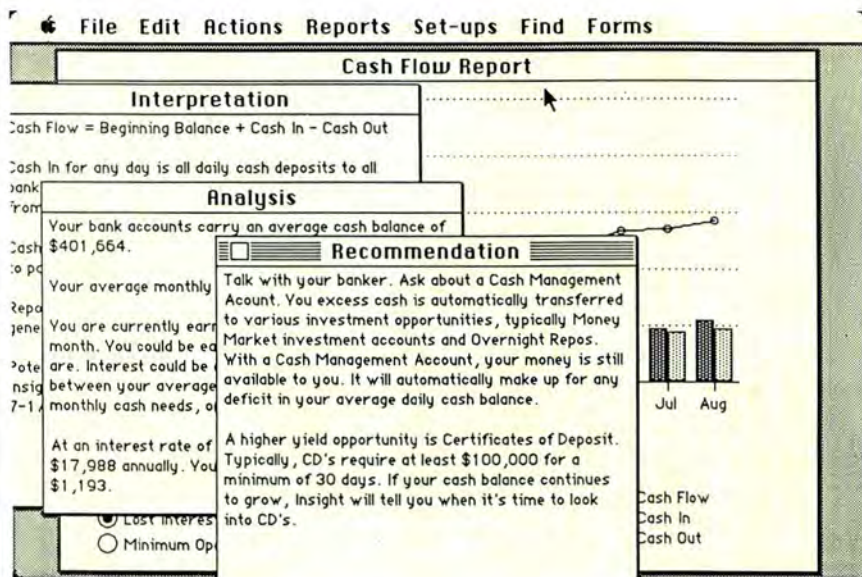
Apple is a trademark of Apple Computer, Inc.  
Macintosh is a trademark licensed to Apple Computer, Inc.  
MacNifty is a trademark of The Kette Group, Inc.

To order: Call our **MacNifty Hotline** toll free **1-800-328-0184**  
13895 Industrial Park Blvd, Suite 110, Minneapolis, MN 55441

Please circle 64 on reader service card.



# NEW ON THE MENU



*Insight*, an accounting program from Layered Software (publishers of *Front Desk*), received a lot of attention at the Boston Expo in a pre-alpha version. Unlike other accounting software exhibited, *Insight* incorporated an expert system to improve financial planning and decision-making. The first level of the expert system is a report that charts information. Three additional levels are available on request: Interpretation, a general look at the category being viewed (such as Cash Discounts); Analysis, a look at your data specifically; and Recommendation, a specific course of action the program generates based on its analysis of your data. *Insight* is expected to be available by the end of the year.

## SET THE TEMPO

One of the most criticized non-features of *Jazz* is its lack of a macro facility. Macros are predefined sets of commands that are stored by the computer as Command key combinations. Pressing the appropriate key combination triggers the macro. Many people attribute the success of *Lotus 1-2-3* to its ability to automate a complex series of commands, so that the inexperienced user doesn't have to memorize the manual in order to get some work done.

Well, Macintosh owners are no longer out in the cold. *Tempo*, a new desk accessory (God bless desk accessories!) lets the user set up very intelligent macros within most Macintosh applications. Programs can be configured so that an operator could potentially complete a day's work without actually touching the mouse.

Among *Tempo*'s major features are: pausing for text entry, the ability to do logical branches upon text input, user definable timed pauses and nested macros (one macro can call another), boilerplate text, and much more.

*Tempo* will find itself at home in a multitude of applications, from custom configured vertical databases to unattended telecommunications (automated uploads and downloads of files while you're asleep!). This is an important piece of software that we'll be looking at in detail in an upcoming issue.

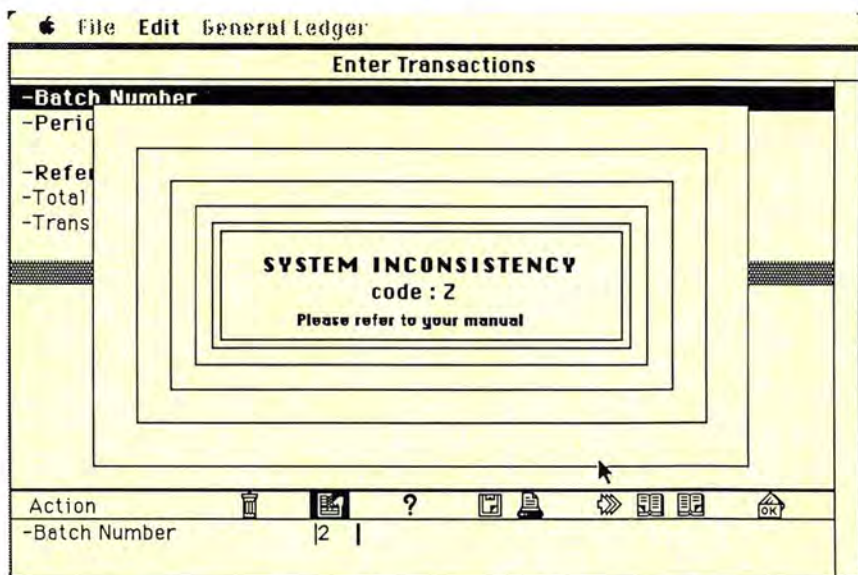
## THE RUMOR MANAGER

Two expansion-slot boxes for the Mac will be on the street soon. One will be from Apple — it's code name is "Constellation" — and it will have five slots...compact disks (CD) as read only storage will be out soon, maybe even before you read this...look for CD support from Apple and at least three third-party vendors...Ultima IV will contain several characters directly patterned on MacUser editors; yeah,

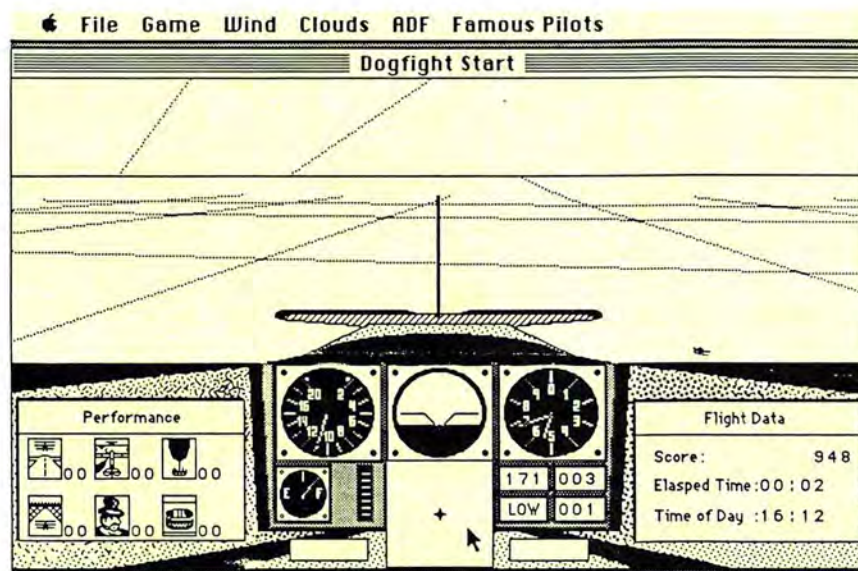
they really are like that...Apple's annual meeting will feature real fireworks and stunning price drops in the Apple II line, but Mac prices will stay up for a while...Digital Research's GEM will be announced in a Mac version. Why? I guess so you can emulate an Atari 520ST on your Mac...a program called MultiMac actually converts the Mac into a real multi-tasking machine, but Apple's not

too interested...Apple sold Mac-Basic to Microsoft for less than one third the cover price of this magazine, and it wasn't even Bill Gates' birthday...Steve Jobs will actually overcome all the roadblocks and build his 68020-based AI machine for the educational market...Wizardry addicts, the next scenarios will be even slower in reaching the market than the first scenario.





**CodeZ. Z = Omega.** Omega is the end. We were pretty sure the Mac was going to self-destruct when we saw this alert. Fortunately, it merely crashed spectacularly. We got this wonder trying to screen dump from *Palantir Financial Series*. We just clicked the small printer icon when no printer was attached. Simple, wasn't it?



## The Mac Flies High

*Fokker Triplane*, a brand-new flight simulator from PBI Software in association with Bullseye Software, will let Mac owners climb into the cockpit of a World War I fighter plane that can loop, dive, roll, bank, turn and perform combat missions. A combination of 3D graphics and sophisticated sound effects simulates flying through an area that covers over 20,000 square miles, bordered by a mountain range.

The game lets players shoot down enemies in a dogfight, fly under bridges, destroy enemy balloons and supply depots, recover enemy spy papers, or land on different runways. Maybe you can even chalk up another World War I Flying Ace to your credit! Suggested retail is \$59.95, available for 128K and 512K Macs.

## UPDATES

Version numbers continue their relentless climb. So far numbers greater than 10 (to the left of the decimal point!) have not been spotted but the day is coming. Here's our list (as of press time). —SB

ChipWits	1.1
Copy II Mac	4.2
Dow Jones Straight Talk	2.0
Finder	4.1
Fontastic	2.3
Front Desk	1.0
Gato	1.2
Hayden Speller	1.2
Helix	1.3
Jazz	1.0
Just Text	1.1
MacWrite	4.5
MacPaint	1.5
MacDraw	1.7
MacProject	1.0
MS BASIC	2.1
MS File	1.01
MS Fortran	2.1
MS Word	1.05
Multiplan	1.02
OverVUE	2.0
Quick & Dirty Utilities, Vol. 1	1.5
Red Ryder	6.0
Smartcom II	2.1C
Switcher	4.4
ThinkTank 512	1.1
TurboCharger	1.11
VersaTerm	1.52

## A BASIC Increase

Microsoft has released a new version of its BASIC language interpreter. Version 2.1 runs significantly faster than version 2.0. Short programs should show speed increases of 50 to 200% while long, involved programs can run up to 500% faster.

The new version will run all version 2.0 programs since the almost all of the changes are in how the program works, not in the syntax itself.

The speed improvement is mostly the result of a much improved way of handling the symbol table. In earlier versions, the symbol table (which is where the values of all the variables are kept) was created, stored and searched sequentially. The new algorithm uses a high-speed hashing techniques that greatly reduces the search time. The bigger the program, the bigger the symbol table usually is. So expect the greatest speed increase in the biggest, most complex programs.

*Microsoft BASIC 2.1* is much more intelligent than its ancestors. —SB



## Where Are the Laser Fonts?

When Apple introduced the LaserWriter, Mac users looked forward to a profusion of high quality typefaces. Now, almost a year later, all that is available are the original four (Times, Helvetica, Courier and Symbol).

Why haven't any new fonts appeared?

Fonts for the LaserWriter must be optimized to its 300 dot per inch (DPI) resolution. And there aren't many fonts like that out there.

There are some 300 DPI fonts in existence. Adobe Systems, creator's of PostScript, the language the LaserWriter uses, have quite a few.

While Adobe has a huge lead in LaserWriter fonts, other companies will be entering the market very soon, probably before Adobe's first release. Look for fonts from Knowledge Engineering, publishers of *Just Text*, and a LaserWriter font editor from Altsys Corp., publishers of *Fontastic*. The Altsys LaserWriter font editor will be available before Christmas and has a target price of \$450. An early version, seen in late August, was very slick.

[Late Flash: Century Software (2306 Cotner Ave., Los Angeles, CA 90064, (213) 829-4436) is shipping a new laser font and enhancements for the existing fonts. The new font is priced at \$29.95! The flood is beginning.]—SB

## Talking Heads on the Mac

Vimco is what it sounds like and what it looks like is as important as what it looks like. VMCO is the *Visual/Vocal MAUG Conferencing Utility*. It's a communication program that integrates *MacinTalk*, Apple's speech synthesis program, and the conferencing (or group meeting) software on CompuServe MAUG special interest group.

VMCO not only speaks what you and other people type but also shows the faces (in icon form) of the speaker and up to 19 other meeting attendees. Users create their own face icons and variations that include eight of the basic conversational emotions (grin, laugh, anger, and so on). The face icons come in two varieties: listening and talking. And users customize their voices by adjusting the speed and pitch.

Users log on to CompuServe and move to MAUG's CO (conferencing) area where nightly conversations have been going on since late August. In the first month of operation over 100 people created face files for others to use.

## A Winner of a Bug!

Finally, after tears were shed (that bug spray sure stings the eyes) we are pleased to present the first winning bug.

This month's winner is Patti Fitzgibbons of Long Beach, CA. She'll be getting a check for \$25 and the special *MacUser* bug award that will be sent to all who submit bugs.

Here's how Patti described her find:

"Those in the know call this insectoid 'Myra Breckenridge's Revenge.' Any female character in *Ultima II* has to under go an involuntary sex change operation if she wants to raise any of her attributes. Sad, but true. If you trot your female player character into Hotel California (wouldn't you know it??) and let her loose on the desk clerk, the next thing you know she's a he. It looks particularly silly when 'his' name is Gwendolyn. No way to switch her back, by the way."

Thanks, Patti!

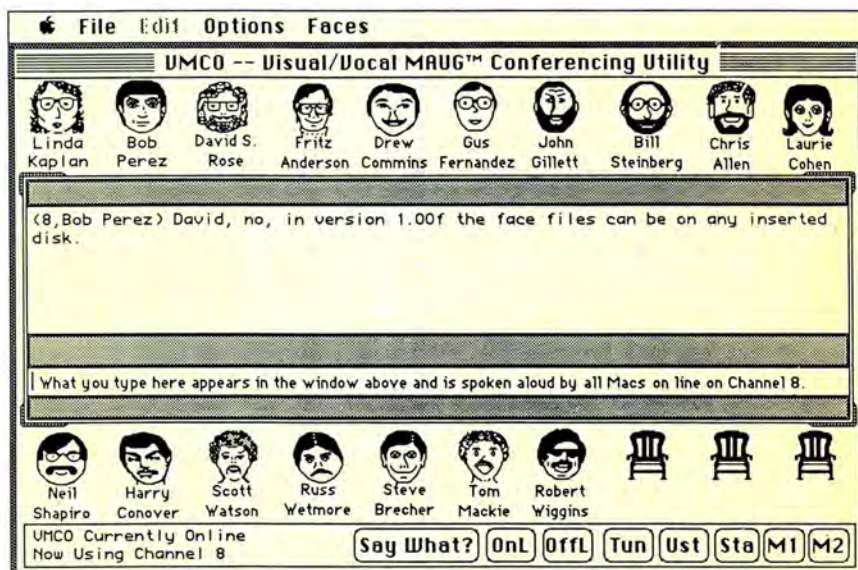
We're looking for next month's winner right now. Send your reports to **BUGSY**, c/o *MacUser*, 25 West 39th St., New York, NY 10018. Be sure to detail not only the bug, but exactly how you got it and what System (which fonts and desk accessories) you were using. Happy hunting!

## QUICKPAINT and QUICKWORD

*QuickPaint* is a desk accessory for accessing *MacPaint* files from within any application. Using the familiar Marquee box to select portions of the *Paint* document, images are pasted via the Clipboard into *MacWrite*, *MS Word*, *Jazz* or any other program which supports Clipboard function. *QuickPaint* also has a "miniview" feature with a scrollable window for showing the entire *Paint* document.

*QuickWord* is a desk accessory that allows the user to create glossaries of frequently used words, phrases or formulas. A library of abbreviations can be created by assigning each text string to a set of key characters (e.g., MC for Macintosh computer). Typing in the abbreviation and hitting the appropriate key (space bar, period, comma or quote mark) will replace the abbreviation with the predefined text. Multiple abbreviation libraries may be stored on disk and loaded as needed. The program may be selectively activated or deactivated, and library tables can be previewed and edited while within the application. *QuickWord* will also stamp the current time and date in a variety of formats.

EnterSet  
410 Townsend  
San Francisco, CA 94107  
(415) 543-7644

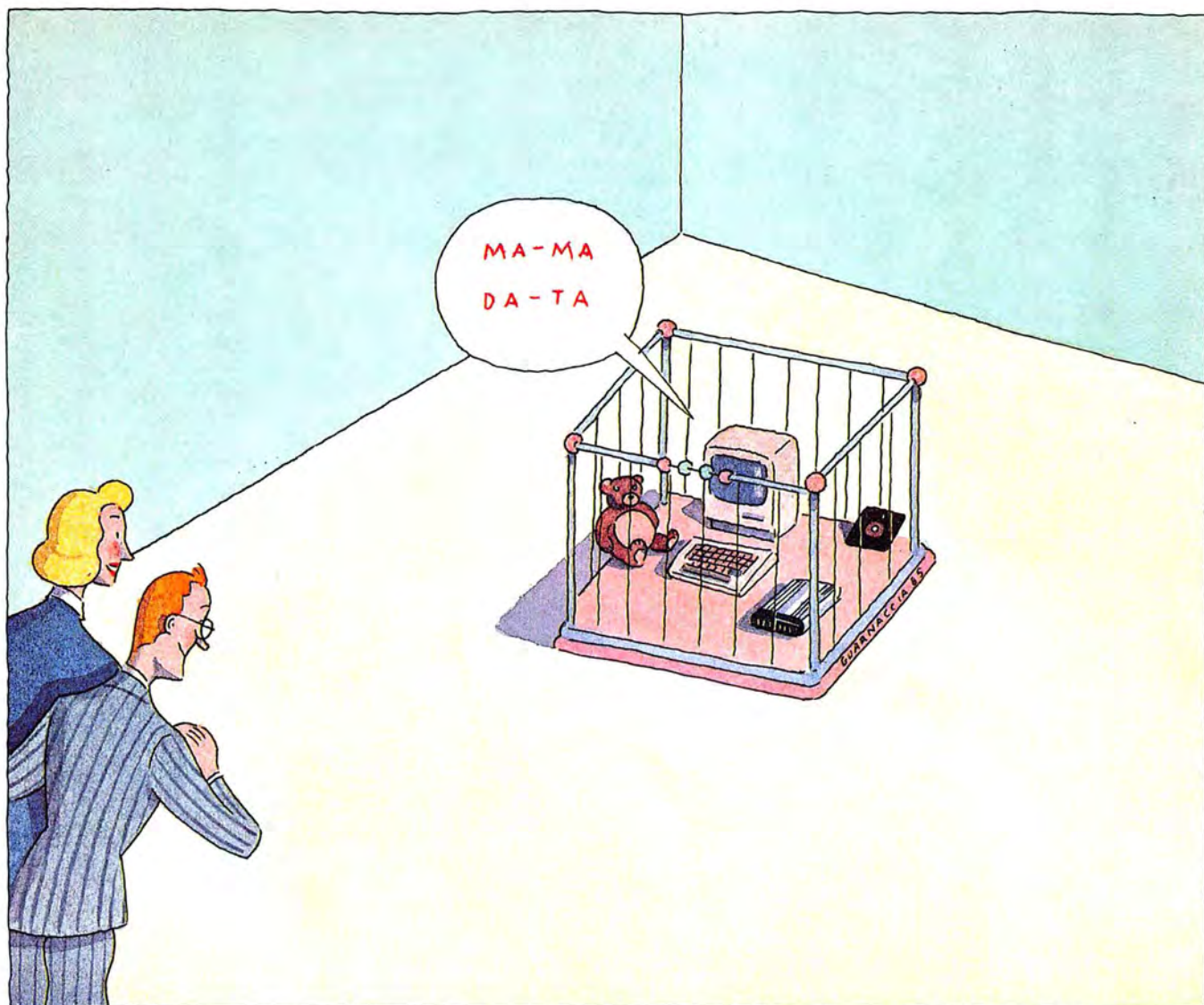


The quality of most faces is rather astounding, with some even looking like the people they claim to represent. Watching and listening to actual people on your Mac is one of the most electrifying experiences imaginable. If you ever get on CompuServe be sure to get the VMCO software (it's free—you only pay for the connect time involved)

and in the words of VMCO: "Show your face!"

VMCO was written by Bob Perez and is based on VCO, written by Harry Chesley for use on the Delphi network. VMCO takes VCO to its next logical step. The next step, Bob assures us, is a program that makes your snappy responses for you, automatically.—SB





## Now that your Macintosh is two years old, isn't it time it learned how to talk?

In fifteen minutes, we can have your Macintosh "talking" on the phone to other computers, to access information, transfer files, transmit electronic mail, and more, for less. With the Hayes® communications package.

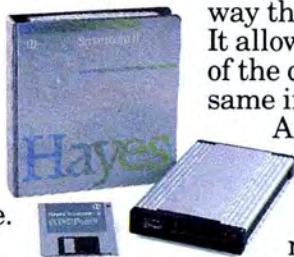
Each package includes a Smartmodem 1200™ and Smartcom II®, the only communications software that uses the Mac to its maximum. So in one easy lesson your Mac will be talking at 1200 bps.

Smartcom II is specially designed to let you mouse your way through familiar Mac icons. It allows Mac users on both ends of the connection to work on the same image or document.

And you can switch from data to voice communications whenever you want.

Plus, you also get a modem-to-Mac cable to make it easy to become well connected quickly. All this for so little,\* it'll leave you speechless.

So get a Hayes communications package. And take the first steps toward your Mac's first "words."



### SMARTMODEM 1200

- Direct connect • Auto-dial/auto-answer
- Bell 103/212A and CCITT V.22 compatible • Full or half duplex asynchronous
- Call progress monitoring • Voice/Data
- 1200 bps or 300 bps • Convenient redialing • Advance diagnostic tests: analog, digital, and remote digital loopback
- Touch tone or pulse • Dial-up or lease line
- Supports single and multi-line phone systems • Modem to Macintosh cable.

### SMARTCOM II

- Easy Macintosh icon menu • Autopilot executes stored instructions • Hayes Verification, XMODEM, Macterminal XMODEM, Macbinary XMODEM, and XON/XOFF protocols • VT 102 and VT 52 terminal emulation • Voice/Data switching • Interactive graphics (requires 512K RAM) • Prints, stores, and displays files at the same time.

\*A savings of over \$120 vs items purchased separately, based on manufacturer's estimated retail price.

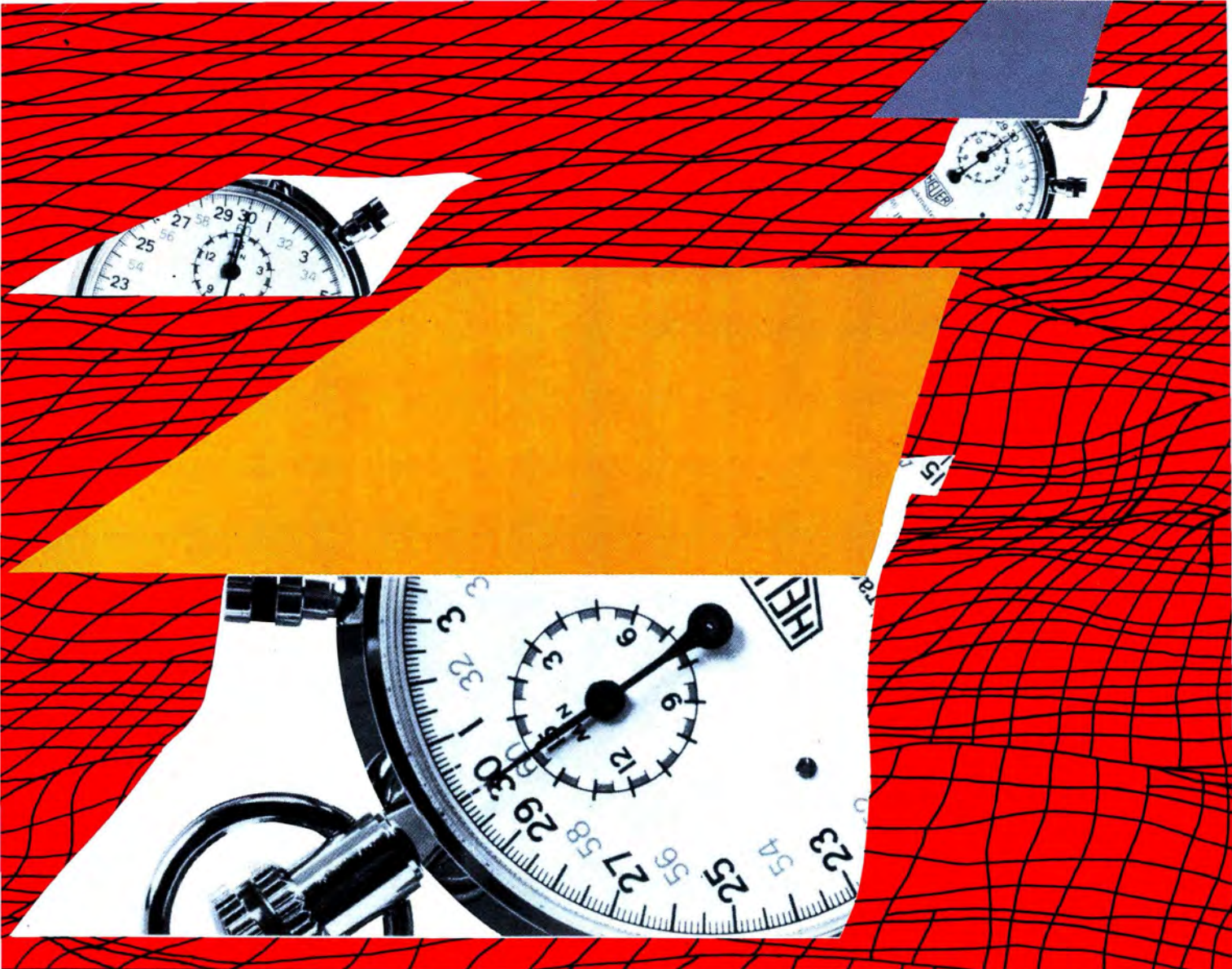
© 1985 Hayes Microcomputer Products, Inc.

# Hayes®

Say yes to the future with Hayes.

Please circle 130 on reader service card.





# OMNIS 3, ALWAYS

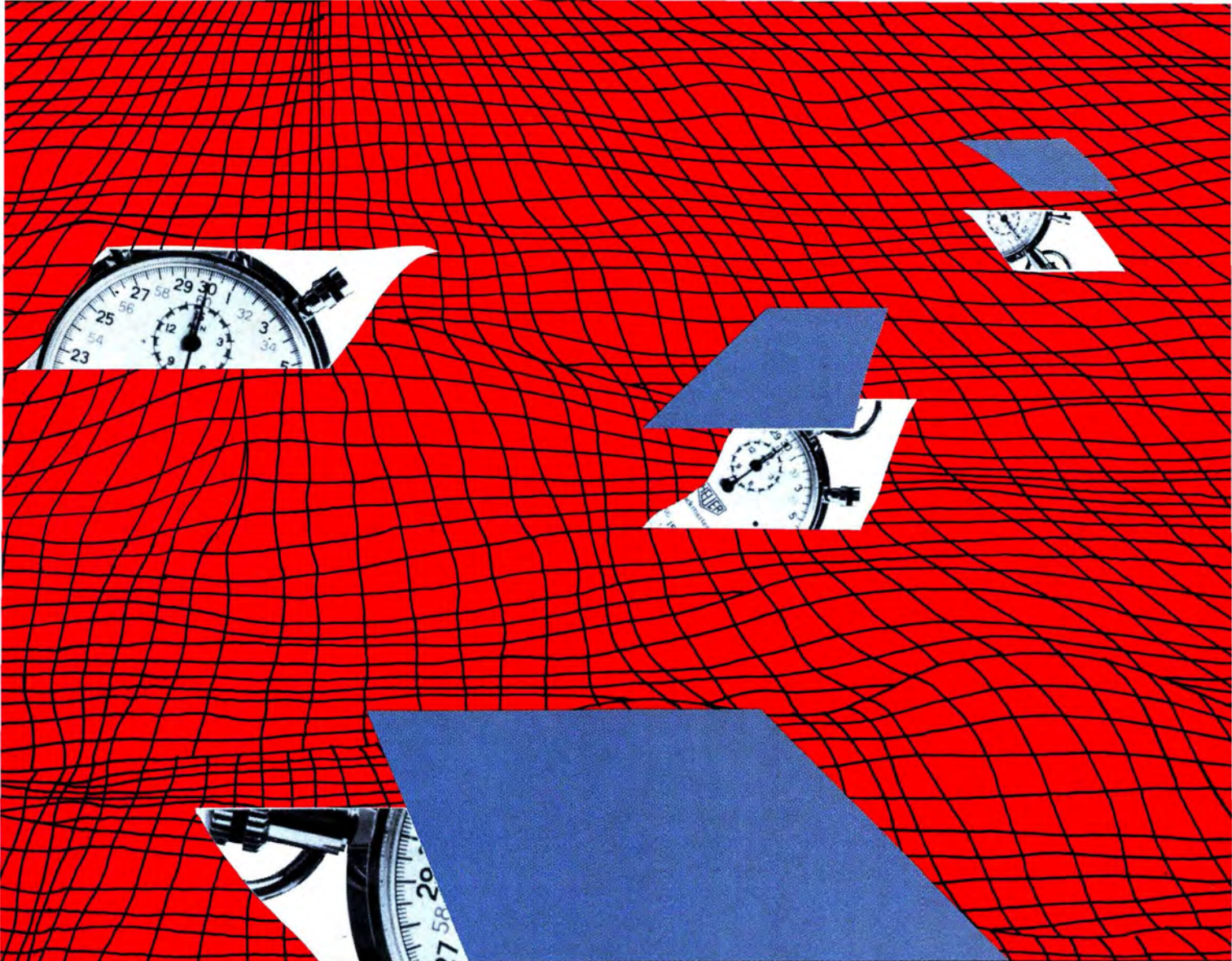
OMNIS 3 is designed as the one database you will ever need to buy – whether you want a simple file manager or a complete business information system. As your database requirements increase, you can take advantage of OMNIS 3's powerful, mouse-driven programming language to customize applications in record time. *And as no other database, OMNIS 3 will grow with your needs.*

**OMNIS 3 COMES IN BOTH SINGLE-USER AND MULTI-USER VERSIONS.**

“OMNIS 3 is an ideal means to develop customized applications for Macintosh. It is a powerful development tool that provides multi-user solutions for vertical markets.” Guy Kawasaki, Manager, Software Product Management, Apple Computer.

“Multi-user capability; microcoding





# AHEAD OF ITS TIME.

with the mouse; automatic syntax; your own pull down menus and on-screen button commands...no wonder we're developing custom software in a fraction of the time it used to take with Assembler, Cobol, and the rest." Dr. Michael Sanders, The Program Workshop, Washington, D.C.

"As a straight database, OMNIS 3 functions faster than anything else around." Dr. Felix Evangelist, The Computer Room, Charlotte.

For the name of your nearest dealer call:

**(415) 571-0222**

**OMNIS 3** <sup>TM</sup>

Blyth Software  
2655 Campus Drive, Suite 150  
San Mateo, CA 94403

Macintosh is a trademark of McIntosh Laboratory, Inc., licensed to Apple Computer, and is used with expressed permission of its owner.

Please circle 85 on reader service card.



# Like Mother, Like Daughter

We loved the Macintosh so much we gave it a daughter. And it's everything a daughter should be. The Max™ is a daughterboard that combines with a Macintosh motherboard and installs in minutes. The Max increases your computing power from 128K or 512K to a full 1.5 megabytes of configurable memory. Its RAM disk runs circles around even the fastest internal disk drives.

## The Max lets you do more.

You can run all your present software with The Max. Use data bases, word processors and integrated programs like Jazz to create more elaborate spreadsheets, work with larger documents, and file more data than ever before.

With The Max and Apple's Switcher, you can run up to eight applications at once – all at RAM speed!

If you crash, The Max forgives you. Unlike other RAM disks, The Max allows you to reset and recover your 1024K RAM disk intact.

## The Max is fast.

The Max doesn't waste your time. Move in and out of applications almost 10 times faster than a floppy disk – and 2 to 3 times faster than an internal disk drive. Boot MacPaint in 2.6 seconds, or MacWrite in 3.4 seconds!

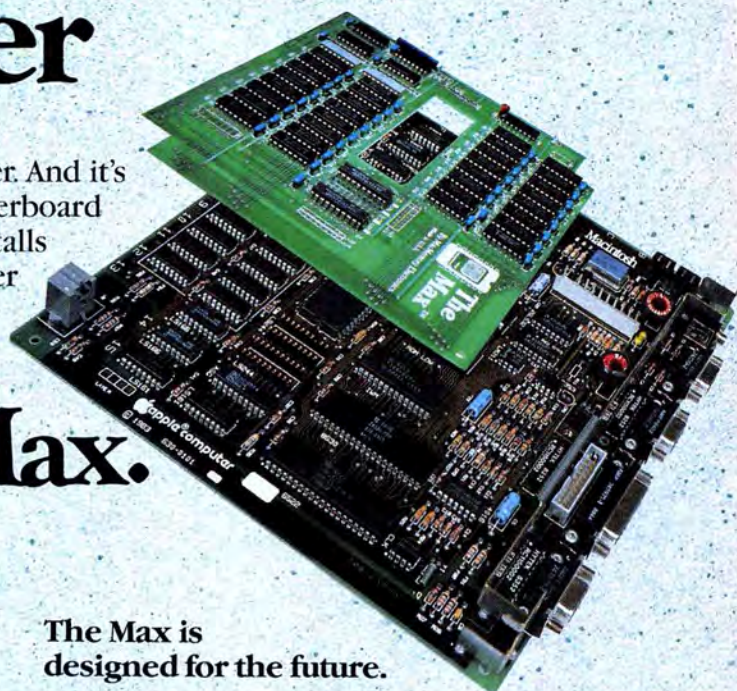
## The Max lets you configure.

The MaxRAM™ software included with The Max allows you to configure your Mac to suit your needs. Have 1024K of usable, contiguous application space with a 400K RAM disk. Or select a 512K Macintosh with a 1024K RAM disk. And MaxRAM software makes this possible without any modifications or patches to your Apple ROMs.

## The Max is cool.

Like the motherboard, the Max is cool and efficient. It adds only 1.3 watts to the power consumption, two to three times less than other memory expansions on the market.

# The Max.



## The Max is designed for the future.

Unlike memory expansions using older technology, The Max has been designed to be fully expandable. It is pin compatible with the soon-to-be-released megabit chips† and address-decoded for 4 megabytes of memory, the maximum the Macintosh can address.

## The Max is available now.

Contact your local dealer for more information about The Max. Kits are also available.



128K to The Max 1.5 Mb	\$795
512K to The Max 1.5 Mb	\$645
128K to 512K	\$249

The Max comes with a 90-day warranty against defects in parts, materials and workmanship. An extended service contract for your entire Macintosh, MaxCare™, is available through your dealer.

See your local dealer for more information about The Max, or contact MacMemory Inc., 473 Macara Avenue, Suite 701, Sunnyvale, CA 94086, (408) 773-9922.

## MacMemory Inc

†Due to the unavailability of the one megabit chip, MacMemory anticipates, but cannot warrant, expandability to four megabytes. The expected production release date is early 1986. Apple and Macintosh are trademarks of Apple Computer Inc. Jazz is a trademark of Lotus Development Corporation. The Max, MaxRAM, and MaxCare are trademarks of MacMemory Inc.

Please circle 115 on reader service card.





# Go EAST, YOUNG MAC

I BET MOST PEOPLE KNOW THAT the West Coast of the United States hangs out somewhere around California. Although we Americans as a whole are generally ignorant of geography outside our personal experience, California gets a lot of press, as well as considerable TV and movie coverage. Even my family in New England, Maryland and other eastern places (who as a rule never travel further west than Philly, and then only for business or family funerals) have seen the blue waters of the Pacific lapping gently against the shores of Hollywood, or flowing under the Golden Gate bridge toward the Transamerica Pyramid a little further north.

And everyone knows that Silicon Valley, the (perhaps slightly tarnished) golden land of opportunity for engineers who can communicate with electronic circuits is somewhere in California. Nine will get you ten most people don't know where in California, although they will probably have heard of such exotic places as Cupertino, Los Gatos, and Mountain View. Of course, Mac owners are more sophisticated than the average American, and thus are among the few people who could correctly locate Cupertino on a map of the Bay area.

So wouldn't everyone be surprised to learn that the West Coast in general, (and Silicon Valley in particular, or at least all of it that counts) was really in Boston?! It's true! Thanks to a cataclysmic seismic shift along the San Andreas fault, Silicon Valley held court in Boston for just under a week in August.

Actually, it wasn't an earthquake that actuated the shift, but several overbooked flights out of San Francisco. Whole families were forcibly removed from the plane that carried our staff and most of the Apple contingent. ("Would the Morris family, party of three, please come to the gangway. Bring your belongings with you.") One passenger warned people not

to take upgrades in their seating, shouting "Don't do it! It's a trick, it's a trick!" Another passenger left his ticket at the gate, but refused to budge from his seat when his name was called for fear the valuable space would be given to one of the many unfortunates roaming the aisles with a glazed expression in their eyes and two pieces of hand luggage clutched firmly in their grasp.

The flight itself went very smoothly (in fact, there was a bit of a party going on in the coach cabin), as did the hour-and-a-half cab ride from the airport to the Hotel Meridien, just over a mile away. We were met at the hotel by a lovely group of desk staff who said "Bon Jour!" with a distinct Bostonian accent and were running ragged trying to straighten out a disastrous shortage of rooms. At the same time that I was being told: "You are not arriving until tomorrow, Mr. Wesley. Yes, you have a confirmed reservation for tomorrow night. No, we have no more rooms available for tonight," the person who had arranged accommodations for the Apple staff was trying to make sure that his late arrivals were going to have a place to stay.

The show itself was held the following three days at the convention center in

South Boston, in a neighborhood we were told to avoid at all costs. But the glitz and glamour and confusion of a major show took precedence over fear as we prepared for the anticipated arrival of thousands of Mac users (and ran around the floor of the show scouting all the booths we wanted to visit in depth later.)

It was fun watching the other people from the West Coast try as hard as I did to look comfortable in a suit and tie. Dan Cochran pulled it off remarkably well, but a lot of us were clearly yearning for jeans and a t-shirt. (At least reason prevailed on the second and third days of the show as several of us wore sneakers with our three-piece suits.) I envied the gang from Silicon Beach software. Charlie Jackson and Company made no effort to pretend they weren't from California, and sported outrageous flowered shirts.

There seemed to be a lot of interested and excited people at the show, and many of the companies I talked to were pleased with the turnout. Business software companies were generally visited by people interested in business software, which made them happy. The games, graphics and music people were visited by almost everybody, which meant there was always



Michael Shatter Saenz shows off at the MacUser Booth.

The poor man was "Macless." (Paul Revere)



Checking out the hottest story at the show.





**FREE SHIPPING\***

# SOFTWARE DIMENSIONS

**WE WILL MATCH ANY PRICE ADVERTISED IN THIS ISSUE**

- \* Free UPS ground shipping. For next day air service add \$7.
- \* Free air shipping on orders over \$300.
- \* VISA, MASTERCARD & AMERICAN EXPRESS
- \* For C.O.D.'s add 2%—minimal service charge is \$3.
- \* Company & school administration purchase orders accepted upon approval.
- \* Personal & company checks will delay shipping 2 weeks.
- \* Prices & availabilities subject to change without notice.
- \* We do not guarantee machine compatibility.

## MACINTOSH

### SPECIALS

Electric Checkbook .....	\$47	MAC Office .....	\$27
Filevision .....	\$89	MAC Pic 1 & 2 .....	\$29

### BUSINESS

Ensemble .....	\$209.96
File .....	136.50
1st Base .....	136.50
1st Merge .....	66.50
1st Port .....	66.50
Helix .....	276.50
Jazz .....	416.50
Mailmanager .....	83.96
Main Street Filer .....	139.30
Microsoft Business Pack ..	416.50
Microsoft Chart .....	87.50
Microsoft Multiplan .....	136.50
OverVUE .....	206.50
PFS: File & Report .....	136.50
Word .....	136.50

### EDUCATION

Macedge .....	\$ 34.96
Mind Over Mac .....	34.96
SAT .....	69.96
Typing Tutor III .....	41.96

### GAMES

Airborne .....	\$ 24.46
Baron .....	25.18
Cutthroats .....	27.96
Cyborg .....	27.96
Deadline .....	34.96
Enchanter .....	27.96
Gato .....	34.96
Gypsy .....	34.96
Hitchhiker's Guide to the Galaxy .....	27.96
Lode Runner .....	27.96
Mac Command .....	24.46
Mac Slots .....	34.96
Mac Vegas .....	41.30
Make Millions .....	34.96
Millionaire .....	34.96

Murder by the Dozen .....	24.46
Pensate .....	27.96
Planetfall .....	27.96
Run for the Money .....	34.96
Sargon III .....	34.96
Seastalker .....	27.96
Sorcer .....	31.46
Squire .....	34.96
Starcross .....	34.96
Suspect .....	31.46
Suspended .....	34.96
The Witness .....	27.96
Trivia Fever .....	69.96
Trivia Fever Vol. #2 .....	17.46
Tycoon .....	25.18
Ultima II .....	41.96
Ultima III .....	45.46
Wishbringer .....	27.96
Word Challenger .....	27.96
Zork I .....	27.96
Zork II .....	31.46
Zork III .....	31.46

### HOME

Dollars and Sense .....	\$104.96
Financial Cookbook .....	35.00
Home Accountant .....	105.00
MasterPieces .....	27.96
MusicWorks .....	55.96
Slide Show Magician .....	34.96

### UTILITIES

Animation Tool Kit .....	\$ 34.96
C Language Development S ..	139.30
McPic .....	34.96
McPic Vol. 2 .....	34.96
Quickset .....	69.96
Smoothtalker .....	104.96
Speller .....	27.96
Videoworks .....	69.96

IF YOU DON'T SEE THE TITLE YOU WANT, CALL US

Call Toll Free to place your order

**1-800-826-2447 1-800-222-0697**

Calls originating outside Colorado Western time zone may call 8 am-11 pm  
Calls originating inside Colorado Eastern time zone may call 9 am-8 pm

7830-A North Academy Blvd., Colorado Springs, CO 80918

Please circle 112 on reader service card.

a lot of noise and that sometimes made it difficult to sell things like accounting software in neighboring booths.

The Macintosh environment (the one generated outside the machine) is one of the few places where you can still find industry groupies. Everyone I spoke to on the floor had just ended a lengthy conversation with Bill Atkinson about improvements they had made to QuickDraw and was he interested, or had just received a glowing commendation for his product from Andy Hertzfeld, or recently bumped into John Sculley. Seems everybody wants to be an insider. (Of course when I ran into Andy at the MacUser booth...)

And it seemed that everyone in the industry was looking over everyone else's shoulder trying to make sure that nobody had a more recent version of *Switcher* or popular public domain utilities than they had. "You mean you don't have version — (insert any two digits separated by a decimal)?" And everyone was talking about new software they had just received to beta test, only to be one-upped by someone saying "Oh, I've had that for weeks."

There seemed to be a lot of people at the show who hadn't decided to buy a computer yet, and wanted to find out about Macintosh. I even got to brush up my sales skills when a nice man who was waiting, as I was, to talk to someone at the Apple booth struck up a conversation about what the Mac could do for him. I asked all the right questions a good salesman should ask to identify needs, then pointed him toward the best games and graphics booths.

The people from SoftStyle, a Hawaiian company that publishes printer drivers and a new program called *Decision Map* were attending their first ever computer show, and got a real kick out of all the attention their products were getting. That was nice. Their enthusiasm was highly contagious.

The worst part of the show was leaving, because I couldn't go straight back to the real West Coast. Instead I had to go to New York for a debriefing. Don't misunderstand — I think New York is a wonderful city indeed, but I get nosebleeds when I stray east of the Rockies for long periods of time. At least our offices are on West 39th Street, and my hotel looks out over the Hudson. With a little imagination, I can just see the tip of the pyramid rising over New Jersey. ☞



Take  
the heat off  
your Mac.

# MACBCOOL™

for your Macintosh™



A continuous flow of fresh cool air passes through your Macintosh cooling your computer's critical components.



A cooling enhancement module designed to keep your Macintosh cool and eliminate the threat of overheating.

**FORCED AIR COOLING** with a quiet efficient fan providing a continuous flow of fresh air through your Macintosh. The results are better reliability and longer operating life of your computer.

**CONTROL CENTER OPERATION** with system power distribution through your MACBCOOL module. Conveniently located front mounted power switches control both main power for your complete system and power for peripherals through two rear mounted power outlets.

**BUILT-IN SURGE PROTECTION** provides extra protection against power line surges, fluctuations, and noise which can cause permanent damage or intermittent operation to sensitive computer equipment.

**A PERFECT FIT** because MACBCOOL is designed specifically for the Macintosh Computer. When positioned on the computer, a sturdy handle firmly locks the MACBCOOL module to the computer and substitutes for the Mac's built-in handle.

**EASY INSTALLATION.** No tools required.

Macintosh is a trademark licensed to Apple Computer, Inc. MACBCOOL is a trademark of MPH Electronics, Inc.

To order or request additional information, see your local dealer or call us today: (800) 231-2401; Inside Calif. (818) 442-7829. We accept Visa, MasterCard, or personal checks.

DEALER INQUIRIES WELCOME

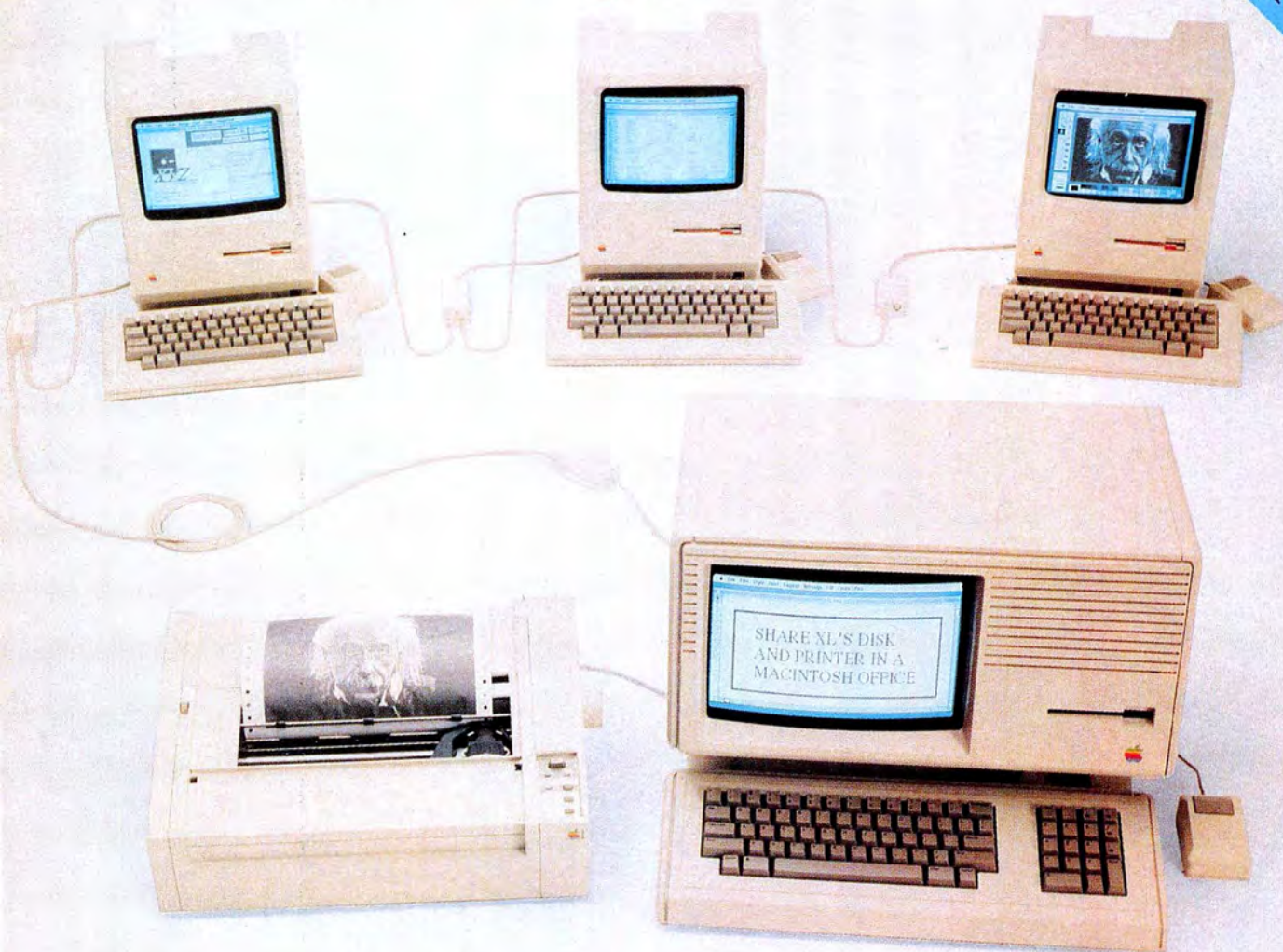


MPH COMPUTER PRODUCTS.



# The Macintosh Office Expands.

Introducing  
MacServe!



You've heard of XL/Serve,<sup>™</sup> the first commercial AppleTalk software. It made the Macintosh Office a reality.

Thousands depend on it, every day, to reliably share information and resources. They access common applications, data, and printers on a Mac XL, the original Macintosh Office workhorse.

## **Introducing MacServe.<sup>™</sup>** **The second standard for AppleTalk networks.**

Now, your 512K Macs can share their disks and printers. You can build your Macintosh Office with freedom of choice, using any of the leading hard disk drives\*, perhaps with equipment

you already have. No need to buy an unproven black box, or to commit to a single hardware vendor.

Create up to 16 independent work areas on your hard disk; you set their sizes. For each, choose to share it over the network, and elect read-only or read-write access. Volume-level passwords control security of sensitive data.

There's also a shared printer spooler, so you and your colleagues can get on with things while your ImageWriter (or other serial printer) is churning out your documents.

**Some call our software sorcery**

Your MacServe host remains, primarily, a Macintosh workstation. Through true multitasking, we let you run your favorite applications (even Switcher) while others share your resources.

Just add more MacServe hosts to your network when you want increased performance or need more capacity. Imagine the megabytes in over 250 hard disk volumes. With full desk accessory convenience for all day-to-day operations. It's transparent to the leading applications!

When you're ready to build a network, ask for MacServe and XL/Serve at your local dealer, or call us at:

## **Infosphere, Inc.**

4730 SW Macadam Avenue • Portland, OR 97201 • 503-226-3620

AppleTalk and Macintosh Office are trademarks of Apple Computer, Inc. Macintosh is a trademark licensed to Apple Computer, Inc. MacServe and XL/Serve are trademarks of Infosphere, Inc. \*Consult Infosphere for a list of currently supported hard disks

Please circle 110 on reader service card.





# MAXIMIZE YOUR MAC

Inside every Macintosh™ beats the heart of a superb machine, and the feats it can perform when given the room to maneuver will astound you. However, the sad fact is, most Mac's will never be allowed enough RAM to run the major integrated software packages wholly from memory - at lightning speed. Nor will they know the wonder of running eight applications essentially simultaneously in Switcher. Nor will they see giant spread sheets or documents. But yours can.

**512K**

**1 MEG**

**2 MEG**

**4 MEG**

Micro Conversions, Inc. was a pioneer in 512K Upgrades ( We still offer them at the best prices around.), and we were the first to break the "512K Barrier" with our 1 Meg Upgrade. Now we offer two more sizes of RAM - all recognized by the Finder - all available to software without bank switching - and all at affordable prices. So, if you want to be impressed by your Macintosh, maximize it with a Meg or more.

For more information, contact your micro computer dealer  
or call us at (800) 237-8622 [ BEST MAC ]

Apple and Macintosh are trademarks of Apple Computer, Inc.



**Micro Conversions, Inc.** 3606 Knoll Crest Drive • Arlington, TX 76014 • (817) 465-5758

Please circle 73 on reader service card.



128K  
512K  
Macintosh

Explore forest, jungle, sea and desert in search of the

# Enchanted Scepters

featuring  
**RealSound**

## A text-graphics-sound adventure game:

- With over 200 detailed scenes to visit and explore.
- With actual recorded sounds for scenes, characters, and objects.
- With interactive graphics; click on objects you see and watch things happen.

To get your copy of **Enchanted Scepters** see your local dealer or send \$39.95 (Calif residen add \$2.40 tax) plus \$2.00 shipping to:  
Silicon Beach Software  
P.O. Box 261430  
San Diego, CA 92126

-or-

Call us at (619) 695-6956  
Visa or Mastercard accepted

Copyright © 1984 Silicon Beach Software, Inc.  
Enchanted Scepters is a trademark of Silicon Beach Software, Inc.

Macintosh is a trademark of Apple Computer, Inc.

Please circle 80 on reader service card.

**SILICON  
BEACH  
SOFTWARE**

FERRARA





# WHAT'S IN A NAME?

THERE WAS TALK ABOUT THE COLUMN'S title. Some of the ideas had been groaners, others dull or merely silly. I was surprised to see "The Macintosh Boundary," a name chosen by someone else. But like all names, once given it began to color my thinking, to lead my thoughts down new paths through landscapes that were once familiar. Boundaries...

The Boston MacWorld Expo is one day off. I'm in Los Angeles, at UCLA, at the 1985 National Conference on Artificial Intelligence. It's 1985, and the violent mating of corporate blue-suits and academic genius has spawned rules and machines.

In the old days, the ignorant confused Lisp with "Artificial Intelligence"—AI which doesn't exist, but someday might. These days, it's Prolog and OPS-5. From both come rules: ruled-based "automated reasoning." The blue-suits hawk the complex, expensive, rule-based software systems as "AI."

If naming is all it takes, AI is here. Everyone says they have it, so they must. Off in the corners, the academicians fret: what will happen to our funding (from the Defense Department, of course) if rule-based systems don't live up to their promise? And what if we get the blame? «They» said it was AI; «we» never said it was AI!

The darkest scenario is what the scholars call "The AI winter." The holocaust of reduced funding.

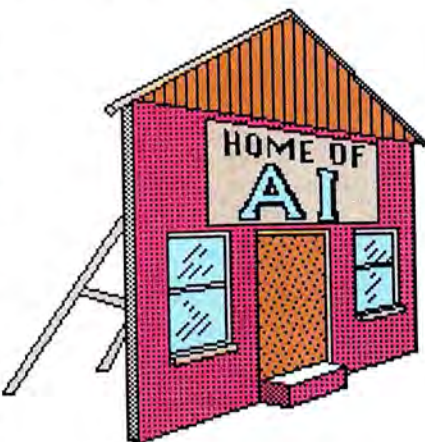
But that's in the corners. Out here, on the floor, are the machines. And what machines! There's the Sun-2/160 Color Sunstation, encased in IIC ivory, with a 19-inch monitor. The screen resolution is 1,152 by 900. The display is non-interlaced, sharp and rock-steady. It displays a maximum of 256 colors, from a palette of over 16 million colors. It's powered by a 10-MHz 68010 that runs without "wait states," accesses 4 megabytes directly or up to 16 megabytes of virtual memory "per process." For storage, there's the low-end 71-megabyte hard disk, the 280-megabyte hard disk or the preferred (wouldn't you rather...) 380-megabyte hard disk. It comes with

an Ethernet board, UNIX, C, Pascal, an assembler and, naturally, a mouse. It'd look great in the den. \$50,800 and it's yours.

Other machines are even snazzier. A 68020 machine is showing off graphics. A finely-detailed horse on the screen. Oo's and ah's. "How'd you do that? It's beautiful!" The corporate woman looks around, verifying that we're not overheard. "We brought it in with a ThunderScan and a Macintosh," she says.

It's time to go to Boston.

Where Andy Hertzfeld is smiling and chagrined. He really believed in the 128K



Macintosh, he says. He worked as hard as possible to make things small, to make them fit, to make a machine that could run well with only 128K.

"And of all the applications for Macintosh," he says, "the two I did—*ThunderScan* and *Switcher*—are the two biggest memory hogs there are!" He shakes his head at the irony.

The woman from Apple is not being uncooperative, not exactly. She's only doing her job, as she sees it. "If we give you advance access, everyone else will want access too."

It's only the first of many good reasons and hedges. She's not sure what stage the project is in. There aren't procedures yet. She's new to her increased, post-reorganization responsibilities. She's not yet familiar with "The Macintosh side of

things." She downplays the new machines.

If you've hung around IBM, you know the script. The attitude is helpful, the answer is "No." And behind it all, behind and underneath, you get the feeling—a tiny, tiny inkling, really—that her heart isn't on "The Macintosh side of things." She's competent and corporate, but she's no evangelist. Her eyes don't burn like eyes once did at Apple.

Next to me, the Marketing Manager says "You know, I feel some of the guilt for this. When the bigger companies came into this, so many of the kids got ripped-off."

Well, when a field has naïveté and lots of money...

"What do you think of the show?"

Ah... Nothing comes to mind. No provocative or insightful comments. My feet are tired, how about that? "What'd you think?"

"I think everybody has their hands in everybody else's pockets. It would be simpler if we all just sat around a table and passed the money around. When everyone's money came back around, they could get up and leave."

"Gee, that's good. I'll use that."

Thanks, Jerry.

Steve Chernicoff is a happy man. The second volume of "Macintosh Revealed" is just back from the printers. The first volume, "Macintosh Revealed: Unlocking the Toolbox," is the hottest Macintosh book in the country. The two books will make Chernicoff lots and lots of money. When Apple releases the Macintosh version of Lisa Pascal (early next year), he'll make even more money.

He's a husband and the father of two children. The books are good; he deserves the success. He's spent 16 months on the project and it's been grueling. Now he's thinking about vacations and taxes and "the next book." A good man.

The talk is about publishers; whether they underestimate the desire of Macintosh owners for technical books.

The next book? "Do one on the ROMs from a subatomic level. It'll sell zillions."

Smiles. Steve Chernicoff is a happy man. You can bask in it and feel good. □



# PROGRAMS PLUS ▶ 1-800-832-3201

## Mac Special!

<b>Blythe Software Omnis 3</b>	249.00
<b>Computer Software Design</b>	
MacLion	189.00
<b>Haba Systems Quartet</b>	115.00
<b>Hayden Software Ensemble</b>	149.00
<b>Innovative Data Design</b>	
MacDraft	139.00
<b>I/O Design</b> Macintosh & Imagewriter	
Carry Case Bundle	79.00
<b>Kaimar Designs</b>	
Teakwood Roll-Top Disk Cases:	
Micro Cabinet (45) 3 1/2"	14.00
Double Micro (90) 3 1/2"	24.00
<b>Living Video Text</b>	
Think Tank 512K	125.00
<b>Lotus Jazz</b>	379.00
<b>Mark Of The Unicorn</b>	
Professional Composer	249.00
<b>N² Products Inc.</b>	
Highest Quality Molded & Shielded Cables	
with Thumbscrews matching the	
Macintosh's Style & Color perfectly!	
Macintosh Modern Cable	25.00
Macintosh Printer Cable	25.00
<b>ODS, Inc. Consultant</b>	129.00
<b>Practical Computer Peripherals</b>	
Mac Bottom Hard Disk	\$ Lowest Price!
<b>ProVUE Development</b>	
OverVUE 2.0	149.00
<b>Summagraphics</b>	
MacTablet	\$ Lowest Price!

## Backup and Utility Software

<b>Assimilation Process Guardian</b>	22.00
Mac Memory Disk	22.00
Mac Mouse Tracks	22.00
MIDI Composer	22.00
Work 'N' Print	22.00
<b>Central Point Software</b>	
Copy II Mac	20.00
<b>Crystal Canyon Computing, Inc.</b>	
The Mac Librarian	29.00
<b>Dreams Of The Phoenix</b>	
Quick & Dirty Utilities	28.00
<b>FVB Software Hard Disk Util</b>	59.00
<b>Hippopotamus Software</b>	
Hippo-Lock	69.00
Ideaform Mac Labeler V2.0	29.00
<b>Meacom Mac + II</b>	71.00
<b>MicroAnalyst MacZip</b>	38.00
<b>Mainstay MacBooster</b>	32.00
Disk Ranger	32.00
N' Cryptor	26.00
<b>Nevins Microsystems TurboCharger</b>	57.00
<b>New Canaan Microcode</b>	
Mac Disk Catalog	29.00
<b>PBI Software</b>	
Icon Switcher or Icon Libraries	14.00
<b>Protect-It Software ProCopy/ProEdit</b>	31.00
<b>Practical Computer Applications</b>	
MacBackup	47.00
<b>SMB Development MacMate!</b>	35.00
<b>SoftStyle Epsstart V2.0</b>	29.00
Laserstart	61.00
TI Start	49.00
Jetstart or Toshstart	29.00
Symmetry Quick Disk	21.00
<b>Tardis Software Fast Finder or</b>	
C-Learner	36.00
MacMake	36.00
C-Learner, Tool Pak I or II	36.00
Macintosh Programmer's Library	149.00
<b>Tesseract Software MacCopy</b>	39.00

## Desk Accessory Programs

<b>Batteries Included Battery Pak</b>	31.00
<b>Borland SideKick</b>	49.00
<b>Dubl-Click Software</b>	
Calculator Construction Set	59.00
<b>Dreams Of The Phoenix Twelve-C</b>	28.00
<b>EnterSet QuickSet</b>	55.00
QuickPaint	29.00
QuickWord	36.00
<b>Haba Systems Haba Window Dialer</b>	29.00
<b>Intermatrix MacDesk</b>	54.00
<b>Harvard Associates Desk Toppers</b>	31.00
<b>Mainstay Type Now</b>	26.00
<b>Macadem Publishing</b>	
WindowWare Calendar or Phone Book	31.00
WindowWare Phone Book & Calendar	51.00
<b>MegaHaus MegaDesk</b>	67.00
<b>Silicon Beach Software</b>	
Accessory Pak #1	24.00
<b>T/Maker ClickOn Worksheet</b>	46.00
<b>Videx MacCalendar</b>	51.00

## Languages

<b>Apple Computer MacPascal</b>	95.00
Macintosh 68000 Development System	145.00
<b>Consulair</b>	
Mac C/Mac C Toolkit/Version 4.0	275.00
<b>Creative Solutions</b>	
MacForth Level I—Explorer's System	79.00
MacForth Level II—Professional System	129.00
<b>Expe!lligence Expe!Logo</b>	79.00
Expe!Lisp	239.00
Expe!OPS5	169.00
<b>Hippopotamus Software</b>	
Hippo-C Level 1	79.00
Hippo-C Level 2	229.00
Hippo-C Upgrade Kit	139.00
<b>Kriya Systems Neon!</b>	129.00
<b>Mainstay MacASM</b>	75.00
<b>Megamax, Inc. Megamax C Compiler</b>	175.00
<b>Micromotion</b>	
MasterForth Base System	89.00
<b>Microsoft Microsoft Basic</b>	86.00
Microsoft Logo	75.00
<b>Portable Software PortaAPL</b>	199.00
<b>SoftTech Microsystems</b>	
Mac Advantage UCSD Pascal	159.00
UCSD Pascal Development System	127.00
UCSD Pascal Language Compiler	92.00
Fortran 77 Development System	189.00
Fortran 77 Language Compiler	155.00
Advanced Development Tool Kit	98.00
<b>Softworks Ltd.</b>	
Softworks C Compiler	237.00
<b>Teraplin MacLogo</b>	75.00

## Communications Software

<b>Aegis Software MacMail</b>	37.00
<b>Apple Computer MacTerminal</b>	95.00
<b>Compuserve Compuserve Starter Kit</b>	15.00
<b>DataViz MacLink with Cable</b>	109.00
<b>Desktop Software 1st Port</b>	49.00
<b>Dilithium Press</b>	
PC to Mac and Back with Cables	79.00
<b>Dow Jones Straight Talk</b>	45.00
<b>Dreams Of The Phoenix</b>	
Mouse Exchange Terminal or BBS	28.00
<b>Haba Systems HabaCom</b>	42.00
<b>Hayes Microcomputer</b>	
Smartcom II	86.00
<b>Kaz Business Systems MacDasher-Data</b>	
Gen. D210 Term. Emulator	35.00
<b>Mainstay Telescope</b>	78.00
<b>Mesa Graphics Tekalike</b>	179.00
<b>Mycroft Labs Mite</b>	87.00
<b>Prometheus ProCom-M</b>	69.00
<b>Smith Micro Software Market Link</b>	45.00
<b>Software Masters In Touch</b>	97.00
<b>Source Telecomputing</b>	
On-Line Information Network	30.00
<b>Southeastern Software</b>	
Mac Transfer	31.00
<b>Videx Mail Center (2 User)</b>	179.00
Mail Center (6 User)	289.00

## Business Software

<b>Advanced Logic Systems</b>	
Mighty Mac	36.00
<b>Aegis Software The HouseKeeper</b>	45.00
<b>Aldus Corporation PageMaker</b>	Call
<b>Apple Computer MacProject</b>	145.00
<b>Assimilation Process</b>	
Mac Spell Right	69.00
The Right Word	69.00
Business Essentials	65.00
<b>Boston Software Publishers</b>	
The MacPublisher	74.00
The MacPublisher II	Call
<b>Creighton Development</b>	
MacHome or MacOffice	27.00
MacSpell+	55.00
<b>DataFood MacForms</b>	45.00
DrawForms	35.00
<b>DataPak Software My Office</b>	75.00
<b>Dreams Of The Phoenix</b>	
Day Keeper Calendar	28.00
<b>Desktop Software First Base</b>	99.00
First Merge	49.00
1st Base & 1st Merge	148.00
<b>Dow Jones Market Manager Plus</b>	109.00
Spreadsheet Link	57.00
<b>Electronic Arts Financial Cookbook</b>	34.00
<b>Emerging Technology MacOffix</b>	79.00
<b>Forethought Factfinder</b>	86.00
Filemaker	109.00
<b>Haba Systems HabaWorks</b>	Call
Haba Solutions Software Bundle	149.00

<b>Hayden Software Ensemble</b>	149.00
Haden: Chart	59.00
Hayden: Speller	45.00
I Know It's Here Somewhere	35.00
MacBase	115.00
<b>Hayes Microcomputer</b>	
Please Database	129.00
<b>Human Edge Software</b>	
The Communications Edge	99.00
The Management Edge or Sales Edge	129.00
The Mind Prober	29.00
The Negotiation Edge	149.00
Layered Front Desk	79.00
<b>Lazer Software LazerBase</b>	95.00
<b>Living Videotext Think Tank 128</b>	75.00
Think Tank 512	125.00
<b>Manhattan Graphics</b>	
Ready Set Go	59.00
<b>MegaHaus Mega Business Pack:</b>	
File, Form, Merge & Desk	235.00
MegaFiler	104.00
MegaForm	149.00
MegaMerge	65.00
<b>Microsoft Microsoft File</b>	112.00
Microsoft Chart	72.00
Microsoft Excel	229.00
Microsoft Multiplan	112.00
Microsoft Word	112.00
Mac Business Pack:	
Word, Multiplan, File & Chart	342.00
<b>Model Office Company</b>	
Document Modeler	Call
<b>Odesta Helix</b>	219.00
<b>Paladin Crunch</b>	169.00
<b>Satori Software Bulk Mailer</b>	79.00
<b>Smith Micro Software</b>	
Stock Portfolio System	110.00
<b>Softstyle Decision Map</b>	94.00
<b>SoftDesign TimeBase</b>	87.00
<b>SoftTech Microsystems</b>	
MailManager	69.00
<b>Software Publishing</b>	
PFS:File/Report Combo	105.00
<b>StatSoft DataFast</b>	39.00
<b>Stoneware DB Master Mac</b>	99.00
<b>Telos Filevision</b>	99.00
<b>Warner The Desk Organizer</b>	59.00

## Overlays For Multiplan™

<b>Allegro Software Softstart</b>	31.00
Personal Finance	31.00
Business Analyst	31.00
<b>Apropos Financial Planning</b>	55.00
Investment Planning	55.00
Tax Planner	25.00
<b>Harris Technical Systems</b>	
Profit Projections/Break-even Analysis	47.00
<b>Prentice Hall</b>	
Construction Estimator	42.00
<b>RealData, Inc. Overlays For Multiplan and Jazz:</b>	
Tax Shelter Syndication Analysis	179.00
On Schedule	119.00
Income Producing Real Estate	89.00
Financial Overlays	62.00
Commercial/Industrial Applications	62.00
Residential Models	62.00
<b>Synetics Syncorp Budget Aids</b>	45.00

## Accounting Packages

<b>Aegis Software ZAPI Invoice</b>	61.00
<b>Applied Logic Systems</b>	
BizMac Small Business Systems	Call
<b>Chang Labs Rags to Riches Ledger</b>	105.00
Rags to Riches Receivables	105.00
Rags to Riches Payables	105.00
<b>Continental/Arrays</b>	
The Home Accountant	59.00
<b>Digital, Etc. Accountant</b>	145.00
<b>Future Design Software</b>	
Strictly Business Accounting System:	
Module 1—General Ledger	239.00
<b>Haba Systems Haba Checkminder</b>	42.00
<b>Intermatrix Chequebook</b>	27.00
<b>Micromax Gallery Finance Package:</b>	
GL/AR/AP/Cash Disbursements	499.00
Gallery Finance Package:	
Special Edition	199.00
<b>Monogram Dollars &amp; Sense</b>	81.00
Forecast	41.00
<b>Palantir General Ledger</b>	79.00
Accounts Receivable	79.00
Inventory Control	79.00
<b>Peachtree General Ledger</b>	89.00
Accounts Receivable	89.00
Accounts Payable	89.00
<b>Sierra On-Line MacOneWrite</b>	139.00
Accountants Choice Modules (ea.)	399.00
<b>SoftSync Personal Accountant</b>	51.00

<b>State Of The Art Electric Checkbook</b>	45.00
<b>United Software</b>	
In House Accountant	110.00

## Statistics Packages

<b>BrainPower Statview</b>	99.00
<b>Heyden &amp; Son Statworks</b>	89.00
<b>Northwest Analytical NWA StatPak</b>	249.00
<b>NWA Quality Analyst</b>	319.00
<b>StatSoft StatFast-2</b>	75.00

## Graphics Software

<b>Apple Computer MacDraw</b>	145.00
<b>Altays Corp. Fontastic</b>	34.00
<b>Ann Arbor Softworks</b>	
Animation Tool Kit I	31.00
InMotion	99.00
<b>Axlon Art Portfolio</b>	35.00
Card Shoppe	35.00
<b>Casady Company Fluent Fonts</b>	29.00
<b>Challenger Software Mac 3D</b>	125.00
<b>Esoft Enterprises ColorChart</b>	75.00
<b>Hayden Art Grabber</b>	29.00
VideoWorks	59.00
Home Design w/Art Grabber	49.00
DaVinci: Buildings	29.00
DaVinci: Building Blocks	46.00
DaVinci: Commercial Interiors	115.00
DaVinci: Houses	29.00
DaVinci: Interiors	29.00
DaVinci: Landscapes	29.00
<b>Innovative Data Design MacDraft</b>	139.00
Paste-Ease Volume 1	37.00
<b>I/O Designs ColorPrint Software Only</b>	29.00
ColorPrint Starter Kit-3	45.00
ColorPrint Starter Kit-6	59.00
ColorPrint Transfer Starter Kit	59.00
ColorRibbon—Heat Transfer Ribbons (ea.)	9.00
<b>Kensington Microware Graphic Accents</b>	29.00
Professional Type Fonts For Text	29.00
Professional Type Fonts For Headlines	42.00
<b>Magnum Software</b>	
McPic! Volume 1 or 2	30.00
The Slide Show Magician	35.00
<b>Matrix Advocates Images</b>	27.00
<b>Mesa Graphics Plot-It</b>	69.00
<b>MicroSpot MacPlot</b>	89.00
<b>Miles Computing</b>	
Mac The Knife Volume I	23.00
Mac The Knife Volume II	27.00
<b>Penguin Graphics Magician</b>	56.00
<b>T/Maker</b>	
Click Art Letters or Personal Graphics	29.00
Click Art Publications or Effects	29.00
<b>Vamp, Inc. McCad</b>	299.00

## Educational/Creative Software

<b>ATI Teach Yourself Jazz</b>	45.00
Teach Yourself Multiplan	30.00
<b>BrainPower Chipwits</b>	28.00
Teletouch	41.00
Thinkfast	24.00
<b>Camde Nutri-Calc</b>	59.00
<b>Charlot Software Group</b>	
Microtest II	149.00
<b>Davidson &amp; Asso. Speed Reader II</b>	38.00
Spell It!, Math Blaster, or Word Attack	30.00
<b>Electronic Arts</b>	
Pinball Construction Set	28.00
Deluxe Music Construction Set	34.00
<b>First Byte Smooth Talker</b>	59.00
Kid Talk or Speller Bee	49.00
<b>Forethought Typing Intrigue</b>	29.00
<b>Great Wave Software</b>	
ConcertWare Plus	42.00
<b>Harvard Associates MacManager</b>	31.00
<b>Hippopotamus Software</b>	
Hippo Computer Almanac	21.00
Hippo Jokes & Quotes	21.00
<b>Hayden MusicWorks</b>	45.00
SAT Score Improvement System	58.00
Turbo Turtle	36.00
Computer Novel Construction Set	30.00
<b>Microsoft Entrepreneur</b>	32.00
Learning Multiplan & Chart	38.00
<b>Palantir MacType or MathFlash</b>	30.00
WordPlay	27.00
<b>QED Typing Made Easy</b>	39.00
<b>Queue Intellectual Software</b>	
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
Analogue I or II	49.00
College Aptitude Reading Exercises	49.00
<b>Rubicon Publishing SongPainter</b>	34.00
Deja Vu	24.00
Dinner at Eight	Call
<b>Scarborough Make Millions or</b>	
MasterType	29.00
<b>Run For The Money</b>	29.00



# PROGRAMS PLUS ▶ 1-800-832-3201

<b>Simon &amp; Schuster Mac Art Dept.</b>	24.00
Typing Tutor III	35.00
Paper Airplane Construction Set	24.00
<b>Software Concepts</b>	
Concepts Computerized Atlas	45.00
<b>Think Educational</b>	
MacEdge II or Mind Over Mac	29.00
MacEdge Plus	29.00
Mac Mac & His Mindbox	29.00
<b>TimeWorks</b>	
Evelyn Wood Dynamic Reader	41.00

## Game Software

<b>Activision</b>	
Championship Star League Baseball	22.00
<b>Aegle</b>	
Mac-Challenger or Pyramid of Peril	29.00
<b>Artsci Hearts</b>	18.00
<b>Axon MacMatch</b>	30.00
<b>Blue Chip Software</b>	
Barron or Millionaire	30.00
Squire or Tycoon	30.00
<b>Broderbund Ancient Art of War</b>	29.00
Cyborg or Lode Runner	24.00
<b>CBS Software Murder by the Dozen</b>	27.00
<b>Creighton Development</b>	
Mac Command	21.00
EPYX Rogue	18.00
<b>General Computer Co.</b>	
Ground Zero	24.00
<b>Hayden Software Holy Grail</b>	29.00
Masterpieces or Perplex	24.00
Sargon III or Inca	30.00
Word Challenge II	24.00
<b>Infocom A Mind Forever Voyaging</b>	27.00
Cutthroats or Enchanter	24.00
Deadline or Starcross	30.00
Hitchhiker's Guide or Zork I	24.00
Infidel, Zork II or Zork III	27.00
Planetfall or Seastalker	24.00
Sorcerer or Suspect	27.00
Suspended	27.00
Wishbringer or Witness	24.00
Invisiculus — Hint Booklets (ea.)	6.00
<b>Kastel Technology Trivia Savant</b>	23.00
<b>Magnum Software Gypsy</b>	29.00
<b>Mark Of The Unicorn</b>	
Mouse Stampede	23.00
<b>Miles Computing MacAttack</b>	28.00
Harrier Strike Mission	28.00
<b>Mindscape Deja Vu</b>	34.00
<b>Origin Systems Ultima III: Exodus</b>	37.00
<b>PBI Software Feathers &amp; Space</b>	30.00
Strategic Conquest	30.00
Fokker Triplane	37.00
<b>Penguin Pensate or The Quest</b>	24.00
Transylvania or Xyphus	24.00
<b>Professional Software Trivia Fever</b>	22.00
Trivia Fever Volume II	14.00
<b>Priority Software</b>	
Forbidden Quest or Gateway	27.00
<b>Screenplay Trivia Arcade</b>	20.00
<b>Sierra On-Line</b>	
Championship Boxing or Frogger	24.00
Ultima II	35.00
<b>Silicon Beach Software Airborne!</b>	21.00
<b>Sir Tech Wizardry</b>	36.00
<b>Soft Life MacSlots</b>	29.00
<b>Spectrum Holobyte Gato</b>	36.00
Orbiter	36.00
<b>Star Systems Software</b>	
12 Classic Adventures	39.00
<b>Telerium Amazon or Dragon World</b>	27.00
Fahrenheit 451 or Rendezvous w/Rama	27.00
<b>Videx Fun Pack</b>	23.00
MacCheckers & Reversi	28.00
MacGammon & Cribbage	28.00
MacVegas	34.00

## Disk Drives/Hard Disks

<b>Apple Macintosh Hard Disk 20</b>	1199.00
Macintosh External Drive	359.00
<b>Bal MAC525-10 400KB External Drive</b>	239.00
MAC535-20 800KB External Drive	Call
<b>Corvus 5.5 MB Mac OmniDrive</b>	999.00
11.1 MB Mac OmniDrive	1399.00
21.6 MB Mac OmniDrive	1999.00
45.1 MB Mac OmniDrive	3449.00
<b>Haba Systems</b>	
HabaDisk 400 KB SS/DD w/SoftBundle	299.00
HabaDisk 800 KB DS/DD w/SoftBundle	Call
<b>Imega The Bernoulli Box</b>	1299.00
5 Meg Cartridge	42.00
Head Cleaning Kit	59.00
<b>Micro-Design</b>	
The Keeper File Servers-10,20 or 30MB	Call
<b>Mirror Technologies</b>	
Shugart 400 M/E Manual Eject Drive	189.00
Sony Magnum 800K Drive	429.00
<b>Mitsuba Super 5 Mac External Drive</b>	279.00
<b>Paradise Systems</b>	
Mac 10 Hard Disk Subsystem	Call
<b>Personal Computer Peripherals</b>	
MacBottom Hard Disk	Call
Quark QC10-10 Meg Hard Disk	1029.00
QC20-20 Meg Hard Disk	1379.00

<b>Tecmar</b>	
Mac Drive 5 MB Removable	995.00
Mac Drive 10 MB Fixed	995.00
<b>Western Automation Labs</b>	
Dasch External RAMdisk 500K	Call
Dasch External RAMdisk 1000K & 2000K	Call

## Modems

<b>Anchor Automation</b>	
Signalman Express 1200 Baud	239.00
<b>Apple Computer</b>	
Apple Personal Modem 300/1200	289.00
<b>Hayes Microcomputing</b>	
Smartmodem 300	129.00
Smartmodem 1200	369.00
Smartmodem 2400	579.00
Transtel 1000	269.00
<b>Kensington</b>	
Portable Modem (300 Baud)	89.00
<b>Microm</b>	
Mac Modem 1200 w/Software	419.00
<b>Novation</b>	
Cat Comm Communications System	279.00
<b>Prentice</b>	
Popcom X-100 Modem (Mac)	265.00
<b>Prometheus</b>	
Promodem 1200 with Mac Software	335.00
<b>U.S. Robotics Password 1200</b>	199.00
Courier 2400	389.00

## Printers

<b>Apple ImageWriter II Color Printer</b>	459.00
ImageWriter Printer	409.00
ImageWriter Wide Carriage	479.00
LaserWriter Printer	5249.00
<b>Brother HR-15XL</b>	349.00
HR-25	469.00
HR-35	679.00
Twinwriter 5 w/Serial Interface	899.00
<b>Epson DX-10 Daisy Wheel</b>	Call
DX-20 Daisy Wheel	Call
FX-85 w/Hanzon Interface	Call
FX-185 w/Hanzon Interface	Call
LQ-1500 w/Serial Interface	Call
<b>Hewlett Packard Thinkjet</b>	Call
Laserjet	Call
<b>Juki 6100 Serial</b>	389.00
6300 Serial	679.00
<b>NEC SpinWriter 2010</b>	625.00
SpinWriter 3510	995.00
SpinWriter 8810	1395.00
Color PinWriter CP2-6 10"	699.00
Color PinWriter CP3-6 15"	949.00
NEC Colormate Kit	79.00
NEC SpinWriter Accessory Kit	79.00
<b>Okidata ML-192 Apple Mac/Lisa</b>	375.00
ML-193 Apple Mac/Lisa	555.00
<b>Toshiba P-1340 Serial</b>	529.00
P-351 Serial	1099.00

## Blank Media

<b>BASF 3 1/2" (5)</b>	12.00
Bulk 3 1/2" (10)	18.00
<b>Sony 3 1/2"</b>	22.00
Fuji 3 1/2" (10)	24.00
Maxell 3 1/2" (10)	23.00
Memorex 3 1/2" (10)	23.00
Verbatim 3 1/2" (10)	26.00
3M 3 1/2" (10)	29.00

## Digitizers

<b>GTCO Corporation Macintizer</b>	399.00
<b>Koala Technologies Corp.</b>	
KAT Graphics Tablet	135.00
MacVision	169.00
<b>New Image Technology</b>	
Magic Digitizer	249.00
<b>Oberon International</b>	
Omni-Reader	579.00
<b>Summagraphics MacTablet</b>	Call
<b>ThunderWare Thunderscan</b>	175.00

## Accessories

<b>A.M. Products</b>	
3 1/2" Head Cleaning Kit	18.00
<b>AST RamStack Expandable Memory</b>	
for Mac XL:	
RamStack w/512K Ram Installed	625.00
RamStack w/1.5 or 2 MEG Installed	Call
<b>American Tourister Mac Carry Case</b>	69.00
<b>Apple Computer</b>	
Mac Numeric Keypad	85.00
Macintosh Carry Case	85.00
<b>Assimilation Process</b>	
Numeric Turbo	129.00
Mac Turbo Touch	79.00
Mac Port Adaptor	69.00

<b>MIDI Conductor</b>	75.00
Mac Epson Connection	75.00
Mac DaisyWheel Connection	79.00
Port Adaptor w/Epson Connection	Call
Port Adaptor w/DaisyWheel Connection	Call
<b>Creighton Development</b>	
ProPrint Software Only	39.00
ProPrint with Cable	54.00
ProPrint with AB/Switch & 2 Cables	139.00
<b>Curtis Manufacturing</b>	
Diamond-Surge Suppressor-SP1	30.00
Emerald-Surge Suppressor-SP2	36.00
Ruby-Surge Suppressor-SPF-2	54.00
Sapphire-Surge Suppressor-SPF-1	47.00
<b>Diversions, Inc.</b>	
Underware Ribbon	9.00
Underware Color Pens-Small	10.00
Underware Color Pens-Large	15.00
<b>Environmental Software Company</b>	
MacAttire: Available in Navy-Blue, Burgundy, or Silver-Gray	
External Drive or Keypad Cover	6.00
ImageWriter Cover	11.00
Wide ImageWriter Cover	13.00
Mac & Keyboard Cover	15.00
LaserWriter Cover	17.00
Mac XL & Keyboard Cover	20.00
<b>Ergotron MacTilt</b>	75.00
<b>Hanzon</b>	
Universal Data Buffer w/64 K	289.00
<b>Intermatrix MacPhone</b>	75.00
ComputerPhone w/Modem	249.00

<b>Innovative Concepts</b>	
Flip 'n' File/Micro	8.00
Flip 'n' File II/Micro	18.00
<b>Innovative Technology Pocket Pack</b>	9.00
The Easel	12.00
Compupag	55.00
<b>I/O Design</b>	
ImageWriter Carrying Case	44.00
Wide ImageWriter Carrying Case	55.00
Macintosh Carrying Case	54.00
<b>Kensington A/B Box</b>	60.00
Disk Case	19.00
Disk Drive Cleaning Kit	19.00
Dust Cover	8.50
Mouse Cleaning Kit w/Pocket	15.00
Polarizing Filter	31.00
Starter Pack	54.00
Surge Protector	34.00
Swivel	22.00
Tilt/Swivel	22.00
Control Center	60.00
Printer Stand	17.00
<b>Kette Group</b>	
MacNifty Joystick Converter	37.00
MacNifty Stereo Music System	61.00
MacNifty A/B Switch	27.00
MacNifty Keyboard	115.00
<b>Kraft QuickStick</b>	49.00
<b>Microsoft MacEnhancer</b>	159.00
<b>Mouse Systems A + Optical Mouse</b>	59.00
<b>Moustrak MousePad</b>	8.00

<b>MPH Computer Products</b>	
MAC-B-COOL	119.00
<b>Optimum Computer Luggage</b>	
Mac tote Mac Carry Case	65.00
<b>Ribbons Unlimited</b>	
Available in Black, Blue, Brown, Green, Orange, Purple, Red, Yellow, and Silver	
ImageWriter Ribbon — Black	4.50
ImageWriter Ribbon — Color	5.00
ImageWriter Rainbow Pack (6 Colors)	28.00
<b>Smith &amp; Bellows Hand Crafted Mahogany Disk Case: Holds up to 90 Diskettes</b>	19.00
<b>SRW</b>	
Microdex/25 Modular View File 3 1/2"	14.00
<b>Systems Control MacGuard</b>	56.00
<b>Video 7 Mouse Stick</b>	38.00

## Books

<b>Microsoft Press Inside MacPaint</b>	14.00
MacWork/MacPlay	14.00
Microsoft Macinations	14.00
Microsoft Multiplan: Of Mice & Menus	13.00
Presentation Graphics on The Apple Macintosh	14.00
The Apple Macintosh Book	14.00
The Printed Word	13.00

Apple is a trademark of Apple Computers, Inc. Macintosh is a trademark licensed to Apple Computer, Inc.

## ORDERING INSTRUCTIONS:

**VISA AND MASTERCARD ACCEPTED**  
For fast delivery send cashier's check, certified check or money order. Fortune 1000 & Government checks honored immediately — Personal and other company checks allow 3 weeks to clear. Mastercard & Visa include card # & expiration date. Connecticut residents add 7.5% sales tax. We ship same day for most orders.

**Shipping Charges: Software** — \$2.50 Minimum charge U.S. Mainland. With C.O.D. shipments add an additional \$1.90 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.  
**Note:** 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 15% restocking fee. All returns must have an authorization number. Call (203) 378-3662 to obtain one before returning defective products for replacement.

For items not listed just call:  
**Visit Our New Showroom:**  
**Exit 32 off I-95**

# PROGRAMS



Stationhouse Square 2505 Main Street • Stratford, Conn. 06497  
(203) 378-3662 • (203) 378-8293  
**Corporate and School Purchase Orders Accepted**  
Monday Friday 9-9 Saturday 10-9  
**ORDERS ONLY TOLL FREE**  
**1-800-832-3201**  
**MACINTOSH 128K/512K SYSTEMS . . . . . Call**



# Q U I C K

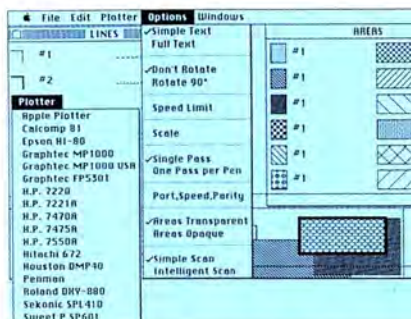
What's new, what's classic, what's happening in the world of the Macintosh? We'll try to keep you up to date with our monthly Quick Clicks.

## MACPLOT

List Price: \$162.00. MacPlot Professional version: \$325.00. 512K recommended. Published by Compserveco, 800 Freedom Lane, Slidell, LA 70458. (504) 649-0484.

IT WAS SO FRUSTRATING TO HAVE A PROGRAM like MacDraw produce wonders on a LaserWriter, the "status quo" symbol of the upper echelon Mac clique, and yet, give those of us with the "classic" ImageWriter the feared jagged edges. But there was a solution that had been around for a while, something that the Paint haze wouldn't let us see — Plotters.

MacPlot 1.7 lets a 512K Macintosh access over 16 of the most popular brands of A and B size (up to 11x17 inches) plotters currently on the market, including the Hewlett Packard 7470A and 7475A, the Houston Instrument DMP-40, Epson HI-80, Sweet P SP-601, Penman Robot Plotter, and others. MacPlot also works under MacWorks on the Macintosh



XL/Lisa. It is a professional level utility that can support levels of overlapping elements, solid area fills, a vast selection of cross hatch patterns, variable speeds, etc.

Drawings from object oriented programs such as MacDraw (and soon MacDraft, so MacUser was told) are brought into MacPlot through the Clipboard. The program automatically determines the line widths and fill patterns that are in the drawing, and displays them in two windows, where pen col-

ors and hatch pattern (diagonal stripes) are assigned. Lines can be selectively omitted, and there is a fine level of control over the angle and spacing of the hatch lines. Cross hatches may also be used. Macplot can print its own resident text font (standard plotter fare), or can print Mac fonts (slow, ImageWriter looks better here). Drawings may be scaled to a wide variety of ratios, rotated 90 degrees, and the program can be set to work in a "one pen per pass" mode that will allow you to output 30 different pen colors and nibs. Templates with pre-configured hatching and color assignments can be stored on disk, and the variable printing speed comes in handy for creating overhead projector acetates. A high-level version of the program, Macplot Professional, works with E size plotters (3x4 feet).

The only thing that this program really needs is a Switcher hook for a good drafting program, something that was specifically optimized to work with MacPlot in the background. Anyone out there want to take the bait? — DB

## STRATEGIC CONQUEST

List Price: \$59.95. Published by PBI Software, 1111 Triton Dr., Foster City, CA 04404

CAN YOU WREST CONTROL OF THE WORLD from your Mac? It's not as easy as you might think. While Strategic Conquest does give you the planes, men and materials to do so it also makes sure that the armies controlled by the Mac are just as capable.

The game is played out on a scrolling map-board that is 100 sectors wide by 60 tall. Only a portion of the map can be windowed at one time, but vertical and horizontal scroll bars make it easy to switch from one area to another. When the game begins, the map is *terra incognita*. Until the player begins exploring, the map is totally unseen except for the one sector that the player's home city is built upon. As each sector is explored the World Map grows and may be seen on a strategic overview map via a pull-down menu.

The first city produces one army right

away which may be marched via mouse commands into the surrounding blankness. As the army advances more and more terrain will become visible. Gradually, as more armies are formed up and marched, the lay of the land and many new, unconquered cities will be discovered.

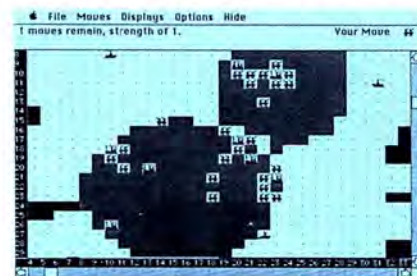
Once an unconquered city is found, it's up to the armies to move in and make the world safe for a Macintosh owner. Often at the expense of a few armies (cannon fodder in the RAM), cities finally fall to the conqueror and instantly begin producing new armies, ships and other weaponry for the obviously not very hated invader. So the first stage of the game is exploration, of mapping out the continent you find your first city upon and then finding new cities to conquer.

In the second stage, the opposing spheres of influence begin to expand from the two destined-to-be warring superpowers. Ships and planes cross the oceans to find new continents full of unconquered cities — or of enemy cities. While the player has spent the first stage of the game developing continental forces, the Macintosh has been going likewise on a different continent. Amphibious assaults occur at any time the player-run and the Mac-run armies

collide. Then it's war, and you may never feel like totally trusting your Mac again.

Strategic Conquest uses the Macintosh interface well. For example, it's possible to set up an automatic patrol route for a destroyer by clicking on each end of the proposed path of patrol.

One drawback to this game is true of many wargame simulations — the time it



takes to play. Stages one and two, exploration and conquest, can take hours. When stage three, war, is finally reached, that adds another few hours to the game. If you are familiar with the way such games eat up time, mouse up to the top of this review and add an extra rating mouse. — NLS



# C L I C K S

## MAC DISK CATALOG

List Price: \$39.95. Requires 128K. Printer and external drive recommended. Published by New Canaan MicroCode, 136 Beech Road, New Canaan, CT 06840. (203) 966-6969.

"WHERE IS IT? IT'S GOTTA BE ON THAT DISK." "No. No. No. it's that disk! Where are those other documents?"

Sound familiar? Does disk chaos rule your Mac? Can't afford to hire a software organization specialist to come and fix things up and put pretty labels on all the disks? Well, maybe, just maybe, there's hope on the horizon. The white knight's name is *Mac Disk Catalog* and it comes on a single 3.5-inch disk. *Mac Disk Catalog* efficiently catalogs disks, including all hard disks, and produces all sorts of reports: alphabetically by file name, sorted by volumes, by category, by type or creator or by date modified. And that's not all. It can also produce disk labels in several formats or 3 x 5 cards listing the contents of each disk.

Use is simplicity itself. The manual is very

good, but the program is intuitive enough to use without it. To create a catalog, a new file is opened and the disk in the logging drive is automatically ejected. Then the disks to be catalogued are inserted. The directory of each disk is added to the catalog file and the disk is ejected within a few seconds. Creating catalogs is both fast and painless.

Users have several options that can be selected before disks are catalogued. There is a choice of what items will actually be catalogued. Normally the default selection of applications and documents is best, but in some cases users may wish to list system files and/or hidden files. *Mac Disk Catalog* also groups files by generic categories. The categories of many (over 50) current Mac applications are already programmed in, and it's easy to assign any item to any category. The Statistics menu displays the status of the current catalog and what's in each category.

Updating a catalog is semiautomatic. Inserting a disk that has already been listed in the current catalog brings an Update Dialog to the screen. Clicking on the appropriate action completes the update.

This is a RAM-based program, so there are some file size restrictions. The entire catalog file must be in RAM when the program is run-



ning. The program's upper limits are 500 volumes and 1092 files per catalog. Those limits are really only practical on a 512K Mac, as 128K Macs will run out of memory before reaching either limit.

The printing functions work well with the ImageWriter, but printing on the LaserWriter is unacceptable due to slow speed and improper positioning of the material on the page. Users are restricted to the set reporting formats; some choices (of fonts, styles and sizes) would significantly improve the program.

*Mac Disk Catalog* does an excellent job of bringing order out of chaos. If you've been plagued by disk disorder, *Mac Disk Catalog* is a worthwhile acquisition.—SB

## THE HOUSEKEEPER

List Price: \$59.95. Requires 128K or 512K. Printer and external drive recommended. Published by Aegis Development, Inc., 2210 Wilshire Blvd., Suite 277, Santa Monica, CA 90403. (212) 306-0735.

THE BUTLER DID IT! NO, *THE HOUSEKEEPER* did. That's right, *The HouseKeeper* version 1.2, a neat inventory program that is true to the Mac's interface and characteristics, can help keep track of all valuable property.

*The HouseKeeper* keeps a tidy record of household items by recording cost, complete description, and serial number for each entry.

Features include pictorial icon categories such as Cars, Jewelry, Art, Tools, Recordings, Electrical, Clothing, Furniture, Household and Miscellaneous — these span the range of things that may be considered valuable enough to keep on record. On-screen help takes you through the menus and their features.



Up to three insurance companies can be stored on a specialized notepad. When the notepad selection is entered in the "insurance" data field, *The HouseKeeper* then automatically links this data to the record being developed.

Eleven fields on the top of the screen allow input and editing of important statistics for any given item. Below the fields, a scroll window displays items in any category clicked on, from which the user selects an item by clicking on it, and all relevant information pertaining to this item will appear in the eleven fields for editing.

*The HouseKeeper* includes a very practical feature that allows the user to mark with a

checkmark (the cursor turns into a pencil when positioned in front of the item on the left side) any item that should stand out from the rest for any number of reasons. Marked items can be viewed in the scroll window all at once, or viewed by category.

Find and Sort functions enhance the ease of use in finding any entry within a category.

A report menu allows the user to print reports. *The HouseKeeper* will print out a police report without the hassles of having to depend on rethinking where things are, what was stolen or damaged in a fire. *The HouseKeeper* is there with all the information needed, plus more by a click of the mouse, when the situation calls for it.

The user can keep separate data files for each property owned. *The HouseKeeper* even allows the user to develop charts of the proportion of value within each icon category. This allows the user to see, at a glance where the bulk of money is.

The concise and supportive manual recommends a backup disk to be kept in a secure place, so you can indeed have peace of mind in case of a disaster.

With *The HouseKeeper* as organized as this, who needs a butler?—DG

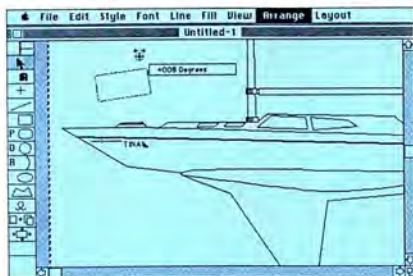


## MACDRAFT

**List Price: \$239.00. Requirements:** 512K Macintosh single disk drive, printer recommended. Innovative Data Design, Inc., 1975 Willow Pass Rd, Suite 8, Concord, CA 94520 (415) 680-6818.

FOR THOSE OF YOU SINGING THE PRAISES OF MacDraw, here's a new program that does things that MacDraw just can't do: MacDraft.

MacDraft allows up to four document windows open concurrently, with full cut and paste capabilities between the documents. Objects can be drawn to scale, and if you copy an object between two windows with different scales, it will be resized to conform to the scale of the receiving window. Up to 16 different scales are available, with the scale of a document changeable at any point during a work session. A show size command interactively displays the size (to within 1/100 of an inch), to scale, of any element that can



be drawn, and also the angle of displacement from the horizontal plane (for lines). Objects can also be rotated in 1 degree increments, and the degree of rotation is displayed interactively (updates itself as the rotation occurs). Architects and mechanical engineers, take note: MacDraft will also generate dimension lines (used to indicate the size of a plane).

MacDraft generates flexible arcs that can be defined by entering three axis points or by

specifying a radius. Circles can be generated from arcs, and vice versa. The familiar resizing handles of an element can be split in two, if you need a handle where there is none.

Unlike the fixed restraint grid in MacDraw, MacDraft allows variable grid sizing, and the grid can temporarily be disabled by pressing the command key. Very convenient, indeed. The program's most interesting capability is that you can zoom so close that the screen will go into FatBits. Drawing in FatBits in an object oriented program is a dream come true!

So is this program perfect? Not quite. In testing MacDraft, we discovered that the program was not fully optimized for the LaserWriter. Rotated objects don't quite print as expected, probably due to the complexity of interfacing QuickDraw to PostScript, the LaserWriter's resident language. Grouped objects can't be stretched. Serious problem. MacDraft also can't open MacDraw documents, which is inconvenient. This is a good program that needs a bit more work. —DB

## STARTING A NEW BUSINESS

**List Price: \$59.95. Requires 128K.** Intellectual Software, 5 Chapel Hill Drive, Fairfield, CT 06432. (800)-232-2224.

ANYONE WHO'S EVER FANTASIZED ABOUT throwing off the corporate shackles and making it big on their own will find this tutorial, written in the form of a short game, both enlightening and entertaining. *Starting A New Business* guides novice entrepreneurs through the various stages of setting up a venture in retailing (computers, of course!), manufacturing (Teddy Bears), and services (as in "dating services," in this case).

With each new screen, the computer presents a problem, then asks players to

choose the most likely answer from a choice of three. Either click on the button or press the appropriate keyboard number and earn immediate feedback about your decision. Results could be anything from a 100-point bonus to the loss of your entire business through a foolish decision. Of course, it's better to learn hard lessons on a computer than when you're actually using cold cash!

The game is extremely easy to play, and it can be mastered in a single long, hard session. While it doesn't offer a whole lot of replay value (there's only one sure route to success in any of the three businesses), it does offer at least a glimpse into what your chosen business might mean in terms of time, money, research and unknown variables. Users also discover the names of organizations and publications that can help budding business people in those first hard



months. For that alone, it's worth a look.

*Starting A New Business'* strongest point is in its educational value for young and old alike. Although it's too short to qualify as a bona fide game, and doesn't offer enough hard facts to qualify as a real tutorial, it offers a first-hand look at the hard facts of business, from a first-timer's viewpoint. —TFH

## FRONT DESK

**List Price: \$149.95. Requires 128K.** Printer and second disk drive recommended. Published by Layered, Inc., 85 Merrimac St., Boston, MA 02114. (617) 423-9041.

PROGRAM NAMES SOMETIMES ACCURATELY describe their programs and sometimes, well, what does Jazz imply to you? *Front Desk* is a particularly accurate and descriptive name for this scheduling and record keeping program.

*Front Desk* was designed to handle the scheduling needs of the small professional office. It can handle up to 15 people, places or things. A single consultant could use it to track clients or a small group medical or law office could use it to schedule people and/or treatment and consultation rooms. While designed primarily for professional offices,

For All Staff		Neil Shapiro		D. Layered, Inc. 1984	
1	2	3	4	5	6
Closed		Steven Bobker			
7	8	Felia Dennis			
Closed		Mike Wesley			
9	10	Tracie Forman Hines			
Closed		Danley Genovese			
11	12	Willie			
Closed		Lisa Ursini			
13	14	Steven Rosenfield			
Closed		Christine Pines			
15	16	Mindy Roland			
Closed		Randi Kantor			
17	18	Richard Herbst			
Closed		David Bieding			
19	20	Quiet Room			
Closed					
21	22				
Closed					
23	24				
Closed					
25	26				
Closed					
27	28				
Closed					
29	30				
Closed					

*Front Desk* can also be used in other situations to schedule fixed, billable resources. For example, a tennis club could both schedule its courts and keep track of income using this program.

The *Front Desk* manual should be studied by all Mac documentation writers. It's clear and describes the program in sufficient detail without bogging the reader down in masses of unnecessary verbiage. *Front Desk* is com-

plex enough that the manual should be read before setting up the program. The first and most important step in using *Front Desk* is setting up. There are three basic steps. First, the calendar is created, then the resources are defined, and finally services are defined and valued.

Calendar creation is straightforward. Users select the time period each screen will cover, how many past time units will be retained and who or what will be covered by each screen. The program works in 12-month periods, but allows multiple files.

After the calendar is created, the resources and services are defined. Services are assigned billing rates (either hourly, flat or no charge).

Any value — calendar, resource or service — can be changed at any time. If the boss decides to close the office for two extra days, the calendar can be easily changed. And if someone resigns, that person is simply deleted from the resource listing.



Please circle 71 on reader service card.



# Q U I C K C L I C K S

Once the program is set up, use is intuitive. For example, double-clicking on a calendar date displays a detailed schedule for that day. Scroll boxes let users freely move over the calendar's time span. This portion of the program is particularly well designed.

There is a Search function, which is unfortunately somewhat restricted. It only works on the Name field, and while the whole name does not have to be entered, the beginning of the field must be. For example, users can search for Jones by entering "Jon," but not "nes."

*Front Desk* has powerful report generation abilities that go far beyond merely printing out schedules. The appointment analysis report can be a valuable tool for determining who or what is profitable, and, equally, who or what isn't producing.

*Front Desk* has only a few drawbacks. When used in a busy office, it almost requires its own Mac to be used most efficiently. It should be running most of the time. The ideal way to use this program is with *Switcher* and a hard disk, so it is always available. Consultants who use it to track clients may find it

more useful.

Due to the graphic nature of its reports, it doesn't support the LaserWriter very well. And its user agreement restricts it to one machine. That might not be acceptable in an office where the scheduling chores are split among several machines. A one-owner, multimachine agreement would seem better.

*Front Desk* is a very good program for many small offices, but users should carefully evaluate their own situations to be sure its restrictions will work well in their environment. —SB

## FONTASTIC

List Price: \$49.95. Requires 128K, 512K recommended for large fonts. Published by Altsys Corp., PO Box 865410, Plano, TX 75086. (214) 596-5970.

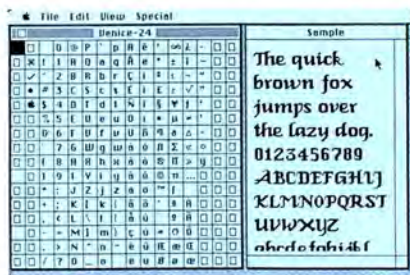
"IT WAS REALLY SAD. IT REALLY WAS. Terminal fontitis."

"How many fonts did she have?"

"Well over 100—and she couldn't find that surface integral symbol on any of 'em."

This tragedy never has to happen again. *Fontastic* is an easy to use, efficient font creator and modifier. It puts all the necessary tools at the user's beck and call. No longer do users have to suffer the trauma of font editing with *Font Mover* or *Resource Editor*.

When *Fontastic* is launched a font selection window appears. This window is the gateway to the program's editing features, and an excellent font mover. Fonts can be copied to other files, to new files created just to hold them or removed. All disk drives can be accessed. And font ID numbers can be changed



right here if there are any conflicts with existing font ID numbers.

Any selected font (except the copy of Chicago 12 on the startup disk) can be edited. Editing begins with another window that shows all the characters in the font in a grid arrangement. The right side of the window displays user definable sample text in the actual size and style of the selected font. The grid can also display the selected font, but it should generally be left in its default Chicago.

Individual characters are modified in yet another window. Once a letter is selected for editing on the grid, a large FatBits-like window appears. The pixel level editing uses familiar

tools, and the excellent manual explains the necessary typographic details so that users can intelligently edit characters.

Creating fonts, always a tedious business, is nevertheless straightforward. The best way to create a new font is to start with an existing font as a base and modify every character. Then Save As and store the font in a New file.

Entire fonts can be styled and scaled. Among the styling options are Expand (which adds to the width of each character), Condense (which narrows each character) and Invert (which changes black to white and vice versa). Horizontal and vertical scaling can occur independently. Scaling provides an easy way to create the double-size font necessary for high-quality printing on the ImageWriter.

*Fontastic* has some minor drawbacks. Even moderately large fonts will be too big to work with on a 128K Mac. And the font files created (even on a megaMac) are limited to 32K. That's not enough for most fonts over 24 points.

Overall, this program rises far above the other tools available for font editing and creation, and is a must in the library of any user who uses many fonts. —SB

## STATVIEW

List price: \$199.95. Requires 128K and external drive or hard disk. 512K (or more) and printer recommended. Published by BrainPower, Inc., 24009 Ventura Blvd., Calabasas, CA 91302. (818) 884-6911.

*STATVIEW* ANSWERS THE PRAYERS OF ALL THOSE who need to produce intelligent statistical analyses but find producing statistical analyses as exciting as watching grass grow on the front lawn. This program will do all of the most common analyses and produce both graphic and text reports. It's advanced enough to support the needs of everyday statistics users, but simple enough for first-time statisticians to be able to get useful results.

The program comes with a very good manual and a copy of the college level *Statistics for the Social Sciences* by Dr. Vicki Sharp. The manual is well written and packed with detailed examples. It also defines the product's limits clearly and openly.

*StatView* is essentially a superspecialized

spreadsheet with strong charting capabilities. The program has many built-in statistical and formatting functions and works in a very intuitive manner. *Multiplan* and *OverView* users will feel at home in no time at all.

Users have quick access to all normal statistics such as means, standard deviations, variances, medians, modes, frequency distributions and coefficients of kurtosis and skew. Comparative statistics are the result of a bewildering variety of techniques and tests. Most are already programmed in, and, if the user needs a technique or test not present, its formula can be entered in a special area.

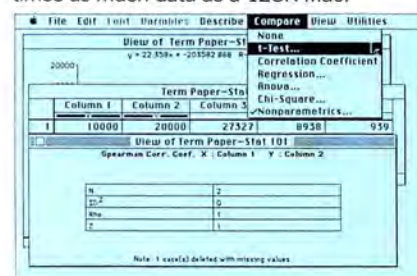
Results can be viewed in text form or in any of several charting formats, including pie, bar and line charts and scattergrams. Charting and printing are both surprisingly quick.

Data can be imported from and exported to most popular spreadsheets and word processing programs. The necessary formatting instructions are models of clarity. Data can also be massaged to present the most attractive appearance.

The program is very large, so large that it will not fit on a disk with the regular Finder. Instead, a MiniFinder is provided. This can be disconcerting to users who have not used

MiniFinders before or who have not read the manual before trying the program. BrainPower could have provided a System on a separate disk a la *Jazz* and *Excel*.

While the program works on a 128K Mac, it is severely limited in the amount of data it can handle. A 512K Mac can handle roughly 17 times as much data as a 128K Mac.



BrainPower has promised an enhanced version of *StatView* (that will only work on 512K and larger Macs) in early 1986. That should really be something, since the current version is as powerful as many much larger packages, and much easier to use. If your work involves statistics in any shape, take a good look at *StatView*. —SB



# Set of Knives

## Mac the Knife

Yes indeed. A set of Mac the Knife Clip-Art and Font Volumes. One for most every application.

If you're the type that makes up a lot of forms or newsletters on the Macintosh, you've probably noticed that they could use some illustrations or something to make things look better. That's where Mac the Knife, Volume I: A Clip Art Treasury comes in. This best-selling program has literally hundreds of images to



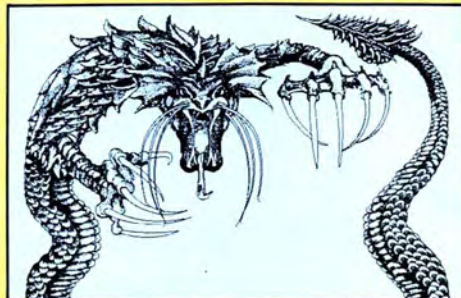
choose from – great for presentations, business graphics, ads, coupons, flyers or just plain fun.

If you do a lot of word processing on your Mac, you've probably noticed that although the Mac has a lot of typefaces, you really don't have the flexibility someone with expensive real typesetting equipment has. That's where Mac the Knife, Volume II: World-Class Fonts comes in. Two dozen fonts in all kinds of



styles and sizes – from decorative display typefaces to practical text fonts – come with concise documentation to get the fonts to where they can do you some good.

And finally, if you use your Mac in any one of a number of creative ways, you've probably noticed that if you can't draw, trying to bring life to your ideas in MacPaint can be frustrating. Yes, that's



where Mac the Knife, Volume III: Mac the Ripper slashes in. This specially-priced two-disk set has the kind of imagery you've always wanted to see. Large and small drawings and useful illustrations, including many for almost any conceivable occasion from Hanukkah to Christmas to birthdays to Chinese New Year are drawn in magnificent detail. Included are a number of specialty headline fonts so you can do BIG LETTERS. Once you see it, you know why we call it...



From



Miles ahead of the pack.

**Miles Computing, Inc.**

21018 Osborne Street, Bldg. #5  
Canoga Park, CA 91304 • (818) 341-1411

Telex 595863, MILES COMP

TWX 9103337664

**Makers  
of**

**HARRIER  
STRIKE  
MISSION**

**MAC  
ATTACK**

Mac the Knife, Volume I: A Clip-Art Treasury, Mac the Knife, Volume II: World-Class Fonts, Mac the Knife, Volume III: Mac the Ripper, Miles Computing and the Miles Computing logo are registered trademarks of Miles Computing, Inc. MacPaint is a trademark of Apple Computer, Inc. Macintosh is a trademark licensed to Apple Computer, Inc.

Please circle 89 on reader service card.







# THE MACRO MAKER

YOU'VE GOT *EXCEL*. THE SPEED IS impressive, the power of the worksheet is stunning, and the macro building power is astonishing. The tape recorder method of macro building makes macro creation easy—unlike anything you've ever seen before.

Macros are great and they can automate a lot of small simple repetitive tasks, but if that's all you use them for you're missing out on a significant part of *Excel's* power. Macros can do far more for you. You can build macros that perform very complex analyses which can then be called as often as needed, changing the arguments as required. No longer are complex financial analyses time consuming. Now the power of what-if

analyses are as near as a few keystrokes away. And if the list of functions doesn't contain everything you need, then you can macro that function in. Here's how.

## Macroing Investment Analysis

*Excel's* macro power can create valuable assistants for investors. Profitable decisions are just a macro away.

As an example, let's look at the field of options. Investors often need to determine the proper price of a stock option. This analysis isn't hard, but it can be tedious if all the steps must be remembered and entered each time the analysis is run. The better way is to

## New Uses for Excel

BY RICHARD REICH



# MACRO MAKER—NEW USES FOR EXCEL

called at will. The first step is to research the techniques to be used. No program, not even one as powerful as this one, can tell users how to perform complex financial analyses.

## Stock Options in Brief

An option is a right to buy or sell a share of a certain stock at a stated price at any time until a definite expiration date. The holder of an option may choose to exercise the option, that is, to buy (or sell if it was a put; buy options are also known as calls) the underlying stock, but there is no obligation to do so. The price at which the option holder may purchase the share is called the *exercise price*. The vast majority of stock options are uniform contracts traded under prescribed rules on exchanges such as the Chicago Board Options Exchange (CBOE).

Particular options are identified by the underlying stock, the exercise price and the expiration date. (The expiration date is conventionally stated as a certain month, e.g., October. This is actually precise because exchange-traded options always expire on the Saturday following the third Friday of the expiration month. Also, the maximum lifetime of such options is 9 months, so the year of expiration is always apparent.)

The appeal of options to speculators is simple: Imagine that Apple Computer, Inc. shares are selling for 14½ and Apple January 20's (that is, options to buy Apple at \$20 per share until the third Saturday of next January) are selling for ⅞. Suppose further that we believe Apple is due for a major market resurgence. You buy a hundred shares of Apple at 14½ for a total investment of \$1450 (commissions will add to that but will be ignored here for the sake of simplicity). I buy options on one thousand shares of Apple at ⅞ for a total investment of \$1250.

Assume we are right and Apple rises to 23 by mid-December. Your investment has appreciated to \$2300 — a very fine return. Consider the market value of my options: Each option grants me the right to buy a \$23 share for only \$20; thus it is worth at least three dollars, or \$3000 in all. Your handsome rate of return (over the holding period of the investment) is

about 60% but mine is at least 140%!

The price of this magic is that if Apple rises slowly to 19 by mid-January, you still have a nice profit while I lose my entire investment of \$1250 as my options expire, worthless. (Although that wouldn't actually happen. I would probably sell my options before they expire, settling for a loss or a relatively small profit.) The right to buy a \$19 share for \$20 is worth nothing if there is no time left for the stock price to rise.

Other option strategies are available, including many with very low risk characteristics. In every instance, however, a good tool for determining the "fair price" of an option is useful to the investor.

## The Black-Scholes Model

The Black-Scholes option valuation model, named for its two creators, is the best known tool for calculating the "fair price" of an option. In fairly simple terms, the Black-Scholes model determines the "fair price" of an option as a function of five variables: (1) the current share price of the underlying stock, (2) the exercise price of the option, (3) the time remaining until

expiration, (4) the prevalent interest rate of money borrowed for a period approximating the time to expiration and (5) the volatility of the underlying stock price.

Values for all but the last of these variables are readily observable. A stock's volatility is a statistical measure of the degree to which its price varies. Complex, but successful, techniques exist for estimating volatility.

The Black-Scholes formula states that the price of an option,  $C$ , is:

$$C = SN(d_1) - Ee^{-rT}N(d_2)$$

with

$$d_1 = (\ln(S/E) + (r + v^2/2)T) / v\sqrt{T}$$

$$d_2 = d_1 - v\sqrt{T}$$

where

$N(\dots)$  = the cumulative normal distribution function

$e$  = the base of the natural logarithms (2.7183...)

$\ln(\dots)$  = the natural logarithm

$S$  = current stock price

$E$  = exercise price of the option

$T$  = time until expiration

$R$  = interest rate

$v$  = volatility (i.e., the standard deviation of the stock's price movement)

Building an *Excel* function macro to calculate this function requires that a good approximation of the cumulative normal distribution function be con-

**Fig.1:**This function macro generates a polynomial approximation of the normal distribution. It is a separate macro that will be called by the main Black-Scholes macro. It, in turn, could call yet other macros.

A	
1	Normal
2	=ARGUMENT("Z",1)
3	=1/(1+(0.2316419*ABS(Z)))
4	=A3*A3
5	=A4*A3
6	=A5*A3
7	=A6*A3
8	=0.31938153*A3
9	=-0.356563782*A4
10	=1.781477937*A5
11	=-1.821255978*A6
12	=1.330274429*A7
13	=EXP(-(Z*Z)/2)/2.5066232746
14	=A13*SUM(A8:A12)
15	=RETURN(IF(Z<=0,A14,1-A14))
16	Adapted from D. B. Nickell, "Forecasting on Your Microcomputer"

**Fig.2:**This macro uses the Black-Scholes model to predict fair prices for options. It calls the macro of Figure 1 in line 11.

A	
1	BlackScholes
2	=RESULT(1)
3	=ARGUMENT("Stock",1)
4	=ARGUMENT("Exercise",1)
5	=ARGUMENT("Time",1)
6	=ARGUMENT("Interest",1)
7	=ARGUMENT("Volatility",1)
8	=SQRT(Time)
9	=(LN(Stock/Exercise)+(Interest+(Volatility*Volatility/2))*Time)/(Volatility*A8)
10	=A9-(Volatility*A8)
11	=Stock*Normal(A9)-Exercise*EXP(-Interest*Time)*Normal(A10)
12	=RETURN(A11)
13	Adapted from R. M. Bookstaber, "Option Pricing and Strategies Investing"



# Front Desk. The better way to manage your most precious natural resource.

Front Desk™ is a time and resource manager for Macintosh™ that understands a simple fact.

Time is money.

It'll help you coordinate the time use of lots of people. Or schedule facilities. Or loan out equipment. Or plan projects. Or track a sales staff's sales. Or whatever. For a major company. Or a one-man-show.

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

When you click open the simple appointment entry

form and select

the service that's

going to be performed (from a menu

that you create),

Front Desk automatically calculates the proper fee or rate. Then at any time you can print out an analysis report for last month showing how many hours

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

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

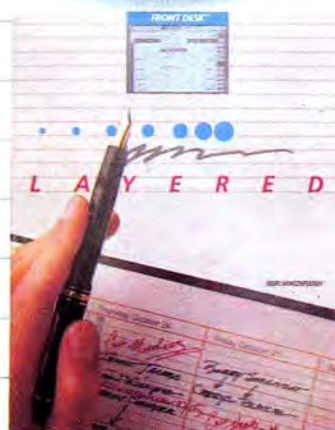
So dash down to your local computer store today for a look at Front Desk. And buy yourself some valuable time.



Front Desk lets you zoom from one person's calendar to the next. Or zip from a monthly view to a weekly view to a single day view. For one person or everyone.



Front Desk creates reports analyzing time use in terms of hours spent—and dollars generated—per person, per service.



**LAYERED**  
JOBWARE FOR MACINTOSH.

Layered Incorporated, 85 Merrimac Street, Boston, MA 02114 (617) 423-9041

Front Desk™ Layered™ and the Layered logo are trademarks of Layered, Inc. Macintosh is a trademark licensed to Apple Computer, Inc. © 1985 Layered, Inc.

Please circle 56 on reader service card.



# MACRO MAKER—NEW USES FOR EXCEL

structed. All the other functions used in the formula are standard in *Excel*.

## The Normal Function

Since the normal distribution function is likely to be useful in other macros, it should be written as a separate function macro that the Black-Scholes macro can call as needed. Figure 1 shows a polynomial approximation that is fairly accurate for argument values between -3 and 3.

## The Black-Scholes Function

With the normal function macro ready, the Black-Scholes formula can be directly transcribed as an *Excel* function macro (see Figure 2).

## ExpirationDate Function

The Black-Scholes formula needs the exact time remaining until expiration of the option being valued. Recall that the expiration date of an option is usually quoted as just the month it expires (and that options expire on the Saturday following the third Friday of that month). It would be useful to have a function that determines the expiration date from the name of the expiration month. With *Excel's* date arithmetic capabilities, the time (in days) until expiration can then be computed simply by subtracting today's date from the expiration date. The function needed, **ExpirationDate**, is shown in Figure 3. It takes two arguments: a text string representing the expiration month (e.g., "Oct") and the *Excel* date representation (a number) of today's date. The second argument is needed to establish the year of expiration.

**ExpirationDate** works by first assuming that the expiration month occurs in the same year as the date furnished as the second argument. It computes the date of the first day of the expiration month using *Excel's* ability to convert a text date to its numerical representation. The built-in **WEEKDAY()** function and a little modular arithmetic rapidly yields the expiration date — almost. The last step is to see if the assumption that the ex-

Fig.3: This macro computes the exact amount of time until a given option expires. This information is required by the macro in Figure 2 when it computes the Black-Scholes formula. Expiration Date is called as an argument in the worksheet in Figure 5.

	C
1	ExpirationDate
2	=RESULT(1)
3	=ARGUMENT("ExpirationMonth",2)
4	=ARGUMENT("Today",1)
5	=SET_NAME("Year",YEAR(Today))
6	TryNextYear
7	=VALUE("1-"&ExpirationMonth&TEXT(Year,"-0"))
8	=WEEKDAY(C7)
9	=C7+MOD(5-C8,7)+16
10	=IF(C9-Today>0,RETURN(C9))
11	=SET_NAME("Year",Year+1)
12	=GOTO(TryNextYear)

Fig.4: A simple worksheet that uses the macros created here to evaluate the fair price of an option.

	A	B
1	Black-Scholes Stock Option Evaluator	
2		
3	Evaluation Date:	3 Sep 85
4	Issue:	Lotus
5		
6	Current Price:	20.5
7	Expiration Month:	Oct
8	Exercise Price:	25
9	Interest Rate:	9%
10	Volatility:	0.87
11		
12	Call Price:	\$1.15
13	Expires:	19 Oct 85

Fig.5: These two formulas are all that are necessary to generate the worksheet shown in Figure 4. Line 13 calls the macro for Figure 3, while line 12 calls the main formula (Figure 2).

	B
12	=BlackScholes!BlackScholes(B6,B8,(B13-INT(B3))/365,B9,B10)
13	=BlackScholes!ExpirationDate(B7,B3)

Fig.6: *Excel's* fancy formatting features allow worksheets to be dressed up. This is the same worksheet shown in Figure 4.

	A	B
1	Black-Scholes Stock Option Evaluator	
2		
3	Evaluation Date:	3 Sep 85
4	Issue:	Lotus
5		
6	Current Price:	20.5
7	Expiration Month:	Oct
8	Exercise Price:	25
9	Interest Rate:	9%
10	Volatility:	0.87
11		
12	Call Price:	\$1.15
13	Expires:	19 Oct 85

piration is in the current year was wrong. If so, **ExpirationDate** just loops back and recomputes the date using the next year.

## Small Worksheets with Big Power

Figure 4 portrays a very simple worksheet that uses the macros just described to evaluate the fair price of an option. It has only two formulas (Figure 5); the rest is data input, fancy formatting and labels. With *Excel's*

Table facility it is quite simple (and very quick) to perform various sensitivity analyses on this or other options. Further, graphic renditions of the results can be generated in moments. The results are shown in Figure 6.

## Adding Custom Functions

Spreadsheet users always need more functions. The work, any work, would have been much simpler if only a need-

(continued on page 109)



# \*First of the second generation hard disk drives for Macintosh.

**You need a Macbottom™ hard disk drive to enhance the power and speed of your Macintosh.**

Macbottom with ten plus megabytes of storage is the fastest external disk you can attach to your Macintosh. And more data storage no longer means sacrificing desk space. Macbottom is the only high capacity hard disk drive system that's two inches high and fits perfectly under your Macintosh. Since it weighs less than five pounds you can take it everywhere you take Mac. Macbottom and your Macintosh are a perfect match.

**Macbottom . . . designed by Mac Users . . . for Mac Users!**

- Built-in power fail detection protects valuable disk data.
- Automatic turnon feature requires no extra switches.
- Connects to either modem or printer port.
- Variable size volume allocation utilizes all available space efficiently.
- Backup program makes backup foolproof and fast!
- Printer spooler frees the Macintosh™ for more work.
- Works with 128k or 512k Macintosh.
- Warranted for six months—parts and labor.



**P**ersonal  
**C**omputer  
**P**eripherals  
**C**orporation

6204 Benjamin Road Tampa, FL 33614

1-800-MACBUTT (813) 884-3092

Please circle 50 on reader service card.



Macintosh is a trademark licensed to Apple Computer, Inc.





# CORRALLING YOUR DESK ACCESSORIES

*Lots of companies want  
to help you straighten  
out your desktop.  
Here's an in-depth look  
at three new and  
exciting products.*



**BY SHARON ZARDETTO AKER  
AND STEVEN BOBKER**



#### MAC USERS ARE NEAT PEOPLE.

We know that John Dvorak might not think so (see the November *MacUser*, page 156), but even Mac programmers and developers are neat people. In fact, the Mac is a neat machine, and a well-organized one, by design.

Why else would the very first option on the Special menu be "Clean Up"? Why else would the desk accessory concept be seen first on the Mac? And why else would there be such a proliferation of desk management and organization tools available?

In this roundup we will examine three packages that take a modular approach to desk organization. This approach has proven very popular, not only among Mac users, but with all PC users. The tools in these packages can be used as standalone applications or desk accessories. And they can be used in combination, although the total disk space requirements may require a hard disk.

All the packages come with their own installers and all the tools can be installed into the Apple menu without much difficulty. In fact, we were able to create a System file that contained all the desk accessories on all three products! The installers were all intelligent enough to note and resolve (correctly) conflicts in the driver ID numbers. The resulting System works, but is rather big; in fact, *nothing* else fits on the disk. But that's not the best way to use these wonderful productivity aids. The rest of this article will help you select and use the package that is best for you.

## BatteryPak

Batteries Included recently jumped on the desk accessory bandwagon; and, to mix a metaphor, it seems to have landed near the top of the heap. The seven accessories in *BatteryPak* are generally well-designed and useful additions to the Apple menu.

The "Phone Pad" bears only a superficial resemblance to the original "Note Pad." Its versatility begins with a 250-page capacity. You won't be afflicted with Clicker's Cramp when you flip through the pad,

either: you can go forward or back a page with Command-period and Command-comma, or use the Go To Page command to skip right to a desired section. You can even toggle on a feature that will automatically open the "Phone Pad" to the page it was on when you put it away.

What makes the "Phone Pad" really special, though, is that it has a Find option that will search for any text in it; in effect, you have a freeform database. So if you jot down a few thoughts regarding next Monday's meeting as they occur to you during the day, they'll be easy to find just by typing in any word contained in the notes. "Phone Pad" also features an autodial capability that will dial a number in either tone or pulse mode on any Hayes-compatible modem.

The "Calendar" is a good blend of simplicity and usefulness. The chosen

**BatteryPak's RPN Calculator is a scaled-down version of this complete Scientific Calculator. Both calculators can be operated entirely from the keyboard as well as by mouse clicks.**



month appears at the left of the "Calendar" window, while to its right is a Notes area linked to the selected day on the calendar; any day that has notes linked to it has a checkmark next to it. A single click will change the day, month or year on the calendar. There is a search option in the "Calendar" that lets you find any text in the notes.

If you do a lot of draft-quality printouts, the "File Printer" will be a blessing: it lets you print any text-only file and keep using your Mac while the printing goes on. This accessory does not work with a LaserWriter.

*BatteryPak* includes two new calculators; both use RPN (reverse Polish notation). One is a Hewlett-Packard workalike with all sorts of nifty scientific operators, while the other is a scaled-down version that takes up about 4K less on your disk.

The "Launcher" lets you move from one application to another without returning to the desktop. You have the option of changing applications without changing systems — this is useful if a second application is on a start-up disk with its own System file, but you want your current desk accessories and/or font choices to remain the same. "Launcher" also has a "Goodnight" button that shuts down your system, ejecting both of the disks and resetting Mac.

One of *BatteryPak*'s most useful accessories is "Disk Tools"; it is also the only one with an obvious flaw. "Disk Tools" gives you four main options: Delete, Copy, File Info, and Disk Info. The last two are similar to the Get Info function of the *Finder*, supplying you with creation and modification dates, and size; you can also lock and unlock files and disks. The Delete

function, an operation surprisingly absent from most Mac applications, lets you erase documents from any available disk. With the Copy function, you can copy any file from one disk to another; Mac politely informs you just how many disk swaps (if any) are needed to complete the operation.

The "Disk Tools" flaw is annoying rather than fatal: there are too many steps involved in going from one option to another. Instead of getting Disk Info with a list of files that could then be chosen for copy or deletion, each of those operations involves a separate menu selection. You can't select multiple files to copy or delete, either. The "Disk Tools" are worth a few extra mouse clicks, but improvement in this area should be at the top of the upgrade list.

*BatteryPak*'s documentation notes that installing "DiskTools" causes



# CORRALLING YOUR DESK ACCESSORIES

problems with *ThinkTank 512*, *MacDraw*, and *MacPaint*; the latter two have minor problems, but *ThinkTank* may crash. (*MacPaint* has trouble with "Launcher" and *MacTerminal* may crash with the "RPN Calculator.")

*BatteryPak* comes with its own *Mover* utility for installing and removing accessories; this neat utility also lets you try out an accessory before you go to the time and trouble of installing it. *BatteryPak*'s manual is excellent; it describes how to use each accessory, gives hints for making the most of them, and even takes you through the wonderful world of RPN calculations step by step.

You won't have room for all these accessories on any application disk, but you probably won't want all of them, anyway. You shouldn't have any trouble installing two or three of your favorites in most systems. Even if you limit your use to just a few of *Bat-*

*teryPak*'s accessories, you'll get your money's worth.

## QuickSet

*QuickSet* is a desk management package with five major functions. You can use any of its modules as standalone applications, or you install any combination of them as "sort of" desk accessories in any System.

"Sort of" desk accessories simply means that the modules do not appear as individual desk accessories, but the words *QuickSet* do appear in the Apple menu. When you select them you are presented with a stylized picture of an office with a desk in it. Clicking on the various objects on the walls and desktop brings that accessory into use, although the clock and the pile of disks are misleading. Clicking on them does nothing at all,

while clicking on the telephone opens the cardex. There is no phone dialing capability, although one is promised for version 2.0, along with a print spooler.

The picture is rather cute the first few times you see it, but becomes tiresome quickly. It is not particularly well executed artwork either; a little perspective would help immensely. It also takes up a lot of disk space (over 10K), since its use requires that a file called "The Desk" be on each disk. The space could be better used to store the rather large modules and the time that is spent going first to the picture and then to the module is simply wasted time.

The modules themselves are good, although they lack the consistent feel that *BatteryPak* and *Sidekick*'s modules have. That's undoubtedly because *QuickSet* is a collection of programs by different authors, while the other packages were essentially each written by one person.

The best and most useful package is an icon-driven calendar. This calendar is really different than all the others. You can and should select from the 14 icons provided to indicate activities on the monthly calendar. The icons are not there just to make things pretty. While they make good visual signposts they are also the key to the calendar's search function.

The detailed daily schedules, accessed by double-clicking on a day in the monthly calendar, are also icon-driven. Selecting a time period and clicking on an icon marks that time period for an activity of that category and leaves space for details.

The calendar uses special data files, and you can have multiple data files. Thus several people can each have their own calendar. If multiple data files exist the program will ask which file is wanted when you open the program.

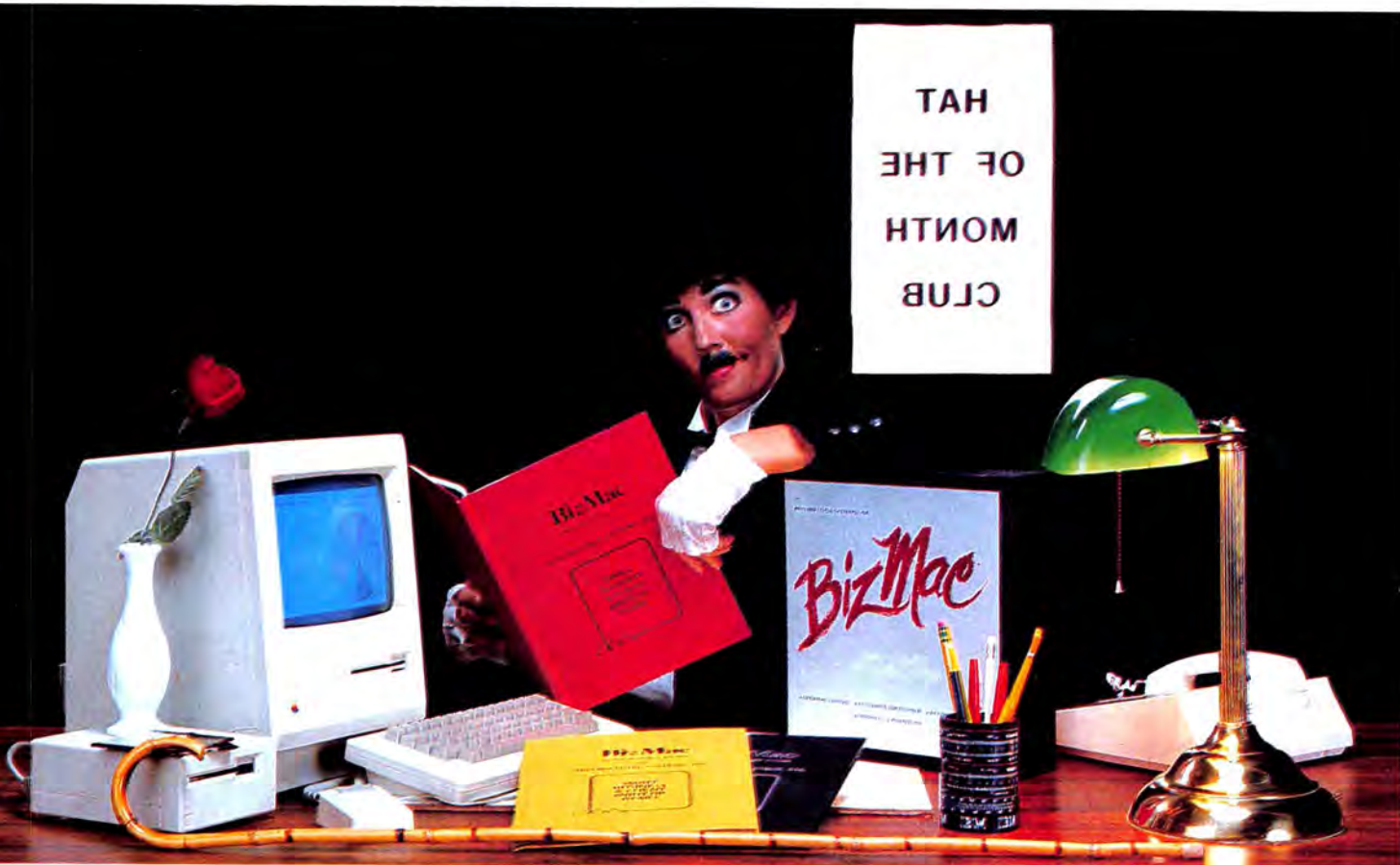
That brings us to the next module, the file encryptor. This neat little program asks you for the name of a file and then a password. When you complete those steps a new file that is safe from prying eyes is returned. To use that file, you must first use this same program to decrypt the file and to do that you must know the password. Thus each person using the computer

*BatteryPak*'s Phone Pad is a freeform database thanks to its Find option. It has 250 pages, and can even dial a modem for you.

A click in the *BatteryPak* Calendar will change the day, month or year you're looking at. (You can go forward or back as many years as you want.) The days that are checked in the calendar have notes attached to them.



**If you thought all small business accounting software was made only for IBM, think again...**



# BizMac™

**The small business integrated accounting system for the Macintosh®**

BizMac Contains:

- **GENERAL LEDGER**
- **INVENTORY**
- **ACCOUNTS RECEIVABLE**
- **ACCOUNTS PAYABLE**
- **TWO PAYROLL VERSIONS!!**

*Every small business needs a competitive edge in today's marketplace; for yours contact your local Apple dealer... or for more information:*

BizMac Features:

1. **Specifically designed for the Macintosh®**
2. **Links all financial parts of your company**
3. **System integration allows automatic updating**
4. **Built-in Pie & Bar charts**
5. **Historical data at your fingertips**
6. **Unlimited file size**
7. **Runs on all Mac computers & many other hard disk drives**

## **APPLIED LOGIC SYSTEMS, INC.**

2614 North 29th Avenue

Phoenix, Arizona 85009

(602) 272-9355

**BizMac™ products are distributed by SOFTWARE PRODUCTS CORPORATION**

418 East Southern Tempe, Arizona 85282 (602) 829-6800

**COMING SOON! — A COMPREHENSIVE REAL ESTATE INVESTMENT PACKAGE and MMP the MAC MATHEMATICAL PACKAGE (a complete mathematical library designed for use by both professionals and students.)**

**APPLIED LOGIC SYSTEMS, INC. invites accounting professionals to write for information on our new BIZMAC CLIENT WRITE-UP SYSTEM, the efficient way for today's CPA's to keep track of their clients' records.**

© 1984 APPLIED LOGIC SYSTEMS, INC. MACINTOSH IS A TRADE MARK LICENSED TO APPLE COMPUTER, INC. BIZMAC SMALL BUSINESS & BIZMAC CLIENT WRITE-UP ARE TRADE MARKS OF APPLIED LOGIC SYSTEMS, INC. IBM IS A REGISTERED TRADE MARK OF INTERNATIONAL BUSINESS MACHINES.

Please circle 79 on reader service card.



# CORRALLING YOUR DESK ACCESSORIES

could keep a personal calendar (or card file or note pad) private. This is a good encryption program, certainly tops among those currently available.

The calculator is one of the most powerful tools of its kind seen on a Mac. It can toggle between statistical and financial functions, and follows the basic RPN model popular in the "real" calculator world. This calculator is a very sophisticated tool and most of the product's manual describes its features and uses. You can enter numeric values from the keyboard as well as by clicking on the keys. The calculator fully supports cut and paste operations (as do the other modules). Cut and paste is particularly important in a calculator because you really don't want to have to write down or remember the results of your calculations.

The calculator has a rather unique, but not highly developed, help function. You can call up a brief description of what each key does by selecting Help from the command menu and then clicking on the desired key. The descriptions are one dialog box long and sometimes too brief to really be useful.

That's not the only drawback to the calculator. The keys tops are lettered in 9-point Geneva (at least, that's what they look like) and show up in white on a black rectangle. While this makes the calculator look more like a handheld model, it also makes the keys hard to read. You can't use this calculator for extended time periods. The calculator's other major drawback is its size. It is huge (46K). The extreme size is probably as much a result of the help functions as it is of the sophisticated functions available. The publisher would perform a major service by providing an alternate copy of the calculator without the help feature. It would be much smaller and could be used in many more places.

You also have access to a note filer, which functions as a mini text editor, and a cardex, to keep your name and address list. Both modules have their own data files, and like the calendar, they support multiple data files.

The note filer lets you create files with up to 1680 lines of information in each file. Files are organized into notes that can be further subdivided into items. Creating and maintaining these files is simple and intuitive.

Notes can also be assigned one of the 14 basic category icons, and searches can be by icon as well as by data field. This is a very nice tool for organizing moderate amounts of information.

The cardex is a straightforward card filing system with a twist. You can assign up to five category icons to each card, and then search by icon as well as by last name or company.

You can obtain printed reports and screen images from the calendar, note filer and cardex if you are using the ImageWriter or other compatible printer. The print functions don't work on the LaserWriter.

Overall, this product is somewhat less than the sum of its parts. It has both winners and losers. The calendar is a big winner.

The amount of disk space used is a loser. Installing everything on a System disk will eat up more than 133K. And while you can have parts on a System disk and parts on data or application disks, the master program will not find and load the parts automatically when necessary. Instead you get an awkwardly phrased dialog box and have to search for and select the files you want to open.

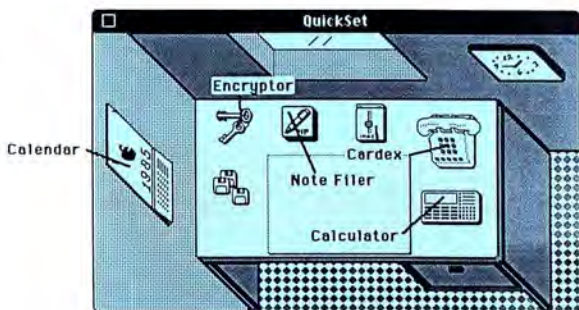
The commands are often a bit confusing and verbose. You frequently have to make extra command selections that better design would have avoided.

The user agreement restricts usage to one user on one designated computer. That's a shame. This is a product that, with its multiple data files, is an ideal candidate for multiple user usage. And the machine restriction means that I can't use the same program on my machine at work and on my machine at home. I could carry the data files back and forth, but I'd have to buy two copies of this program to use them in both places. While the price of a single copy is reasonable, the price of two copies sure isn't!

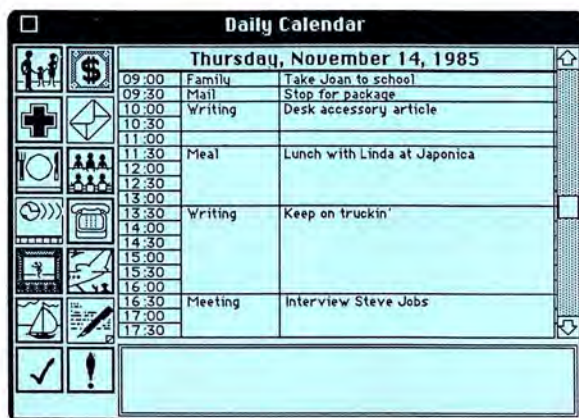
Unless you have a hard disk or a double-sided drive (they have to show up some day, right?) this product is best used in small pieces. Don't try to use all of the modules unless you have lots of space on your disks or don't mind a bit of disk swapping.

(continued on page 112)

QuickSet's modules are accessed from this "office" when the program is used in its desk accessory form.



QuickSet's calendar makes good use of icons. You can search and generate reports by icon categories.





# How Adding Macros Gives You More Speed, Less Mousing Around

**Finally – the first true macros for the Macintosh!**  
**Fly through complex strings of commands! Integrate programs automatically!**  
**Make Jazz™ sing, Word™ dance, and Excel™ jump for joy!**

## Add the Power of Macros to Your Macintosh

**What's a macro?** A macro records any sequence of commands or keyboard entries once and then replays them all quickly forever after. A single keystroke will recall the most complex series of commands. And you can create up to 450 Tempo macros in every application.

**Go beyond simple record and playback.** You get powerful features that will enhance nearly every Macintosh program. Programs like Jazz™, Excel™, MacPublisher™, MacDraw™, Helix™, OverVUE™, File Vision™ and nearly every other™ designed for the Macintosh.

**Automate lengthy commands.** Just turn Tempo on while you perform a series of commands or key-

strokes once, and *voilà!* you've made a macro. Format spreadsheets. Add boilerplate. Get creative!

**Build vertical market applications** by integrating unrelated programs with Tempo. You can create a single macro to automatically move data between an unlimited number of Macintosh programs.

**Not just for the "power user."** Even if you only use Tempo for tasks like printing out a document with one command instead of three, you'll save time in nearly every Macintosh application.

## Fantastic Features Make the Difference!

**Pause for text entry.** Tempo will stop while replaying the series of commands so you can enter information. You can even *create your own dialog box!* That way, your Tempo macro can walk somebody through a program they've never used before.

**Pause for Time.** Either hours, minutes or seconds or until a given clock time, when the macro automatically starts up again. Works great

with modems. Or for reading lab data at regular intervals.

**Logical Branching!** A Tempo macro will read a spreadsheet cell or a database entry or anything else you can copy into the clipboard, and *branch to another macro* based on the contents. It uses simple "greater-than" and "equal-to"-style Boolean logic, and actually lets you *program your programs.*

**"Live through the Launch."** One macro can launch a hundred programs. Now there's beauty!

You can take information from your accounting program, move it to a spreadsheet, compare it to last month's results, build a graph from it, and modem it to an analyst. All with a single keystroke!

**Real-Time Replay.** Play back at the same speed you recorded. You can create "self-running demos" for nearly any Macintosh software.

**Much, Much More!** We haven't even covered *editing* your macro after you've created it, using standard Copy, Cut and Paste functions. Or *suspending* or *cancelling* action in the middle of a macro. And much more still.

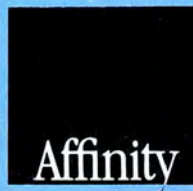
## Two Great Negative Reasons to Buy Tempo Now!

1. Tempo is *not copy-protected*, so you can easily install it in your hard drive.
2. If you're *not absolutely happy* with what Tempo can do for you and your Mac, return it for a complete refund. We'll guarantee your satisfaction!

Call  
**1-800-255-5550 x425**  
**right now, today!**

Call us for the dealer nearest you, or you can order directly from us. For \$99, you get more macro power than a micro has ever had before.

**For 128K and 512K Macs!**



Affinity Microsystems, Ltd.  
 1050 Walnut Street, Suite 425  
 Boulder, CO 80302



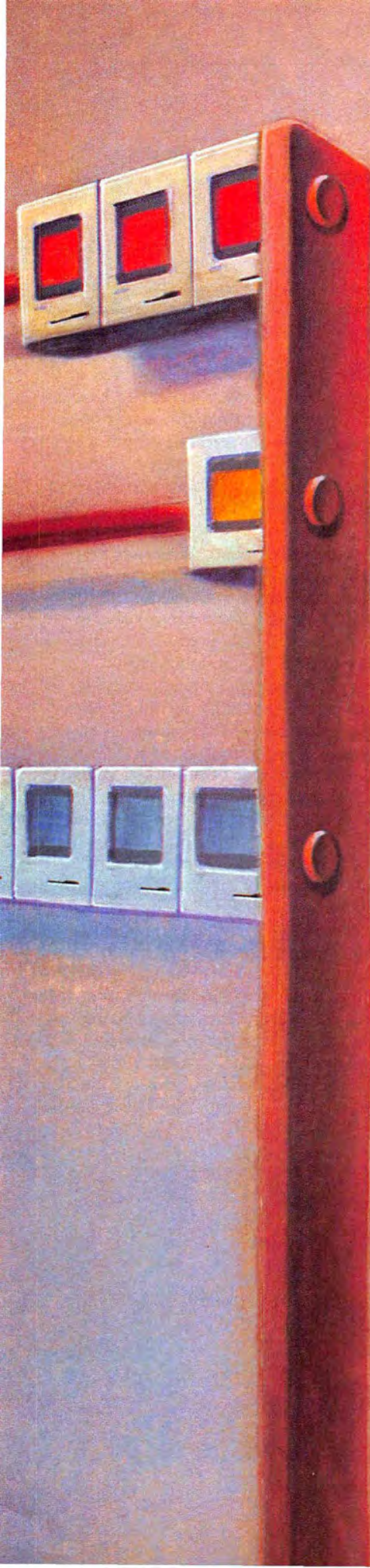




GREG RAGLAND

RAGLAND





# CALLING YOUR MAC TO ACCOUNT

***There is no accounting  
for taste, but the IRS  
(and others) seem to  
think that money should  
be tracked rather  
carefully.***

**BY MICHAEL D. WESLEY**

Consultant: Barry M. Mechanic  
(Arthur Young Company)

THE MOST BASIC ELEMENT IN THE running of a small business is accounting. To survive and succeed in a cut-throat environment, the businessperson has to be able to answer the fundamental question "Do I have any money?" at any given point in time, and must know what to do with the answer. Nevertheless, keeping accurate books is tedious and time consuming. And knowing how to format and understand financial data is a highly specialized skill.

Accounting is therefore one of the first applications that springs to mind when a business considers computerizing its operations. It seems logical that a computer would do a better job of tracking books than a person working by hand. After all, keeping records and number crunching are what computers do best. And the Mac does both with ease and style, so accounting on a Mac should be a breeze. Now for the first time, there are even a large number of accounting software packages available for the Mac.



# CALLING THE MAC TO ACCOUNT

Stop for a reality check. It pays to ask a couple of very hard questions and do a good deal of self- and business analysis before ever approaching computerized accounting. Because it may not be the way to go.

## In the Beginning

The significant questions are basically simple. "How will the business benefit from computerized accounts?" and "Do the benefits justify the expense (in time, effort, and money)?" To answer these questions there must be a clear picture of the type of accounts that need to be kept and the type and amount of information to be generated.

One thing that must be remembered is that accounting software will not save time in basic record-keeping. It takes as long to key information into a Mac as it does to write on a ledger sheet. And a Macintosh screen that looks just like a hand-written ledger sheet imposes its own structure on the accounting process. While it may simplify transferring over from a manual system, it may be more trouble than it is really worth.

The primary benefits of accounting on a computer are the ability to access information quickly, to transfer data automatically so that an item only has to be entered into the system once, and to generate reports that facilitate good financial decision-making.

Accounting programs are often placed (primarily by reviewers and competitors) into one of two categories, "entry level" and "full-featured." To anyone else, these categories mean very little. How is entry level defined? Does it mean a business has four employees and a turnover under \$1 million a year, or that the company requires fewer than 5000 transactions per period or both? And even if a company is small, shouldn't it have a system that has all the features it needs (which seems to say "full-featured.")

Before plunging into a system that may have too few or too many features for the business at hand, it is important to construct two very detailed and complete lists. One is for features the software "must have" to meet the company's needs, and the other is a

"wish list" of nice but not necessary attractions. It is unlikely that any program will fulfill all the "musts", so realistic decisions will have to be made. For instance, it might be possible to live with columns in the wrong place on the worksheet, or predefined account numbers different from the ones that are now used. It might not be possible to live with a limitation of \$99,999.00 per transaction.

"Must have" lists should make provision for growth. A given package may just meet the company's needs right now, but can the system then handle a sudden increase in volume two months from now? A good accounting program should have a working life of two years or more.

If the company's needs have been well-defined; if growth has been considered and planned; if benefits outweigh expense, and if an accounting system can be found that satisfies 80 to 90% of a company's "must have's" and a comfortable smattering of "gee it would be nice if's," then it is probably worth the investment.

## What to Look For

Ignoring labels and advertising hype, there are certain very important and very specific areas to evaluate.

- **Hard disk capability.** Trying to do accounting on floppies is an exercise in frustration. Disk swapping takes up horrendous amounts of time. And, if all the features you need can run on a 128K Mac with floppies, it is probably not worth the expense to computerize.

- **Functionality 1: Modules.** Accounting software appears in spurts. Some

products have only a general ledger at this time with other functions planned to appear over the next several months. A system may look good but be incomplete, in which case it might be best to wait.

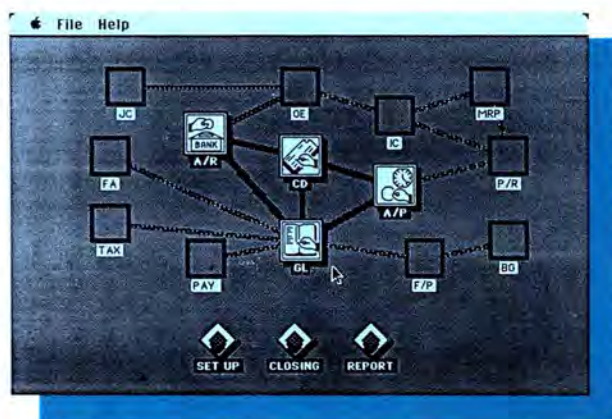
- **Functionality 2: Receivables and Payables.** Are Receivables really receivables, or just a journal with aging? Can you track things like freight and shipping charges on an invoice, or just a total amount and sales tax? Does the program automatically notify you when an account reaches a certain age? Does Payables warn when accounts are coming due and help you organize cash flow properly?

- **Integration.** A new entry should automatically update all related journals when it is posted. The program should either do this by itself or by prompting the user to insert the appropriate disk. A hard disk system should do all updating internally.

- **Style.** Some programs are virtual on-screen representations of the popular one-write style ledger sheets. One-write is a paper and pencil system in use by thousands of businesses across the country. Other programs have lots of windows and a freeform structure. Still others are simply ported over to the Mac from other systems and make almost no use of the Mac interface we all know and love. (This is not necessarily a bad thing, because mousing by itself does not make software easy to use.)

- **Size 1.** How many accounts, transactions, departments, profit centers, journals, etc. can the program handle? Keep in mind that a limitation on the number of transactions usually means all transactions combined. This is im-

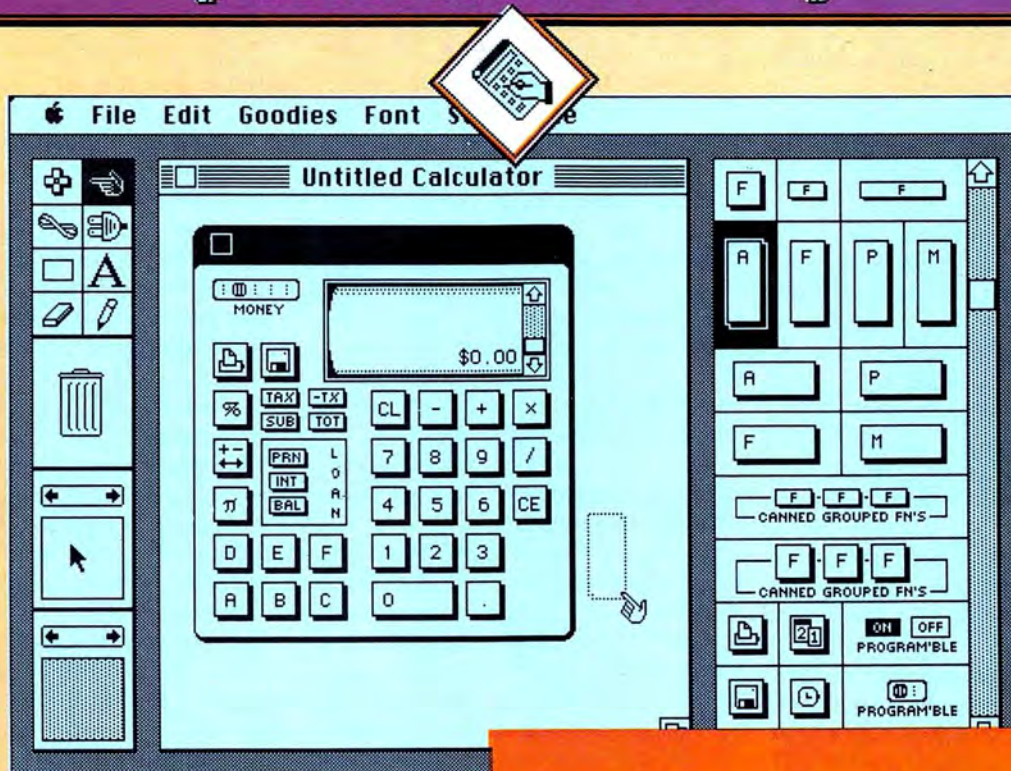
**Fig.1: Gallery Finance** bypasses the standard desktop and replaces it with the "Road Map" shown here. Complete icons represent modules installed while the darkened lines indicate the modules' relationships to one another.



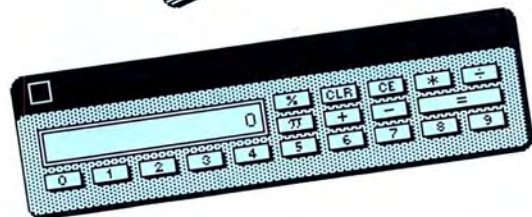


# THE DUBL-CLICK CALCULATOR

CONSTRUCTION SET



## Design and build your own Calculator desk accessories!



**No programming required.** Just drag predefined parts onto a calculator case, and select the functions! Need more room? No problem—just stretch the calculator case to any size you want. Test your new calculators while still under construction. Or alter them later after hours of installed use.

Included are a host of mathematical, scientific, business, date/time, and conversion function keys. Or define your own programmable keys. The CCS parts box is loaded with assorted keys, switches, LEDs, clock/calendar displays—Even a resizable, scrolling paper tape that prints to the *ImageWriter*, clipboard, or a *MacWrite™* text file. Onscreen calculator keys may be mapped to any alphanumeric keyboard or keypad key (as an alternative to using the mouse).

Customize your calculator's case using *MacPaint™* style tools for drawing, painting, erasing, fatbitting, filling, stretching, and typing text. You can even design your own custom cursor to use with your calculator. Calculators may be saved as workfiles (allowing future changes), *Font/Desk Accessory Mover* files, or as self-installing calculator files. Several sample calculators are included.

### The Dubl-Click Calculator Construction Set.

Suggested retail: \$99.



18201 GRESHAM STREET  
NORTHRIDGE, CA 91325  
(818) 349-2758

**DUBL-CLICK SOFTWARE**

©1985 Dubl-Click Software. CCS runs on a 128K Mac, 512K Mac or with Switcher™. ImageWriter™, MacPaint, MacWrite and Switcher are trademarks of Apple Computer, Inc. The Dubl-Click Calculator Construction Set is a trademark of Dubl-Click Software.

Please circle 108 on reader service card.



# CALLING THE MAC TO ACCOUNT

portant when several modules exchange data, because an Accounts Receivable posting and its corresponding General Ledger entry are counted as separate transactions.

- Size 2. What is the largest number that can be entered as a transaction and what is the largest calculation result? This may be important. The program may accept a single entry up to \$99,999.99, but if this number is also the largest possible calculation result, nothing can be added to it.
- Reports. Does the program have built-in reports? Can reports be customized, so that a range of account numbers could be listed on a single line, if needed? Are reports detailed (listing data for every transaction) or summary (reporting only by period)? Can reports be displayed to the screen?
- Search functions. How easy is it to find customer or vendor information, or the exact amount of a specific invoice number?
- Security. In many small businesses, passwords may be unimportant. But if several people work on the accounts at different times, at least two levels of password protection may be needed.
- Check and invoice printing. Nice features that may not be needed, but seem to be touted fairly heavily by the software companies themselves.
- Customer and vendor data. Does the program let you store detailed reference cards, or can you only enter data on a single ledger line? Very important.
- Data interchange. Can data be saved to or ported from spreadsheets and databases?
- Documentation and customer support. How easy is the system to learn and use? Can you get phone support from the company? This is imperative, because computer salespeople do not have the time to learn accounting principles.
- Sample company on disk. It is normal to be very skittish about beginning a new accounting system with your own company's data. It helps to have sample files on disk for a tutorial entry to the system.

The programs reviewed here were evaluated on these points as well as their ability to do what the manufacturers say they can do.

## Accountant's Choice

*Accountant's Choice* is a very powerful system built around a relational database that is open to the user. A dozen functions, including basic operations plus Cost Allocations, Prior Posting (including posting to the twelfth month of a previous fiscal year), and Departmental Expense Reports are accessed through a single menu. A number of standard reports are provided with the system, but most can be customized if desired. Multiple journals are allowed and the number of accounts is determined by the amount of available disk space.

Data entry is very straightforward and well documented. Account information is entered through a File Builder; reports are customized and created with the Report Builder, both features of the database. Journal entries can be posted as a single item in a single month, or set up to recur every month. In addition, an entry can be an accrual (guess at an expense amount) that will automatically be canceled out the following month when the actual value is entered.

General Ledger can be used as a stand-alone or in concert with other *Accountant's Choice* modules. Unfortunately no other modules were available at the time of writing, so it was impossible to test the integration.

*Accountant's Choice* can be used on a system with two floppies but it should not. Searches and complex reports such as Trial Balance are very slow unless the program is installed on a hard disk.

Fig.2: MacOneWrite's Check Disbursement journal is a visual facsimile of a manual system, complete with simulated pegs. The worksheet slides down a peg after each check is written. The transaction journal beneath records all the checks.

Account	Amount	Account	Amount
100 Cash in Bank - Checking	125.00	200 Accounts Payable	0.00
	0.00		0.00

## CheckMark General Ledger

*CheckMark General Ledger* is a stand-alone Ledger with five journals built into the system: Cash Disbursements, Receipts, General, Sales, and Purchases. These journals cannot be altered, but they do provide the basic functions needed for payables and receivables within the General Ledger. Account ranges are also preset.

Menus are very straightforward as is data entry. Tutorial footnotes provide valuable on-screen help and guidance, but can be toggled off. Transactions are only posted at the end of each month but are saved after each session.

*CheckMark General Ledger* allows for copying an existing Chart of Accounts for multiple companies. Up to nine departments/ profit centers (the program uses the terms interchangeably) can be established.

Summary reports are built in but the user selects specific accounts to be included, providing some flexibility. Customer and vendor information is very minimal.

*CheckMark General Ledger* can run in 128K with a single disk drive with severe limitations. It can also be installed on a hard disk. This program is easy to use and the manual is excellent. It should not be used by anyone requiring detailed reports or customer data.

## Gallery Finance

*Gallery* is an integrated one-write system with General Ledger, Cash Disbursements, Accounts Payable and Accounts Receivable in the single





## Introducing QUICKWORD™

**The First Product for the Macintosh  
that Dramatically Reduces Your Typing  
Time...Even If You Don't Type!**

Quickword is a remarkably powerful word processing expander that sets MacWrite™ or Word™ on its ear while saving you lots of time!

Now typing 2,4,6-Dimethylbenzoxide, "For the party of the first...", or "Sincerely yours," can be as easy as typing an A, B or C.

Quickword lets you create multiple abbreviations tables for phrases of up to 50 characters. Whether speed typed or thoughtfully entered, Quickword will translate your abbreviations "on the Fly" into their full meaning within your documents.

So if you're interested in cutting your typing time in half, see your authorized Apple Computer dealer today. You'll wonder how you ever got along without it.

Requires a 128K, 512K or XL Macintosh  
Price: \$59.95

For the name of your nearest Quickword™ or Quickpaint™ dealer, or to order,  
call (1-800) 621-0851 x305 (8a.m. - 5p.m. PST).  
For more information call (415) 543-7644.



## Introducing QUICKPAINT™

**The amazing MacPaint™ expander  
that will never  
leave you at a loss with pictures.**

Quickpaint™ lets you browse through entire volumes of MacPaint™ drawings in minutes rather than hours. Simply use Quickpaint's™ "miniview" feature to locate any of the drawings that come with Quickpaint or to find drawings from any other popular clip art product. Then blow it up for full screen viewing and editing. You can cut, paste, edit and erase selected parts or copy the entire picture into other drawings or documents. And Quickpaint™ does this all from whatever application you're working in!

To see how Quickpaint™ can help enhance the state of your art, stop by your authorized Apple Computer dealer today. You'll wonder how you ever got along without it.

Requires a 128K, 512K or XL Macintosh  
Price: \$49.95



# CALLING THE MAC TO ACCOUNT

*Finance* package. Additional modules can be added when needed (and as they become available).

The first time the system is entered, the user is prompted to use the Set-up procedure, a detailed step-by-step guided process for setting up the company's books.

Records for vendors, customers and employees are very complete and provide the opportunity to store detailed information. Discounting is allowed either through a standard discount or on an individual basis. Data entered in a journal is automatically posted to the appropriate record card.

Ledger sheets are predefined, but can be altered by the user to a certain extent. A set of on-screen worksheets can be used as guidelines to transferring from a pencil and paper system to *Finance*. The manual is excellent and even includes a tutorial section on basic accounting principles.

*Gallery Finance* is the best of the one-write systems reviewed because it provides the most information and is truly integrated. It should be used only with a hard disk regardless of the number of transactions. Unfortunately there is a Key disk which must be inserted each time the product is used as a means of copy protection and disk control.

An enhanced version of *Finance*, scheduled for late '85, will add check and invoice printing, order entry, and additional reporting capabilities not now included.

## Hardisk

*Hardisk* must be installed on a hard disk. It is a very complex and complete system essentially ported directly to the Mac from other systems. As such it makes very little use of the Mac interface. The program is fully menu driven with selections made by choosing a number. Although the manual is very detailed, it is also very complicated, with only a dozen or so added pages that make the program Mac specific.

*Hardisk* has flexible reports and statements in a wide variety of formats; flexible account numbering; huge numbers of accounts, transactions and profit centers, and detailed financial analysis. Modules integrate to prevent having to enter a transaction more than once.

The program is not easy to use. The lack of mousing facilities, windows, and a menu bar might be very difficult for a first-time user who is accustomed to the Mac interface. Nevertheless it is an excellent system for companies dealing with large numbers of accounts and transactions who need volumes of information all the time.

## Maccountant

*Maccountant* is a one-write system that claims to integrate General Ledger, Accounts Receivable and Accounts Payable on a single disk. In fact it provides only very basic ledger entries. Accounts Receivable provides aging of accounts but neither Payables nor Receivables allow for detailed records. *Maccountant* will track an invoice but it doesn't allow for detailed breakdowns of charges.

Accounts Payable is simply a check writer, with a few difficulties at that. Anything more than the name of the payee must be delimited by slashes and fit within the space allowed for the Description column. The people at Digital, Etc. are proud of the rigidity their system imposes because they feel that it forces the user to conform with Generally Accepted Accounting Principles (GAAP). However, the structure can be overpowering at times because there is very little flexibility.

There are also a few very interesting failings. Aside from problems with occasional crashes, *Maccountant* doesn't always recognize transactions for what they are. Paying an invoice already entered as a receivable sometimes creates an imbalance because the

values are added to one another. The journal will not close because the accounts are out of balance, but no amount of fiddling will change the total. (At one point, four entries that attempted to balance the error accumulated, although the system even indicated when they were supposed to be minused out. This left a total entry of \$500 for a single \$125 invoice and a journal that wouldn't balance.)

The manual is reasonably well written, but the printing (soft body text with very bold heads and highlights) makes it extremely difficult to read.

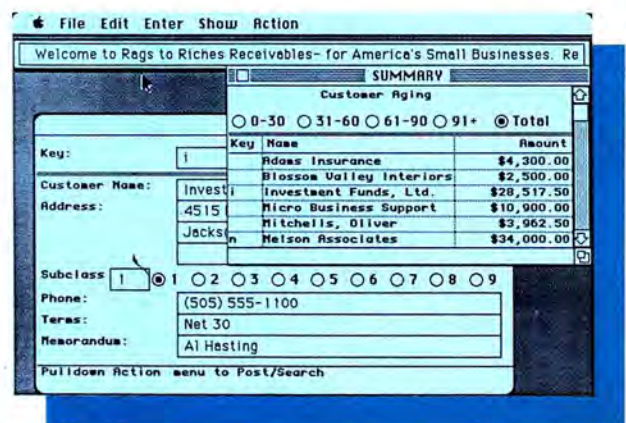
*Maccountant* tries to simplify computerized accounting by making it look exactly like the pencil and paper variety. It succeeds visually, but falls down because of lack of functionality and flaws in the programming. An improved version, tentatively called *Turbo Maccountant*, may be able to fix some of these problems.

## MacOneWrite

*MacOneWrite* from Sierra On-Line succeeds very well in providing a simple, one-write check writing system. At the time of writing, Cash Disbursements was the only module available. The system is very limited in functionality, although it does allow for entering more detailed information than *Maccountant*. Several nice (although perhaps not terribly valuable) features are included. The display looks exactly like a one-write ledger, including pegs along the left side of the ledger. When an amount is entered numerically for a check, the

(continued on page 114)

Fig.3: This appalling advertisement appears on the screen in each of the *Rags to Riches* modules on startup and can only be removed by choosing a menu item, Hide Message. On the positive side, note that accounts can have a macro key attached for quick access (COMMAND I automatically brings up data for Investment Funds, Ltd.).





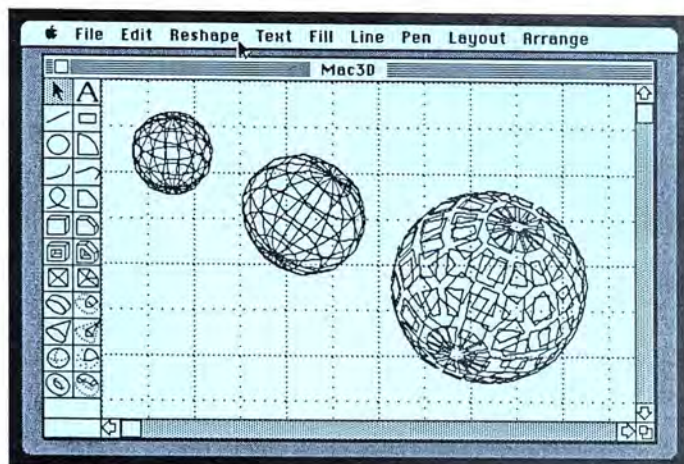
# Mac3D

...a new dimension in software

Mac3D™ is a powerful three-dimensional graphics package now available exclusively for the Macintosh™.

Use it to create technical or free form drawings and designs. Simply select from a palette of basic shapes and then stretch, flip, resize, reshape and/or rotate your drawing along any axis in three dimensions--much like you would shape a globule of clay and examine it in your hand. Features include:

- **Advanced tool palette.** Select Text, Freehand Drawing, or shapes like Rectangles, Ellipses (includes circles), Polygons, Pyramids, Polygonal Prisms, Polygonal Pyramids, Ellipsoids, Cones, Cubes, Cylinders, and Tori (doughnuts).

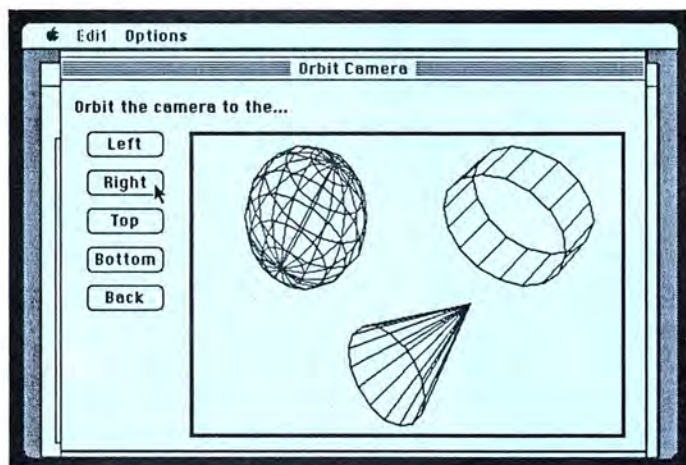


- **Reshaping capability.** Move any vertex, edge, or surface of an object and the remainder of the object will automatically reshape itself.

- **Standard and custom rulers.** Use the rulers we provide, or create your own for greater precision.

- **Enhanced Pattern Editor.** Choose from among the many fill and pen patterns provided, or create and edit your own.

- **360 degree rotation.** Use our new circular scroll bar and rotate your design or drawing in one-degree increments to any orientation possible.



- **Moveable Camera.** Use our new Setup Camera option and observe a drawing from virtually any point of view--even from the inside looking out!

Mac3D requires a 512K Apple® Macintosh™ and an external disk drive.

For more information see your local computer dealer or contact:

## CHALLENGER SOFTWARE

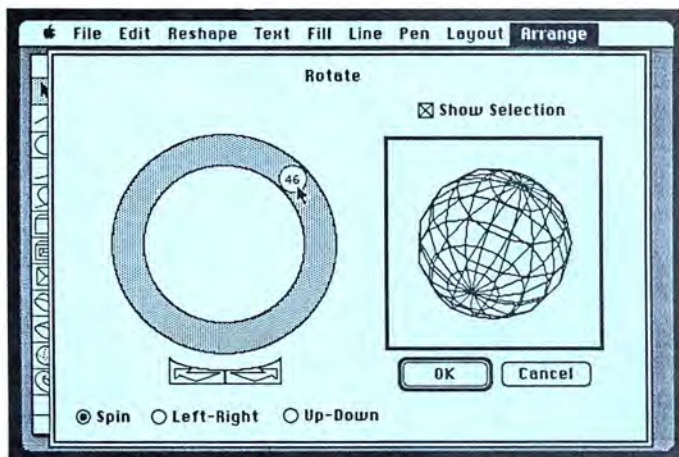
18350 Kedzie Avenue  
Homewood, Illinois 60430  
Phone (312) 957-3475

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

Mac3D and the Mac3D logo are trademarks of Challenger Software Corporation.

©1985 Challenger Software Corporation

Please circle 41 on reader service card.











# MacCharlie:

by Michael D. Wesley

THERE SEEMS TO BE SOMETHING inherently wrong with making a Macintosh look and function like an IBM PC. Just thinking about it fills one with horror and revulsion. An IBM compatible Macintosh? This is the stuff of which nightmares are made! ("Doctor, I was working along merrily in *MacPaint* when a sinister font took control of my screen. No matter what I did these strange, distorted letters kept saying 'Read fault error reading drive b:' — I'm sure there was a message in there somewhere, but it must have been in some strange forgotten language.")

There is such a clear choice to be made between the IBM PC and our beloved Mac. The PC is cold, unfeeling, unfriendly, and basically the enemy. It is the choice of those guys in stuffy white shirts and blue suits who make corporate decisions that protect their own behinds. The PC is anathema. It is Big Brother. It is the anti-Mac. Right? So there must be something wrong with hooking a box to the Mac to make it run IBM PC software. Right? Well... maybe not.

# WHERE IS THE SIN IN SYNERGY?

*MacCharlie* is an IBM compatible computer without a monitor or full keyboard. *MacCharlie* plugs into the printer port of a Mac, and the ImageWriter connects to the back of *MacCharlie*. The two systems develop a symbiotic relationship, with the Mac receiving its power from *MacCharlie*, and *MacCharlie* using the Mac screen as a monitor. A keyboard extension with function keys and numeric keypad fits over the Mac keyboard like a cowl. The amalgam provides all the functions found on the somewhat eccentric IBM PC keyboard. *MacCharlie* has two disk drives and 640K of RAM.

The relationship between the two systems is a strange and fascinating one. *MacCharlie* is accessed by loading its application into the Mac and double clicking the *MacCharlie* icon found on the familiar desktop. A window appears with an 80-column by 25-line display. *MacCharlie* does a quick self-test of its RAM, then accesses the A (leftmost) drive looking for MS-DOS. When DOS is booted, a cryptic prompt, A>, indicates that the system is ready to go.

**MacCharlie joins an IBM PC compatible computer to the Macintosh—  
Can they work together in peace?**



# WHERE IS THE SIN IN SYNERGY?

Although it may seem foreign to Mac users, this is all pretty standard stuff for those poor souls accustomed to using IBM PCs or compatibles. Except for a couple of things. Across the top of the screen is a menu bar with a little apple in the corner. The *MacCharlie* window has a scroll bar and a resizing icon. Hiding behind the window are a clipboard and a gray desktop. And there is an extra cursor that moves at the whim of a mouse. This means that you can run an MS-DOS application, like *Lotus 1-2-3* or *PFS:File*, and still have access to mouse selection, Cut and Paste functions and your favorite Mac desk accessories. (In fact, mouse operations take precedence over MS-DOS.)

This brings us back to the basic question: Why would anyone want to run MS-DOS applications on a Macintosh (unless he really enjoys self-flagellation)? The answer provided by *MacCharlie*'s creators, Dayna Communications, is that *MacCharlie* provides the best of both worlds. It recognizes the presence that BM has in offices but concedes style, ease of use, and specialized functions (a bit-mapped screen for one) to the Mac. *MacCharlie* even lets the two worlds communicate with each other on an intimate basis because it makes it easy to transfer files. Whatever the reasoning behind *MacCharlie*, and however wicked it may seem, working with the system is a kick in the pants.

## It Works!

*MacCharlie* functions in the same way as an IBM PC with the IBM monochrome monitor, which means it cannot handle any graphics. A program like *Lotus 1-2-3* will run for spreadsheet and database uses, but graphs cannot be displayed on the screen. The other great benchmark program for testing PC compatibility, *Microsoft Flight Simulator*, will not run on *MacCharlie*.

Even so, with the exception of a few quirks, *MacCharlie* proved to be remarkably compatible with all the MS-DOS software we could round up. The 10 function keys on the left of the now huge keyboard performed exactly the way they were supposed to. So did the 18 keys that form the numeric



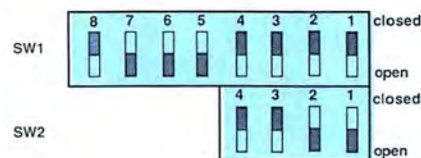
**MacCharlie piggybacks off the Mac monitor and keyboard. The Mac desktop, including desk accessories and Clipboard are always present behind MS-DOS.**

keypad on the right of the *MacCharlie* cowl. Internal operations such as loading and saving files, often the bane of "compatible" machines, were all handled smoothly.

Perhaps most amazing was the ease of printing. For those uninitiated to the world of MS-DOS, application disks must ordinarily be configured in detail for the type of printer being used with the system. The correct printer drivers must be installed for the software to be able to print. Knowing this, we were stunned to watch *PFS:File*, *Microsoft Word* (MS-DOS), and a vari-

ety of other unconfigured programs printing directly to the ImageWriter. The results were a little strange at first, but as soon as we changed the DIP switch settings on the ImageWriter (see Fig. 3), most things came out normally. Text was printed in the native ImageWriter font, with boldface, underlining, and other highlights selected in the software included.

There were, as mentioned, a few quirks in the operation. In some applications, the keys would not repeat when held down, even though they should have. In every instance, the MS-DOS applications were very slow, especially when the screen had to be redrawn. Odd bits of graphic characters appeared on the screen from time to time for no apparent reason. Even though *MacCharlie* has a built-in fan, the heat it generated after a few hours' work was extraordinary. And the system crashed off and on, perhaps because the Mac software still has a few bugs (an updated version was expected to ship October 1st). Or maybe the Mac just overDOSed.



**Fig. 3: To print directly to the ImageWriter with *MacCharlie*, the DIP switches inside the printer must be set to these positions. If printing is still a problem, check the number on your ImageWriter cable. The first 6000 printers had cable #5900121. *MacCharlie* is designed to work with the later cable #5900169, although updated software should correct any problems.**

*(continued on page 143)*

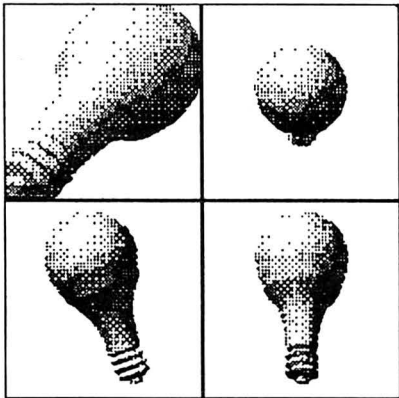


(All you need is \$99 and a MAC).

Use your Macintosh™ to build your own skyscraper, design a 3D logo or recreate the solar system. With Easy3D™ you can do it all for less than the price of a down payment on most other professional 3D programs. And that's only the beginning...

You get what you envisioned,  
not a tangle of lines.

Skip the wire frames. Easy3D lets you create and manipulate *solid* three dimensional objects at will. Call up a basic 3D shape or use the lathe or jigsaw to turn a 2D outline into your own 3D design. Objects can be



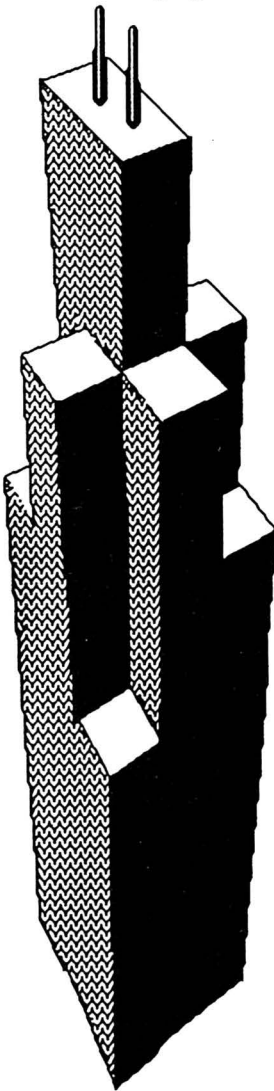
*Easy3D will simultaneously display your design from four different views as you create it. (Picture shown here and at right reproduced from actual printouts.)*

moved, rotated, distorted, glued together, cut apart, compressed, stretched and dramatically lit (in 16 shades) from any angle.

Move the mouse and turn a  
teacup into a rowboat.

And if you don't like the look of it, change it back. Fill it with sugar cubes. Add wheels. Easy3D renders shaded objects at a rate of up to 12,000 polygons a minute. So if you blink, you may not even see the stopwatch on the way to your next design.

Macintosh is a trademark licensed to Apple Computer, Inc. MacDraw, MacPaint, LaserWriter and ImageWriter are registered trademarks of Apple Computer, Inc. PageMaker and VideoWorks are registered trademarks of Aldus, Inc. and Hayden Software, Inc., respectively. Easy3D is a trademark of Enabling Technologies, Inc.



When you're satisfied with your creation pop it into MacDraw,<sup>™</sup> MacPaint,<sup>™</sup> VideoWorks<sup>™</sup> or PageMaker.<sup>™</sup> Or if you can't wait to show it off, produce a hard copy on your ImageWriter<sup>™</sup> or LaserWriter.<sup>™</sup> Once you see your first three-dimensional design, you won't believe that Easy3D only costs a mere \$99. But until then...

**You get a 15-day  
Money-back Guarantee.**

Try Easy3D without risking one 3D penny when you order direct. If you aren't overwhelmed you'll get a full refund...which means you have nothing to lose by ordering now except a lot of unnecessary reading. Honest. If this ad listed even *half* the possibilities of Easy3D, there wouldn't be any room left for the magazine.

## Advanced User Interface Designs From Enabling Technologies, Inc.

Call toll-free to order  
**1-800-621-1203**

(In Illinois call 1-800-942-2835)...

Distributed by Ashton-Tate  
Publishing Group

See your dealer or use the coupon below.

**YES**, send me Easy3D,<sup>™</sup> the complete documentation and a 15 day money back guarantee. For only \$99 that's a great deal (even if I *do* have to tack on \$5 for shipping and handling). But please hurry:

Name\_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip\_\_\_\_\_

☐ Check   ☐ MasterCard   ☐ Visa   Amount \$ \_\_\_\_\_\*

Account #             Thru  
Date

Signature\_\_\_\_\_ Date\_\_\_\_\_

\*Please add \$5 for shipping and handling.

MU125

Mail to: Enabling Technologies, Inc.  
125 Armstrong Road  
Des Plaines, Illinois 60018  
1-312-427-0408



# FIND QUALITY AND VALUE THROUGH

## MINDWORK™

Living Videotext	
ThinkTank 128	<i>SPECIAL</i> \$ 85
ThinkTank 512	<i>SPECIAL</i> \$149
MindWork Software	
PreWriter	<i>SPECIAL</i> \$ 99
Creativity Aid & Knowledge Organizer	
Organizational Development Software	
Consultant	\$149
Most innovative product — 1985	
Softstyle	
Decision Map	<i>SPECIAL</i> \$ 99
Innovative decision support and modeling.	

## PRODUCTIVITY

Aegis	
Zap Invoice	\$ 69
B. Knick Drafting	
MacPerspective	\$119
Discovery of the Month! Lets drafts- men adjust viewpoint on 1,2, or 3-point perspective wire-frame drawings to easily find the best viewing angle.	
Bythe Software	
Omni 3	\$319
Most powerful database manager	
Borland	
SideKick	\$ 59
Desk/phone/schedule organizer extraordinary!	
BrainPower	
Power Math	\$ 59
Statview	<i>SPECIAL</i> \$ 99
Best stat for Mac!	
Creighton Development	
MacSpell+	\$ 59



THE RIGHT TOOLS AT THE RIGHT PRICE!

EnterSet	
Quick Paint	<i>SPECIAL</i> \$ 29
Browse, cut and paste MacPaint files from Desk Accessory.	
Quick Word	<i>SPECIAL</i> \$ 39
Forethought	
FactFinder 1.1	<i>SPECIAL</i> \$ 89
Essential — Freeform DB for notes	
FileMaker	<i>SPECIAL</i> \$114
Our favorite forms DB — Best balance of power and ease of use.	
Harris Technical Systems	
Profit Projections/ Break-even Analysis	\$ 49
Quick analysis and graphs without spreadsheet	
Hayden Software	
Art Grabber	\$ 37

Lotus Development	
Jazz	\$389
Magnum Software	
Slide Show Magician	\$ 39
Mark Of The Unicorn	
Professional Composer	\$289
Mesa Graphics	
Plot-It	\$ 89
Plotter drivers for Mac	
Micro Planning Software	
MicroPlanner	\$350
Microsoft	
Chart	\$ 75
Excel	\$CALL
File	<i>SPECIAL</i> \$114
Multiplan	<i>SPECIAL</i> \$107
Word	<i>SPECIAL</i> \$114
Monogram	
Dollars & Sense	\$ 82
ForeCast	\$ 45
Tax Planning - Works with Dollars & Sense	
Odesta	
Helix 2.0	<i>SPECIAL</i> \$229
Faster, enhanced	
Paladin Software	
Crunch	<i>SPECIAL</i> \$149
Powerful, icon-based spreadsheet	
ProVUE	
OverVUE 2.0	<i>SPECIAL</i> \$169
Best balance of power and ease-of-use in database	
Real Data, Inc.	
Financial Analysis	\$ 69
Real Estate Investment	\$ 99
Analysis	\$ 69
Residential Real Estate	\$ 69
Templates for Multiplan or Jazz	
Satori Software	
Bulk Mailer	<i>SPECIAL</i> \$ 95
Fully professional list management	
Silicon Beach Software	
Accessory Pak #1	\$ 25
Cut and paste whole MacPaint pages!	
Simon & Schuster	
Mac Art Department	\$29
Softtech Microsystems	
Mail Manager	\$ 79
State-Of-The-Art	
Electric Checkbook	\$ 49
TriMaker	
ClickOn Worksheet	<i>SPECIAL</i> \$ 59
Desk Accessory—Great for casual spreadsheet use	
Click Art Effects	\$ 33
Add tools to MacPaint	
Vindex, Inc.	
Mail Center (2 User)	\$209
Mail Center (6 User)	\$349

3 Modules	<i>SPECIAL</i> \$279
(All the above)	
Digital Etc.	
Macaccountant	\$149
Micromax	
Gallery Finance	\$250
Special Edition	
Peachtree	
Back to Basics	
• Gen. Ledger	<i>SPECIAL</i> \$ 89

## COMMUNICATIONS

Hayes	
Smartcom II	<i>SPECIAL</i> \$ 99

## EDUCATION

Brainpower	
Chipwits	<i>SPECIAL</i> \$ 29
Think Fast	\$ 29
Davidson & Associates	
Speed Reader II	\$ 49
Math Blaster	\$ 39

Electronic Arts	
Music Construction Set (Deluxe)	\$ 39
First Byte	
Speller Bee	\$ 59
Great Wave	
Concertware+	<i>SPECIAL</i> \$ 45
An education in music	
Hayden Software	
Sargon III	<i>SPECIAL</i> \$ 30
Turbo Turtle	\$ 45
OED Information Sciences	
Typing Made Easy	\$ 45
Highly Recommended	
Rubicon	
Songpainter	\$ 39
Think Educational	
Mac Edge	\$ 39
Mac Edge II	\$ 39
Mind Over Mac	\$ 39

## UTILITIES

Altsys Corp.	
Fontastic Font Editor	\$ 39
Make your own fonts	
Assimilation	
MacMemory Disk	\$ 21
MacTracks	\$ 21
Work N'Print	\$ 21
Print spooling software	
Batteries Included	\$ 45
Battery Pak	
Casady Company	
Fluent Fonts	\$ 29
Central Point Software	
Copy II Mac	<i>SPECIAL</i> \$ 21
Essential backup utility	
DataViz	
MacLink W/8' Cable	\$129
Converts IBM and Mac files	
Dreams of the Phoenix	
12C Financial Calculator Desk	\$29
Accessory	\$29
Quick and Dirty Utilities	\$29

Our Icon Review Catalog contains timely, candid product reviews, featuring some of our favorite products. The catalog also includes comparative reviews that help you identify which products are right for you, as well as a "Beware" column that helps you steer clear of problem products.

## ORDERING IS EASY

Icon Review is dedicated to supplying top-rated software, same-day service, and discounted prices. Call toll-free, or order by mail.

ORDERS ONLY 800/228-8910  
In California 800/824-8175

## NATIONAL ACCOUNTS PROGRAM

Icon Review's popular National Accounts program serves the special needs of the many companies, user groups, schools and government agencies that seek us out as a source of information and accessories. For detailed information call 408/625-1957 and ask for Brett LaSorella, Marketing Director.

Cricket Software	
Statworks	\$ 79
DataFood Software	
DrawForms	\$ 35
All the business forms you'll ever need!	
DataPak Software	
My Office	\$ 95
Super graphic office on a disk!	
Dow Jones	
Spreadsheet Link	\$ 69
Electronic Arts	
Financial Cookbook	\$ 40

Hayden Chart	\$ 69
Works with all spreadsheets	
I Know It's Here	\$ 39
Somewhere	\$ 65
Video Works	
Astonishing visual effects!	
Layard	
Front Desk	\$ 85
Innovative Data Design	
MacDraft	\$169
CAD for the Mac	
Paste-Ease	\$ 29

## ACCOUNTING

Arrays/Continental Software	
The Home Accountant	\$ 82
Chang Labs	
Rags To Riches	
• Acct's Rec.	<i>SPECIAL</i> \$139
• Acct's Pay.	<i>SPECIAL</i> \$139
• Gen. Ledger	<i>SPECIAL</i> \$139



To get your copy of the Icon Review catalog send \$3.00. Or, get one FREE with any order.



CALL AND GIVE US A CHANCE TO MATCH ANY ADVERTISED PRICE!

## MacDraft \$169

If you work on a drafting table, designing anything from printed-circuit boards to architecture, MacDraft has the power and functionality to become the central tool at your workstation without overburdening you with a high price and sharp learning curve. Its powerful set of drawing, scaling, viewing, measuring, and highest resolution printing features set it above all other graphic programs.

FWB Software	
<b>Hard Disk Utility</b>	\$ 69
Hippopotamus Software	
<b>Hippo Lock</b>	\$ 79
<b>Almanac</b>	SCALL
Ideafarm	
<b>MacLabeler</b>	SPECIAL \$ 29
Prints disk labels	
Infosphere	
<b>XL Serve</b>	\$149
Partitions Mac XL hard disk, network disk server, print spooler & more!	

## Capturing Your Thoughts on Paper... PreWriter™

From MindWork Software Publishing

PreWriter is the first integrated idea processor for the Mac—offering simultaneous access to outlining, notecard management, and sophisticated text processing. PreWriter stimulates creativity during the early idea formation stage of the writing process. You can jot down ideas, rearrange notecards, make outlines, and create rough drafts as the need arises. Includes commands to count words, scan notecards, arrange notes as lists or outlines, and help analyze text for composition, style and coherence. Requirements: 512K Mac. Available: First quarter 1986.

### Order Today!

Advance Orders will be gladly accepted at the Low Introductory Price of \$99. ■ Retail Price \$149

To request product information call Icon Review or write to: MindWork Software Publishing, Inc., Dept. MW125 P.O. Box 2566, Monterey, CA 93942

Kensington	
<b>Professional Type Fonts</b>	\$ 33
<b>Professional Type Fonts (512K)</b>	\$ 45
<b>Headlines</b>	
Micro Analyst	
<b>MacZap</b>	SPECIAL \$ 39
Hacker's back-up utility and more!	
Micro Spot	
<b>Mac Plot</b>	SCALL
Plotter driver for Mac	
Nevins Microsystems	
<b>TurboCharger</b>	SPECIAL \$ 59
Disk Cache — speeds operation	
New Caanan MicroCode	
<b>Mac Disk Catalog</b>	SPECIAL \$ 31
Organizes your disk library	
Symmetry	
<b>QuickDisk</b>	\$ 21

## LANGUAGES

Microsoft	
<b>Basic</b>	\$ 89
<b>Logo</b>	\$ 79
Tardis Software	
<b>FastFinder</b>	SPECIAL \$ 39
<b>MacMake</b>	SPECIAL \$ 39
Programming maintenance utility	
<b>C-Leaner</b>	\$ 39
Source code optimizer	
<b>Tool Pak I</b>	\$ 39
DIFF, GREP, ASM XREF, etc.	
<b>Tool Pak II</b>	\$ 39
C XREF, Utility library in source, etc.	
<b>Mac Programmer's Library</b>	\$149
(All the above)	
TMO Software	
<b>TMON Debugger</b>	\$ 89
Better than ROM debugger	

## GAMES

Aegis Development	
<b>Mac Challenger</b>	\$ 29
Space Shuttle simulation	
<b>Pyramid of Peril</b>	SPECIAL \$ 29
Ann Arbor Software	
<b>Grid Wars</b>	\$15.60
<b>Lunar Explorer</b>	\$19.60
Blue Chip Software	
<b>Baron</b>	\$ 37
<b>Millionaire</b>	\$ 37
<b>Tycoon</b>	\$ 37
<b>Squire</b>	\$ 39
Broderbund Software	
<b>Lode Runner</b>	\$ 29
Electronic Arts	
<b>Pinball Construction Set</b>	\$ 29
Infocom	
<b>Hitchhiker's Guide To The Galaxy</b>	SPECIAL \$ 25
MicroSoft	
<b>Entrepreneur</b>	\$ 32
Miles	
<b>Harrier</b>	\$ 35
Mindscape	
<b>Deja Vu</b>	\$ 39
Priority Software	
<b>Forbidden Quest</b>	\$ 27
<b>Gateway</b>	\$ 27



Assimilation	
<b>MacPort Adapter</b>	SCALL
Includes 5' parallel cable & 36-pin connector	
AST	
<b>Ram Stack - 5 meg.</b>	\$699
<b>Ram Stack - 1 meg.</b>	\$899
<b>Ram Stack - 1.5 meg.</b>	\$1099
Additional memory for your Mac XL	
Computer Friends	
<b>Mercury Modem w/ Cable</b>	\$265
Work horse 1200 baud modem at a miracle price.	

## Consultant \$149

Consultant improves your productivity by adding structure and organization to your planning process...it prompts you to develop an action plan by following steps presented as menu items. Icon-based Thinking Aids help with Idea Generation and Decision Making. Consultant is the most innovative product we've discovered this year!

Hayas	
<b>Smartmodem 1200</b>	SPECIAL \$399
<b>Smartmodem 2400</b>	SPECIAL \$639
<b>Smartmodem-To-Mac Cable</b>	\$ 18
<b>Transit 1000</b>	\$349
Multi-function buffer and switch—Incredible!	
GTCO Corporation	
<b>MacIntizer</b>	\$499
Prometheus	
<b>ProModem 1200 M</b>	\$359
Systems Control	
<b>Mac Gard</b>	\$ 75
Surge suppressor	
Thunderware	
<b>Thunderscan</b>	\$175

## SideKick \$59

SideKick overcame all our desk organizer objections and then some! In fact, with its extensive collection of utilities for scheduling, storing contact information, and managing your telephone resources, SideKick may be the Jazz of the Accessory menu!

## WINCHESTER DRIVES

Convas	
<b>Omni Drive</b>	
11 megs	\$1496
20 megs	\$2246
45 megs	\$3896
126 megs	\$6896
<b>Omni Talk</b>	\$296
Multi-user software	
Paradise Systems	
<b>Paradise Mac Ten</b>	SPECIAL SCALL
New and exciting 10 meg.	
PCPC	
<b>MacBottom</b>	SPECIAL SCALL
Most Mac-like, personal 10 meg drive	

## ACCESSORIES

Assimilation	
<b>Numeric Turbo</b>	\$129
Trackball with numeric keyboard	
<b>Regular Turbo</b>	\$ 95
Trackball without numeric keyboard	
<b>Mac Daisy Wheel Connection</b>	\$ 69
<b>Mac Port Adapter</b>	SPECIAL \$ 59
Bech Tech	
<b>Fanny Mac</b>	\$ 99
Fan fits in Mac's handle	
<b>Facts of Mac Posters (2)</b>	\$ 19
Mac schematics for your wall	
Computer Friends	
<b>MacInker</b>	\$ 55
Save \$5 — RE-ink ribbons	

Dialight Corporation	
<b>Wire Tree Plus</b>	\$ 69
Surge suppressor for computer and modem	
Eichner	
<b>Disk Holder</b>	\$ 25
<b>Disk Holder with Lock</b>	\$ 33
Ergotron	
<b>Mac Tilt</b>	\$ 95
Swivel stand for Mac & 2nd drive	
Floppy Clean	
<b>Head Cleaner</b>	\$ 21
<b>Mouse Cleaner</b>	\$ 19
<b>Keyboard MCPK Cleaner</b>	\$ 19
Icon Review	
<b>Mac Cracker</b>	\$ 20
Combination long handle Torx screwdriver and cover pry tool	
Innovative Technologies	
<b>The Easel</b>	\$ 14
Cloth case carries and displays disks	
Kensington	
<b>A-B Box</b>	\$ 69
<b>Control Center</b>	\$ 65
<b>Printer Stand</b>	\$ 19
<b>Surge Suppressor</b>	\$ 34
<b>Tilt/Swivel</b>	\$ 21
Kette Group	
<b>Mac Nifty</b>	\$ 29
<b>A-B Switch</b>	SPECIAL \$ 49
<b>A-B-C-D Switch</b>	\$ 69
<b>Mac Nifty Stereo System</b>	\$ 69
Great sound for the Mac—includes speakers	
Koala Technology	
<b>Mac Vision</b>	\$219
Puts images from your video camera into Mac	

## My Office \$95

The designers of My Office have expanded the desk metaphor to include the whole office. The clever animation of the file drawers as they open is the most highly developed visual metaphor we've seen anywhere. These high-power graphics let a new user grasp the necessary fundamentals immediately.

Mountain Equipment, Inc.	
<b>Mac Carrying Case I</b>	\$ 79
The Best! Heavy duty and stylish	
<b>ImageWriter Carrying Case</b>	\$ 59
Mouse Systems	
<b>A+ Mouse (optical)</b>	SPECIAL \$ 69
Mousetrak	
<b>MousePad</b>	SPECIAL \$ 9
Ring King	
<b>Sound-Write™</b>	\$ 99
Acoustical cover for Imagewriter	
Leather Ware	
<b>Disk Wallet</b>	SPECIAL \$ 29
Packs 6 disks in your jacket pocket—executive style!	

## DISKETTES

Sony 3 1/2" (10) SPECIAL \$ 27  
The Best!



OPEN MONDAY THRU SATURDAY  
8 A.M. to 6 P.M. (Pacific Time)

Order Desk Holiday hours: (Starting Nov. 1, 1985) 6am to 9pm Pacific Time.

CALL TOLL FREE CUSTOMER SERVICE  
ORDERS ONLY 408/625-0465  
800/228-8910 TECHNICAL SUPPORT  
408/625-2158

In California NATIONAL ACCOUNTS  
800/824-8175 408/625-1957

ASK ABOUT OUR  
NATIONAL ACCOUNTS PROGRAM

## OUR POLICIES

- We accept MasterCard and VISA with no added service charge. Your card will not be charged until we ship. Private and company checks accepted; for faster delivery send certified or cashiers check, or money order.
- No C.O.D's.
- We accept corporate or school purchase orders from qualified institutions. \$300.00 minimum. Call 408/625-1957 for details.
- California residents add 6% sales tax.
- All goods are new and guaranteed to work, but we do not guarantee machine compatibility. Due to software copyright laws, all sales are final. To return a defective product, call for a Return Authorization Number, 408/625-1952.

### Shipping

- We ship same day on most orders.
  - We automatically use the fastest method to you. \$6.00 minimum charge covers shipment by Federal Express Standard Air, insurance and handling. Please allow one week before calling to trace delivery.
  - Next day service available.
- SPECIAL SHIPPING: Alaska: Add 6% (\$10 minimum). Hawaii: Add 10% (\$15 min.). Canada: Add 12% (\$15 min.). FOREIGN ORDERS: add 18% (\$25 min.). All prices must be paid in U.S. dollars.

PRICES AND AVAILABILITY SUBJECT TO CHANGE  
WITHOUT NOTICE



A • F O U R • S T A R • M E N U

# DINNER AT EIGHT



*Chefs of the nation's finest restaurants offer this ultimate collection of their favorite recipes, step by step—from shopping list to wine list!*

*Ah! Dinner at Eight. A two-disk system offering instant access to the delectable recipes of the country's finest restaurants. From New York City to San Francisco, master chefs reveal their secrets—with room for you to enter your own "house specials."*

*Select your menu from ours. Dinner at Eight lists hundreds of dishes, complete with preparation times. Select an entire menu and print a single shopping list of ingredients, automatically calculated for a single serving or any number of people. And may we suggest a companion wine with your meal?*

*Dinner at Eight. Bon appetit!*

6300 LA CALMA DR., STE. 100/AUSTIN, TX 78752/(512) 454-5004  
A STARCOR PACKAGE

Please circle 33 on reader service card.

**RUBICON**  
P U B L I S H I N G





# ...NOT A CREATURE WAS STIRRING,



*Here are some gift*

*ideas sure to*

*please that Mac*

*lover in your life.*

STILL STUCK OVER WHAT TO GET that Mac user in your life for the holidays? Shopping for holiday gifts is easier than you think when you think Mac. There are so many fun and useful items in this year's holiday goodie bag that it will be easy — and affordable — to please your Mac fan friends. Here's *MacUser's* first annual holiday shopping guide for your shopping (or hinting) pleasure.

## NOT EVEN A MOUSE.

BY  
TRACIE FORMAN HINES



# "...NOT A CREATURE WAS STIRRING,"



T-Shirts designed with Underware Ribbon



Kensington's Maccessories Products



Doss' Tosh



Moustrak on Mouse Mover



MacTurboTouch



MacNifty Joystick Adapter

## Shirting the Issue

Artistic types will love having the chance to put their pictures on to T-shirts. A number of manufacturers offer ImageWriter ribbons that print on fabric. Some are packaged with a virtual rainbow of transfer ribbons, while others offer a basic black ImageWriter cartridge and an assortment of colored transfer pens.

Among those on store shelves in time for the holidays are Sharp's heat transfer ribbons (Sharp Color, PO Box 1442, Lancaster, OH 43130; \$12 each), the *T-Shirt Factory*; (\$54.95 for a complete set of color ribbons, from I/O Design, 19 Lafayette St., Rumson, NJ 07760), *Draw 'N' Wear Rainbow Ribbons* (\$14.95, from Frontrunner, 36 California Ave., Suite 712, Reno, NV 89509) and the *Underware Ribbon* with five Colorpens (\$24.95, from Diversions, Inc., 1550 Winding Way, Belmont, CA 94002). "Regular" colored ribbons that don't print on fabric are available at most Macintosh computer stores as well, averaging \$5-\$10 apiece.

## An Ounce of Prevention

Power surges can fry microprocessors faster than you can double-click, and surge suppressors are the best insurance. Kensington's *Maccessories Control Center* combines surge suppression, static protection, line noise filtering and a three-outlet power strip with switches for each outlet.

The Maccessories line also includes *Maccessories Mouse Cleaning Kit and Mouse Pocket*, packaged with a Mouse Pocket, 25 foam swabs, 25 cleaning cloths, a bottle of cleaning fluid and a can of compressed air. To keep disk drives in peak condition, the *Maccessories Disk Drive Cleaning Kit* offers a reusable cleaning cartridge, a bottle of cleanser fluid and 12 cleaning disks. The Control Center is \$99.95; Mouse Cleaning Kit, \$24.95, and Disk Drive Cleaning Kit, \$29.95. From Kensington Maccessories,

Kensington Microware Ltd., 251 Park Avenue South, New York, NY 10010.

Of course, theft is the ultimate threat to any computer. Doss Industries provides a secure solution with the *Tosh*, a steel base that can be secured to the Mac and a desk without voiding the warranty, featuring room inside to store peripherals. The unit is vented and it doesn't block the reset switch, and an added bonus lets users tilt the computer for maximum viewing comfort. The *Tosh* costs \$149.95 from Doss Industries, 1224 Mariposa, San Francisco, CA 94107. Doss also offers a 360-degree swivel plate (\$35), an adhesive system for those who don't like bolting their computers down (\$15), and security devices for peripherals and a second disk drive (\$15-\$40).

## Of Mice and Men

Besides merely freeing up desk space, mouse pads help keep a controller's innards from accumulating movement-clogging dust and debris. A mouse pad like the *Moustrak* pictured here (\$7.95 to \$10.95 from Moustrak Inc., 3047 St. Helena Highway, St. Helena, CA 94574) will free up desk space, help keep a mouse in good working order AND leaving space in your budget for an extra — for yourself!

Magnum Software's *Mouse Mover* snaps on to the bottom of the mouse like a roller skate, freeing it up to glide over desk or mouse pad with ease. 99 tiny ball bearings allow for fluid motion. Available from Magnum Software, 21115 Devonshire Street, Suite 337, Chatsworth, CA 91311; \$19.95.

*MacTurboTouch* (\$129, Assimilation Process, 485 Alberto Way, Los Gatos, CA 95030) is a stationary track ball that functions as a mouse without the movement. It's fast, sturdy, and a great alternative to the standard Mac control system.

Those who still can't get used to the mouse will jump for joysticks when they un-





**Personics Headset**



**QuickStick**



**The Easel and the Pocket Pak**



**Dust covers by CompuCover and MacAttire**

wrap Kraft's *QuickStick* (\$79.95 from Kraft, PO Box 1268, Vista, CA 92083), a slim-style Kraft joystick with a light, square base and trim controls. The *MacNifty Joystick Adapter* (\$44.95 from Kette Group International, 13895 Industrial Park Blvd., Minneapolis, MN 55441) comes with a tiny, palm-sized joystick with two action buttons on its sides.

People who do a lot of typing don't like to take their hands off the keyboard to mouse up to the menus. Personics has a solution to the problem: Use your head! Their headset runs through an adapter to emulate the mouse's movements. The cursor is controlled by the user's head movements. Available for about \$150 from Personics Corp., 2352 Main St. Bldg. 2, Concord, MA 01742.

## The Story on Storage

Innovative Technologies' *Easel* and *Pocket Pak* make storing and transporting disks a breeze. Available in bright red or blue nylon, the *Pocket Pak* (\$13.95) provides lightweight protection for six disks. The *Easel* (\$19.95) stores twenty disks and folds up on itself via a velcro strip to form a pyramid for fast display. Both are available from Innovative Technologies, 5731 La Jolla Blvd., Suite D, La Jolla, CA 92037.

Several companies offer attractive and functional dust covers for the Mac and its peripherals. CompuCover's Dust Covers color coordinate with the Mac's basic beige, with sturdy, static-free plastic covers available in sets or individually. The deluxe Mac set comes with monitor, keyboard, and mouse covers for \$13.95; without the mouse cover, \$12.95. Individual covers for the monitor (\$9.95), keyboard (\$6.95) and external disk drive (\$5.95) are available from CompuCover, PO Box 310, Mary Esther, FL 32569.

Know a Mac user with a colorful personality? He or she can protect the Mac in high

style with *MacAttire*, a veritable wardrobe for the machine and its peripherals. Choose from navy, burgundy or silver gray with a stylish coordinating ribbon trim. The covers are made of nylon (machine washable and dryable) with an anti-static finish and waterproof, fire-retardant polyurethane coating. *MacAttire* includes covers for the Mac (\$21.95), standard ImageWriter (\$15.95), wide ImageWriter (\$16.95), external drive (\$7.95), Mac keypad (\$7.95), Macintosh XL (\$26.95), LaserWriter (\$23.95) and an eight-disk wallet (\$11.95).

## Call It Home

People who spend a lot of time watching their Mac screens will appreciate a *MacTilt* ergonomic stand, which elevates the computer a few inches off the desk and tilts to accommodate nearly any viewing position. Available from Ergotron (1621 E. 79th Street, Suite C133, Minneapolis, MN 55420; \$99.95), it's a boon for anyone who's ever suffered with the dreaded "Mac-Back" cramp.

If desk space is at a premium for your favorite Mac user, *MacStation* (from The MicroRain Corp., PO Box 96008, Dept. 150, Bellevue, WA 98009; \$95) organizes clutter and still lets the computer breathe. Three pieces assemble easily to provide space for the ImageWriter on top, plus storage shelves for a drive, mouse, and disks.

The mouse gets a house of its own with the *Mouse Pocket*, a small plastic holding case that attaches to the Mac's side with a strip of velcro. For a mere \$9.95, you can give Mac owners the gift of protection against spills, dust, and mouse-threatening mishaps. Available from Kensington MacAccessories, Kensington Microwave Ltd., 251 Park Avenue South, New York, NY 10010.

## The MacReader

Two must-haves for any information-hungry Mac owner are *The Complete MacIn-*



**MacTilt**



**MacStation with mouse in Mouse Pocket**



# "...NOT A CREATURE WAS STIRRING,"



A Mac owner's must-haves



Thunderscan Digitizer



MacNifty Stereo Music System



The Mac Along and Mac Along Plus

tosh Sourcebook (by Doug Clapp and Pat Ryall; Info Books, PO Box 1018, Santa Monica, CA 90406; about \$20) and *The Book of Macintosh Software* (by McCroskey, Mellin and Ritz; Arrays Inc. Book Division, 6711 Valjean Ave., Van Nuys, CA 91406; \$19.95). The former is an indispensable guide to using the Mac most effectively, while the latter provides a comprehensive overview of what's out there in the Mac software marketplace.

*Shatter* is an adult comic book actually drawn and designed on the Mac by artist Mike Saenz. Its genesis began with the images in the movie *Blade Runner* and grew in fantasy and dimension from there. A six-issue subscription to the bi-monthly costs \$10 a year (\$11 Canadian) and can be obtained by writing to First Comics, 435 North La Salle Street, Chicago, IL 60610.

A gift subscription to *MacUser* lets that Mac fan in your life know you care enough to send them the magazine with the most news, reviews, and features about their favorite micro. See the subscription form enclosed elsewhere in this issue.

## Music and Art

What home publishing operation would be complete without a digitizer? *ThunderScan* (Thunderware, 21 Orinda Way, Orinda, CA 94563; \$229), pictured here, can digitize any photograph into the Mac's memory quickly and easily.

The Mac also has great sound potential, but it's not realized when listening to music compositions through its tiny speaker. The *MacNifty Stereo Music System* (\$79.95, from Kette Group International, 13895 Industrial Park Blvd, Minneapolis, MN 55441) simulates stereo sound by splitting highs and lows between its two speakers. It plays Macmusic the way it was meant to sound.

With the *Deluxe Music Construction Set* (Electronic Arts), you don't have to be a musician to create beautiful tunes with

ease. Features include easy entry and instant playback, all standard musical notations, and realistic instrument sounds.

## Porto-Mac

The *Mac Along* (\$29.95, from Comprotek Services, 8101 Cameron Rd., Suite 105, Austin, TX 78753) slides on to the side of the computer, providing storage space for all other Mac peripherals. It makes a handy alternative to heavy luggage for those who take the Mac along on short hops. The *Mac Along Plus* (\$89.95) adds surge protection and line filtering via built-in outlets and a power switch on the side of the unit.

The Mac leaves home in style in its sturdy, padded carrying case. The one pictured is the *Zip Bag Hard Shell* by Hybrid Cases, which features sturdy, shock-resistant ethafoam padding covered by waterproof, tearproof cordure. The case has room for the Mac, keyboard, mouse, external drive, and disks, with a sturdy shoulder strap attached for easy toting. Available from Hybrid Cases, 1121-20 Lincoln Avenue, Holbrook, NY 11741 for \$105 retail.

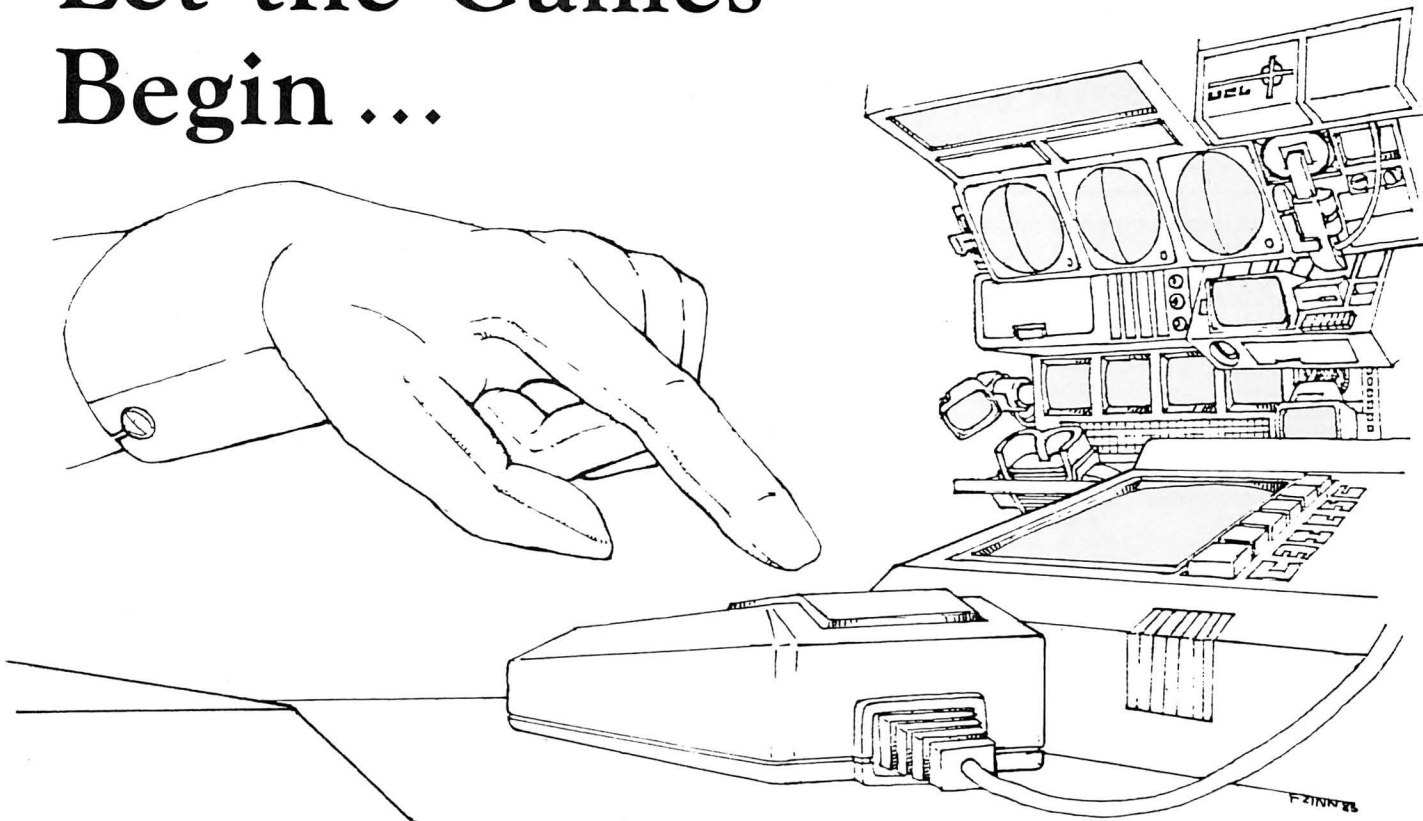
There are so many good gift ideas for a Mac owner that it's hard to know where to begin. About the only thing missing from the gift list lineup is an electronic partridge in a pear tree. ☞



Hybrid Cases' Zip Bag Hard Shell carryall



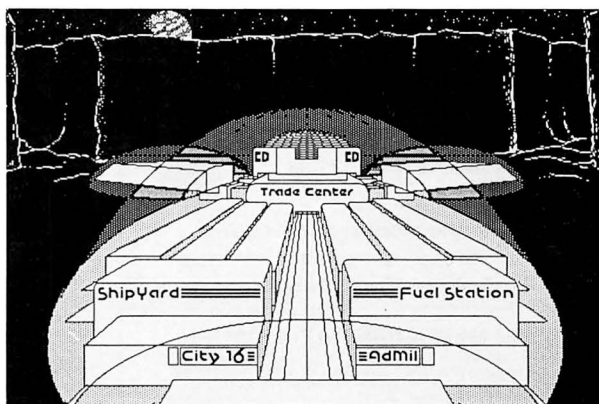
# Let the Games Begin ...



## Grid Wars™

Your opponent waves its tentacles in the smoky barroom air, unleashing wave after wave of bizarre soldiers across the three-dimensional playing surface. You respond with your arsenal of weapons; fighting them off barely in time to face the next attack. If you fail, you buy the drinks.

**\$39.95**



## Lunar Explorer™

Society is decaying around you. In your custom-designed space ship, you cross the war-torn world, bartering supplies between the isolated cities, and fighting the enemy forces in the barren canyons between. Your efforts are all that hold together the last remnants of civilization. If you fail, your world dies.

**\$49.95**

**Game Software written exclusively for the Macintosh from**



Lunar Explorer and Grid Wars is a trademark of Ann Arbor Softworks, Inc.  
Macintosh is a trademark licenced to Apple Computer, Inc.

**Please circle 35 on reader service card.**



## BUY HARDWARE AND SOFTWARE AT WHOLESALE + 8%, AND GET 14-30 DAY SOFTWARE RENTALS<sup>†</sup>...

Every few months, *The NETWORK* saves its members more than \$24,000,000 and processes over 100,000 orders.

### The nation's largest corporations depend on PC NETWORK!

On our corporate roster are some of the nation's largest financial industrial and professional concerns *including some of the most important names in the computer industry:*

<b>AT&amp;T</b>	General Motors
Barclays Bank	Gillette
Bell & Howell	<b>Hewlett Packard</b>
Citibank	Hughes Aircraft
Columbia University	<b>IBM</b>
<b>Data General</b>	<b>ITT</b>
Exxon	Kodak
Farm Bureau Insurance	<b>Multimate</b>
Frontier Airlines	United Nations
General Mills	Yale University
General Electric	Veteran's Administration

plus thousands of satisfied consulting firms, small businesses, user groups, municipalities, government agencies and value-wise individuals ACROSS THE NATION! Their buyers know that purchasing or renting from PC NETWORK saves them time, money and trouble. They also count on us for product evaluation, professional consultation and the broadest spectrum of products and brands around.

**CALL TOLL FREE  
1-800-621-S-A-V-E**

In Illinois call (312) 280-0002  
Your Membership Validation Number **HHZ5**

You can validate your membership number and, if you wish, place your first money-saving order over the phone by using your VISA, MASTERCARD or AMERICAN EXPRESS. Our knowledgeable service consultants are on duty Mon.-Fri. 7:30 AM to 9 PM, SAT. 9AM to 7 PM CST.



**PERSONAL COMPUTER NETWORK**  
320 West Ohio  
Chicago, Illinois 60610

Call now...Join the PC NETWORK and start saving today!

**NEW HOLIDAY HOURS**  
M-F 7:30 AM - 9:00 PM CST  
SAT 9:00 AM - 7:00 PM CST



\*Members pay 8% above this wholesale price plus shipping.

### PC NETWORK • MEMBERSHIP APPLICATION

**YES!** Please enroll me as a member in the PC NETWORK™ and send my catalog featuring thousands of computer products, all at just 8% above DEALER WHOLESALE PRICES. I will also periodically receive "THE PRINTOUT", a special up-to-date on merchandise at prices BELOW even those in my wholesale catalog, and all the other exclusive, money-saving services available to Members.

**HHZ5**

I am under no obligation to buy anything. My complete satisfaction is guaranteed. Please check (✓) all boxes that apply.

#### Basic Membership with 14 Day Rentals

- ☐ One-year membership for \$8
- ☐ Two-year membership for \$15 (SAVE \$1)
- ☐ Business Software Rental Library for \$25 add'l per year—with 14 day rentals
- ☐ Games Software Rental Library for \$10 add'l per year

#### Special V.I.P. Membership with 30 Day Rentals

- ☐ One-year membership for \$15
- ☐ Two-year membership for \$25 (SAVE \$5)
- ☐ BOTH Business and Game Software Rental Libraries for \$30 add'l per year—with 30 day rentals
- ☐ \*VIP members receive advance notice on limited quantity merchandise specials

☐ Bill my credit card: ☐ VISA ☐ MasterCard ☐ American Express

Account Number

Exp. Date  mo  year

☐ Check or money order enclosed for \$\_\_\_\_\_

Name

Address  Apt. No.

City  State  Zip

Telephone (  )

Please provide the following information to insure compatibility with your system (check all boxes that apply):

- ☐ APPLE IIe ☐ APPLE IIc ☐ APPLE IIx ☐ IBM-AT
- ☐ MACINTOSH ☐ LISA ☐ APPLE III ☐ IBM PC

☐ Other:

Signature  (Signature required to validate membership)

Copyright © 1985, PC NETWORK INC.

### IBM PC HARD DISK SYSTEM



IBM PC w/256K  
Floppy Drive Controller  
1 Double Sided Double  
Density Disk Drive  
Half Height 10MB  
Disk Subsystem

CALL FOR  
LATEST IBM  
ANNOUNCEMENTS

CUSTOM  
CONFIGURATIONS  
WELCOME

**\$1,749.00\***

### MACINTOSH SYSTEMS

512/128K Memory  
400K Disk  
Keyboard  
Mouse  
Software



**Price Too Low To Print!!!**

### APPLE MACINTOSH

400KB EXTERNAL  
Disk Drive



**\$349.95\***

### APPLE 15" WIDE IMAGEWRITER

with MAC Accessory Kit



**\$485.00\***

### MICROSOFT

(At Unheard of Prices!!!)



**Multiplan, File or Word . . . \$102.00\***  
**BASIC . . . 79.00\***  
**Chart . . . 66.00\***

### PRENTICE® POF-COM



1200BPS Fully MAC Compatible!  
Includes **Free** Dow Jones  
Straight Talk Terminal Software  
and Time on News Service

**\$245.00\***

### HAYDEN

**Videoworks  
or  
Musicworks  
\$50.00\***

### Brand Name Macintosh Diskettes Guaranteed for Life!

Box of 10 Includes Free Flip & File Case. . . . . **\$21.95\***

### Central Point Copy II MAC

Back-up Protected Software . . . . . **\$20.00\***

### 1st Byte Smooth Talker

Voice Synthesis for the MAC. . . . . **47.00\***

### GTE Sylvania 1700 Watt

Filtered Surge Protector . . . . . **29.95\***

### EPSON® PRINTERS

**Unbelievable Low Prices!!!**

MAC Compatible when used with:

Creighton's ProPrint for **45.00\***  
or Softstyle's Epstart for **23.97\***



<b>LX-80</b>	<b>80COL/100CPS</b>	<b>\$199.00*</b>
<b>FX-85</b>	<b>80COL/160CPS</b>	<b>299.00*</b>
<b>FX-185</b>	<b>132COL/160CPS</b>	<b>429.00*</b>
<b>LQ-1500</b>	<b>132COL/200CPS</b>	<b>799.00*</b>

Wholesale Prices Change Rapidly...if you ever see a lower price advertised anywhere please call! You will find the Network's Price will always be the best!



## ...AS A PC NETWORK MEMBER ONLY!

Listed below are just a few of the over 20,000 products available at our EVERYDAY LOW PRICES

### GAMES & EDUCATIONAL

(Please add \$1 shipping and handling for each title ordered from below.)

Wholesale	Wholesale
Axlon Art Portfolio \$ 31.00*	Mirage Concepts Trivia \$ 11.00*
Axlon Card Shoppe 31.00*	Miles Computing Mac Attack 23.00*
Bluechip Baron, Millionaire, Tycoon 26.00*	Palantir Mac Type 23.50*
CBS Software Murder by the Dozen 20.97*	Penguin Graphics Magician 28.97*
Expertelligence ExperLogo 65.00*	Penguin Pensate or Kyphus 20.00*
1st Byte Smooth Talker 47.00*	Penguin Transylvania 20.00*
Hayden Videoworks 50.00*	Professional Software Trivia Fever 19.00*
Hayden Sargon III 25.75*	Priority Software Forbidden Quest 21.00*
Hayden DaVinci—Houses, Interiors or Landscapes 24.75*	Scarborough Mastertyping 26.50*
Hayden Word Challenge 21.00*	Scarborough Run for the Money 26.00*
Infocom Deadline, Suspended 24.00*	Sierra On-Line Frogger 20.00*
Infocom Enchanter, Planet Fall, Cutthroats 20.00*	Silicon Beach Software Airborne! 18.25*
Infocom Zork II, Zork III 22.00*	Simon & Schuster Typing Tutor III 28.25*
Infocom Zork I, Witness 20.00*	T/Maker Click Art 25.00*
Infocom Suspect, Infidel, Sorcerer 22.00*	Videx Fun Pack 19.77*
Infocom Hitchhiker's Guide, Seastalker 20.00*	Videx Mac Checkers & Reversi 25.17*
Mark of The Unicorn Mouse Stampede 19.00*	Videx Mac Vegas 31.00*
Miles Computing Mac the Knife 18.00*	Videx Mac Gammon & Cribbage 25.17*

### BUSINESS SOFTWARE

(Please add \$2.50 shipping and handling for each title ordered from below.)

Wholesale	Wholesale
Apple MacTerminal \$ 70.00*	Manhattan Graphics Ready Set Go \$ 50.00*
Apple MacPascal 85.00*	Megahaus Megafiler 85.00*
Assimilation Process Mac•Tracks or Lock•It 19.25*	Microsoft Basic 79.00*
Assimilation Process Mac•Memory Disk 19.25*	Microsoft Chart 66.00*
Boston Software Mac Publisher 65.00*	Microsoft File 102.00*
Creative Solutions MacForth Level I 66.00*	Microsoft Multiplan 102.00*
Creative Solutions MacForth Level II 110.00*	Microsoft Word 102.00*
Desktop Software 1st Base 90.00*	Odesta Helix Reg's 512 K Mac 200.00*
Dilithium PC to MAC & Back w/cables 90.00*	Organizational OMNIS 3 225.00*
Dow Jones Software Straighttalk 40.00*	Peachtree Software G/L, A/P, A/R Each Only 77.00*
Dow Jones Software Market Manager + 103.50*	Provue Overview 135.00*
Dow Jones Software Spreadsheet Link 45.00*	Rio Grande Software Softmaker II 85.00*
Funsoft Macasm 60.00*	Sierra Online Mac One Write 125.00*
Haba Habadex 40.00*	Softstyle EpStart 23.97*
Haba Quartet 101.95*	(USE YOUR EPSON ON A MAC)
Harvard MacManager 29.95*	Softtech Microsystems UCSD Pascal 140.00*
Human Edge Communications Edge 98.00*	Software Arts TK Solver 134.00*
Human Edge Mind Front Desk 24.00*	Software Publishing PFS: File, or Report 68.00*
Layered Software Pro Bank 73.00*	Stoneware DB Master 95.00*
Living Videotext Think•Tank (128K VER.) 65.00*	Telos Software Filevision 87.50*
Main Street Main Street Filter 67.00*	Tronix Monogram Dollars & Sense 70.00*

### HARDWARE

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

COMPLETE SYSTEMS	PRINTERS
Apple Macintosh Base Systems CALL	Apple Imagewriter 10" Carriage (with Mac Kit) \$ 419.95*
Apple Apple IIc CALL	Apple Imagewriter 15" Carriage (with Mac Kit) 485.00*
Apple Apple IIe CALL	Apple Laser Writer 5,040.00*
AT&T 6300 PC CPU2 \$1,575.00* (34.02)	Turns the Mac into a typesetter!
128K/2 Floppy/1 Serial/1 Parallel	▶ Epson FX-85 10" Platen 160CPS 299.00*
▶ COMPAQ Desk Pro System with Tape Backup w/640K/1 Floppy/10MB Hard Disk/10MB Tape Drive/Monitor 2,951.94* (63.70)	▶ Epson FX-185 15" Platen 160CPS 429.00*
▶ COMPAQ Hard Disk Portable 2,235.00* (48.28)	▶ Epson LX-80 10" Platen 100CPS 199.00*
10MB Hard Disk/1 Floppy/256K	▶ Epson LQ-1500 15" Platen 200CPS 799.00*
▶ IBM PC Base System 2 1,495.02* (32.55)	Hanzon Hanzon Board turns your Epson into an Imagewriter!
OSDD/FC/256K	NEC 3510 33CPS Letter Quality Printer 960.00*
▶ IBM PC Professional Hard Disk (1 OSDD/FC/10MB Hard Disk/256K) 1,749.00* (37.78)	NEC 8810 55CPS Letter Quality Printer. 1,275.00*
▶ IBM PC/AT Base System 2,795.00* (60.37)	Both these printers are compatible with Microsoft Word!
1.2 MB Floppy/256K	Okidata ML-192/Mac/Apple New Slimline Design/10" Platen/160CPS/Imagewriter Look-Alike CALL
IBM PC/AT At All Configs CALL	Okidata ML-193/Mac/Apple New Slimline Design/15" Platen/160CPS/Imagewriter Look-Alike CALL
Texas Instruments Professional CALL	
DISK DRIVES	ACCESSORIES
Apple 400KB External Drive \$ 349.95*	(Freight minimum \$1 per item)
Corvus 5.5 MB Hard Drive 1,295.00*	Apple Macintosh Carrying Case \$ 69.00*
Haba 800KB Double sided CALL	Apple Macintosh Security Kit 29.00*
Macintosh Add on Drive—Twice the Capacity! Reads Standard Disks! 1,250.00*	Apple Numeric Keypad 69.00*
IOMEGA 5MB Bernoulli Box 969.00*	Assimilation Process Mac•Turbo•Touch 79.00*
Paradise 10MB Hard Disk Subsystem 999.00*	Innovative Concepts Flip N File II 28.08*
▶ Tecmar 5MB Removable Drive 999.00*	Innovative Concepts Flip N File Micro (25) 6.69*
▶ Tecmar 10MB Mac Drive 999.00*	Kensington Disk Case 20.00*
MODEMS	Kensington Dust Cover 8.25*
Apple Modem 300 \$169.00*	Kensington Starter Pack 54.00*
Apple Modem 1200 371.00*	Kensington Surge Protector 33.47*
Compuable Mac to Smartmodem Cable 16.00*	Kensington Swivel 21.00*
Hayes Smartmodem 1200 355.00*	Kensington Portable Modem 91.00*
Hayes Smartmodem 2400 535.00*	▶ Koala MacVision 159.00*
Microcom Mac Modem 360.00*	Maxell Mac Diskettes (Box of 10) 29.95*
Prentice Pop Com Mac Pack 245.00*	Mouse Systems A + Mouse 55.00*
1200 Baud Modem, Cable, Straighttalk	PC Network Mac Diskettes (Box of 10) 21.95*
Prometheus Promodem 1200 w/Mac Pac 299.00*	Includes Free Flip N File
U.S. Robotics Password 195.00*	PC Network Imagewriter Ribbons (Per 12) 36.00*
LOWEST PRICES 1200 BPS Available!	▶ Thunderware Thundercan Turns your Imagewriter into an Optical digitizer! 155.00*
U.S. Robotics Courier 2400BPS Modem 450.00*	Sony 3.5" Diskettes (Box of 10) 22.95*
	WP Printer Paper 2600 Sheets Microline Perfs 17.00*

\*PC Network Members pay just 8% above the wholesale price, plus shipping. All prices reflect a 3% cash discount. Minimum shipping \$2.50 per order. International orders call for shipping & handling charges. Personal checks please allow 10 working days to clear. All prices subject to change without notice!

## ...WITH THESE 15 UNIQUE BENEFITS

**1 COST + 8% PRICING**—The NETWORK purchases millions of dollars in merchandise each month. You benefit in receiving the lowest price available and all at just 8% above published dealer wholesale price.

**2 OUR 600 PAGE WHOLESALE CATALOG**—Members receive our 600 page wholesale catalog containing over 20,000 hardware and software products for the IBM PC, APPLE and over 50 other popular computer systems. **THE NETWORK'S CATALOG IS THE LARGEST SINGLE COMPILATION OF PERSONAL COMPUTER PRODUCTS AVAILABLE TODAY. NOW UPDATED QUARTERLY!**

**3 IN-STOCK INSURED FAST HOME DELIVERY**—The NETWORK maintains a giant multi-million dollar inventory of most popular products, allowing us to ship many orders from stock. Non-stock items are typically maintained in local warehouses just days away from The NETWORK and YOU. We pay all insurance expenses on your shipment. **EMERGENCY OVER-NIGHT SERVICE IS AVAILABLE ON REQUEST.**

**4 10 DAY RETURN POLICY**—If you are not satisfied, for any reason with any hardware component purchased from The NETWORK within 10 days of receipt, we will refund your entire purchase (less shipping) with no questions asked.

**5 MEMBERSHIP SATISFACTION GUARANTEE**—If for any reason you are not satisfied with your membership within 30 days, we will refund your dues IN FULL.

**6 EXPERIENCED CONSULTANTS**—The NETWORK hires consultants, not order takers, to aid you in product selection. Our consulting staff possesses in excess of 150 man years of personal computer product experience. **We back our consultants with our money back guarantee: IF ANY PRODUCT RECOMMENDED BY OUR CONSULTING STAFF FAILS TO PERFORM AS PROMISED—WE WILL TAKE IT BACK AT OUR EXPENSE FOR A 100% REFUND.**

**7 FREE TECHNICAL SUPPORT**—The NETWORK supports every product it sells. Our qualified TECH-SUPPORT staff will help you assemble your system, interpret vendor documentation and get your software and hardware to work. **WE WILL GIVE YOU ALL THE HELP YOU NEED, WHEN YOU NEED IT—FREE!**

**+ 8 OPTIONAL BUSINESS RENTAL LIBRARY**—All members can join our BUSINESS RENTAL LIBRARY featuring over 1000 available titles for just \$25 PER YEAR above the base membership fee. This entitles you to rent business software AT JUST 20% of the DISCOUNT PRICE FOR A 14 DAY PERIOD. If you decide to keep the software, the entire rental fee is deducted from the purchase price. **VIP MEMBERS GET A FULL 30 DAYS for just \$30 above the V.I.P. base fee.** This also includes the game library privileges for a \$5 combination savings.

**+ 9 OPTIONAL GAME SOFTWARE RENTAL LIBRARY**—The Game Rental library is available to members for just \$10 PER YEAR and permits evaluation (or just enjoyment) of any game or educational software product as above.

**10 SPECIAL SAVINGS BULLETINS—THE PRINTOUT**—Issued Quarterly at no charge to Network members only! The Printout contains all the New Product listings and price changes you need to keep your Catalog up to date. Also, we buy excess dealer inventories, and store bankruptcy closeouts, which we turn around and make available to our members at fantastic savings via THE PRINTOUT.

**11 DISCOUNT BOOK LIBRARY**—Working with numerous publishers and distributors, The NETWORK has assembled a library of over 1000 computer related books and manuals at savings of up to 75% from the normal store price.

**12 MEMBERSHIP REFERRAL BONUS**—Our most valuable source of new members is you! To date almost 40% of our members have been referred by word of mouth from other satisfied members. For those of you who refer new members, The NETWORK will credit a cash bonus to your account applicable to any future purchase.

**13 CORPORATE ACCOUNT PROGRAM**—Almost 50% of The NETWORK's members are corporate buyers and users (see opposite page left). The NETWORK can establish open account status and assign designated account managers to expedite orders, and coordinate multiple location shipments.

**14 QUANTITY DISCOUNTS**—For large corporations, clubs, and repeat or quantity buyers The NETWORK can extend additional single order discounts, when available to us from our manufacturers and distributors.

**15 PRICE PROTECTION**—The PC Industry is crazy!! Prices change not yearly or monthly or even weekly but often day by day! These changes are sometimes up but are mostly down!!! **THE NETWORK GUARANTEES THAT IN THE EVENT OF A PRODUCT PRICE REDUCTION, BETWEEN THE TIME YOU PLACE YOUR ORDER AND THE TIME THE PRODUCT SHIPS YOU WILL ONLY PAY THE LOWER AMOUNT!!**

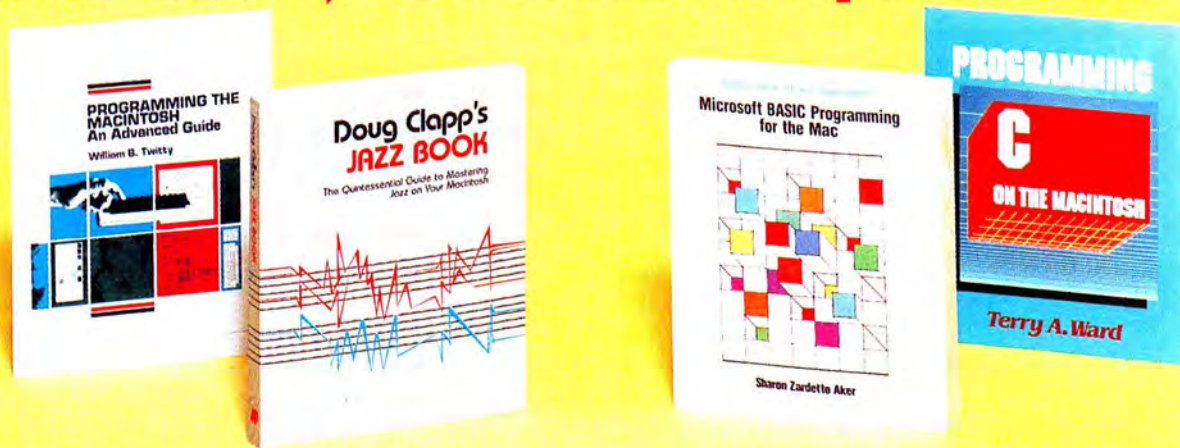
CALL TOLL FREE 1-800-621-S-A-V-E (memberships only)  
In Illinois call (312) 280-0002 Validation code: HHZ5

Please circle 60 on reader service card.



# Jazz up your Macintosh

## with Scott, Foresman computer books



### Doug Clapp's Jazz Book

“Doug Clapp brings his unique style and viewpoint to teaching one of the world's most unique—and complex—programs. He succeeds brilliantly, making Jazz as easy to learn as the Macintosh itself.”

—Neil Shapiro, Editor in Chief, *MacUser*

“What Jazz has done for the Macintosh, Doug Clapp has done for Jazz!”

—Peter McWilliams, Author of *The Personal Computer Book*

This lively, easy-to-follow tutorial gets you up and running immediately with all five Jazz functions. It's all here—tips on customizing Jazz, Jazz add-ons, and numerous hands-on examples. **\$17.95**, 224 pages

#### To order,

Contact your local bookstore or computer store, or send the order form to

**Scott, Foresman and Company** 1900 East Lake Avenue  
**Professional Publishing Group** Glenview, IL 60025  
(312) 729-3000

### ORDER FORM



Your Name \_\_\_\_\_  
Street Address \_\_\_\_\_

City/State/Zip Code \_\_\_\_\_  
Phone Number \_\_\_\_\_

#### Send me

- \_\_\_\_\_ **Doug Clapp's Jazz Book**, \$17.95, 18266
- \_\_\_\_\_ **Microsoft BASIC Programming for the Mac**, \$18.95, 18167
- \_\_\_\_\_ **Programming the Macintosh**, \$19.95, 18250
- \_\_\_\_\_ **Programming C on the Macintosh**, \$21.95, 18274

#### Please check method of payment:

☐ Check/Money Order ☐ MasterCard ☐ Visa

Amount Enclosed \$ \_\_\_\_\_

Credit Card No. \_\_\_\_\_

Expiration Date \_\_\_\_\_

Signature \_\_\_\_\_

Add applicable sales tax, plus 6% of Total for U.P.S. (Publisher pays regular book rate).

MU-1



# Mac Mail



## Software That Would Impress an Extra-Terrestrial.

Telecommunications Software for the MACINTOSH™ featuring:  
Auto Dial, Auto Redial, Auto Answer, Unattended Operation, Auto Log-on and Log-off, On-line Message Editor, Terminal Emulation, MacBinary, X-Modem, Mailing Labels, and Much More!

Dealer inquiries invited (213) 306-0735  
MACINTOSH is a trademark of Apple Computer, Inc.  
Please circle 65 on reader service card.

**AEGIS**  
2210 Wilshire Blvd. #277  
Santa Monica, CA 90403





# IS IT JUST TEXT?

BY STEVEN BOBKER

**Professional  
typesetting and page**

**makeup combine in a**

**state-of-the-art**

**PostScript generator.**

SPACE.

Typography is space. Space around groups of letters we call words. And space in, through and around groups of words we call writing.

The advent of the typewriter began to take away from the importance of space, for the letters could only fit into allotted slots and the lines of type could only follow other lines by fixed spaces. Computer word processing both aggravated and ameliorated the situation.

The fonts or actual letters could now be varied to create new beauty, but the spatial relationships of the letters to

each other became even more firmly locked. And then computerized word processing began to dominate areas that had been traditionally serviced by professional typographers. For its cost was that much lower and the output was, well, "not that bad." For the money, it could be lived with.

Then came Macintosh, with its bit-mapped screen and output. Bit-mapping wasn't new, what was new was the cost and the ease of use that Mac provided. Now letters were no longer restricted to fixed size characters. Now styles were no longer restricted to a few fonts. And now the words did not have to fall into their neat and firmly ordered rows.

Applications were quickly developed to allow many sizes of type to be mixed with graphics. Very precise positioning of each element became possible. And then the LaserWriter appeared.

The LaserWriter provides roughly four times more resolution than either the Mac screen or the ImageWriter. So letters and words can be placed much more accurately than ever before on a microcomputer.

Still, it wasn't quite enough. Sure it was close. But quality printing isn't a

game of horseshoes. Almost doesn't count, at least to art directors and other printing pros.

As good as the LaserWriter is, its type output is visibly inferior to commercial typesetting. And every art director can see that, so a tool that produces files that can drive both LaserWriters (for proofing) and higher resolution PostScript-compatible output devices (for final output) is crucial.

How can that be done? How can the files that are produced by an ordinary word processor be used on a completely different device? The answer is PostScript, a new language that can be generated on any computer and read and used by both LaserWriters and higher resolution devices.

PostScript is a page description language that has many supporters in the printing trades. It's a definite front-runner in the race to be the standard language of the next generation of output devices. Right now it can be used with machines as crude as the 300 dot-per-inch LaserWriter and as sophisticated as Allied Linotype's Linotron 404 with its 2,400 dot-per-inch resolution.

The same PostScript files will drive



both machines. And PostScript files are simple ASCII text files, no high bits, no control characters, just text. That means that virtually all computers can transmit and receive them using ordinary phone lines and simple communications software.

So the files that users create on their Macs can be "proofed" on a LaserWriter and then transmitted to a shop with a Linotron. The highest quality type can now be set on a Mac and be available within minutes, if necessary.

*Just Text* is a program designed to solve the PostScript problem. It is primarily a word processor, but not the Mac standard what-you-see-is-what-you-get word processor. That's simply because the Mac screen can't begin to approach the resolution of *Just Text* in placing type.

*Just Text* uses embedded codes very similar to the long-established TTS codes that are rather intuitive and easy to learn. And the results will soon convert even the most hardened skeptics.

The manual covers the codes by both description and example, but there are a few surprises and undocumented (at least for the moment) features. For example, there are two commands, {sb} and {eb} that are not documented. A careful reading of the example documents in the manual indicates that these codes mean "start box" and "end box." Placing {sb} at the beginning of a text block and {eb} at the end creates a ruled box around the text block.

*Just Text* codes are also powerful positioning and layout tools—*Just Text* can produce finished, ready-to-print pages that include graphics right on the page. It's a complete tool. Let's look at its outstanding features in more detail.

## Typesetting 101

Real typesetting revolves around four basic parameters: font, point size, leading (space between lines) and measure (width of the line). The basic units are the point and the pica.

The Mac and PostScript both use 1/72nd of an inch as the point. Officially the point is slightly smaller but that doesn't matter as long as the system is consistent, and using 1/72nd of an inch allows "nice" interrelationships with inches. An inch is exactly 72

points, very easy to work with. All measurements in *Just Text* are in picas or points.

All page elements can be positioned on a page to the nearest point in both the horizontal and vertical directions. And if required, ruled boxes can be generated around text blocks.

The LaserWriter has thirteen built-in fonts (Times, Helvetica and Courier, each in regular, italic or oblique, bold and bold italic or bold oblique, as well as a special Symbol font). For the moment, that's it. Only these fonts can be used by *Just Text*. New fonts should become available by January 1986, and *Just Text* will support all new LaserWriter fonts as they are released.

The Symbol font can be used the same way any other Mac font is used or its characters can be used anywhere using a special *Just Text* command. Users will find a chart of the entire font and the character codes required in the manual.

## Basic WP

All real word processors word wrap. That is, that when the end of a line is reached on the screen the word processor takes care of moving any words that don't fit to the next line, and the user doesn't (indeed, shouldn't) hit a carriage return. Carriage returns or quad left (a traditional typesetting term) are only used to mark the ends of paragraphs.

*Just Text* uses the quad left command to indicate the end of paragraphs. Users can either type the TTS quad left code or generate it using the Enter key which functions as a minimacro. Lines can be set centered or flush right using similar commands (quad center, quad right). And a line (or single word on a line) can be forced to fill the entire measure with a "force justify" command. That's particularly useful for headlines and decorative effects (see Figure 1). *Just Text* doesn't support user-defined macros in this release (1.09) but that facility is planned for the near future.

Traditional typesetting assumes that there will be a variable amount of space between words, and leaves it up to the output device to determine the exact amount of space necessary.

Still, there are times when fixed

spaces are required. *Just Text* users have a full complement of spaces on call. They can have em spaces (spaces equal to the type's height—an em in a 10-point typeface is 10 points wide), en spaces (½an em), thin spaces (slightly larger than ¼ em) and unit spaces (¼ an

## THE LASER TOOLS

*Just Text* comes with four utility programs that will make working with graphics a pleasure. The four are *Paint to PostScript*, *ThunderScan to PostScript*, *MacVision to PostScript* and *EditArt*.

The first three are similar in that they take a particular graphics file (each is designed for one type only) and convert it to a PostScript file.

Why bother to convert graphics to PostScript? Well, these PostScript files can then be incorporated in any *Just Text* or PostScript file or, since they are plain ASCII text, transmitted by phone lines to any other computer. And they can be enlarged, reduced or otherwise modified.

In fact, *ThunderScan* and *MacVision* files produce good halftone type output when converted to PostScript and printed. All the gray information that these documents pick up when they are created is retained. The Mac's screen, the *ImageWriter* and *MacPaint* can't show and print all the information that *Just Text* can.

Be aware however that PostScript is a verbose language and something like a full-screen 512 by 342 pixel *MacVision* document with 256 levels of gray will occupy roughly 350K when converted to PostScript! A hard disk is really nice when working with PostScript graphics files.

The final utility in the Laser Tools is *EditArt*. This is a tool that allows precise control over the page position, scaling and cropping of the graphics files that have already been converted to PostScript. Images can also be rotated freely.

A particularly good use for *EditArt* is to take an image that has been created at some enlargement (*ThunderScan* is particularly adept at this) and print it out on the LaserWriter at a reduction. The quality will be extraordinary—none of the obvious problems *MacPaint* has with such scaled work.

The Laser Tools are easy to use which is fortunate since they are not documented. At all.



# IS IT JUST TEXT?

em). Unit spaces come in both + and - sizes so letters can be spaced out or run together (kerned).

And if that's not enough there are two user-specifiable fixed space commands, one allowing the placing of  $\pm 16$  points of space in whole points and the other (the microspace) allowing the same  $\pm 16$  points in increments of 0.001 points. Users will have to use 300 of these microspaces to even be able to see a slight difference in LaserWriter output!

The microspace is a feature unique to *Just Text* and is much finer than is necessary for use on the LaserWriter. It was designed to provide precise positioning control on 1000 dot-per-inch machines.

## More Features

Professional quality typesetters must be able to produce justified, correctly hyphenated type. No current word processor other than *Just Text* can perform such functions. *Microsoft Word's* output can be justified, and it allows "soft" hyphens, but they are user inserted. *Just Text* will justify and hyphenate automatically, if commanded to. The hyphenation rules *Just Text* uses are those of the popular TEX type creation program. There is also a user-modifiable exception dictionary, so frequently used words that don't follow the rules can be handled. While *Just Text* usually gets its hyphens right, hyphenation is still one of the weaker parts of the program.

Indentation, another staple feature of word processors, can be treated in several ways. Blocks of text can be indented a set number of picas from either left or right or both. Hanging indents, where the first line of a paragraph is set and then all other lines are indented a specific amount, are controlled by a single command. There is also a hanging bullet command that sets a bullet (in a typesize 4 points larger than the size being used so it looks good), followed by a fixed en space, and then the text is set on a hanging indent (see Figure 2).

Correctly sized fractions are easy to set. The {fr} command allows a choice of any denominator and numerator. Superscripts and subscripts are also supported, making complex mathe-

## THE TEXT TOOLS AND OTHER GOODIES

One of the main drawbacks in *Just Text* is its text creation and editing window. Knowledge Engineering is aware of that and has provided a set of programs to help users. These programs translate standard formatted *EDIT* or *MacWrite* files into fully coded *Just Text* files.

Since both programs work quickly and accurately, files can be created in *EDIT* or *MacWrite* without a care for the TTS codes. These programs will add the necessary codes. Of course, the fine tuning that users would normally add when working directly in *Just Text* will be missing, but these programs are a good starting point and real eyesavers.

*ConcatFiles* and *SplitFiles* do just what their names imply. They take

files and either join or split them as required. That's important because the standard text editing window of *Just Text* is based on Macintosh's TextEdit function, restricting file sizes to 32K. Thirty-two K isn't that much when using graphics or some of the special (and extremely verbose) features of PostScript.

Users will also find handy small programs to collect patterns and icons from disks and programs to print both envelopes from files of names and addresses and custom disk labels. The envelope printer is particularly nice since, while it works in the LaserWriter's Manual Feed mode, it disables the instruction sheet that normally is printed in Manual Feed mode!

matical settings possible, albeit tedious.

Kerning (the ability of a typesetter to squeeze letters together or force them apart) is sometimes used on body (text) type to make it appear denser or to squeeze more material into a particular space. Headlines and display type are almost always kerned so that they look their best. *Just Text* can kern either letters or whole blocks of type with equal ease (see Figure 3).

Two kinds of tabs are supported—typewriter tabs and typesetting tabs. Typewriter tabs are simply places the cursor moves to when the Tab key is pressed. Typesetting tabs are more flexible. They allow style changing (e.g., bold or italic) and permit items to be flush left, flush right or centered in the tab column. While many word processors allow some flexibility none have the total flexibility of *Just Text*.

Most word processors don't deal

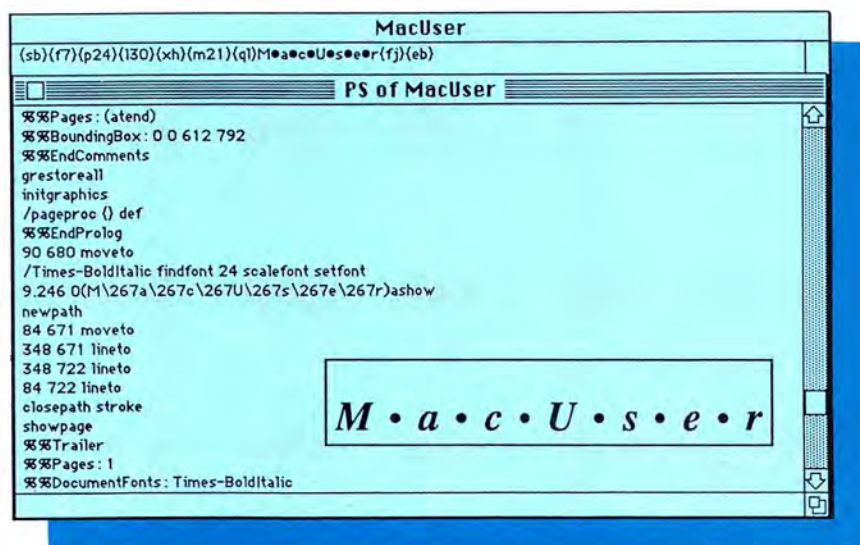
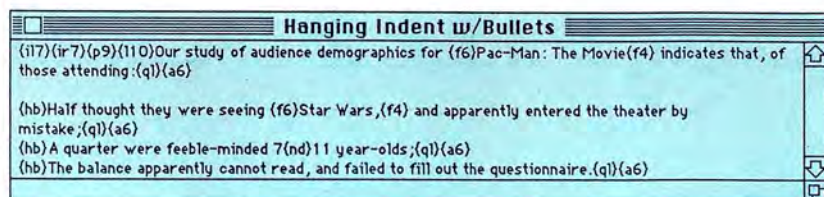


Fig. 1: The single line of code at the top generates a PostScript program, most of which is shown below (only some header lines are missing). This program forces the word "MacUser" to be spread out (force justified) over the measure or width (here 21 picas—{m21}). The final output, which includes the box rule, is superimposed on the PostScript program. This example shows how verbose PostScript is.





Our study of audience demographics for *Pac-Man: The Movie* indicates that, of those attending:

- Half thought they were seeing *Star Wars*, and apparently entered the theater by mistake;
- A quarter were 7–11 year-olds;
- The balance apparently cannot read, and failed to fill out the questionnaire.

Fig. 2: The code at the top generates the results shown below. The bullets used on the indented material are set in a size 4 points larger than the text size (bullets: 13 point, text: 9 point). This is done automatically, since the bullets in the laser fonts are unattractively small.

very well with page makeup and all the currently available page makeup programs have only minimal word processing ability. *Just Text* lets users create any page layout desired, including multiple column formats. Layout will not be as simple as the best makeup programs allow and will certainly not be intuitive, but great precision is easily obtained and the overall process is straightforward. The overall layout should be planned on paper before entering it into *Just Text*.

## Output . . . What It's All About


After a document has been created it must be output. Getting hard copy is a two-step process.

The first step is to convert the document to PostScript. The PostScript compiler works like any ordinary

language compiler, providing clear and appropriate error messages if there are errors in the coding. The compiler is still not perfect and if it finds some errors there's the chance of a crash. That means that all files must be saved before using the PostScript compiler.

After a file is converted to PostScript, it can be saved as a PostScript file or sent straight to an output device (usually the LaserWriter).

Printing is incredibly quick—no more print dialog boxes—since PostScript is the LaserWriter's language. The selections normally made in a print dialog, such as number of copies, are handled by simple *Just Text* commands.

*Just Text* (and its accompanying tools) has the power to please the most discriminating type users. If there's no margin for error in your output, this is the tool. 

It's possible that the Mac user is such an individualist that he wants to "wear" (metaphorically speaking) his computer on his sleeve showing all the idiosyncratic and individualist aspects of his machine, and, therefore, his personality.

Note the attitude towards the IBM PC, in contrast. The IBM PC is the machine for the corporate drones all looking and acting the same. If they want to do something to their machine, they can do it inside the machine in a slot. They keep it hidden within.

It's possible that the Mac user is such an individualist that he wants to "wear" (metaphorically speaking) his computer on his sleeve showing all the idiosyncratic and individualist aspects of his machine, and, therefore, his personality.

Note the attitude towards the IBM PC, in contrast. The IBM PC is the machine for the corporate drones all looking and acting the same. If they want to do something to their machine, they can do it inside the machine in a slot. They keep it hidden within.

It's possible that the Mac user is such an individualist that he wants to "wear" (metaphorically speaking) his computer on his sleeve showing all the idiosyncratic and individualist aspects of his machine, and, therefore, his personality.

Note the attitude towards the IBM PC, in contrast. The IBM PC is the machine for the corporate drones all looking and acting the same. If they want to do something to their machine, they can do it inside the machine in a slot. They keep it hidden within.

## JUST TEXT: REPORT CARD

Overall Rating \*\*\*\*\*

Follows Mac Interface: \*\*\*  
Printed Documentation: \*\*\*  
On-Screen Help: None  
Performance: \*\*\*\*\*  
Support: \*\*\*\*\*  
Consumer Value: \*\*\*\*

Comments: The only real choice for professional quality typesetting on the LaserWriter and other PostScript-compatible printers. The Laser and Text Tools alone are worth

the price.

Best Feature: The ease of total spatial control of the output.

Worst Feature: The editing window, with its tiny (9-point) type.

List Price: \$195. Requires 128K, AppleTalk and a LaserWriter. 512K Mac and second drive (or hard disk) recommended.

Published by Knowledge Engineering, GPO Box 2139, New York, NY 10116. (212) 473-0095.

Fig. 3: Kerning whole blocks can lead to odd-looking results. The top block is set at -500 microspaces of kerning. (500 microspaces is 1/2 point or 1/44th of an inch.) The letters almost touch adjacent letters. The middle block is not kerned. This is the space the font's designer planned to have between the letters. The bottom block is set at +500 microspaces of kerning between the letters. When type is set to a narrow measure, or width, like here, some kerning can make the material look more attractive. However, there is a cost in total space used. The first two blocks use considerably less space than the bottom one. The type is the same size in each block. However, positive (+) kerning does make type look bigger, while negative (-) kerning makes type look smaller.



# Magnificent

✓denotes Mac XL compatibility.

## SOFTWARE

### Altsys

✓Fontastic (create your own fonts) ..... \$35.

### Ann Arbor Softworks

Animation Toolkit 1 ..... 31.

### Apropos

Financial Planning (reqs. Multiplan) ..... 51.

Investment Planning (reqs. Multiplan) ..... 51.

### Arrays/Continental

Home Accountant ..... 52.

### Assimilation

✓Mac-Tracks ..... 22.

✓Mac-Memory-Disk ..... 22.

✓Mac-Spell-Right ..... 69.

### ATI

Teach Yourself Multiplan ..... 29.

MacCoach Training ..... 39.

Jazz Training ..... 39.

### Batteries Included

The Mac BatteryPak ..... 27.

Eight powerful desk accessories.

### Blyth Software

✓Omnis 2 (requires external drive) ..... 139.

✓Omnis 3 (requires 512k, external drive) ..... 249.

### Borland International

✓Sidekick (unprotected) ..... 45.

### BrainPower

✓PowerMath ..... 52.

Symbolic equation solver, requires 512k.

✓StatView (statistics package) ..... 99.

### Casady Company

✓Fluent Fonts (two-disk set) ..... 29.

### Central Point Software

Copy II Mac ..... 20.

### Chang Labs

Rags to Riches Ledger ..... 105.

Rags to Riches Receivables ..... 105.

Rags to Riches Payables ..... 105.

### Computer Software Design

✓MacLion (relational database) ..... 188.

External drive recommended.

### Creative Solutions

✓MacForth - Level 1 ..... 77.

✓MacForth - Level 2 ..... 128.

### Creighton Development

✓MacSpell+ (requires 512k) ..... 55.

### DataFood

✓DrawForms (requires MacDraw) ..... 30.

✓MacForms (requires MacPaint) ..... 42.

### Desktop Software

✓1st Port (communications software) ..... 48.

✓1st Merge ..... 48.

✓1st Base ..... 95.

### Digital, Etc.

✓Maccountant ..... 139.

### Dilithium Press

PC to Mac & Back ..... 79.

### Dow Jones

Straight Talk ..... 45.

Spreadsheet Link ..... 56.

Market Manager PLUS ..... 109.

### Dreams of the Phoenix

✓Day Keeper Calendar ..... 29.

✓Mouse Exchange BBS ..... 29.

✓Quick & Dirty Utilities Vol. 1 ..... 29.

✓Twelve-C Financial Desk Accessory ..... 29.

### Electronic Arts

Financial Cookbook ..... \$32.

### Enterset

✓Quickpaint ..... 29.

✓Quickset 2.0 ..... 29.

✓Quickword ..... 32.

### 1st Byte

Smoothtalker (version 2.0) ..... 57.

Speller Bee ..... 42.

KidTalk ..... 42.

"Talking notebook" helps improve reading and writing.

### Forethought

✓Typing Intrigue ..... 29.

✓Factfinder ..... 84.

✓FileMaker ..... 108.

### Great Wave Software

The Art of Fugue (Bach) ..... 12.

Instrumental Favorites ..... 12.

ConcertWare+ ..... 39.

### Harvard Associates

MacManager (business simulation) ..... 29.

Desktoppers (new desk accessories) ..... 29.

### Hayden Software

✓DaVinci Buildings ..... 29.

✓DaVinci Interiors ..... 29.

✓DaVinci Landscapes ..... 29.

✓DaVinci Building Blocks ..... 46.

✓DaVinci Commercial Interiors ..... 114.

✓Art Grabber with Body Shop ..... 29.

Turbo Turtle ..... 35.

I Know It's Here Somewhere ..... 35.

Musicworks ..... 45.

Hayden:Speller ..... 45.

Score Improvement System for the SAT ..... 57.

Videoworks ..... 57.

Ensemble ..... 155.

### Hayes

✓Smartcom II (communications software) ..... 86.

### Hippopotamus Software

Hippo Computer Almanac ..... 21.

✓Hippo-Lock (file security program) ..... 68.

Hippo-C - Level 1 ..... 79.

Hippo-C - Level 2 ..... 219.

### Human Edge Software

✓Mind Prober ..... 26.

✓The Communication Edge ..... 99.

✓The Management Edge ..... 127.

✓The Sales Edge ..... 127.

✓The Negotiation Edge ..... 148.

### Ideaform

✓MacLabeler (print disk labels) ..... 29.

### Innovative Data Design

✓Paste-Ease (requires MacPaint) ..... 35.

✓MacDraft (requires 512k) ..... 139.

### Kensington

✓Graphic Accents ..... 29.

✓Professional Type Fonts for Text ..... 29.

✓Professional Type Fonts for Headlines ..... 42.

Requires 512k.

### Layered

✓Front Desk ..... 77.

### Linguist's Software

✓Tech (1000 different symbols) ..... 69.

✓MacCyrillic ..... 69.

✓MacKana/Basic Kanji ..... 69.

✓MacKorean ..... 69.

✓SuperGreek ..... 69.

✓SuperHebrew (right to left) ..... \$69.

✓SuperFrench/German/Spanish ..... 69.

✓SuperGreek/Hebrew/Phonetics ..... 119.

### Living Videotext

ThinkTank 128k ..... 75.

✓ThinkTank 512k ..... 125.

### Lotus

✓Jazz (requires 512k, external drive) ..... 375.

### Magnum

✓McPic - Volume I ..... 29.

✓McPic - Volume II ..... 29.

✓The Slide Show Magician ..... 35.

### Manhattan Graphics

✓Ready Set Go 2.0 (requires 512k) ..... 65.

### Mark of the Unicorn

Professional Composer (reqs. 512k) ..... 249.

### Microsoft

Entrepreneur ..... 32.

Learning Multiplan and Chart ..... 38.

Chart ..... 74.

Logo ..... 75.

Basic (version 2.1) ..... 89.

Multiplan ..... 107.

File ..... 112.

Word ..... 112.

Fortran ..... 195.

Business Pack ..... 342.

Includes Word, File, Chart, and Multiplan.

### Miles Computing

✓Mac the Knife - Volume 1 ..... 21.

✓Mac the Knife - Volume 2 ..... 25.

### Mindscape

The Perfect Score: SAT ..... 47.

### Monogram

✓Forecast ..... 40.

✓Dollars & Sense ..... 81.

### Nevins Microsystems

Turbocharger (requires 512k) ..... 57.

### New Canaan MicroCode

Mac Disk Catalog ..... 25.

### Northwest Analytical

NWA StatPak (requires Basic, 512k) ..... 249.

### Odesta

✓Helix (requires 512k, external drive) ..... 219.

### Organizational Development Software

✓Consultant (idea management) ..... 119.

### Paladin

✓Crunch (requires 512k) ..... 165.

### Palantir

✓MacType (supports Dvorak keyboard) ..... 27.

✓MathFlash (math flash card drills) ..... 27.

✓WordPlay ..... 27.

Accounts Receivable (requires Basic) ..... 75.

General Ledger (requires Basic) ..... 75.

Inventory Control (requires Basic) ..... 75.

### PBI Software

✓Icon Switcher ..... 13.

✓Icon Fun & Games Library ..... 14.

✓Icon Business Library ..... 14.

### Peachtree

✓Back to Basics General Ledger ..... 88.

✓Accounts Payable ..... 88.

✓Accounts Receivable ..... 88.

### ProVUE Development

✓OverVUE (version 2.0) ..... 149.

### QED Information Sciences

Typing Made Easy ..... 36.

### Reston Publishing

Construction Estimator (reqs. Multiplan) ..... 45.



# Country Comfort.

(Or, how to buy Mac products with confidence).

## Mail order magic in the high tech hills.

Welcome to MacConnection, that large and friendly mail order giant situated on the banks of the Ashuelot River in Marlow, NH. If you're ever up this way, stop by and visit our headquarters in the renovated Marlow mill building.

MacConnection has earned a reputation for thorough and considerate customer support. Maybe part of the reason is that we look at trees, rivers, and fields on our way to work, not high rises and smokestacks. It

helps to make us a little more patient, a little more relaxed, a little more personal. Our thousands of repeat customers appreciate that.

## Need a friend?

Our 800 number is available for customer service as well as for orders. Call us any time before or after the sale. There's no question that's too trivial or unimportant. Our trained Mac specialists have had to deal with the same confusions you're facing. And by working on Macs all day, every day they've learned to solve just about any dilemma imaginable. When there

is a question we can't answer, we get on the phone to the manufacturer, and

stay on until we have a solution. You see, a lot of people talk about trying to strike a balance between technology and nature. Well, we've got an IBM system 38 in the basement and ducks in the park-

ing lot. We have bushels of Macintosh apples outside and bundles of Apple Macintoshes inside. It's a nice balance. And, as you can see, our prices are as good as our support. That's the nicest balance of all.



ReadySetGo \$65



OverVUE \$149



Harrier Strike Mission \$27



Sidekick \$45



ThinkTank 512K \$125



Mac One Write \$137

# MacConnection<sup>TM</sup>

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

© Copyright 1985 Micro Connection, Inc. MacConnection is a division of Micro Connection, Inc. MacConnection and Micro Connection are trademarks of Micro Connection Inc.

Please circle 82 on reader service card.



# intosh products.

## Videx

Funpak	\$23.
MacCheckers/Reversi	28.
MacGammon/Cribbage	28.
MacVegas	34.

## HARDWARE

### Assimilation

Mac-Port-Adaptor	69.
Mac-Epson-Connection	75.
Mac-Daisywheel-Connection	79.
Mac-Turbo-Touch	89.

### CompuCable

Mac to Hayes Smartmodem cable	17.
Mac to Epson FX/RX/JX printer cable	17.
Mac to Apple modem cable	17.

### Creighton Development

Proprint	39.
Proprint (w/one cable)	54.
Proprint (w/two cables)	139.

### Curtis Manufacturing

Diamond (6 outlets)	28.
Emerald (6 outlets; 6 ft cord)	34.
Sapphire (3 outlets; EMII/RFI filtered)	44.
Ruby (6 outlets; EMII/RFI filtered; 6 ft cord)	50.

### Epson

FX-85	call
FX-185	call
JX-80	call
LX-80	call
LQ-1500 (letter quality dot matrix)	call

### Hayes

Smartmodem 300	call
Smartmodem 1200	call
Smartmodem 1200 Package	call
Includes modem, software and cable.	
Smartmodem 2400	call
Smartcom II (communications software)	86.

### IOMEGA

Bernoulli Box (5-megabyte storage)	1315.
5-meg Cartridge	39.
Head Cleaning Kit	59.

### Kensington

External Disk Drive Cover	8.
Mouse Pocket	8.
Mac Dust Cover	10.
Mac XL Dust Cover	10.
Imagewriter Dust Cover	10.
Wide Imagewriter Dust cover	10.
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	32.
Starter Pack (includes Tilt/Swivel)	53.
A-B Box	60.
Control Center	61.
Modem (300 baud)	89.

### Koala Technologies

MacVision (digitizer)	169.
-----------------------	------

### Kraft

QuickStick	45.
------------	-----

### Microcom

MacModem (Hayes compatible)	469.
-----------------------------	------

### Microsoft

MacEnhancer	159.
-------------	------

## Mitsuba

Super 5 External Drive	\$239.
------------------------	--------

### Mouse Systems

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

### Paradise Systems

Mac 10 (10 megabyte hard disk)	1029.
--------------------------------	-------

### PBI Software

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

### Systems Control

MacGard (surge protection)	55.
----------------------------	-----

### Video 7

MouseStick	39.
------------	-----

## DISKS

BASF 3½" Disks (box of 5)	13.
Verbatim 3½" Disks (box of 10)	25.
Sony 3½" Disks (box of 10)	25.
Fuji 3½" Disks (box of 10)	25.
Memorex 3½" Disks (box of 10)	25.
MAXELL 3½" Disks (box of 10)	25.
3M 3½" Disks (box of 10)	25.

## INFORMATION SERVICES

### Compuserve

Compuserve Information Service	19.
--------------------------------	-----

### Source Telecomputing

The Source (subscription & manual)	30.
------------------------------------	-----

## MISCELLANEOUS

### American Tourister

Mac Carrying Case	69.
-------------------	-----

### Automation Facilities

Floppyclene (ten cleaning disks)	25.
Refill Kit (ten disks)	10.

### Clean Image Ribbon Co.

Clean Image Ribbon Kit	12.
Designed to clean the print-head.	

### Computer Coverup

External Disk Drive Cover	4.
Imagewriter Cover	8.
Wide Imagewriter Cover	8.
Mac & Keyboard (two covers)	10.

### Diversions

Underware Ribbon	10.
Underware Colorpens	10.
Jumbo Colorpens	13.
ColorPack	19.
Includes one black ribbon and set of five Colorpens.	

### Environmental Software Company

The Clutch (holds 8 disks)	9.
MacAttire	

High quality rip-stop nylon dust covers for your complete Macintosh system. Available in navy-blue, burgundy-red, or silver-gray.

External Drive Cover	7.
Numeric Keypad Cover	7.
Imagewriter Cover	11.
Wide Imagewriter Cover	13.
Mac & Keyboard Cover	15.
Laserwriter Cover	17.
Mac XL & Keyboard Cover	20.

### I/O Design

Imagewriter Color Transfer Ribbon	10.
Imageware	special
Imageware wide	special
Macinware	special

## Innovative Concepts

Flip & File (holds 25 disks)	\$10.
Flip & File (holds 40 disks)	18.

### Innovative Technologies

The Pocket Pak (holds 6 disks)	10.
The Easel (holds 20 disks)	14.
CompuBag	59.

Well-padded carrying case for your Mac and accessories. Reinforced bottom.

### Kalmar Designs

Teakwood Roll-top Case (holds 45 disks)	14.
Teakwood Roll-top Case (holds 90 disks)	24.

### Microsoft Press

Microsoft Multiplan: Of Mice and Menus	13.
Inside MacPaint	14.
MacWork MacPlay	14.
The Apple Macintosh Book	14.
Presentation Graphics on Apple Mac	14.
The Printed Word	14.
Macinations (intro to Basic)	17.

### Moustrak

Moustrak Pad	
Standard 7"x9" size	8.
Large 9"x11" size	9.
Imagewriter Pad	11.

### Pacific Wave

Flip Sort Micro (holds 40 disks)	12.
Flip Sort Micro (holds 60 disks)	15.

### Ribbons Unlimited

Available in black, blue, brown, green, purple, red, yellow, orange and silver.

Imagewriter Ribbon	5.
Imagewriter Ribbons Six Pack	27.
Imagewriter Rainbow Six Pack	27.

### Smith & Bellows

Basswood disk case (holds 90 disks)	19.
-------------------------------------	-----

## OUR POLICY

- We accept VISA and MASTERCARD.
  - No surcharge added for charge cards.
  - 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 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 thru Friday 9:00 to 5:30.

## 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.



# savings on Macin

## Rubicon Publishing

✓Dinner At Eight (recipes to wines)..... \$35.

## Scarborough Systems

✓Mastertype ..... 25.

## Sierra On-Line

✓MacOneWrite (cash disbursements).... 137.

## Silicon Beach Software

✓Accessory Pak 1 ..... 24.

## Simon & Schuster

✓The Mac Art Department..... 24.

✓Paper Airplane Construction Kit..... 24.

✓Typing Tutor III ..... 31.

## SoftStyle

✓Epstart..... 29.

✓Jetstart..... 29.

✓Toshstart..... 29.

✓Tlstart..... 49.

✓Laserstart..... 59.

✓Decision Map..... 79.

## Software Publishing

✓PFS:File/Report ..... 100.

## State of the Art

✓Electric Checkbook..... 45.

## Symmetry

✓Quick Disk (requires 512k) ..... 21.

## T/Maker

✓Click Art Personal Graphics ..... 29.

✓Click Art Publications ..... 29.

✓Click Art Letters..... 29.

✓Click Art Effects..... 29.

✓ClickOn Worksheet..... 46.

## Telos Software

✓Filevision..... 99.

## Think Educational

✓Mind Over Mac..... 29.

✓MacEdge II..... 29.

## Vindex

✓MacCalendar..... 51.

## Warner Software

✓The Desk Organizer..... 55.

## GAMES

### Aegis Development

✓MacChallenger (flight simulation)..... 25.

### Blue Chip

✓Millionaire (stock market)..... 30.

✓Tycoon (commodities)..... 30.

✓Baron (real estate)..... 30.

### BrainPower

✓Think Fast (improves recall)..... 23.

✓Chipwits..... 27.

### Broderbund Software

✓Lode Runner (you'll never sleep!)..... 24.

✓Cyborg (sci-fi text adventure)..... 24.

## MacConnection Special of the Month

through December 31, 1985

### I/O DESIGN

#### Macinware

Sturdy well-padded carrying case designed to carry the entire Macintosh system including the external disk drive, keyboard, mouse, cords and manuals. Available in Navy Blue ..... \$49.

#### Imageware

Similar to the Macinware in construction. High density foam and 1000 denure Cordura nylon. Designed to carry the Imagewriter and a small supply of computer paper. Available in Navy Blue.

- Regular 80 column ..... 39.
- Wide 132 column ..... 45.

#### Macinware-Imageware Special

Buy both and save. With the selection of a Macinware carrying case and the choice of either the regular or wide Imagewriter printer case, your cost is only ..... 79.

### CBS

✓Murder by the Dozen..... 25.

### Creighton Development

✓MacCommand ..... 21.

### Epyx

✓Rogue (great graphics) ..... 24.

### Gamestar

✓Championship Star League Baseball... 24.

### Hayden Software

✓Masterpieces..... 24.

✓Word Challenge II..... 24.

✓Sargon III (9 levels of chess) ..... 30.

### Infocom

✓Seastalker (junior)..... 24.

✓Cutthroats (standard)..... 24.

✓Enchanter (standard)..... 24.

✓Hitchhiker's Guide (standard)..... 24.

✓Planetfall (standard)..... 24.

✓Wishbringer (standard)..... 24.

✓The Witness (standard)..... 24.

✓Zork I (standard)..... 24.

✓Zork II (advanced)..... 27.

✓Zork III (advanced)..... 27.

✓A Mind Forever Voyaging (advanced) .. 27.

✓Infidel (advanced)..... 27.

✓Sorcerer (advanced) ..... \$27.

✓Suspect (advanced) ..... 27.

✓Deadline (expert) ..... 29.

✓Starcross (expert) ..... 29.

✓Suspended (expert) ..... 29.

✓Invisiclues (hint booklets) ..... 6.

## Mark of the Unicorn

✓Mouse Stamped (highly addictive).... 23.

## Miles Computing

✓MacAttack (3-D tank simulation) ..... 27.

✓Harrier Strike Mission..... 27.

## Mindscape

✓Déjà Vu (murder mystery)..... 33.

## Mirage Concepts

✓Trivia (special price)..... 19.

## Origin Systems

✓Exodus: Ultima III (fantasy adventure) ... 38.

## PBI Software

✓Feathers in Space..... 21.

✓Strategic Conquest..... 29.

✓Fokker TriPlane Flight Simulator..... 35.

## Penguin

✓Transylvania..... 24.

✓The Quest..... 24.

✓Pensate..... 24.

## Priority Software

✓Forbidden Quest..... 25.

✓Gateway (sci-fi fantasy adventure) .... 25.

## Psion

✓Psion Chess (3D and multi-lingual) .... 31.

## Scarborough Systems

✓Run for the Money ..... 29.

✓Make Millions..... 29.

## Sierra On-Line

✓Frogger..... 24.

✓Championship Boxing ..... 27.

✓Ultima II (role-playing adventure)..... 35.

## Silicon Beach Software

✓Airborne! (great graphics and sound) .. 21.

## Soft-Life Corp.

✓Mac-Slots..... 25.

The best one-armed bandit going!

## Spectrum Holobyte

✓GATO (submarine simulation) ..... 27.

## Telarium

✓Amazon..... 27.

✓Dragon World..... 27.

✓Fahrenheit 451..... 27.

## Unicorn

✓Futura (sci-fi adventure) ..... 24.

✓Utopia (science fantasy game) ..... 24.

✓Animal Kingdom (ages 6-12)..... 27.

Science and language arts program.

✓Mac Robots (animation and speech).... 27.

1-800/Mac&Lisa

530U

# MacConnection™

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

© Copyright 1985 Micro Connection, Inc. MacConnection is a division of MicroConnection, 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.

Please circle 82 on reader service card.





# YOUR FIRST





# CONNECTION

***You're never lonely with a Mac and a modem.***

***Here's how to reach a whole new world.***

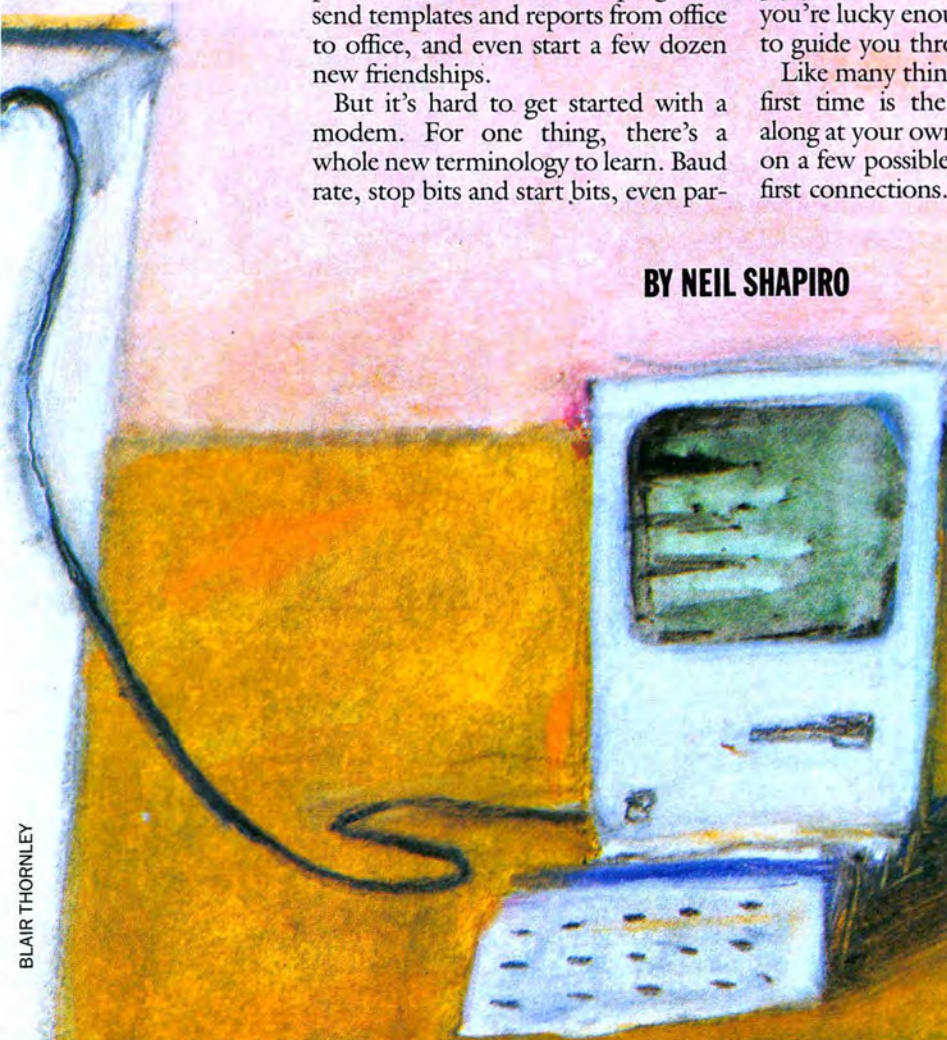
WANT TO CONNECT YOUR MACINTOSH to hundreds of thousands of other people who also own Macs and modems? With your Mac and your modem you can find thousands of public domain software programs, send templates and reports from office to office, and even start a few dozen new friendships.

But it's hard to get started with a modem. For one thing, there's a whole new terminology to learn. Baud rate, stop bits and start bits, even par-

ity, uploading and downloading—the vocabulary alone can discourage many people from becoming involved in telecommunications. However, it's really not much of a mystery if you apply yourself to unraveling it all, and if you're lucky enough to have someone to guide you through the first steps.

Like many things in computing, the first time is the hardest. So follow along at your own Mac as we take you on a few possible routes to your own first connections.

**BY NEIL SHAPIRO**



BLAIR THORNLEY



# YOUR FIRST CONNECTION

## Equipping Yourself

When you are in the market for a modem, there are two things to keep in mind: speed and compatibility.

Speed is measured in "baud." It used to be that the standard speed was 300-baud which is about 3 characters per second. But the newer 1200-baud modems are now more affordable than they used to be and more and more people are opting for these speedier devices. If you can afford to go the 1200-baud route, that is probably the best way to go.

Over the course of the past few years certain industrywide standards have developed regarding the commands modems get from the computers they are attached to. A command that will send one modem from its 300-baud rate to its 1200-baud rate should not tell a different brand of modem to hang up the phone! The Hayes Smartmodems were among the first modems to enter this field and, informally, many other manufacturers have adopted the Hayes commands. If a modem calls itself Hayes-compatible or something similar it is a good bet that most terminal programs will run the modem's operations fine. Apple modems are (with the exception of one minor feature) Hayes-compatible. Other modem brands such as U.S. Robotics and Novation, and many others, are also Hayes-compatible.

For a terminal program you will want one that is both simple to get started with and capable of meeting your expanding interests later on. In the first issue of MacUser an article called "Terminal Programs You Can Live With" gave a wealth of detail on many good terminal programs. In this article we'll be concerned mostly with using *MacTerminal* or *Smartcom II*, as they appear to, at present, be the programs used by the greatest number of people. But most of our hints may be applied equally to programs such as *inTouch* and *Telescope*.

Once you have your modem and your terminal program picked out, it's usually a simple matter of following the modem's instruction manual to hook up the cable between the Mac's phone-iconed port and your modem.

When the Mac first came out, find-

ing such a cable was a real adventure as the Mac's plug is shaped differently from those found on most other computers. Now most dealers stock premade cables to connect just about every brand of modem to the Mac. But still, it is often the cable which causes people their first telecommunication headache. Make certain that you are using a cable specifically designed for modem communications. The most common error made, by dealers as well as everyone else, is to mix up an identical-appearing ImageWriter cable with the modem cables and then try to use it with a modem. An ImageWriter cable may fit between your Mac and your modem, but it will not work.

## Doing It

Once you have your modem connected to the phone line and to your Macintosh (which is running your terminal program), you're ready to enter into a whole new world.

To begin with, most first connections involve calling another—perhaps a friend's—Macintosh directly, or calling a local BBS (bulletin board system), or calling one of the national computer networks such as Com-

**Smartcom II's "Speed & Format" dialog box allows the user to set various parameters to match the modem being used to the modem at the other end of the connection. Most times only the baud rate, called transmission speed, will have to be changed.**

puServe, The Source, Dow Jones or Delphi.

Here are the techniques that will let you succeed at these tasks the first time.

## Going Mac-To-Mac

Most terminal programs will have documents on their disk with various settings already defined. On the *MacTerminal* disk, a document icon called *Mac-To-Mac* will, when double-clicked, bring up the program ready to go. *Smartcom* has a similar document. But if the icon is missing or if your terminal program does not have such a document, here are the various settings that must be properly chosen. Here we are concerned specifically with the *MacTerminal* and *Smartcom* programs but similarly-named settings will be found in most other terminal programs.

To set-up a Mac-To-Mac document for *MacTerminal* you will need to first mouse over to and pull down the "Settings" menu. Under this menu you will have to make changes in the three dialog boxes you get by choosing, in turn, "Terminal," "Compatibility" and "File Transfer."

In the Terminal Settings dialog box

Speed & Format

Transmission speed ( baud ):

☐ 110 ☐ 300 ☐ 600 ☒ 1200 ☐ 2400

☐ 4800 ☐ 9600 ☐ 19200

Bits per character: ☐ Seven ☒ Eight

Stop bits: ☒ One ☐ Two

Parity: ☐ Even ☐ Odd ☐ Mark ☐ Space ☒ None

Terminal Settings

☒ TTY (normal) ☐ VT52 ☐ VT102

☒ Autowrap at column 80

☒ Insert line feed after each Return

☐ Smooth scroll

☒ Local character echo

☐ Swap Backspace and %Backspace

☒ Use Xon / Xoff flow control

**Smartcom II's "Terminal Settings" dialog box is important. If you are going Mac-To-Mac don't forget to choose the "Local character echo" or you will not be able to see, on your own screen, what you are typing. Also choose to "Insert line feed after each Return" or the lines on your screen will overprint and become unreadable.**



make certain that you have clicked the following boxes to "on" (on means they have an X in them):

- New Line
- Local Echo
- On Line
- Auto Repeat
- Auto Wraparound

In the Compatibility Settings dialog box make sure you have chosen:

- 8 bits per character
- No parity
- No handshake
- Proper baud rate (both computers set to same rate)

In the File Transfer Settings check that you are setup for:

- XModem
- Retain Line Breaks
- Word Wrap Outgoing Text
- Remote System equals MacTerminal

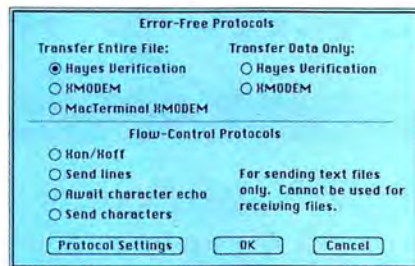
For all other choices the program defaults values are fine.

Once this is done, mouse over to the "File" menu and using the "Save As" choice, save this document as "Mac-To-Mac."

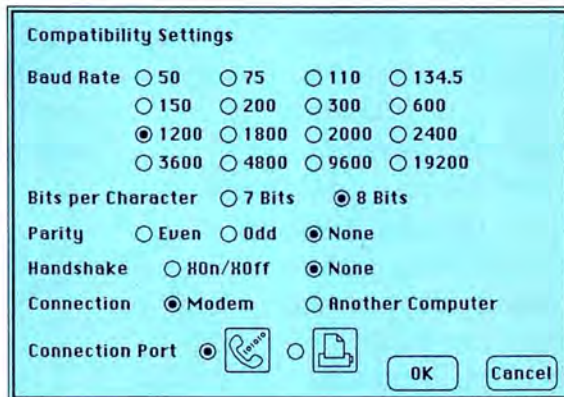
Once you have opened *MacTerminal* by double-clicking on your Mac-To-Mac document icon, or have set up *MacTerminal* or a different terminal program with the above settings, you are ready to begin. In *MacTerminal*, you now mouse up to the "Phone" menu and pick the Change Phone Settings choice — enter your friend's phone number and click on the OK button. Now pull down the "Phone" menu again and choose Dial. (You have, of course, previously told your friend you are calling and that Mac is on, running a terminal program and connected to a phone line!)

Once connected, you and your friend can type back and forth to one another. When you are ready to send a program or file, the person sending (still talking about *MacTerminal*) just has to go to the "File" menu and choose "Send File." A finder box will appear just as in any Mac application and the file to send is selected. Now the Macs take over.

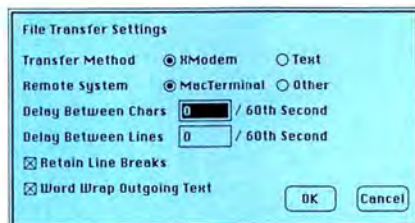
The downloader's screen clears and a ruler is drawn in a box at the center of the screen. The ruler is graduated in percentages from 0 to 100%. As the transfer takes place a diamond-shaped marker gradually moves toward 100%



The "Compatibility Settings" in *MacTerminal* let the user do such things as set the baud rate. This is also where you tell the program which of the Mac's ports is connected to the modem.

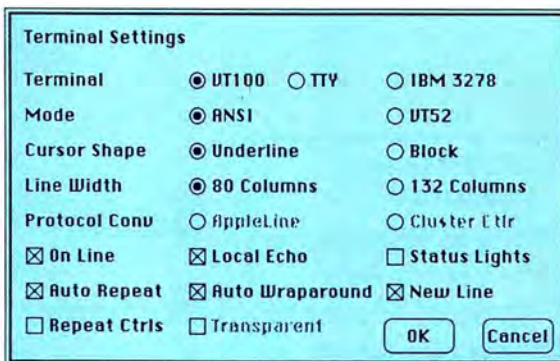


*Smartcom II* offers a choice of protocols. The most important thing to remember is that both computers have to be set to the same protocol. You cannot, for example, use the Hayes Verification protocol with any other terminal program than *Smartcom II* running at the other end.



The "File Transfer Settings" dialog box in *MacTerminal* allows the user to choose between three methods of sending a file. For Mac-To-Mac the XMODEM choice with the *MacTerminal* Remote System chosen is the best alternative.

*MacTerminal*'s "Terminal Settings" dialog box gives the user control of how the Macintosh emulates, or copies, the action of dedicated telecommunications terminals. The "New Line" choice inserts a linefeed following a carriage return and the "Local Echo" choice makes what is typed by the user show on his or her own screen. Both should be set for Mac-To-Mac work.



along the ruler's length. When 100% of the file has been transferred control is given back to the operators. At this point just type "Thank You" to your friend and use the "Phone" menu to hang up. You have successfully sent your first telecommunicated file!

Receiving a file is even easier using *MacTerminal*. You don't do anything! The other person sends the file exactly as you just did, and the progress ruler

appears on your screen. When it disappears, you have successfully received the file.

*Smartcom* is also simple to set up for going Mac-To-Mac. First, go to the "Settings" menu, pull it down and choose the "Set Protocol" choice. Note that the resulting dialog box's top half allows you to choose from three different protocols (error-

(continued on page 150)





# The MacPublisher™

NEW EDITION\*

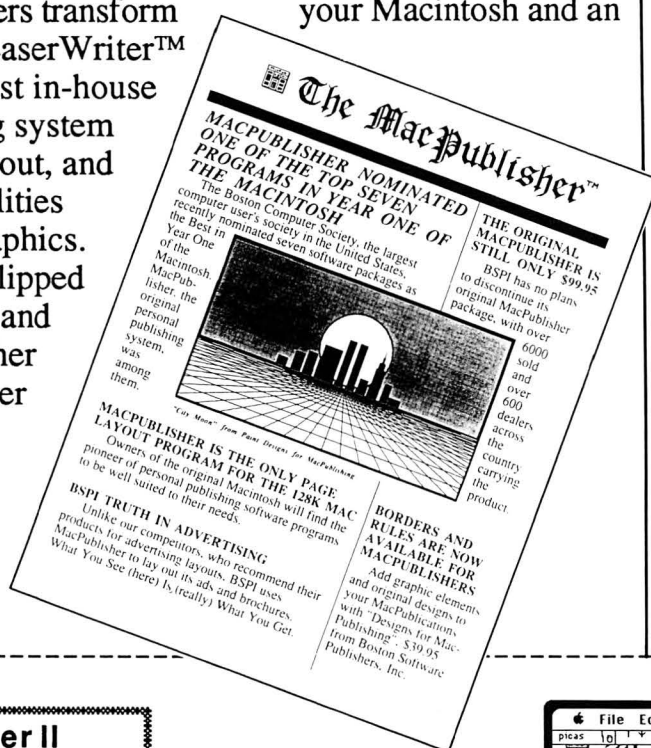
1985

## MACPUBLISHER II™ ADDS PROFESSIONAL FEATURES

Boston Software introduces a second version of its personal publishing system software. **MacPublisher II**, priced at \$149.95, offers professional features unavailable in other page makeup programs, including variable letterspacing and kerning.

Both MacPublishers transform your Macintosh and an ImageWriter™ or LaserWriter™ printer into a low-cost in-house electronic publishing system with full editing, layout, and page makeup capabilities for both text and graphics.

Articles may be clipped into multiple blocks and carried over into other columns or onto other pages. Each block can be set in any of the Macintosh Fonts, Styles and Sizes.



## RAVE REVIEWS FOR THE ORIGINAL MACPUBLISHER

"**MacPublisher** is a versatile-looking, fun-filled software package for those involved in layout, whether the publication is a one-sheet church bulletin or 24-page investment letter..."

---ERIK SANDBERG-DIMENT, NEW YORK TIMES, 6/11/85

"The real power of **MacPublisher** comes from its ability to lay out your text over and over again in various arrangements without ever touching your page."

---APPLE DAYTON (Macintosh User's Group Newsletter) 6/85

"It hardly seems possible, but for only \$99.95, **MacPublisher**...is a classic example of page makeup -- at any price. **MacPublisher** is an outstanding value. We don't see how anyone who owns a Mac could be without it. It's dazzling to watch, and the final results are very impressive."

---TERRY ULICK, PUBLISHER, MAGAZINE MICRO, 5/85

### MacPublisher II Features

Style **Changes** Within Line  
Actual Size Layout Page  
Master/Repeating Elements  
ZoomWindow (2x, 3x, 4x...)  
Resizes & Scales Pictures  
Automatic Page Numbers  
Auto Continuation Lines  
Type Specification Sheet  
Kerning & Microjustification  
Opens Text & Graphics Files  
Horizontal & Vertical Rulers  
Adjustable Snap To Guides

**Boston  
Software  
Publishers,  
Incorporated**

1260 Boylston Street  
Boston, Ma 02215  
(617) 267-4747

**1-800-556-0027  
(Orders Only)**



Screen Shot of Actual Size Page with Grabber Hand

\* This page was created using MacPublisher II

Please circle 38 on reader service card.



# Introducing Mac-Wizardry



## SOME THINK IT'S FAR MORE THAN A GAME

~~(Wizardry)~~ — the finest family computer game you can buy. And now the classic first scenario, *Proving Grounds of the Mad Overlord* has been completely redesigned for the Macintosh.

The new Mac Wizardry is ready to work its very special magic on your imagination. Find out why hundreds of thousands of fans have made Wizardry the most popular computer fantasy role-playing game of all time.

We invite you and your family to enter this fascinating, immensely rewarding world. Discover for yourself if Wizardry is just a game. Or far more.

• Available at all Fine Computer Stores. PRICE: \$59.95

• LOOK FOR THE DRAGON SYMBOL OF WIZARDRY. PROMISE OF EXCELLENCE.

Please circle 62 on reader service card.

**SIR-TECH**  
SOFTWARE INC.

8 MAIN STREET  
OGDENSBURG, N.Y. 13669  
(315) 893-6633

• Macintosh is a registered trademark of Apple Computer, Inc.  
• Wizardry is a registered trademark of Sir-Tech Software, Inc.





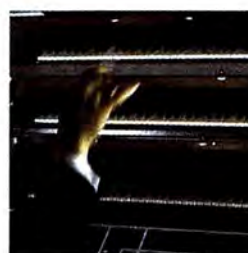
SCOTT HEISER PHOTOGRAPHED AT SYNTH-NET™ N.Y.C. (212) 564-1776







# MIDI TO THE MACS



***You, Mac and MIDI lead a symphony from the podium.***

MIDI—IT HAS A RING ABOUT IT, exotic and yet technical.

Whenever a new level of technology is introduced into any industry, there's an aura of mystery and misconception about its real capabilities. MIDI is a new technology that simplifies the process of making music. But many people who have heard about MIDI may not know what it means.

MIDI (Musical Instrument Digital Interface), the brainchild of a number of American and Japanese musical instrument companies, was introduced in 1983. It defines a standard way of converting the information processed in a synthesizer into binary code, so

that the information can be shared with other synthesizers and other binary devices, including computers. This allows an electronic musical instrument to be more than just a standalone device, and opens communications with the outside world. A parallel can be drawn with the increased power of a microcomputer when it is used to access and communicate with other, larger computers through a telecommunications network.

The information that MIDI devices process describes variables that control the way a synthesizer produces sound. The most basic building block is the

B Y D A V I D B I E D N Y



# MIDI TO THE MACS

"note on-off" code. Pressing a key on a synthesizer keyboard sends a "note on" signal to the main processor in the instrument. A "note off" signal is sent when the key is released, and the note decays into silence. But there is more to a sound than on-off codes.

Most synthesizers can store a variety of different sounds in their internal memory. In most cases these sounds, also referred to as "patches," can be modified by the user, and new sounds can be created and stored in "banks" of on board memory. While playing, the musician may decide to change a waveform or play with the "pitch bend" wheel, which gives an effect analogous to a guitar player bending the strings. The musician can vary how hard the keys are hit, thus changing the volume, or dynamics (known as "velocity"), of the passage. These actions produce data that MIDI understands and can transmit to either another instrument or to a controller computer.

A standard MIDI network contains 16 channels through which devices "talk" to each other. Synthesizers, drum machines and other devices act as peripherals, sending and receiving information on different channels. It's fairly easy to play all the synthesizers on line through one master keyboard, as long as the "slave" devices are listening to the same MIDI channel the master keyboard is sending on. Some synthesizers, such as the Casio CZ-101, can listen in on more than one channel at a time, in effect behaving as more than one instrument. Instruments of this type are referred to as "multi-timbral."

A typical MIDI setup (Figure 1) consists of a controller computer, a MIDI interface with one input and one output (some interfaces have more), a master keyboard (where music is played for input) and a few slave synthesizers linked together.

## Sequencing

One of MIDI's principal tasks is to allow a computer to record events on the various MIDI channels, and to play them back through multiple synthesizers simultaneously. Traditionally, to achieve "layered sound" in a recording, a multiple track tape recorder is used to record elements of a song (such as a bass line and drum rhythm) on separate tracks of audio tape. This allows the sound engineer to treat each track as a separate entity, which can be individually edited or enhanced with reverb, echo, and so on. There are problems with this approach. As each track is recorded, audio distortion ("hiss") is introduced, due to the magnetic properties of the audio tape. On a 16-track recording, the cumulative effect of this noise become very noticeable, and exotic noise reduction systems have to be used to control the noise factor.

MIDI solves this problem right off; no actual audio information is processed in the computer, only the codes used to trigger the devices on the MIDI network. Not only does this do away with noise problems in the recording medium, but the computer introduces a sophisticated level of editing control comparable to that of the most advanced tape machines.

An editing feature found in the higher end MIDI software is punch in/out. When editing a track, the editor may want to change a couple of bars of music to something not in the original take. Punching allows insertion of a modified passage into an existing track. Track looping is also a handy feature, for putting a particular passage into a loop, so that it will repeat itself until the music stops playing. The three high end MIDI packages reviewed here all possess these features.

## Quantizing

Quantization, or time correction, is a very desirable feature in any MIDI software. It will take anything played on the MIDI keyboard and "smooth" it out, so that imperfections in playing can be corrected to a user specified beat. For example, recording a steady bass line consisting exclusively of eighth notes becomes very easy. Even if you stray from the eighth note pattern as you play, the final product retains the intended beat. Most of the software will only correct a whole track, although some of the high end programs allow quantization of specific parts of a track, usually by selecting the part of the score to be quantized with the mouse. In this manner, whole scores can be time corrected to sound like flawless inspirations of genius.

## Patch Libraries

Synthesizers, like computers, work with files. A synthesizer is capable of generating a vast variety and number of distinct sounds. These sounds must then be stored in a file for later retrieval. Different synthesizers store these sound files in different ways. Some are internal memory, RAM cartridges, EPROM (Erasable Programmable Read Only Memory), and most recently, on computer disks. Some synthesizers actually have floppy disk drives, or even hard disk drives built right into their cases.

With this in mind, why not use a computer and its disk drives as an intelligent storage medium? This is in fact very easy to accomplish through MIDI, so that a large number of your

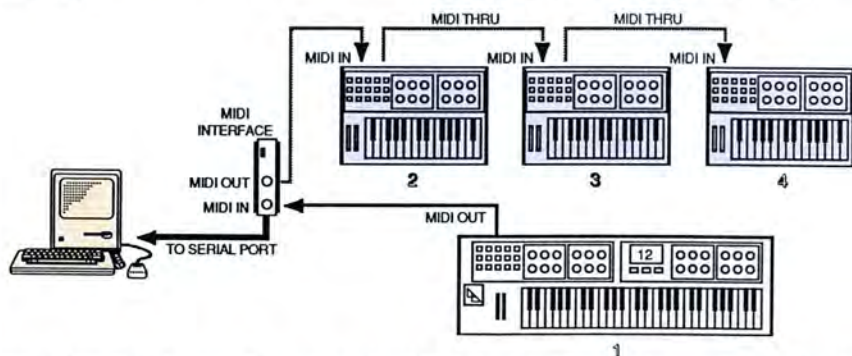


Fig. 1: A simple MIDI network. The master keyboard (1) is played, and the music is transmitted on channel 1 through the MIDI OUT port to the MIDI IN port of the interface. After recording, a separate track of music is sent on each channel, through the MIDI OUT port to the slave synthesizers (2, 3 and 4). Each slave listens to a different MIDI channel, and plays the corresponding track. The MIDI THRU output on each slave allows daisy chaining, so that one MIDI OUT from the interface can "feed" more than one slave synthesizer.



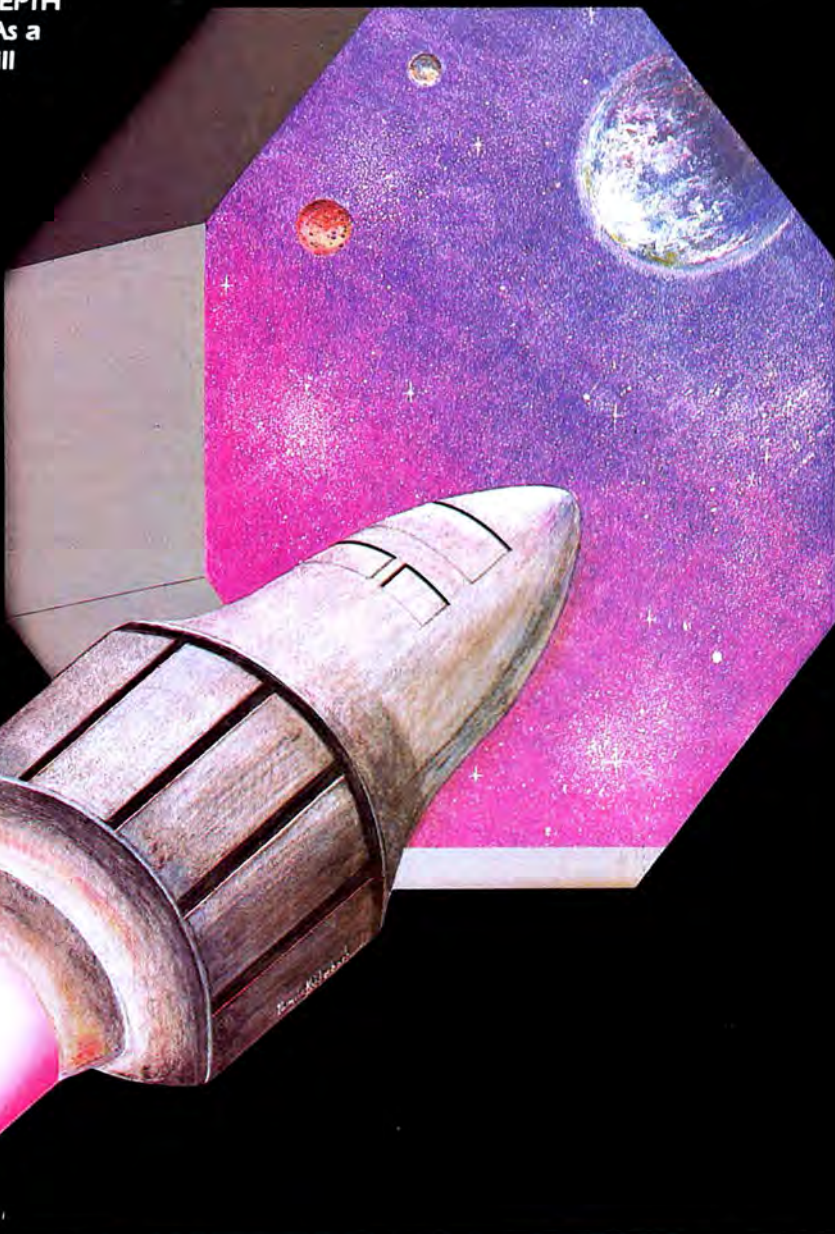
# OMNITREND'S UNIVERSE II

ENTER A NEW WORLD OF UNPRECEDENTED DEPTH AND EXCITEMENT with Omnitrend's Universe II. As a deep-cover agent for the Federated Worlds, you will be called upon to carry out missions within enemy territory. In between missions, you will be responsible for your own welfare, so you will have to earn a living by trading exotic products, mining rare ores, transporting passengers, or perhaps raiding other ships.

At the drydocks, you can repair your ship, hire new crew, or even buy a completely new ship. At the starports, using a sophisticated text parser, you can talk to other characters in the game, collect valuable clues, and explore strange cities.

Omnitrend's Universe II Includes a 100 page manual, 3 or more disks, and a free membership to the Universe Bulletin Board System.

Universe II is available for the Apple//, Macintosh, IBM/Zenith, and Atari ST computers. Apple// version requires an Apple//c or Apple//e with a 128K 80 column card, and two or more disk drives; Apple Mouse is optional. Macintosh version requires 512K or Macintosh XL. IBM/Zenith version requires IBM-PC, IBM/XT, IBM-PCjr, IBM-AT, IBM Compatible, or Zenith Z-100 series computer with at least 256K memory, MS-DOS (or PC-DOS) 2.0 or higher, and 1 or more disk drives. IBM or IBM compatible requires the Color Graphics Adapter or EGA; Microsoft Mouse is optional. Atari ST version requires Atari 260ST, 260STD, or 520ST with 1 or more SF354 drives, color or monochrome monitor.



**OMNITREND  
SOFTWARE**

**P.O. BOX 3 • WEST SIMSBURY, CT 06092**

To Order: contact your local dealer or telephone Omnitrend (203) 658-6917. Price: \$69.95 plus applicable charges where noted below. Terms and Conditions: Personal/Corporate Checks allow 15 days to clear; C.O.D. orders accepted with additional \$5.00 surcharge; MasterCard and Visa include telephone number; All CT residents add 7.5% sales tax; Shipping, handling, and insurance \$4.00 minimum per unit, additional \$3.00 per unit for UPS Blue Label; Alaska, Hawaii, and export orders subject to additional charges; Prices subject to change without notice; Dealer/Distributor inquiries invited.

IBM/Zenith and Macintosh versions available October 1985, Apple// version available December 1985, Atari ST version available February 1986.

Please circle 107 on reader service card.

Apple//, Apple//c, Apple//e, Macintosh are all Trademarks of Apple Computer, Inc. MS-DOS is a Trademark of Microsoft Corporation. IBM-PC, IBM/XT, IBM-PCjr, and IBM-AT are all Trademarks of IBM Corporation. Z-100 is a Trademark of Zenith Data Systems. Atari 260ST, 260STD, 520ST, and SF354 are Trademarks of Atari Corporation. Copyright ©1985 by Omnitrend Software, Inc.



# MIDI TO THE MACS

laboriously crafted custom patches can be saved on one Mac disk (How many people do you know who can carry a tuba in their pocket, heh?!). Because patch information is much more machine specific than MIDI data, each patch librarian program is tailored to be used with one particular model or type of synthesizer.

## Why Use MIDI?

What will all this good stuff do? Why buy a synthesizer? Well, if you're a professional musician, then you already know the benefits of working with MIDI, and for that matter, the power of the musical synthesizer. If you're not a pro, then there's even a better set of reasons.

Approximately 65% of all working musicians do not read or write music. And that figure is surely higher for nonprofessional music hobbyists. For those people who can't read or write music, MIDI offers a way to create scores without ever writing a

note. Because the more advanced MIDI packages can record music in both real-time and quantized (time-corrected) modes and use that information to generate sheet music, notational literacy becomes almost secondary to playing talent. To "the rest of us," that could mean a whole new outlook on making music for pleasure, and even for a living.

There is also the question of solitary composing. With MIDI and a couple of Casio CZ-101's, anyone with an ear for music and some keyboard knowledge can simulate the capabilities of a multi-track recording studio in their homes, without buying expensive multi-track recorders or mixing boards. Besides that, overdubbing and editing are much easier with MIDI compared to the same procedures with tape. And quantizing will clean up your playing so that no one will know that you didn't study under the masters. Finally, learning music becomes much less a chore and much more an adventure in composition.

## Ladies and Gentlemen, the Interfaces

Well, that's the theory. Now you know how MIDI works. It's all clear, right? And you're ready to run out and get started making great music. So you get to the store and Whoa...lots of interfaces.

Better do some research first.

## OPCODE SYSTEMS

Opcode's interface is the most universal of those reviewed, and will work with most of the current MIDI programs available, thanks to its switchable speed settings. This interface can be used in either the modem or printer port, and since Opcode's sequencing software will support two interfaces concurrently, up to 32 MIDI channels can be addressed at any one time. It draws its power from the Mac, so be careful about using two of these at the same time on the same Mac.

## SOUTHWORTH SYSTEMS

The Southworth interface is only sold with the *Total Music* sequencing program, so it is unlikely to be used with any other software.

The interface will work with most of the software packages reviewed, so your universe isn't limited. It provides the largest number of IN/OUT ports, and it is the only interface with its own power supply, so there should be no problems with excessive drain on the Mac power supply.

## ASSIMILATION

The Assimilation interface has the lowest list price of the units reviewed, and it performs as well as the others. It has its own MIDI IN/OUT cables molded into the casing. One unique feature of this interface is a built-in serial port, so the serial port in which the interface is connected can still be used with another peripheral. Nice touch.

## MUSICWORKS

The *Music Works* interface comes in a variety of configurations. The basic units allow either 16 and 32 MIDI channels. These units come with a desk accessory that is installed onto the MIDI software disk being used, allowing compatibility with virtually any Mac MIDI software package (except *Total Music*). *Music Works* also offers other interfaces specifically designed for interfacing with multi-track recorders, Carousel slide projectors and video tape devices.

## And Now the Software, Please

Think you had problems picking an interface? Well, there's good news and bad news. Bad news first? There's a lot more software than there are interfaces. The good news is we're going to tell you about most of them right here.

## STUDIOMAC

Creative Solution's *StudioMac* is the only program reviewed that does not accept MIDI IN, so it is impossible to record what is played on the synthesizer. This program was created to work with the Casio CZ-101, and although it will work with other synthesizers, it can't be recommended for anything but a CZ-101, since its best features only work on the CZ-101.

The program uses proportional  
(continued on page 144)



Fig. 2: Music is entered into *StudioMac* through proportional notation. The bass and cleff staves stand out from the background grid, and the user "draws" notes onto the grid. The different colors denote the discrete voices.

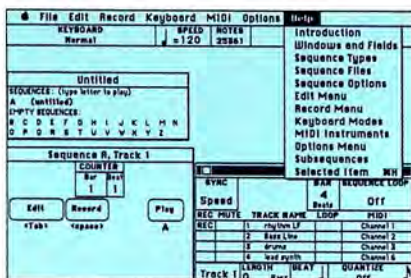


Fig. 3: Opcode's *MIDIMac* sequencer has a full on-line help menu, describing all the major functions of the package. Sequences (Untitled Window) are assigned a character title, and typing the appropriate character will play the sequence. The program's screen is a little busy, but this doesn't effect the program's functionality.



## COMPUTER ASSISTED THINKING

A whole new category of software for knowledge workers and those who value GI (Genuine Intelligence).



## CONSULTING EXPERT SYSTEMS

A whole line of interactive software from ODS, Inc. Providers of Organization Development: Software • Services • Seminars • Systems • Solution Centers •

# ods/CONSULTANT™

**NOW AVAILABLE** for the Macintosh 128, 512, and XL. Used daily by thousands in the English speaking world and soon to be translated into 15 other languages.

ods/CONSULTANT™ — helps you use your whole brain to think and work more productively.

It's a Consulting Expert System that leads you through proven problem solving and planning procedures with questions that prompt you to respond with facts, opinions and ideas pertinent to your assignment.

When a question requires a creative response, click on an icon for Idea Generation Aids — Brainstormer, Questioner, Combiner and Scenario.

When a question requires critical thinking, click on an icon for Decision Making Aids — Prioritizer, Grader, Rater, Evaluator, Relater or Categorizer.

Want to know why a procedure question is asked? Click the Tutor icon. Want more specific how-to directions and examples? Click the Coach icon.

When you're done, print a clear, concise report of your thinking, conclusions, plans and recommendations.

ods/CONSULTANT™ IS NOT an outliner like Think Tank™, nor a word processor like MacWrite™, nor a spread sheet like Multi Plan™, nor a data base like Helix™, nor is it like Jazz™. **BUT IT CAN WORK WITH ANY, ALL OR NONE OF THEM.**

ods/CONSULTANT™ is an idea processor and a decision support program. It's also a procedural thinking guide and an infinitely patient instructor. You will think more creatively and more critically, and work more productively regardless of your profession.

ods/CONSULTANT™ is the first Consulting Expert System from ODS, Inc. Soon to follow:

ods/SALES CONSULTANT™—plan and improve your sales performance.

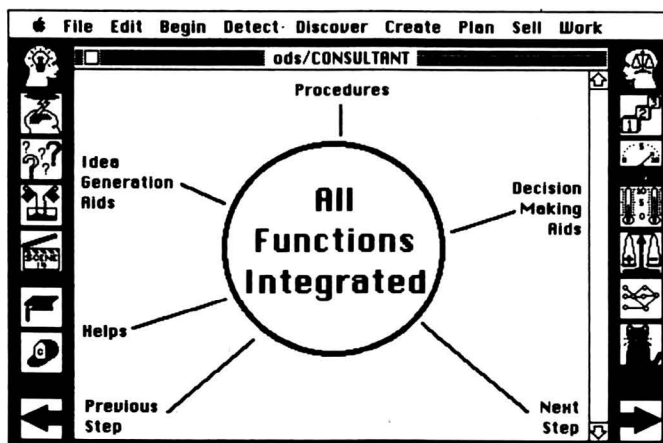
ods/PEOPLE MANAGEMENT CONSULTANT™—lead others more effectively.

ods/SELF MANAGEMENT CONSULTANT™—organize and use your time more productively.

ods/MARKETING CONSULTANT™—develop and implement marketing plans.

Customized Consulting Expert Systems can be developed for any procedure by VARS or licensed Consulting Dealers. Write or call for details.

ODS, Inc. software programs are not copy protected. They work with standard Macintosh Desk Accessories and Switcher and include an Examples file plus a Convert program that allows you to use any text file to change the report format and incorporate graphics. A complete Client Manual comes with every program as does a Defective Disk Replacement Guarantee and unlimited telephone consultation.



Available through major distributors, dealers, chains and mail order houses or direct from ODS, Inc. Complete program \$200.00, Demonstration disk and guide \$10.00. Dealer Kits, User Brochures and telephone presentations are free from ODS, Inc., 1011 E. Touhy Avenue - Suite 535, Des Plaines, IL 60018. Orders: 1-800-628-2828, Ext. 575. Information: 1-312-699-4156.





LARRY ASHTON





# NOVELS OF THE MIND



**Sometimes the Best  
Game Graphics Are  
All a Figment of Your  
Imagination**

"HITCHHIKERS' GUIDE TO THE GALAXY" author Douglas Adams recalls a story about a young boy asked to pick which version of "Hitchhikers" he preferred, the radio show or the television program. "I liked the radio one much better," said the boy. "The pictures were better."

And so it often is in text adventure games. While the Mac offers beautiful high-resolution graphics, sometimes there's just no substitute for pictures that the mind's eye creates. The abundance of excellent text adventures

(sometimes illustrated in parts with graphics, sometimes not) bears testament to the power of a computer gamer's imagination. Even those games illustrated with pictures generally give players the option of switching off the graphics mode, increasing the speed of the game considerably and letting the imagination soar.

## The Classics, Mac-Style

Everybody's heard of Infocom's *Zork*, the trilogy based on the adventure college students used to modem into on the MIT mainframe. These underground exploration games, written in an upbeat, tongue-in-cheek style, established Infocom as a leader in the text adventure field—a position the company still holds, though the competition has gotten stiffer.

In *Zork I* the challenge is to find, then explore, a mysterious underground ruin, where a lurking thief dogs your footsteps and steals anything

he can lay his hands on. He's gone from *Zork II*, replaced by the mischievous Wizard of Frobozz, a crafty character who prefers using random magic instead of actual violence. In this game, if you can find and master a set of strange, glowing orbs, you can learn the secret to controlling your nemesis. *Zork III*, the final chapter, pits the player against the Dungeonmaster himself in a battle of wits in which only one can win. This is the hardest and most closed-ended of the three, with deep psychological twists woven into the action.

Despite its advanced age (it was first played on mainframes in 1977), the *Zork* trilogy is still one of the most playable adventures available for any computer. As in other Infocom games for the Mac, it's completely unMaclike in its play, requiring that players type in full-sentence commands to interact with the program. There isn't even a movement compass, a pretty standard feature on other Mac adventures,

**BY TRACIE FORMAN HINES**



# NOVELS OF THE MIND

although players can choose the font style that the text is displayed in. Still, *Zork* remains the epitome of text adventures: it's easy to use, there are few bottlenecks requiring solutions before players can advance to other sections of the game, and most important, it's a lot of fun.

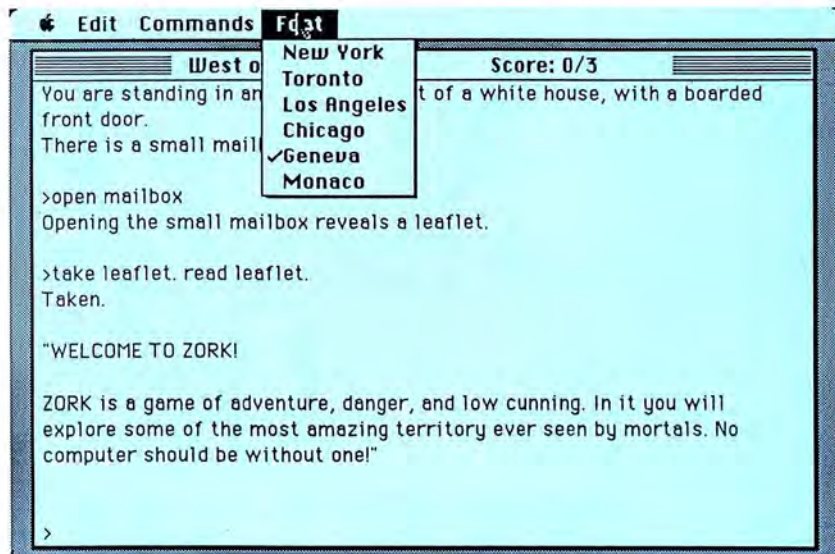
Scott Adams was one of the earliest adventure game designers, enjoying huge success in the late 70's and early 80's with his line of illustrated text adventures. While the games tended to be quirky and occasionally defy logic, forcing people to think like Scott Adams or else die of terminal frustration, they enjoyed a huge popularity until other companies did the same type of program better. They're not the best text games by far—but if you're interested in picking up a piece of gaming history, here are all twelve Scott Adams adventures in a single package, distributed by Star Systems Software.

## Murder And The Mac

Everybody loves a mystery, and murder is a popular text adventure theme. *Murder by the Dozen* and *Felony*, both from CBS Software, bring murder to home parties. Multiple people or teams compete to visit different clue sites and talk to suspects and friends of the victim in a contest to see who can point out the murderer—and the motive—first.

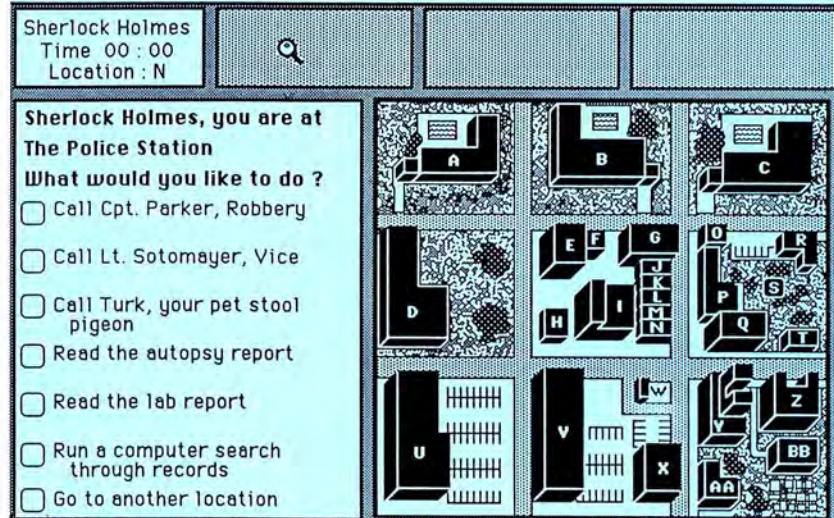
Because they allow for competitive play, both of these games feature unusual play methods. Players choose one game from the dozen enclosed on disk, and the computer displays the data found on that murder victim. From there, a map of the city is shown on-screen, with each location marked by a number.

Each player or team takes turns visiting a location, where a set of numbers is displayed upon "arrival." These correspond with paragraphs in the game clue book, which might contain vital information or simply say, "No clue." While all the page-thumbing is a little tedious, it does keep your team's information secret from the others. When one player thinks he or she has the solution, the group checks its accuracy by slipping a colored sheet of plastic over the solu-



### Zork (Infocom)

#### Murder by the Dozen



### Murder By the Dozen (CBS)

tion page to see exactly what happened.

Infocom's three murder mysteries, *The Witness*, *Deadline* and *Suspect*, offer vivid, hard-edged prose from the Raymond Chandler school of fiction. As in Infocom's other Mac releases, the games are displayed in full text on the screen.

In *Deadline*, the gamer steps into a detective's gumshoes to find the killer of wealthy Marshall Robner. Was it really a simple overdose of Ebullion? Family lawyer Warren Coates doesn't think so. He's bought you twelve hours to wander around the Robner mansion and build a case against the real murderer. Faithful aide Sergeant

Duffy is usually on-hand to analyze substances or fingerprints. Duffy appears in all three Infocom murder mysteries.

*The Witness* casts the player as exactly that: a witness to the murder of one Mr. Linder, a troubled recent widower who hired you shortly after he received a death threat. While there's nothing you can do to prevent the murder, you can at least find and help convict the killer. Among the suspects: Linder's dead wife's lover, who sent the threat; his mysterious Asian housekeeper, Phong; Monica Linder, a spoiled brat who never forgave her father for her mother's suicide; and Monica's will 'o the wisp lover.



# Bring harmony into your life with the ConcertWare™ counterparts.

"[ConcertWare] taught me more about music than I thought I'd ever learn. Highly recommended."

Jerry Pourmelle, BYTE

"Mozart would probably have chosen ConcertWare."

MacWorld

"ConcertWare+ is...the best program for those who want to listen to music on their Mac."

MacUser Magazine

"We can recommend ConcertWare as the best choice for the majority of Mac Users."

Nibble

"Exquisite instrument sounds."

InfoWorld

"ConcertWare provides a useful and fun introduction to acoustics and synthesized sound."

George Litterst, MACazine

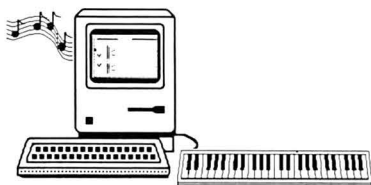
## ConcertWare+ (Ver. 3)



This enhanced version of ConcertWare allows easy entry, printing and playback of sheet music or your own compositions. The Music Writer features immediate playback and improved notation including triplets and beaming. It can also read files produced by MusicWorks™. Play music through your Mac or stereo using the Music Player. Create your own instrumental sounds using the powerful InstrumentMaker™ application.

- Music Writer
- Music Player
- InstrumentMaker™ Application
- 40 Instruments
- Music
- \$69.95 suggested retail

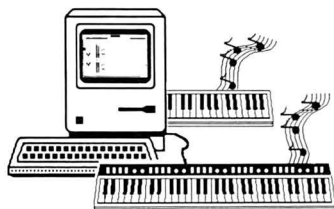
## ConcertWare+ Keyboard



We have combined ConcertWare+ and the MacNifty™ 4 octave keyboard for greater musical enjoyment. Record sequences from the keyboard, then display and edit them in standard notation. While recording new voices it can play back previously recorded voices and an optional audible metronome. Use the InstrumentMaker application with the keyboard to play 4 voice polyphonic sound. (Not MIDI compatible.)

- 4 Octave Keyboard
- Full Size Keys
- Record and Edit
- Polyphonic Playback
- Includes Software
- \$219.95 suggested retail

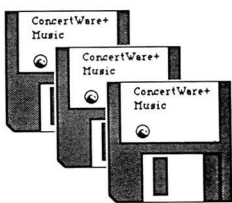
## ConcertWare+ MIDI



This product is fully compatible with and includes all features of ConcertWare+. Record sequences from your synthesizer, then display and edit them in standard notation. Record new tracks while playing previous tracks and an optional metronome. It can even record velocity (volume) if your synthesizer is suitably equipped. It can play all existing ConcertWare music files through your synthesizer. (MIDI adapter cables not included. 512K Macintosh required.)

- 8 voice lines
- Record and Edit
- Standard Notation
- ConcertWare+ compatible
- Compatible with most synthesizers
- \$139.95 suggested retail

## ConcertWare+ Music



Volume 1 - Instrumental Favorites - Arrangements of favorite instrumental pieces from Joplin, Gershwin, Bach, Beethoven and others.

Volume 2 - "The Art of Fugue" by Johann Sebastian Bach - The complete work with notes on the composition and arrangement.

Volume 3 - Christmas Favorites - A large selection of traditional Christmas music including many excerpts from Handel's "Messiah".

- Music
- Instruments
- V.1 Instrumental Favorites
- V.2 The Art of Fugue
- V.3 Christmas Favorites
- \$15.00 each suggested retail

## Comet Halley



Don't miss the once in a lifetime visit of Halley's Comet! The Comet Halley program turns your Mac into a complete viewing guide showing the exact position of the comet in a star filled sky. Additional windows give sky position, moon information, horizon views and even text viewing tips and instrument suggestions. All windows are automatically updated for any time and date from August 1, 1985 to July 31, 1986.

- Over 600 stars
- 33 constellations
- Moon and sun information
- Horizon views
- Daily Viewing Tips
- \$29.95 suggested retail



Great Wave  
Software™

Contact your local Software Dealer or Great Wave Software at P.O. Box 5847, Stanford, CA 94305, 415 325-2202.

CA residents add 6.5% sales tax.

ConcertWare, InstrumentMaker, Great Wave, and Great Wave Software are trademarks of Great Wave Software Company. MacNifty is a trademark of the Kette Group.

Please circle 113 on reader service card.



# NOVELS OF THE MIND

*Suspect* gives players a more urgent reason to find the real killer of a wealthy socialite—it seems the murder took place during a costume ball at the estate, with the player's character having been invited just to take the fall for the guilty party. Fail to solve this one and you could end up wearing stripes—and they won't be part of a masquerade costume, either. Could Veronica's untimely death be related to the fact that she wouldn't sell her family estate to a condo-happy real estate developer?

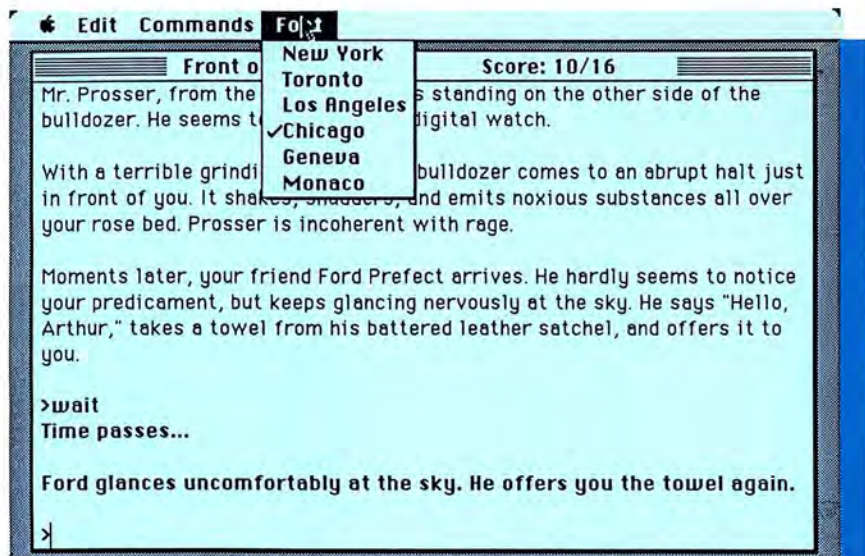
## Computerized Novels

Books are a natural source of material for text adventures: Gamers step into worlds they're already familiar with, meeting up with characters they've gotten to know in the pages of popular novels.

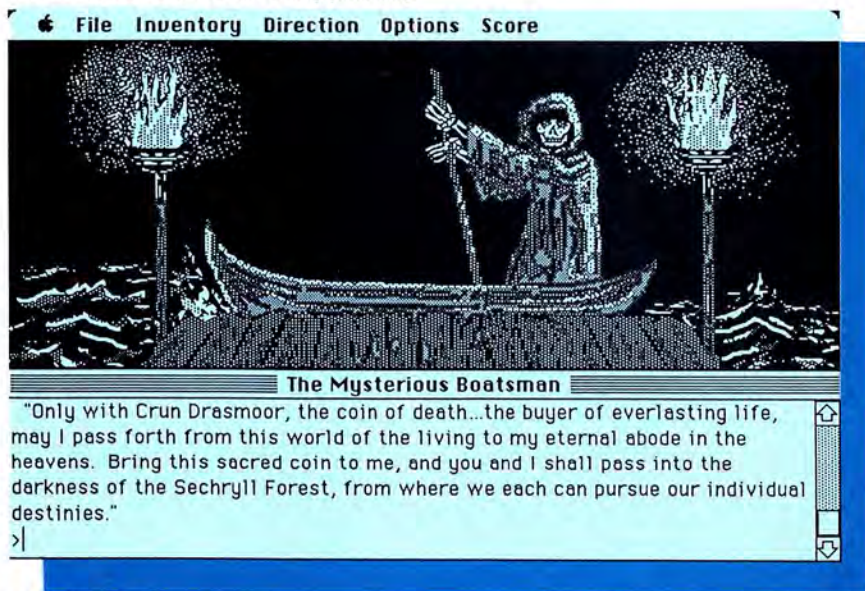
Infocom's *The Hitchhiker's Guide to the Galaxy* is probably the most successful novel that's made the transition to the Mac screen. As the long-suffering Arthur Dent, players get to hitch a ride to the stars with Ford Prefect, Zaphod Beeblebrox, Marvin the robot, and the rest of the intergalactic zanies. Douglas Adams wrote most of the text for the game, which follows the standard, non-Maclike Infocom style. The whimsical tone from the novel is reflected in the fact that the program doesn't take itself seriously at all—as a matter of fact, there are times when it outright lies to you! The package includes such essential items for cross-galactic travelling as an envelope containing a Microscopic Space Fleet, a Don't Panic! button, and of course, genuine souvenir pocket fluff.

Telarium, a subsidiary of Spinnaker Software, is going to market Mac versions of its illustrated adventures based on novels by famous authors. Among them are Ray Bradbury's *Fahrenheit 451*, Michael Crichton's *Amazon*, Arthur C. Clarke's *Rendezvous With Rama*, and *Dragonworld* by Byron Preiss and Michael Reaves. Check out upcoming issues of MacUser for more information as the games are released.

Isaac Asimov's *The Robots of Dawn* (Epyx) takes a more serious approach to adventure. As Elijah "Lije" Bailey,



*The Hitchhiker's Guide to the Galaxy* (Infocom)



*Legacy* (Challenger)



*Legacy* (Challenger)

a detective famed throughout the universe, the player is brought to a planet controlled by almost human robots, where elderly Professor Fastolfe, a robotics specialist, has been

recently murdered. Your old friend Daneel, an android with touchingly human feelings, was the only witness to the crime—but someone (probably a technical expert) tampered with his memory banks. You have only one day to figure out the motive and the murderer, and your reputation's on the line.

## Pictures, Please

While most of the "action" in text and illustrated adventures takes place in the mind's eye, sometimes a picture is indeed worth a thousand words.

Priority Software encloses sets of  
(continued on page 148)



# 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 07754-9990



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 07754-9990





# SAVE 48%

**SPECIAL CHARTER  
SUBSCRIPTION OFFER**

MacUser

## \* Savings Certificate \*

**Enter my subscription for 12 monthly issues of MacUser at the Special Charter Subscription rate of \$21.84—A saving of 48% over 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*

3126

**Special  
Charter  
Subscriber  
Rate**

**\$1.82  
per copy**

**Regular  
Newsstand  
Price**

**\$3.50  
per copy**

MacUser

## \* Savings Certificate \*

**Enter my subscription for 12 monthly issues of MacUser at the Special Charter Subscription rate of \$21.84—A saving of 48% over 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*

3126



# Nashua

## 3 1/2" SS DISKS FOR YOUR MAC



Ten-packed disks. Limited Lifetime Warranty.

**\$1.59** each Qty. 100  
**\$1.69** each Qty. 50  
**\$1.75** each Qty. 20

## 5 1/4" DISKS SINGLE SIDED/ DOUBLE DENSITY

**85¢** each Qty. 100 Limited Lifetime Warranty.  
**88¢** each Qty. 50 Boxed in tens.

# SONY

## 3 1/2" DISKS FOR YOUR MAC

Ten-packed disks from the inventor of the 3 1/2" drive.

Treat your MAC right, use the original 3 1/2" disk.



**\$1.85** each Qty. 100  
**\$1.89** each Qty. 50  
**\$1.95** each Qty. 20

**FREE**  **FREE**

**FREE SMARTCARE** 3 1/2" Head Cleaning Kit with any purchase of 200 3 1/2" disks from this ad. Includes everything you need to keep your MAC in peak operating condition. Regular Price **\$9.95** each.

### RIBBONS

Sold in dozens only. Other models available. Apple Imagewriter . . . . . **\$3.49** each

### DELUXE ROLLTOP FILES



Classic rolltop design holds 55 3 1/2" or 140 5 1/4" disks. Color-coded labels, anti-skid feet and dividers. Many color choices!  
3 1/2" Model **\$17.49** 5 1/4" Model **\$24.99**

**CALL TOLL FREE**

## 1 800 USA-FLEX

7 to 7 Central Time  
10:30 to 3:00 Saturdays

In Illinois 1 (312) 351-9700

Shipping/handling additional. Minimum order \$50.00. Visa, Mastercard and prepaid orders accepted. Corporations rated 3A2 or better and government accounts are accepted on a net 30 basis. C.O.D. orders add an additional \$5.00 special handling charge. APO, FPO, AK, HI & PR orders add an additional 5% of the total order amount to cover PAL and insurance. Illinois residents add 6 1/4% tax.

# USA FLEX

135 N. Brandon Drive Glendale Heights, IL 60139

Please circle 67 on reader service card.

# Megamax C

for the Macintosh™

### Featuring

- One Pass Compile • In-line Assembly • Smart Linker • Full Access of Macintosh Routines • 6 Register Variables • Dynamic Overlay Support
- Program Profiler • and much more . . .

### System Includes:

- Full K&R C Compiler (with common extensions) • Linker • Librarian
- Disassembler • C Specific text editor • Code Improver • RMaker • Examples
- Documentation • and Batch — a full featured command language processor.

"Megamax C is a fantastic development system and should become the new standard language for Macintosh software development" MACazine — Jan. 85

Name	Size	Time
STEVE	5632*	4.17
	5608	6.2
FIBONACCI	5610	26
"HELLO, WORLD"	5100	N/A
*using register variables		

**Megamax C \$299.95**

**Megamax C Debugger \$99**

**Megamax C now available for Atari ST computers**

Call or Write for more information, to:

**Megamax, Inc.**  
Box 851521  
Richardson, TX 75085-1521  
(214) 987-4931

VISA, MC, AMX, COD accepted

### Megamax C Debugger

A multi-window debugger including a C interpreter for implementing custom debugging functions and a mouse-based editor.



Please circle 116 on reader service card.

# 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!*

## • RUNS PROTECTED SOFTWARE FROM YOUR HARD DISK!

Copy II Mac makes using your hard disk as convenient as it should be. No longer will you have to use the 3 1/2 inch disk with some of the most popular business software - *call for current list.*

## • INCLUDES POWERFUL UTILITIES!

(Can even repair damaged disks!)

System Requirements: 128K Macintosh, 1 drive.  
(2 drives, 512K and hard disks fully supported.)

**GIVE YOUR MAC MORE MUSCLE - USE COPY II MAC!**

**CENTRAL POINT Software, Inc.**

9700 SW Capitol Hwy., \*100  
Portland, OR 97219

**503/244-5782**

M-F, 8-5:30, W. Coast Time

  CHECK, COD WELCOME  
(Prepayment Required)

**\$39.95**

plus \$3 s/h (\$8 overseas)

\*We update Copy II Mac as often as needed to handle new protections; you as a registered owner may update at any time at a reduced price.

Backup utilities also available for the IBM, Apple and Commodore 64!

*These products are provided for the purpose of enabling you to make archival copies only.*

Please circle 105 on reader service card.





FRAMERECT

GOTO

PENPAT

PENMODE

VARPTR

nu



# BASIC: A DIP INTO THE ROM

*Make your screens shimmer with patterns. Our series continues with the ROM calls you'll need to know and use.*

## PART 2

by  
**Sharon  
Zardetto  
Aker**

SWIRLING, LOOPING LINES flow under the text window. The menu is pulled down, a selection is made and a graphics window appears on top of a starkly geometric background. Custom designed background patterns certainly give programs that professional look. And they are easily created using *Microsoft BASIC 2.0's* ability to access and use the QuickDraw routines in the Mac's ROM.

### Into QuickDraw

There are three types of ROM calls that let programmers use and create patterns of their own design: PENPAT, which makes other graphic ROM calls draw in the defined pattern instead of in black; BACKPAT, which paints the background of any window with a design; and any of the FILL calls: FILLRECT, FILLROUND-



# BASIC: A DIP INTO THE ROM, PART 2

RECT, FILLOVAL, and FILLARC. (The PAINT ROM calls also use predefined patterns, but they work through the PENPAT.) The basic steps of pattern design are:

1. Create a pattern in an 8 by 8 grid, similar to the way a paint pattern is defined in *MacPaint*.

2. Convert the pattern to numeric information.

3. Store the pattern numbers in an array.

4. Use the proper ROM call, and use VARPTR (variable pointer) to indicate in which array the pattern information is stored.

These more or less simple steps get a little complicated along the way. For instance, although there are eight rows in a pattern design, only four numbers can be used to represent them. Sometimes those numbers will be higher than 32767; however, most ROM calls need to look to integer arrays, and the highest integer that BASIC can handle is 32767. But, proceeding one step at a time . . .

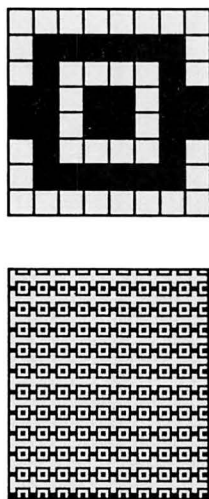


Fig. 1: Simple squares combine to form complex patterns.

## Convert the Design

First, make an 8 by 8 grid and fill in the desired pattern, as shown in Fig. 1. The computer "thinks" in binary numbers—patterns of 1's and 0's—so each black square is a one, and each white square is a zero. Before translating the pattern into numbers, though, allow for the fact that Mac

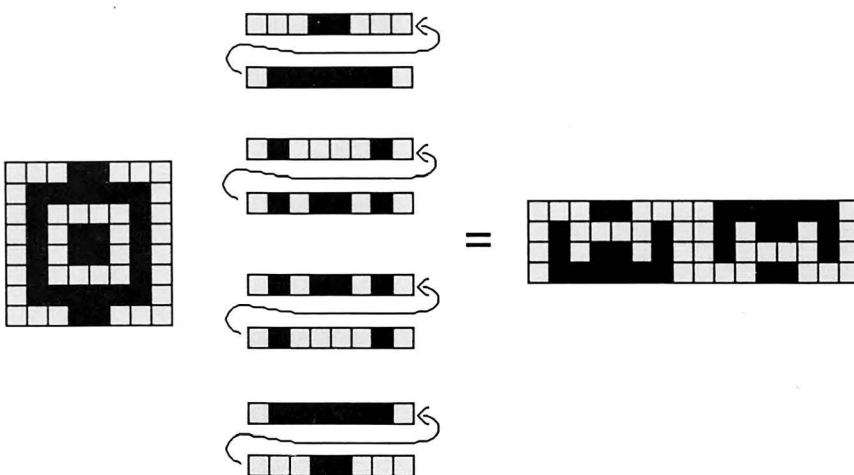


Fig. 2: The eight rows of the pattern must be rearranged into four rows of sixteen squares each.

stores its number in double bytes; this means each number is represented by 16 bits, or digits. So, the second row of the pattern must be moved up and to the right of the first row; the fourth row goes at the end of the third row, and so on, until there are four rows of 16 squares, as seen in Fig. 2. Each of these four rows represents a number; each square is a "bit" in a sixteen-digit binary number (see Fig. 3).

In the binary system, the first (righthand) digit represents 1's, the second digit is 2's, the third is 4's, and so on, each digit representing a different power of 2. Translating each of the rows in the sample pattern into binary numbers, then translating those into decimal, we get:

6270,16986,23106,32280

## Using VARPTR

Now that all the required data is on hand, what must be done with it? Put it in an integer array (denoted by the % sign), and "point" to it with VARPTR when the ROM calls are made.

The VARPTR function is an argument to many ROM calls; that is, it follows them parenthetically. VARPTR itself takes an argument: the name of the array that stores the information "passed" to the ROM routine. And, the array name takes an argument: the number of the element of the array where the information begins. This is needed because one pattern can be stored in the first four

elements of an array, and another in the next four.

Because of all these arguments, some ROM calls wind up with a series of nested parentheses that can be confusing. The BACKPAT call, for instance, might look like this:

```
CALL BACKPAT(VARPTR-
(stripe$(1)))
```

This call uses the information in the array *stripe*, beginning with element number 1.

Fig. 4 shows a routine that fills the window with the defined pattern. When using BACKPAT, use the CLS command after the call is made.

Fig. 5 shows the same procedure with the pen pattern; the subsequent ROM routines that draw lines use the defined pattern; the PAINT calls also use the current pen pattern.

The program in the List window of Figure 5 shows another use of VARPTR with ROM routines: to define the parameters of a shape. A PAINT call needs the coordinates of the shape already stored in an integer array.

While PAINT calls use the PEN pattern, FILL calls use the pattern supplied with the call. Since the shape must also be defined, two VARPTRs must be used with FILLs:

```
FILLRECT(VARPTR(coordinates%(1)),VARPTR
(stripe%(1)))
```

## Large Numbers

The main problem with fitting the pattern information into an integer ar-



ray is that BASIC can't use numbers over 32768, yet some patterns need numbers as high as 65535.

Through the miracle of "sixteen-bit 2's complement binary signed numbers" (luckily, it's not necessary to understand that to benefit from it), numbers in the Mac that are over 32767 wind up being represented by negative numbers. Subtracting 65536 from any "oversize" number gives the proper negative number; 42113, for instance, is -23423.

## A Pattern Utility

Now that you know how to create patterns and calculate the data yourself, take the easy way out: use "Pattern Utility." By clicking in the on-screen grid, you can turn squares on and off; click "Look" to see what the pattern looks like, and "Done" when you want the data. Then choose to print the screen, quit the program, or do another design. (Note in the program listing that many of the ROM

calls do not use the keyword "CALL"; many times it is unnecessary.)

The "Pattern Utility" window is shown in Fig. 6. Here's a brief run-down of the routines used in the program:

- begin: Sets all arrays with 1 as the lowest element, dimensions integer arrays for later ROM calls and sets up a string array for a graphic array.

- drawgrid: Draws the grid used for the pattern.

- draw.sample.box: Uses a ROM routine with VARPTR to draw a box next to the grid.

- checkmouse: The PENMODE call makes black items printed on other black items turn white. So, although each time a square is clicked it is filled in with black, if the square is already black, clicking will turn it white again. Buttonup waits until the mouse button has been released; buttoverdown waits for it to be pressed. If a screen button has been pressed, the program jumps to getpieces.

- fillboxes: Checks the coordinates of the mouse, making sure it is within the grid, and calculating the upper left corner of the box in which the cursor is positioned. The coordinates for the PAINT call are based on the coordinates of this corner. The PAINT call reverses the color of the box that was clicked in because of the pen mode.

- getpieces: This section uses the graphic GET and PUT to take the rows of the grid and place them at the right of the screen, in four rows of sixteen squares. The PSET "action verb" is used so the overlapping edges of the grid pieces do not cancel each other out and leave a white space.

- calculate data: This routine checks each box of the 4-row grid. If the box is black, it adds the appropriate power of 2 into the total for the current row. The number for each row is stored first in the double precision variable byte number. If the number is over the 32767 limit, it is adjusted before being converted to an integer (CINT). If it is under the limit, no adjustment is necessary before the conversion. The converted number is placed in the proper array element.

- sample: Using the data provided by the grid squares, a sample of the new pattern is placed in the frame.

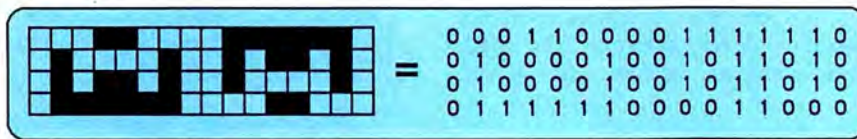


Fig. 3: Each box in each row represents a binary digit.

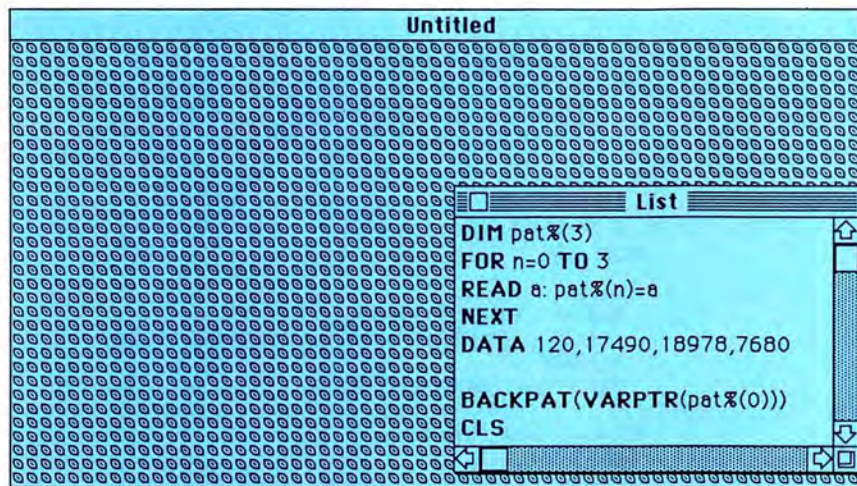


Figure 4

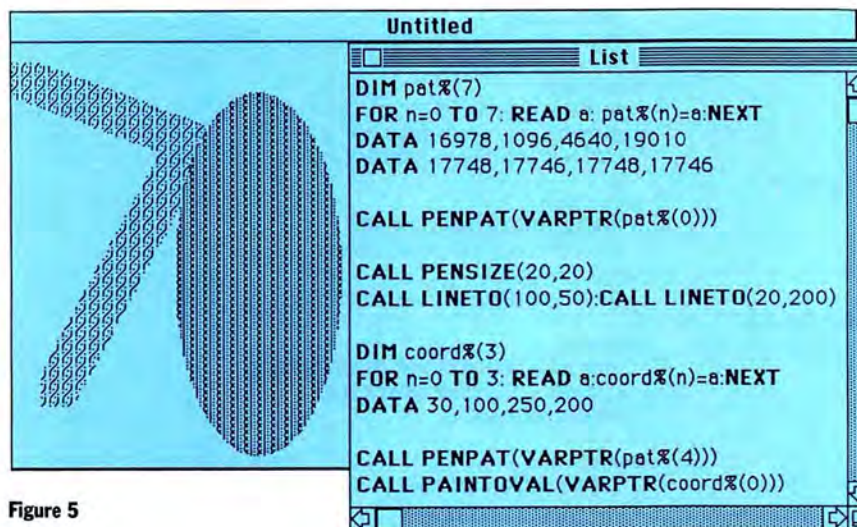


Figure 5



# BASIC: A DIP INTO THE ROM, PART 2

PENMODE (8) lets the frame be reprinted around the sample area. At this point, if the button "Look" was pushed, the program returns to the checkmouse routine; if "Done" was pushed, the program continues.

- printout: This prints the pattern data on the screen.

- loop.or.quit: This puts three new buttons on the screen so the user can choose what to do next.

- button.wait: This waits for a screen button to be pushed—buttons 1 and 2 ("Look" and "Done") don't count.

- another: Closes the buttons, erases the data information, and loops back.

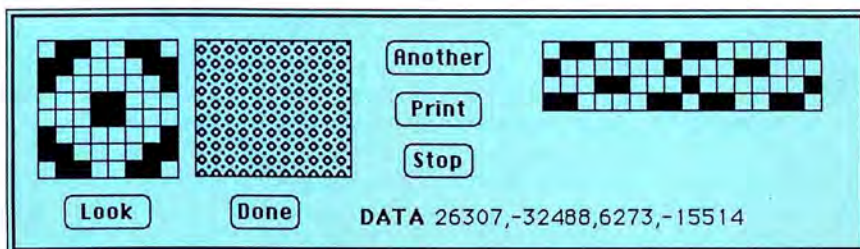


Fig. 6: The Pattern Utility program takes the drudgery out of pattern design.

- print.screen: Does a screen dump and loops back to button.wait.

- quit: Stops the program. If further program development is the goal, with windows, menus, and so on,

place the SYSTEM command here to return the user to the desktop.

That's all there really is to it. Most "professional tricks" aren't that hard at all. And the difference they make. . .

## PATTERN UTILITY

begin:

**OPTION BASE 1**

**DIM** num%(4),coord%(4),rec%(4),slice\$(68)

**WINDOW** 1,,(20,75)-(500,225),2

drawgrid:

```
CALL MOVETO(10,10)
FOR n = 10 TO 90 STEP 10
  CALL LINETO(n,90)
  CALL MOVETO(n+10,10)
NEXT
CALL MOVETO(10,10)
FOR n = 10 TO 90 STEP 10
  CALL LINETO(90,n)
  CALL MOVETO(10,n+10)
NEXT
```

draw.sample.box:

```
coord%(1) = 10:coord%(2) = 100
coord%(3) = 90:coord%(4) = 190
FRAMERECT (VARPTR(coord%(1)))
BUTTON 1,1,"Look",(25,100)-(75,120)
BUTTON 2,1,"Done",(120,100)-(160,120)
```

checkmouse:

```
PENMODE(10)
buttonup:
IF MOUSE(0) < > 0 GOTO buttonup
buttondown:
IF DIALOG(0) = 1 THEN but = DIALOG(1):GOTO getpieces
m = MOUSE(0)
IF m = 0 GOTO buttondown
```

fillboxes:

```
a = MOUSE(1):d = MOUSE(2)
IF a < 10 OR a >= 90 OR d < 10 OR d >= 90 GOTO buttonup
rec%(1) = ((d \ 10) * 10) + 1:rec%(2) = ((a \ 10) * 10) + 1
rec%(3) = rec%(1) + 9:rec%(4) = rec%(2) + 9
PAINTRECT(VARPTR(rec%(1)))
GOTO checkmouse
```

getpieces:

```
FOR y = 10 TO 70 STEP 20
  GET (10,y) - (90,y+10),slice$:PUT (300,y/2+5),slice$,PSET
  GET (10,y+10) - (90,y+20),slice$:PUT (380,y/2+5),slice$,PSET
NEXT
```

calculate.data:

```
FOR row = 1 TO 4
  byte# = 0:bit = 15
  FOR col = 305 TO 455 STEP 10
    IF POINT(col,row*10+5) = 33 THEN byte# = byte# + 2\bit
    bit = bit - 1
  NEXT col
  IF byte# > 32767 THEN num%(row) = CINT(byte# - 65536#) ELSE
    num%(row) = CINT(byte#)
NEXT row
```

sample:

```
FOR n = 1 TO 4:num%(n) = num%(n):NEXT
CALL FILLRECT(VARPTR(coord%(1)),VARPTR(num%(1)))
PENMODE(8)
FRAMERECT (VARPTR(coord%(1)))
```

IF but = 1 GOTO checkmouse

printout:

```
LOCATE 9,25
TEXTFACE(1)
PRINT "DATA ";
TEXTFACE(0)
WRITE num%(1),num%(2),num%(3),num%(4)
```

loop.or.quit:

```
BUTTON 3,1,"Another",(210,10)-(270,30)
BUTTON 4,1,"Print",(215,40)-(265,60)
BUTTON 5,1,"Stop",(220,70)-(260,90)
```

button.wait:

```
WHILE DIALOG(0) = 0:WEND
but = DIALOG(1):IF but < 3 GOTO button.wait
event = but - 2
ON event GOTO another,printscreen,quit
```

another:

```
FOR b = 3 TO 5:BUTTON CLOSE b:NEXT b
LOCATE 9,25:PRINT SPACES(60)
GOTO checkmouse
```

printscreen:

```
LCOPY:GOTO button.wait
```

quit:

```
STOP
```



# ~~Time wasting.~~



## Stop repeating yourself.

Now, with Mac-Tracks, you can save the time and hassle of typing the same things over and over again. Mac-Tracks records keystrokes, menu selections and mouse movements and plays them back with the touch of a single key! (In combination with the command key.)

That's right. No more repetitive typing of frequently used command sequences, words, sentences, paragraphs or even whole pages. Mac-Tracks can store up to 5,000 characters on a single key.

And that's not all. You can record graphics, too! Record your favorite graphs, charts and even complicated drawings. Watch them play back with lightning speed on your Macintosh™ screen.

Mac-Tracks, a desk accessory "macro," works with all your Macintosh software. Make working with your favorite applications—from MacWrite™ and MacPaint™ to Jazz™ and Excel™—faster and more efficient. You'll stop repeating yourself, and love how little it takes to accomplish a lot.

**Mac-Tracks**                      **List Price \$29**  
An explosion of shortcuts.



## Stop waiting.

Now, with Work-n-Print, you can work and print at the same time! No more waiting for the work you've just finished to print out before getting back to work on something else. Work-n-Print lets your Macintosh do both at once. You can get more work done. More quickly. More efficiently. With no interruption to break your concentration.

And that's not all. With Work-n-Print, you can print as many documents as you want, consecutively, without stopping in between. Just tell your Macintosh which files you want to print and you'll be able to print them when you want, and in the order that you want.

Use Work-n-Print. You'll stop twiddling your thumbs while you're waiting for your document to come off the printer. And you'll love how little it takes to accomplish a lot.

**Work-n-Print**                      **List Price \$29**  
An essential desk accessory.

The "Work-n-Print" name is used with permission of and has no connection with the "Printworks" software products of Sofistyle, Inc.™



**Assimilation™**

1 (800) MAC-5464 • In California 1 (800) 421-0243

Macintosh, MacWrite and MacPaint are trademarks licensed to and of Apple Computer. Mac-Tracks and Work-n-Print are trademarks of Assimilation, Inc. © Assimilation, Inc. 1985.

**Please circle 91 on reader service card.**



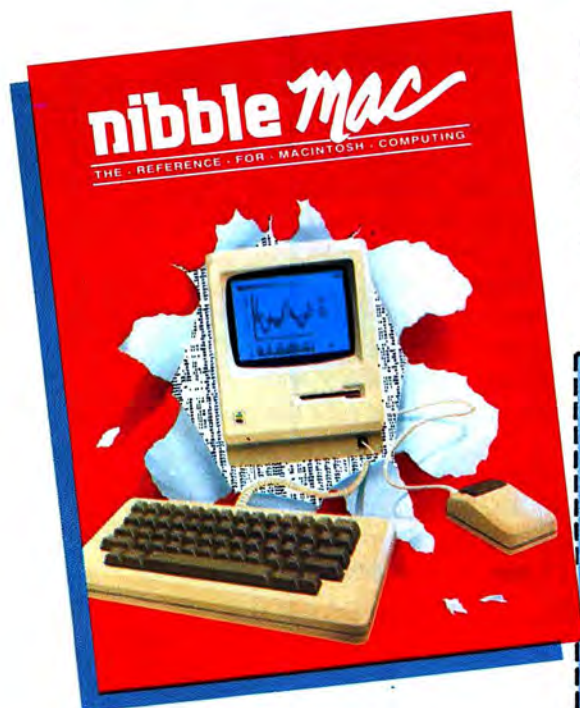


Once you decide on a Macintosh,  
your next choice is to buy . . .

THIS . . .



. . . OR THIS!



**Introducing Nibble Mac — the only Mac magazine  
with over \$20 worth of programs in each issue!**

Now — for only pennies apiece — you can get original Mac programs for business, home, personal finance, graphics, utilities, games and more! Checked by experts for quality and value. Ready to type and run with your Microsoft BASIC and other languages.

Plus the best tips, techniques, tutorials, and product reviews in the business. All backed by our unique personal service.

And there's no risk! If you ever feel Nibble Mac doesn't more than pay for itself, you'll get a complete refund on unmailed copies.

See for yourself. Subscribe today and save!

**SPECIAL CHARTER OFFER — SAVE 15%!**

**SEND MY RISK-FREE COPY!**

F105

☐ YES, I want to see it to believe it. If Nibble Mac is as good as you say, I'll pay your invoice for \$16.95 and receive seven more issues backed by your ironclad guarantee. Otherwise, I'll return your invoice marked "cancel" and owe nothing. In either case, the first issue is mine to keep! (U.S. only)

☐ YES, I'm convinced. Send the next eight issues. My payment or credit card authorization for \$16.95 is enclosed to avoid interruption due to billing. I understand I must be satisfied or I can get a refund on all unmailed copies at any time.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

Payment enclosed ☐

Charge to my MasterCard ☐

Visa ☐

Card Number \_\_\_\_\_

Expires \_\_\_\_\_

Signature \_\_\_\_\_

Telephone \_\_\_\_\_

**Or to save time, call (617) 371-1660 with your MasterCard or Visa number.**

Nibble Mac, 45 Winthrop Street, Concord, MA 01742

Foreign Subscription Rates: Canada Surface \$24.95; Outside U.S. and Canada Surface \$29.95. All payments must be in U.S. funds drawn on a U.S. bank.

**RISK-FREE Charter Offer  
on the only Mac magazine  
you can really use!**

Clip this coupon and mail today!

Please circle 111 on reader service card.





# MACRO MAKER—NEW USES FOR EXCEL

Fig.7: Simple examples of matrix multiplication. The top example shows multiplication by an identity matrix (1's on the main diagonal, 0's elsewhere). The result is the original matrix. The middle example shows a 4-by-2 matrix. The bottom example shows what happens when an attempt is made to multiply matrices that do not meet the size constraint — that the number of columns of the first must equal the number of rows to the second matrix. Excel simply puts the error code "NA" in each cell of the result.

$$\begin{bmatrix} 5 & 2 \\ 1 & -6 \end{bmatrix} \times \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix} = \begin{bmatrix} 5 & 2 \\ 1 & -6 \end{bmatrix}$$

$$\begin{bmatrix} 2 & 4 \\ 1 & 7 \\ 4 & -3 \\ 0 & 4 \end{bmatrix} \times \begin{bmatrix} 2 & 1 & 4 & 3 \\ 7 & 0 & 2 & 3 \end{bmatrix} = \begin{bmatrix} 32 & 2 & 16 & 14 \\ 51 & 1 & 18 & 17 \\ 13 & 4 & 10 & 6 \\ 28 & 0 & 8 & 8 \end{bmatrix}$$

$$\begin{bmatrix} 3 & 2 \\ 3 & 2 \\ 3 & 2 \end{bmatrix} \times \begin{bmatrix} 3 & 2 \\ 3 & 2 \end{bmatrix} = \begin{bmatrix} \text{NA} & \text{NA} \\ \text{NA} & \text{NA} \\ \text{NA} & \text{NA} \end{bmatrix}$$

	A
1	MatMultiply
2	=RESULT(64)
3	=ARGUMENT("Mat1",64)
4	=ARGUMENT("Mat2",64)
5	=IF(COLUMNS(Mat1) < ROWS(Mat2), RETURN(NA))
6	=IF(ROWS(Mat1) < COLUMNS(Mat2), RETURN(NA))
7	=IF(COLUMNS(Mat2) < COLUMNS(CALLER()), RETURN(NA))
8	=SET.VALUE(A21,1)
9	IterateRows
10	=SET.VALUE(A19,1)
11	IterateColumns
12	=SET.VALUE(OFFSET(A1,A21,A19,0))
13	=SET.VALUE(A17,1)
14	SumNextTerm
15	=INDEX(Mat1,A21,A17)*INDEX(Mat2,A17,A19)+VALUE(OFFSET(A1,A21,A19,0))
16	=SET.VALUE(OFFSET(A1,A21,A19,A15))
17	=A17+1
18	=IF(A17 < COLUMNS(Mat1), GOTO(SumNextTerm))
19	=A19+1
20	=IF(A19 < COLUMNS(CALLER()), GOTO(IterateColumns))
21	=A21+1
22	=IF(A21 < ROWS(CALLER()), GOTO(IterateRows))
23	=RETURN(OFFSET(A1,1,1), OFFSET(A1,A21-1,A19-1))

Fig.8: This function macro computes the product of the two matrices that are its arguments. The arguments must be in the form of arrays.

(continued from page 44)

ed function was built in. Even though Excel has a large set of useful functions, users will discover "missing" functions. Thanks to the macro facilities just about any desired function can be implemented as a function macro and used as though it were built into Excel.

Built into the program are the abilities to add and subtract matrices and to multiply a matrix by a scalar (an ordinary number). But matrix multiplication is lacking.

Matrix multiplication is integral to many types of statistical and mathematical analyses. Although a general matrix multiplication function isn't built into Excel, one can be implemented as an Excel macro. And it's pretty easy to do.

## A Quick Review of Matrix Math

An Excel array filled with numbers (or formulas with numeric values) is a

matrix. A particular number within a matrix (called an element of the matrix) is identified by its row and column "address." For example, in the matrix

$$\begin{bmatrix} 2 & 4 & -3 \\ 1 & 9 & 2 \end{bmatrix}$$

the number -3 is element (1,3). That is, -3 is at the intersection of row 1 and column 3. In a more concise notation, the element of matrix A at the intersection of row i and column j is referred to as  $A_{ij}$ .

The size and shape of a matrix are important in determining what operations can be performed on it meaningfully. If a matrix has, for example, 2 rows and 3 columns it is called a 2-by-3 matrix. In general terms, a matrix with m rows and n columns is an m-by-n matrix. To add two matrices, A and B, they must have the same number of rows and the same number of columns. The resulting matrix is computed by adding corresponding elements of A and B. Some examples are shown in Figure 7.

~~Innerface~~  
~~Rite~~ ~~Write~~

## The Right Word™ and Mac-Spell Right™

Make perfect spelling automatic.

You can easily eliminate all the woes associated with checking and correcting spelling with these fast spelling checkers from Assimilation.

These powerful application programs automatically do the work for you. Get the power of Webster's Dictionary & Roget's Thesaurus with the click of a button. The Right Word is a double layered post processing application designed to expand with your system. A 40,000 word utility dictionary can be used with your disk drive or a full dictionary (200,000 plus) can be used with a hard drive system. The Right Word delivers maximum efficiency with Microsoft™ Word™, Mac Publisher™, MacWrite™, and other text files such as Jazz™.

The new, upgraded release of Mac-Spell-Right features: Spell, Edit, Word count, Automatic word search and Dynamic interface within MacWrite. Take the worry out of writing. Mac-Spell-Right and The Right Word make perfect spelling automatic.

List price \$89 each.



**Assimilation™**

MacWrite is a trademark of Apple Computer, Inc.  
Mac-Spell-Right and The Right Word are trademarks of Assimilation, Inc.  
© Assimilation Inc. 1985

Please circle 53 on reader service card.



# Xyphus™

## FANTASY ROLE PLAYING AT ITS BEST!

Macintosh version  
by Robert Hardy



- Combines strategy and fantasy
- 4 character independent movement
- 6 separate scenarios
- Played entirely with mouse and graphics
- Digitized images of every creature you encounter

**POLARWARE™**  
from Penguin Software, Inc.

See it at your favorite store

Macintosh is a trademark licensed to Apple Computer, Inc.. Xyphus, POLARWARE, and Penguin Software are trademarks of Penguin Software, Inc.

Please circle 77 on reader service card.

## MACRO MAKER—NEW USES FOR EXCEL

Matrix multiplication has a somewhat more complicated shape requirement — to multiply matrices **A** and **B** giving result matrix **C**, the number of columns in **A** must equal the number of rows in **B**. The result, **C**, will have the same number of rows as **A** and the same number of columns as **B**. More succinctly, if **A** is an **m**-by-**k** matrix and **B** is a **k**-by-**n** matrix, then **C** = **A** × **B** will be an **m**-by-**n** matrix. The product, **C**, is computed by calculating each of its elements as follows:

$$c_{i,j} = a_{i,1} \times b_{1,j} + a_{i,2} \times b_{2,j} + a_{i,3} \times b_{3,j} + \dots + a_{i,k} \times b_{k,j}$$

Or, in slightly different notation:

$$c_{i,j} = \sum_{p=1,k} a_{i,p} \times b_{p,j} \quad (1)$$

Figure 8 shows the *Excel* function macro, called **MatMultiply**, that computes the product of the two matrices (represented as arrays) that are its arguments. The macro returns an array (the product of its arguments) as its result.

### MatMultiply, Cell by Cell

The basic idea of **MatMultiply** is to compute the result matrix array one element at a time, starting at row 1, column 1 and proceeding from left to right and from top to bottom until all the result elements have been computed. Let's follow the workings of **MatMultiply** cell by cell as *Excel* does during execution, explaining each cell in turn.

Cell A1 contains the text string "MatMultiply." When *Excel* executes the function macro, it simply passes this string by. The string is only present to provide a bit of documentation and permit simple naming of the first cell of the macro.

As soon as the user enters the name, **Define Name...** (in the Formula menu) is used to name cell A1 "MatMultiply" and define it as the starting point of a function macro. After the function name is defined (and whenever the macro sheet containing **MatMultiply** is opened) **Paste Function...** (also in the Formula menu) will include **MatMultiply** at the end of its scrolling list of *Excel* functions.

The function name is prefixed in the function list by the name of the macro sheet containing it and an exclamation point. So in this case, the macro's full name will be "MatMultiply!Mat-

Multiply."

When any function macro (such as **MatMultiply**) is executed in a worksheet, *Excel* begins interpreting cells beginning at A1 and proceeding down column A. Cell A2 tells *Excel* that the macro function will return an array data type as its result.

Cells A3 and A4 indicate that the function has two arguments, both arrays, and they will be referred to by the names "Mat1" and "Mat2," respectively. The next three cells (A5 to A7) test the arguments and the result array space to be sure that the arrays conform to the shape requirements for matrix multiplication. If the arrays are not in conformance, the function returns the value #NA which *Excel* will put in each cell of the result array. Note how the *Excel* function **CALLER()**, which returns a reference to the result array on the calling worksheet, is used here.

Cell A8 contains the **SET.VALUE** function, a very powerful macrosheet tool. **SET.VALUE** sets the value of another cell without disturbing any function that may be present in that cell. (The importance of this will become apparent.) In this case, **SET.VALUE** is used to initialize a counter (in cell A21) that will be used as the row index during the calculation of the result array.

**MatMultiply** does its work by computing the elements of the result array one at a time — cell A21 contains the row index of the next cell to be calculated and cell A19 contains its column index. They correspond to *i* and *j*, respectively, in Equation (1) above.

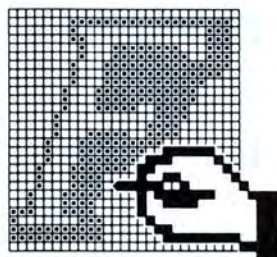
A9 is another text cell used for documentation and naming. It is passed without effect during macro execution. "IterateRows" is established as a name for the "top" of the "loop" that calculates the successive rows of the result array.

Cell A10 initializes the column index counter similarly to the setting of the row counter by cell A8. This initialization occurs "inside" the row iteration loop—thus, as the macro moves to the next row of the result, the element in the first column of that row will be computed. A11 establishes the top of the column iteration loop, like A9's definition of the row loop top. As

(continued on page 146)



# YOUR FACE STANDS OUT IN A CROWD.



With Fontastic, your typeface will be unique. Because you can create totally different fonts easily.

Fontastic unleashes your creativity. And lets you style, edit and scale any existing fonts. As well as cut and paste characters within or between fonts. All with more convenience than you've ever known.

Fontastic. The Macintosh font editor that offers you versatility the easy way.

And the kind of face that gets you the attention you deserve.

## Fontastic™

Macintosh™ font editor

\$49.95 — includes shipping  
(Add \$8.00 for airmail outside U.S.) MasterCard, Visa, or personal checks accepted.

**Altsys**  
corp.

P.O. Box 865410

Plano, TX 75086 • (214) 596-4970

Please circle 99 on reader service card.

# my OFFICE

THE COMPLETE OFFICE SYSTEM FOR THE MACINTOSH\*  
AVAILABLE IN 128K OR 512K DELUXE VERSIONS



NOW AVAILABLE IN

- ENGLISH • GERMAN
- ITALIAN • DANISH
- FRENCH (AVAILABLE SOON)

- Powerful yet simple-to-use File Management System
- Built-in Word Processor for all your business composition needs
- Fully personalized Form-Letter generation for mailings of any size
- Built-in Graphics Program for forms, stationery, newsletters and pictorial art
- Highly flexible Search Feature for reports, lists and mailings
- Quick "Archive" Storage for older inactive files
- Instantaneous "File Clerk" retrieval of all folders, documents and data
- Fast and easy creation of Mailing Labels
- Easy to use and easy to understand Manual

**DataPak Software, Inc.** 14011 VENTURA BLVD. #402, SHERMAN OAKS, CALIF. 91423, U.S.A. (818) 905-6419 TELEX 297582 (GCGW UR)

Please circle 117 on reader service card.



# CORRALLING YOUR DESK ACCESSORIES

(continued from page 50)

## SideKick

First, the good news: *Sidekick's* collection of desk accessories are among the best, and potentially the most useful, accessories made for the Mac. Now, the bad news: practically speaking, unless you have a hard disk system, you won't really be able to use even a single one of them.

Each of *Sidekick's* accessories takes up only a few K on your disk, but (and it's a *big* but) there is a special system file that has to be available in order for most of the desk accessories to work. This file ("DeskStuff") is a whopping 46K. Try to fit that on a disk that has a sizeable application! I have only 36K free on my *Word* disk, for instance, and that's with only a few choice accessories and only one font besides the system fonts. *Sidekick's* documentation blithely explains that you should put the "DataFiles" folder (containing "DeskStuff" and data files for specific accessories) on the external disk; of course, you'd only have to copy it on to every external disk you're going to use. And, if you follow those instructions, you'll be unpleasantly surprised to find that the information in each accessory changes when you change disks because it's being stored on the external disk. The manual neglects to mention that you can (and should) at least keep the data files on the start-up disk.

*Sidekick* also runs as a standalone application, so floppy-drive systems aren't completely out of the running. You may want to use the excellent phone application and *Print Manager* this way. But, as good as the accessories are, they lose much of their attraction when you can't use them concurrently with the application of your choice.

Now, on to the accessories, and try not to feel too badly about the fact that you probably won't be able to use them. . . .

*MacDialer* is a telephone's best friend. Once you have your phone book set up, you can click on a person's name and the telephone number will appear — and, with a hardware accessory available separately, the number will also be dialed. Your

phone calls can be timed, and the charges calculated; both figures appear on the screen while the *MacDialer* window is open. Based on the information you have entered in your *PhoneBook*, consultation fees also can be calculated automatically. There is a small area in which you can make notes about the call.

Phone charges, consultation fees and phone notes all become a part of the *Phone Log*, which can be reviewed and printed from the *Sidekick* main application.

The "CalendarBook" is a monthly calendar with a "notepage" available for each day and a Week-at-a-Peek option. A notepage scrolls vertically as you fill it, so you can fit in a lot of information. The Find function applies only to the current notepage; while this is mildly helpful if your notepage is very long, a similar function that could search all notepages is what is needed.

Any day with attached notes is circled on the calendar; the day whose notepage is active appears in outline; the current date is in boldface. The

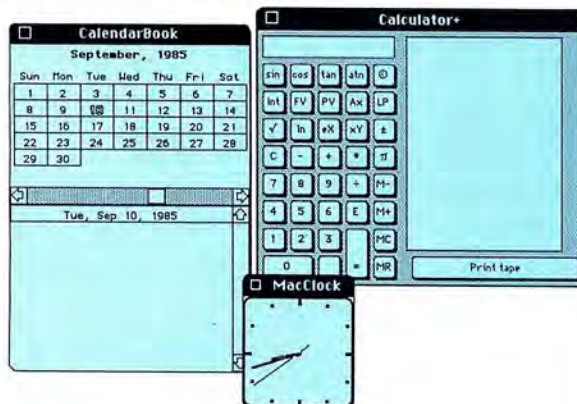
Week-at-a-Peek, as you might have guessed, shows the notepages for a whole week.

Moving to a different day on the calendar is a simple matter of clicking on the desired day. To change the month or year, you must use a horizontal scroll box, which is not as convenient as some kind of button arrangement that would let you go directly to the date you want.

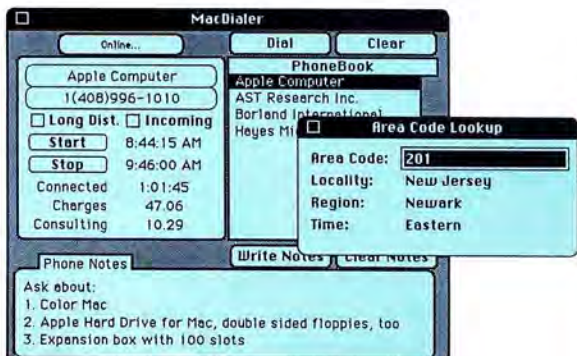
The "Calculator" is just that: a calculator with extras. It has algebraic, trigonometric and financial functions, a memory, and a "tape." The on-screen tape printout lets you double-check your entries; it is scrollable, so longer calculations are not lost. You also have the option of sending the tape to the printer.

The "NotePad" is a mini word processor. Its window can expand to the size of the screen, and will scroll vertically if your notes exceed that area. You can name documents created with the "NotePad" and save them separately; you can also open any previously saved document. There is a Find function that will search through

*Sidekick's* CalendarBook, Calculator+, and Clock.



*SideKick's* MacDialer can keep track of numbers, phone charges, and consultation fees — it can even dial your phone. The Area Code Lookup is a simple adjunct to the phone program.





the current document, and a Print option; you can also merge any available "NotePad" document into the current one.

The text files created by "NotePad" are compatible with *MacWrite* and *Word* and they can be transmitted by *SideKick*'s "MacTerm."

*QuikSheets* is a handy little accessory; it is similar to a "Note Pad," but you can divide the pages into labelled columns and add check boxes to each of the lines. Four predesigned sheets are supplied: Things To Do (of course), Alarms (Mac will beep at specified times), Credit Cards and Expenses.

The *QuikEditor* on the *SideKick* disk lets you create your own *QuikSheets*. It is easy to use, for the most part, but you'll learn more from experimentation than from the documentation.

"MacTerm" lets you receive and transmit with Hayes-compatible modems. You can do basic configurations (port, baud, parity, stop bits, *(continued on page 142)*)

## REPORT CARDS

### THE MAC BATTERYPAK



List Price: \$49.95. Requires 128K, printer and external drive recommended. Published by Batteries Included, 30 Mural Street, Richmond Hill, Ontario L4B 1B5, Canada. (416) 881-9816.

### QUICKSET



List Price: \$49.95. Requires 128K, 512K or larger, external drive recommended. Published by EnterSet, Suite 408B, 410 Townsend, San Francisco, CA 94107. (415) 543-7644.

### SIDEKICK



List Price: \$84.95. Requires 128K, runs better on 512K with hard disk. Printer and external drive recommended. Published by Borland International, 4585 Scotts Valley Drive, Scotts Valley, CA 95066. (408) 438-8400.

# TopDesk<sup>TM</sup> adds 7 Powerful Features to Your Macintosh!

*From Within Your Application—*

## • Change Fonts at the Touch of a Key.

Use **MenuKey** to dynamically assign command keys to menu items. Changes can be permanent or temporary.

## • Print Macwrite Documents While You Edit.

**BackPrint** is the only Print Spooler true to its name—prints high quality text, Macwrite and Multiplan documents.

## • Type Phrases with a Keystroke.

Customize **Shorthand** to assign abbreviations to long words or entire phrases. Whenever you type the assigned abbreviation the phrase will be substituted. Adds speed, accuracy and convenience to word processing and data entry.

## • View Documents.

With **View** you can examine both text files and Macwrite documents. Cut and Paste without leaving your application.

## • Protect the Confidentiality of Your Files.

**Encrypt** makes it impossible for anyone else to read or decrypt your protected files.

## • Protect Your Screen from Image Burn-in.

Run **Blank** once and your screen is protected for as long as your Macintosh stays on.

## • Don't Wait to Run Another Program.

Just select **Launch** from the apple menu and you're off and running to your next application task.

**Introductory Special: \$59.95**

**Cortland Computer, Inc.**

Mail to: P.O. Box 9916  
Call to Order: Berkeley, CA 94709  
(415) 845-1142



TopDesk  
MenuKey  
BackPrint  
Shorthand  
View  
Encrypt  
Blank  
Launch

View New Special Features

View	New	Special	Features
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name _____			
Shipping Address _____			
City _____			
State _____ Zip _____			
Phone _____			
Amount _____ (add \$2 shipping, CA add 6% sales tax)			
Visa/MC # _____ Exp _____			
Signature _____			

Macintosh and Macwrite are trademarks of Apple Computer, Inc. Multiplan is a trademark of Microsoft Corp.



# CALLING THE MAC TO ACCOUNT

program automatically (and instantly) fills in the word equivalent. Also, if the number of an account is not remembered, the account can be found very quickly via a minifinder box.

The menus are very clear and easy to follow, but one problem occurs when printing checks. Checks can be printed as they are written or at the end of a session, but the menu is not clear. If *Print Now* is selected and no printer is on line, the system will crash.

*MacOneWrite* plans other modules. As it stands now, it is a good, simple check writer that prints simple reports. If nothing more is needed, *MacOneWrite* would be a good choice.

## Palantir

*Palantir* tries valiantly to provide a usable accounting system for a 128K single drive Macintosh. It succeeds in some ways. The manual is clear and concise; it uses icons for common operations; menus are clear and detailed, with most operations easy to find and use; it offers flexible report formatting and a customized chart of accounts, and it functions like a traditional ledger form so it is easy to transfer data from a manual system.

However, *Palantir* has a fatal flaw. To make it work in 128K, and to bring the price down, the three modules are all written in *Microsoft BASIC*. *BASIC* must be purchased and installed on each disk (a minor annoyance). As a result, however, the program is very, very, very slow. Printing a small report to the screen can literally take several minutes. The graphics used for the icons are fuzzy, and the icons are difficult to figure out, making their use a pain. The font used for on-screen reports is extremely difficult to read.

*Palantir* is basically well designed. But the speed is truly intolerable.

## Rags To Riches

*Rags to Riches* General Ledger, Accounts Payable and Accounts Receivable modules bend over backwards to be Maclike, and do some amazing things. Everything is done in clear, readable windows, many of which can be on-screen at the same time. Information entered in one window automatically transfers to related areas

of the program and immediately appears in the appropriate window.

All the program's operations are accessed through menus, but everything also has a command keystroke, that, once learned, speeds up operations dramatically. Oft-used accounts can also be assigned command keys.

*Rags to Riches* is floppy-based, although it requires 512K. It cannot handle very large numbers of transactions, nor does it provide detailed or flexible reporting. It is very easy to use however, although it can be confusing to operate with all the windows on screen at once.

The accounting principles are basically solid, but it helps to know what you are doing before going into this program.

## Strictly Business

*Strictly Business* General Ledger is a feature-packed system for a 512K Mac with two drives. It is clearly designed for the first-time user of accounting software, with clear, well-outlined set-up procedures.

*Strictly Business* is very flexible, with a custom chart of accounts; up to 98  
(continued on page 142)

## ACCOUNTING SOFTWARE REPORT CARDS

### Accountant's Choice



General Ledger. List Price: \$695.00. Requires 512K, printer, and two drives. Hard disk strongly recommended. Published by Sierra Information Systems, Inc., 10201 Torre Ave., Suite 210, Cupertino, CA, 95014. (408)725-3200.

### CheckMark General Ledger



List Price: \$295.00. Runs in 128K with single drive, but 512K, second drive or hard disk and printer recommended. Published by CheckMark Software, PO Box 860, Fort Collins, CO, 80522. (303) 484-3541.

### Gallery



Finance (GL, CD, A/R, A/P). List Price: \$795.00. Requires 512K, printer and two drives. Hard drive recommended. Published by Micromax Systems, 6868 Nancy Ridge Drive, San Diego, CA 92121. (619) 457-3131.

### Hardisk™ Series



List Price: \$695.00 per module. Requires hard disk and printer. 512K recommended. Does not use Mac interface. Published by Great Plains Software, Box 9739, Fargo, North Dakota, 58109. (701)281-0550.

### Maccountant



(Integrated GL, A/R, A/P) List Price: \$275.00. Runs in 128K with single

drive and printer. 512K and second drive recommended. Published by Digital, Etc., 1749 14th St., Santa Monica, CA, 90404. (213)452-5636.

### MacOneWrite



(Cash Disbursements) List Price: \$245.00. Requires 512K and printer. Second drive or hard drive optional. Published by Sierra On-Line, Coarsegold, CA, 93614. (209) 683-6858.

### Palantir



(GL, A/R, Inventory Control) List Price: \$145.00 per module. Requires *Microsoft BASIC*, printer. 512K, second drive or hard disk recommended. Published by Palantir Software, 12777 Jones Road, Suite 100, Houston, TX, 77070. (800) 368-3797.

### Rags to Riches



(GL, A/R, A/P) List Price: \$295.00 per module. Requires 512K and printer. Second drive optional. Published by Chang Labs, 5300 Stevens Creek Blvd., San Jose, CA, 95129. (408) 246-8020.

### Strictly Business



General Ledger. List Price: \$395.00. Requires 512K, printer and second drive. Hard disk optional. Published by Future Design Software, 13681 Williamette Drive, Westminster, CA, 92683. (714) 891-9796.



Software	Acc't's Choice	Check-Mark	Gallery Finance	Great Plains Hardisk	Mac-countant	MacOne-Write	Palantir	Rags to Riches	Strictly Business
Accounting Numbering	8 digit preset or open	4 digit-ranges defined	9 digit-ranges defined	4, 7, or 10 digits	4, 6, or 8 digits	up to 6 digits	Sequential from 1 to user limit	Accounts are named	3, 4, or 5 digits open
Number of Accounts (128K/512K)	limited only by diskpace	(250) (1000)	450	2000 GL 3000AR 500 PR	(50-100) (1000)	limited only by diskpace	limited only by diskpace	5000	limited only by diskpace
Number Transactions (128K/512K)	limited only by diskpace	(1500) (10000)	limited only by diskpace	limited only by diskpace	limited by memory	limited only by diskpace	limited only by diskpace	10000	limited only by diskpace
Departments	YES-5 digit #	Up to 9 Dep't.s or Profit Centers	NO	Up to 999 Dep't.s or Profit centers	Up to 99 Dep't.s or Profit Centers	Use decimal in acct # to set apart	NO	NO	100 per p.center
Profit Centers	YES-Unlimited		NO				NO	NO	99
Largest Value	999,999,999.99	999,999.99	20,000,000.00	9,999,999.99	21,000,000.00	999,999.99	99,999,999.99	999,999,999.99	999,999,999.99
Chart of Accounts	Preset or user defined	Preset ranges	Preset ranges	User defined	Preset ranges	Preset or User defined	User defined	User defined	User defined
Reporting Capabilities	Outstanding	Fair	Fair	Outstanding	Fair	Fair	Fair	Fair	Outstanding
Multiple Windows	YES	NO	NO	NO	YES	YES	NO	YES	YES
Integration	(YES) *	(YES) *	YES	YES	YES	(YES) *	YES	YES	(YES) *
Save to text file	YES-reports	YES-text or SYLK	YES-reports	YES	YES	NO	YES	NO	YES
Print Checks	(YES) *	(YES) *	(YES) *	YES	YES	YES	NO	YES	(YES) *
Print Invoices	(YES) *	(YES) *	(YES) *	YES	NO	(YES) *	NO	YES	(YES) *
Documentation	Good	Good	Excellent	Difficult	Fair	Good	Fair	Good	Excellent
Support	1 year@ \$300 for system	90-day free phone	90-day free phone	30-day free phone	Unlimited free phone	90 day free phone	60 day free phone	90 day free phone	Unlimited free phone
On Screen Help	NO	Footnotes	Planned	YES	NO	NO	YES	YES	NO
Good for Beginner	NO	YES	YES	NO	NO	YES	NO	NO	YES
Passwords	1, opt.	2 levels	2 levels	2 levels	2 levels	NO	NO	NO	2 levels
Modules General Ledger = GL Accts Payable = AP Accts Receivable = AR Inventory Control = IN Sales Order = SO Payroll = PR Job Cost = JC Cash Disbursements = CD	GL ----- (AP, AR, IN, SO, Purch., FA)	GL ----- (PR, AR, AP, IN)	GL, CD, AP, AR ----- (SO, PR)	GL, AR, AP, IN, PR, JC	GL, AR, AP on single disk	CD ----- AR, GL, PR	GL, IN, AR	GL, AR, AP ----- JC, PR, IN, Time and Billing	GL ----- (AR, AP, JC, IC, OE, PR)
	Mid'86	End'85	Mid'86	Now	Now	End'85	Now	Mid'86	Mid'86

\*AS APPROPRIATE MODULES ARE AVAILABLE





# NORTHEASTERN

## Software

88 Ryders Lane, Stratford, Connecticut 06497

1. Tap our unmatched selection and inventory of software/hardware for the Mac and Apple (as well as the IBM PC and Commodore Amiga).
2. School and corporate purchase orders are welcomed. CALL 1-800-874-1108.
3. Special/rush orders. If something you need is not listed, hard to find, or needed in a hurry, CALL 1-800-874-1108.
4. Order Status. CALL (203) 375-3860.
5. **FREQUENT PURCHASER PROGRAM.** Effective 10/14/85, any repeat customer who has placed an order after 9/4/85 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.
6. **SOFTWARE RENTAL LIBRARY.** For 25% of our price, rent any program for two weeks. Apply your rental fee toward purchase if you choose.
7. No additional charges for credit card orders.
8. Technical experts on duty.
9. Convenient hours. 7 days/week: 9 AM-11 PM EST.
10. **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.
11. **FURTHER DISCOUNTS BY MAIL.** Circle the items in our ad you want, send the ad 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).

**ORDER EARLY FOR THE HOLIDAYS. IF ORDERING AT THE LAST MINUTE, OUR AIR EXPRESS SERVICE CAN RUSH YOUR SOFTWARE/HARDWARE TO YOU. HAVE A HAPPY AND SAFE HOLIDAYS!**

 	
Send coupon and list of items desired to: <b>DISCOUNT BY MAIL DEPARTMENT</b> Northeastern Software, 88 Ryders Lane, Stratford, CT 06497	
To be eligible for the \$0.50 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 <input type="checkbox"/> Visa <input type="checkbox"/> MasterCard <input type="checkbox"/> C.O.D. <input type="checkbox"/> Personal Check <input type="checkbox"/> Certified Check <input type="checkbox"/> Money Order	
Card No. _____	Exp. Date _____
10/11	

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, PO, 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.

Please circle 76 on reader service card.

## WE WILL BEAT

(See Below)

### SPECIALS

BORLAND's Sidekick for the Mac	42.75
Back to Basics Accounting	87.25
Chipwits	26.00
Copy II Mac	19.00
Elephant Imagewriter Ribbon	4.50
Excel	223.75
ExpertLogo	74.00
Gato	24.00
Harrier Strike Mission	26.00
Jazz, UNDER	27.75
Make Millions	356.00
Megamax C Compiler	28.00
Microsoft Chart	174.00
Microsoft File	72.00
Microsoft Word	110.50
Sargon III	110.50
Sony 3 1/2 Diskettes	28.50
Thinktank 512K	21.00
Thundercan (new version)	101.00
Ultima III	167.00
Wizardry	37.00
	34.75

### ACCOUNTING PROGRAMS

APPLIED LOGIC SYSTEMS	279.00
BizMac Account Payable	415.00
BizMac Accounts Receivable	345.00
BizMac General Ledger	279.00
BizMac Inventory	105.00
BizMac Payroll (standalone)	379.00
BizMac Payroll (integrated)	
ARRAYS/CONTINENTAL	51.00
The Home Accountant	
CHANG LABS	
Rags to Riches (AP, AR, or GL)	101.75
DIGITAL, ETC.	139.00
Macaccountant	
HABA SYSTEMS	36.00
Haba Solutions	
INTERMATRIX	26.95
Checkbook	
MONOGRAM	80.50
Dollars & Sense	39.75
Forecast	
OPEN SYSTEMS	
Open for Business I and II	CALL
PALANTIR	
Accounts Receivable	77.75
General Ledger	77.75
Inventory Control	77.75
PEACHTREE	
Accounts Payable	87.25
Accounts Receivable	87.25
General Ledger	87.25

### SIERRA INFORMATION SYSTEMS

Accountant's Choice General Ledger	136.00
SIERRA-ON-LINE	
Mac One Write	50.75
SOFTSYNC	
Personal Accountant	43.95
STATE OF THE ART	
Electric Checkbook	
SUPEREX	
Accounts Payable	178.00
Accounts Receivable	178.00
General Ledger	178.00
Inventory Manager	178.00
Inventory w/AR	269.00
SYMPOSIUM	
General Ledger	175.00
UNITED SOFTWARE	
In-House Accountant	109.00

### ACCESSORIES

AMARAY	12.50
Diskbank III	
AMERICAN TOURISTER	
Mac Carrying Case	55.00
APPLE COMPUTER	
Mac Security Kit	38.00
MacNumeric Keyboard	75.00
Macintosh Carry Case	75.00
ASSIMILATION PROCESS	
Mac Daisy Wheel Connection	CALL
Mac Epson Connection	CALL
Mac Numeric Turbo	CALL
Mac Turbo Touch	CALL
Mac Adaptor	CALL
AST	
RamStack 512K, UNDER	605.00
RamStack 1 MB, UNDER	999.00
RamStack 1.5 MB, UNDER	1399.00
RamStack 2 MB, UNDER	1799.00
COMPUTER IDENTICS CORP.	
Mac-Bar Code	240.00
Scanstar-Mac	500.00
CREIGHTON DEVELOPMENT	
ProPrint Software Only	38.00
ProPrint with A/B Switch & 2 cables	138.75
ProPrint with Cable	52.00
CURTIS MANUFACTURING	
Diamond	27.95
Emerald	33.00
Ruby	49.00
Sapphire	43.00
DATALOGIC OPTIC ELECTRONICS	
Datapen	CALL
DAYNA COMMUNICATIONS	
MacCharlie, UNDER	1325.00
DOSS INDUSTRIES	
TOSH	155.00

### ELEPHANT

Imagewriter Ribbon	4.50
ENVIRONMENTAL SOFTWARE (MacAttire)	
(In blue, burgundy, or gray)	
Mac Cover w/Keyboard Cover & Mouse	
Pocket	14.75
External Drive Cover	5.95
Keypad Cover	5.95
Imagewriter Cover (10" or 15")	13.00
ERGOTRON	
MacTill	73.50
GTCC CORP.	
Macinitizer	CALL
HANZON	
Universal Interface for Epson	58.95
HOGUIND	
PaintMate	CALL
I/O DESIGN	
Imagewriter Carrying Case	CALL
Imagewriter Transfer Ribbons	9.00
Macintosh Carrying Case	CALL
Macinware	68.00
Mac Private Eye	CALL
INNOVATIVE CONCEPTS	
Flip n File II/Micro	7.95
Flip n File II/Micro	17.95
INNOVATIVE TECHNOLOGIES	
Compugab	51.00
Pocket Pack	8.75
The Easel	11.75
KALMAR DESIGNS	
Double MicroCabinet	21.00
MicroCabinet	12.00
KENSINGTON	
A/B Box	58.50
Control Center	59.95
Disk Case & Disk Pocket	18.50
Disk Drive Cleaning Kit	18.75
Disk Drive Cover	6.95
Dust Cover	8.00
Mouse Cleaning Kit w/pocket	14.90
Mouse Pocket	6.95
Polarizing Filter	30.50
Printer Cover (10" or 15")	8.95
Starter Pack	51.00
Surge Suppressor	32.00
Swivel	20.00
Tilt/Swivel	21.50
Universal Printer Stand	15.75
KETTE GROUP	
MacNifty A/B Switch	26.75
MacNifty ABCD Port Switch	45.00
MacNifty Joystick Converter	35.75
MacNifty Sound Digitizer	106.00
MacNifty Stereo Music System	59.75
KOALA	
KAT	131.75
MacVision	167.00

\*TOP RATED IN A LEADING CONSUMER MAGAZINE.



# CALL TOLL FREE 1-800-382-2242

## Connecticut Orders Call (203) 375-3860

### IN CANADA 1-800-843-0074

#### SHAPECHANGER SOFTWARE

Webster's Revenge	CALL
<b>SIERRA-ON-LINE</b>	
Championship Boxing	24.00
Frogger	23.00
King's Quest II	CALL
Ultima II	34.00
<b>SILICON BEACH SOFTWARE</b>	
Airborne	20.00
Enchanted Scepters	27.00
<b>SIR TECH</b>	
Wizardry	34.75
<b>SOFT LIFE</b>	
MacSlats	28.75
<b>SPECTRUM HOLOBYTE</b>	
Gato	26.00
<b>STAR SYSTEMS SOFTWARE</b>	
12 Classic Adventures	36.00
<b>TETALIUM</b>	
Amazon or Dragon World	25.90
Fahrenheit 451	25.90
Rendezvous With Rama	25.90
<b>UNICORN SOFTWARE</b>	
Futaria	26.50
Utopia	26.50
<b>VIDEX</b>	
FunPack	22.00
MacGammon & Cribbage	27.75
MacVegas	33.00

#### LANGUAGES

<b>APPLE COMPUTER</b>	
Mac Pascal	87.00
Macintosh 68000 Development System	137.00
<b>CONSULAR</b>	
Mac-C w/Toolkit	277.00
Mac-C w/Toolkit & Floating Point	277.00
Smartthinker	65.00
<b>CREATIVE SOLUTIONS</b>	
MacForth Level I	76.00
MacForth Level II	126.00
<b>EXPERTISE</b>	
ExpertLisp	235.00
ExpertLogo	74.00
ExpertOPS	163.00
<b>HIPPOPOTAMUS SOFTWARE</b>	
Hippo-C Level I	78.00
Hippo-C Level II	218.00
Hippo-C Upgrade Kit	CALL
<b>IQ SOFTWARE</b>	
CPM for the Macintosh	290.00
<b>KRITYA SYSTEMS INC.</b>	
Neon	144.00
<b>LOGIQUE</b>	
C.P. Mac	CALL
<b>MAINSTAY</b>	
MacASM	87.00
<b>MANX</b>	
Aztec 68K-C	403.00
Aztec 68K-D	241.00
Aztec 68K-P	160.00
<b>MEACOM</b>	
Mac+ II	CALL

#### MEGAMAX INC.

Megamax C Compiler	174.00
<b>MICROMOTION</b>	
Masterforth	88.00
<b>MICROSOFT</b>	
Fortran Compiler	179.00
Microsoft Basic 2.1	85.00
Microsoft Logo	73.75
<b>SOFTCH MICROSYSTEMS</b>	
Advanced Development Toolkit	97.00
Fortran 77 Development System	188.00
Fortran 77 Language Compiler	154.00
Mac Advantage UCSD Pascal	157.00
UCSD Pascal Development System	127.00
UCSD Pascal Language Compiler	91.00
<b>SOFTWARES LIMITED</b>	
Softworks C Compiler	240.00
<b>TERRAPIN</b>	
MacLogo	CALL

#### MODEMS

<b>ANCHOR AUTOMATION</b>	
Mark XII	227.00
<b>APPLE COMPUTER</b>	
Apple Modem 1200 Baud w/acc. kit	349.00
Apple Modem 300 Baud w/acc. kit	157.00
<b>COMPUKABLE</b>	
Mac to Smartmodem Cable	16.00
<b>HAYES MICROCOMPUTING</b>	
Smartmodem 1200	363.00
Smartmodem 2400	575.00
Smartmodem 300	128.00
Transtel	268.00
<b>KENSINGTON</b>	
Portable Modem (300 Baud)	85.00
<b>MICROCOM</b>	
Mac Modem 1200 w/software	385.00
Mac Modem 2400 w/software	553.00
<b>NOVATION</b>	
Cat Comm Communications System	274.00
<b>PRENTICE</b>	
Procom X-100 Modem (Mac)	253.00
<b>PROMETHEUS</b>	
MacPack	39.00
Promodem 1200 with Mac Software	328.00
<b>U.S. ROBOTICS</b>	
Courier 2400	387.00
Password 1200	194.00

#### GRAPHICS SOFTWARE

<b>ALTYSTYS</b>	
Fantastic	24.00
<b>APPLE COMPUTER</b>	
MacDraw	135.00
<b>ANN ARBOR SOFTWARE</b>	
Animation Tool Kit I	30.00
Animation Tool Kit I Advanced	CALL
Animation Tool Kit II	CALL
In Motion	CALL
<b>AXLON</b>	
Art Portfolio	34.00
Card Shoppe	34.00
<b>BRODERBUND</b>	
The Print Shop	CALL

#### CASADY COMPANY

Fluent Fonts	28.00
<b>CHALLENGER SOFTWARE</b>	
Mac3D	CALL
<b>COMPUSERVCO</b>	
MacCad	CALL
(Templates are below)	
Architectural Design	82.00
Drafting Toolkit	38.00
Electrical and Electronic	66.00
Flowcharts and Logic	82.00
Home Designer	74.00
Layout Planner	82.00
Mechanical Design	82.00
PC Board Design	74.00
Rules Isometric w/Ovals	82.00
Single Line Isometric Piping	82.00
Single Line Orthographic Piping	82.00
Two Line Orthographic Piping	82.00
<b>DIABLO VALLEY DESIGN</b>	
MacGrid	26.00
<b>DIVERSIONS INC.</b>	
Underware Color Pens	9.95
Underware Ribbon	9.95
Jumbo Color Pens	14.00
<b>ENTERSET</b>	
Quickpoint	29.00
<b>ESOFF ENTERPRISES</b>	
Color Chart	69.00
<b>FOUNDATIONS SYSTEMS</b>	
MacMeasure	CALL
<b>HAYDEN SOFTWARE</b>	
Art Grabber w/Body Shop	28.75
Home Design	45.75
DaVinci Buildings or Interiors	28.00
DaVinci Landscapes	28.00
DaVinci Building Blocks	44.75
DaVinci Commercial Interiors	113.00
Videoworks	56.00
<b>INNOVATIVE DATA DESIGN</b>	
MacDraft	135.00
Paste-Ease	35.75
<b>I/O DESIGNS</b>	
ColorPrint Ribbon	6.50
ColorPrint Software	34.50
ColorPrint Starter Kit w/3 ribbons	52.00
ColorPrint Transfer	69.00
<b>KENSINGTON MICROWARE</b>	
Graphic Accents	28.75
Professional Type Fonts for Headlines	39.75
Professional Type Fonts for Text	28.75
<b>LINGUIST'S SOFTWARE</b>	
Tech	68.00
<b>MAGNUM SOFTWARE</b>	
MacPic Volume 1 or 2	26.00
The Slide Show Magician	31.00
<b>MANHATTAN GRAPHICS</b>	
Ready Set Go	68.75
<b>MATRIX ASSOCIATES</b>	
Images	26.75
<b>MESA GRAPHICS</b>	
Plot It	66.00
<b>MICRO-MAPS</b>	
MacAtlas U.S.A.	57.00
MacAtlas World	57.00

#### MICROSPOT

MacPlot	28.00
<b>MILES COMPUTING</b>	
Mac The Knife Volume 1	20.75
Mac The Knife Volume 2	25.75
Mac The Knife Volume 3	CALL
<b>SOUTH BAY SYSTEMS</b>	
Music Character Set	19.00
<b>T/MANER</b>	
Click Art Effects or Letters	28.75
Click Art Personal Graphics	28.75
Click Art Publications	28.75
<b>VAMP INC.</b>	
MacCod	CALL

#### BACKUP AND UTILITY SOFTWARE

<b>ASSIMILATION PROCESS</b>	
Guardian	CALL
Mac Memory Disk	CALL
Mac Tracks	CALL
Work N Print	CALL
<b>BATTERIES INCLUDED</b>	
Mac Battery Pak	25.75
<b>BAY SYSTEMS SOFTWARE</b>	
Hard Disk Util	45.00
<b>CENTRAL POINT SOFTWARE</b>	
Copy II Mac	19.00
<b>CRYSTAL CANYON</b>	
Mac Librarian	29.00
<b>DREAMS OF THE PHOENIX</b>	
Quick and Dirty Utilities	27.75
<b>HIPPOPOTAMUS SOFTWARE</b>	
Hippo-Lock	67.00
<b>IDEAFORM</b>	
MacLabeler	28.00
<b>MAINSTAY</b>	
Disk Ranger	35.00
MacBooster	31.90
N'cryptor	28.75
Type Now	28.75
<b>MICROANALYST</b>	
MacZip	34.50
<b>NEVINS MICROSYSTEMS</b>	
TurboCharger	54.75
<b>PBI SOFTWARE</b>	
Icon Libraries	13.95
Icon Switcher	13.95
<b>PCA SOFTWARE</b>	
MacBackup	53.00
<b>PROTEKT IT SOFTWARE</b>	
Procopy	31.00
<b>SMB DEVELOPMENT</b>	
MacMate	34.00
<b>SILICON BEACH SOFTWARE</b>	
Accessory Pak I	23.00
<b>SOFTSTYLE</b>	
Epstart	27.75
Jetstart	27.75
Letterstart	58.75
Tlstart	45.75
Toshstart	27.75
<b>SOUTHEASTERN SOFTWARE</b>	
Mac Transfer	30.95

#### SYMMETRY CORP.

Quick Disk	23.00
<b>TARDIS SOFTWARE</b>	
C Leoner	34.75
Fast Finder	34.75
Mac Programmer's Library	144.75
MacMake	34.75
Tools #1	34.75
Tools #2	34.75
<b>TESSERACT SOFTWARE</b>	
MacCopy	38.75

#### PRINTERS

<b>APPLE COMPUTER</b>	
Imagewriter II (NEW!), UNDER	469.00
Imagewriter, UNDER	415.00
Imagewriter Wide Carriage, UNDER	479.00
LaserWriter Printer, UNDER	4900.00
<b>BROTHER</b>	
HR-10	180.00
HR-15XL	354.00
HR-25	479.00
HR-35	684.00
<b>C. ITOH</b>	
ProWriter 1550SR	580.00
ProWriter 8510BC-2	390.00
ProWriter 8510SR	440.00
<b>EPSON</b>	
DX 10	CALL
DX 20	CALL
FX 85	CALL
FX 185	CALL
LQ 1800	CALL
LX 80	209.00
<b>JUKI</b>	
5510S	449.00
6100S***	383.00
6200S	609.00
6300S	669.00
<b>NEC</b>	
Color Pinwriter CP2T	CALL
Color Pinwriter CR3T	CALL
n.I.I. 360	CALL
<b>NEC/SSIO, UNDER</b>	
NEC8810, UNDER	995.00
Spinwriter Accessory Kit for Mac	1395.00
<b>OKIDATA</b>	
ML-1925 Mac/Lisa	373.00
ML-1935 Mac/Lisa	553.00
<b>PANASONIC</b>	
KXP 1091***	245.00
KXP 1092	367.00
KXP 1093	437.00
KXP 3151 Letter Quality	413.00
<b>STAR MICRONICS</b>	
SD-10	343.00
SD-10	455.00
SG-10	225.00
SG-15	385.00
SR-10	490.00
SR-15	589.00
<b>TOSHIBA</b>	
P-1340	454.00
P-351, UNDER	1095.00



# THE MOST EXTENSIVE SELECTION AT THE

## ANY COMPARABLE ADVERTISER

<b>KRAFT</b>	
Quick Stick	44.00
<b>MACMEMORY ELECTRONICS</b>	
The Mac	CALL
<b>MAGNUM</b>	
The Mouse Mover	CALL
<b>MASS TECH DEVELOPMENT LABS</b>	
Fast Mac Upgrade	CALL
<b>MICAH</b>	
MacMegabytes 128K to 1MB RAM Expan.	649.00
MacMegabytes 512K to 1MB RAM Expan.	429.00
ROM Enhancement	69.00
<b>MICRON TECHNOLOGY</b>	
Micron Eye	309.00
<b>MICRORAIN</b>	
MacStation	79.00
<b>MICROSOFT</b>	
MacEnhancer	152.00
Power Back-Ups	CALL
<b>MOUSE SYSTEMS</b>	
A+ Optical Mouse	58.00
<b>MOUSETRAK</b>	
Mousetrak Pad	7.75
<b>MPH COMPUTER PRODUCTS</b>	
Mac-8-Cool	CALL
<b>NEW IMAGE TECHNOLOGY</b>	
Magic Digitizer	248.95
<b>OBERON INTERNATIONAL</b>	
Omni-Reader	431.00
<b>OPTIMUM</b>	
MacMate	61.00
<b>PERFECT DATA</b>	
Head Cleaning Kit	11.00
<b>PERSONIC CORP.</b>	
View Control System	138.00
<b>SERIDYNE SYSTEMS</b>	
Micro Imager	340.00
<b>SMITH AND BELLOWES</b>	
Mahogany Disk Case	17.75
<b>SOUTH BAY SYSTEMS</b>	
Mouse Pad	12.00
<b>SUNMAGRAPHS</b>	
Mac Tablet, UNDER	399.00
<b>SUPEREX</b>	
MacSpeak	17.95
<b>SYSTEM CONTROL</b>	
MacGard	55.95
<b>THUNDERWARE</b>	
ThunderScan (new version)	167.00
<b>TFS ELECTRONICS</b>	
TFS PC-386 Bar Code Reader	CALL
<b>TRI-DATA</b>	
Netway	CALL
<b>VIDEO 7</b>	
Mouse Stick	38.75

### BOOKS

Inside MacPaint	13.00
Lotus Guide to Jazz	15.00
MacWork Multiplan	13.00
Microsoft Multiplan	12.75
Microsoft Macinations	13.00
Presentation Graphics on Apple Mac	13.00
The Apple Macintosh Book	13.00
The Book of Macintosh Software	17.00
The Printed Word	13.00

### BUSINESS SOFTWARE

<b>ADVANCED LOGIC SYSTEMS</b>	
Highly Mac	35.00
<b>AEGIS DEVELOPMENT</b>	
The Housekeeper	44.75
Zapl Invoice	60.75
<b>ALDUS</b>	
Pagemaker, UNDER	369.00
<b>ALLEGRO SOFTWARE</b>	
Business Analysis Multiplan Templates	29.00
Personal Fin. Multiplan Templates	29.00
<b>APPLE COMPUTER</b>	
MacProject	132.00
<b>APPLIED LOGIC SYSTEMS</b>	
MacMathPac	165.00
<b>APROPOS</b>	
Financial Planning	53.75
Investment Planning	53.75
<b>ARTSCI</b>	
Magic File	57.00
Softforms	24.00
<b>ASSIMILATION PROCESS</b>	
Business Essentials	CALL
MacSpell Right	CALL
The Right Word	CALL
<b>BLYTH SOFTWARE</b>	
Omni 2	CALL
Omni 3	243.00
<b>BOSTON SOFTWARE PUBLISHERS</b>	
MacIndex	CALL
The MacPublisher	73.00
The MacPublisher II	CALL
<b>BRAINPOWER</b>	
Statview	97.75
<b>BROCK SOFTWARE</b>	
Keystroke Database	74.00
<b>COMPUTER SOFTWARE DESIGN</b>	
MacLion	185.00
<b>CREIGHTON DEVELOPMENT</b>	
MacHome	23.00
MacOffice	23.00
MacSpell+	51.00

### DATAFOOD

Drawforms	34.50
MacForms	44.00
<b>DATAPAK SOFTWARE</b>	
My Office	110.00
<b>DESKTOP SOFTWARE</b>	
1st Base	97.00
1st Base and 1st Merge	127.00
1st Merge	47.00
<b>DOW JONES</b>	
Market Manager Plus	107.75
Spreadsheet Link	55.75
<b>DREAMS OF THE PHOENIX</b>	
Day Keeper Calendar	27.95
<b>ELECTRONIC ARTS</b>	
Financial Lookbook	32.50
<b>EMERGING TECHNOLOGIES</b>	
MacOffice	78.00
<b>ENTERSET</b>	
Quickword	34.75
<b>EXECUCOM SYSTEMS CORP.</b>	
Mindsight	CALL
<b>FORETHOUGHT</b>	
FactFinder	84.00
Filemaker	107.00
<b>HABA SYSTEMS</b>	
Habadox	57.00
Quartet	114.00
<b>HARRIS TECHNICAL SYSTEMS</b>	
Profit Projections/Brokeaven Analysis	46.75
<b>HAYDEN SOFTWARE</b>	
Ensemble	139.00
Hayden Chart	58.00
Hayden Speller	44.75
I Know It's Here Somewhere	34.00
MacBase	CALL
<b>HAYES MICROCOMPUTER</b>	
Please	122.00
<b>HEYDEN AND SON</b>	
Statworks	86.00
<b>HUMAN EDGE SOFTWARE</b>	
Communication Edge	97.00
Management Edge	127.00
Mind Probat	26.00
Negotiation Edge	147.00
Sales Edge	127.00
<b>LAYERED</b>	
Front Desk	76.00
<b>LAZER SOFTWARE</b>	
Lazerbase	CALL
<b>LIGHTYEAR, INC.</b>	
Lightyear	CALL
<b>LIVING VIDEOTEXT</b>	
Think Tank 128K	73.00
Think Tank 512K	101.00
<b>LOTUS</b>	
Jazz, UNDER	356.00

### MAIN STREET SOFTWARE

Main Street Filer	51.00
Main Street Writer	51.00
<b>MEGAHAUS</b>	
MegaFiler	98.75
MegaForm	147.00
MegaMerge	63.75
<b>MICROLAB</b>	
Tax Manager	105.00
<b>MICROSOFT</b>	
Chart	72.00
Excel	223.75
File	110.50
Mac Business Pack	339.00
Multiplan	105.95
Word	110.50
<b>MILES COMPUTING</b>	
Miles Ahead Stock Charter	CALL
<b>MODEL OFFICE COMPANY</b>	
Document Modeler	CALL
The Date Calculator	CALL
<b>ODESTA</b>	
Helix	215.00
<b>ODS, Inc.</b>	
Consultant	119.00
<b>PALADIN</b>	
Crunch	165.00
<b>PROVUE DEVELOPMENT</b>	
OverVUE	146.00
<b>REAL DATA, INC.</b>	
Commercial/Industrial Applications	59.00
Financial Analysis	59.00
On Schedule	112.00
Real Estate Investment Analysis	87.00
Residential Real Estate	59.00
Tax Shelter Syndication Analysis	170.00
<b>RESTON</b>	
Construction Estimator	41.00
<b>RIO GRANDE SOFTWARE</b>	
RGS File and Report	CALL
RGS File Plus	CALL
Softmaker II (128K)	CALL
Softmaker II (512K)	CALL
Legal Billing	CALL
<b>SMITH MICRO SOFTWARE</b>	
Market Link	52.00
Stock Portfolio System	105.00
<b>SOFTDESIGN</b>	
TimeBase	86.00
<b>SOFTTECH MICROSYSTEMS</b>	
Mail Manager	67.75
Mail Merge	68.00
<b>SOFTIDEA</b>	
Zipfinder	87.00
<b>SOFTSTYLE</b>	
Decision Map	86.50
<b>SOFTVIEW</b>	
Macintosh '85	54.00

### SOFTWARE PUBLISHING

PFS File/Report Combo	99.00
<b>SOFTWARE TOOLS</b>	
Engineering Tool Kit	74.00
<b>STATSOFT</b>	
StatFast	68.00
DataFast	38.75
<b>STONEWARE</b>	
DB Master Mac	97.75
<b>SUPEREX</b>	
Electronic Engineering	58.00
Esti Mac	58.00
Home Executive	54.00
Mac Choice	29.00
Mac Fee	178.00
Mac Finance	57.00
Mac Notes	53.00
<b>TELOS</b>	
Filevision	97.00
<b>WARNER</b>	
Desk Organizer	56.75

### COMMUNICATIONS SOFTWARE

<b>AEGIS DEVELOPMENT</b>	
Mac Mail Telecom	CALL
<b>APPLE COMPUTER</b>	
MacTerminal	85.00
<b>CLEO SOFTWARE</b>	
CLEO	675.00
<b>COMPUSERVE</b>	
Compuserve Starter Kit	14.00
<b>DATAVIZ</b>	
MacLink with cable	86.75
<b>DESKTOP SOFTWARE</b>	
1st Port	47.00
<b>DILITHIUM PRESS</b>	
PC to Mac and Back	75.75
<b>DOW JONES</b>	
Straight Talk	44.00
<b>DREAMS OF THE PHOENIX</b>	
Mouse Exchange BBS	27.75
Mouse Exchange Terminal	27.75
<b>HABA SYSTEMS</b>	
HabaCom	41.50
<b>HAYES MICROCOMPUTER</b>	
Smartcom II	85.00
<b>KAZ BUSINESS SYSTEMS</b>	
MacDasher	CALL
<b>MAINSTAY</b>	
Telescope	78.00
<b>MYCROFT LABS</b>	
Mite	86.00
<b>PERIPHERALS, SUPPLIES &amp; COMPUTERS</b>	
VersaTerm	CALL
<b>SOFTWARE MASTERS</b>	
In Touch	96.00



# SAVE MACINTOSH THE BEST PRICES!!!

## PRICE BY \$1

<b>SOURCE TELECOMPUTING</b>	
Source On-Line Information Network...	30.00
<b>SOUTHEASTERN SOFTWARE</b>	
Mac Transfer...	30.95
<b>VIDEX</b>	
Mail Center for Two...	170.00
Mail Center for Six...	284.00

### DESK ACCESSORY SOFTWARE

<b>BORLAND</b>	
Sidekick...	42.75
<b>DUBI-CLICK SOFTWARE</b>	
Calculator Construction Set...	75.00
<b>DREAMS OF THE PHOENIX</b>	
Twelve-C...	27.75
<b>ENTERSET</b>	
QuickSet...	54.00
<b>HABA SYSTEMS</b>	
Haba Window Dialer...	25.00
<b>HARVARD ASSOCIATES</b>	
Desk Toppers...	28.00
<b>MACADAM PUBLISHING</b>	
Windowware Calendar...	31.75
Windowware Phone Book...	31.75
Windowware Phonebook and Calendar...	52.75
<b>MEGAHAUS</b>	
MegaDesk...	58.75
<b>T/MAKER</b>	
ClickOn Worksheet...	45.00
<b>VIDEX</b>	
MacCalendar...	49.75

### DISK DRIVES

<b>APPLE COMPUTER</b>	
Macintosh External Drive...	354.00
Macintosh Hard Disk 20MB, UNDER...	1099.00
<b>CORVUS</b>	
Mac Network Interface Card...	146.00
Omni Talk...	295.00
5.5 MB Mac OmniDrive, UNDER...	979.00
11.1 MB Mac OmniDrive, UNDER...	1379.00
45.1 MB Mac OmniDrive, UNDER...	3399.00
<b>DATASPACE</b>	
DS 800K Disk Drive...	CALL
<b>GENERAL COMPUTING</b>	
10 MB Hyperdrive, UNDER...	1269.00
20 MB Hyperdrive, UNDER...	1565.00
ToolKit...	173.00
<b>HABA SYSTEMS</b>	
HabaDisk 400KB w/software bundle...	279.00
HabaDisk 800KB w/software bundle...	CALL
<b>INFOSPHERE</b>	
XU Serve...	145.00
<b>IOmega</b>	
5 MB cartridge...	38.00

Bernoulli Box, UNDER...	1299.00
Head cleaning kit for Bernoulli box...	56.75
<b>MICROTECH INTERNATIONAL</b>	
BAL 31/2" Disk Drive...	CALL
<b>MIRROR TECHNOLOGY</b>	
Shugart Manual Eject Drive...	CALL
<b>MITSUBA</b>	
Super 5 Mac External Drive...	CALL
<b>PARADISE SYSTEMS</b>	
Mac 10 Hard Disk Subsystem, UNDER...	1029.00
<b>PERSONAL COMPUTER PERIPHERALS</b>	
MacBottom Hard Disk...	CALL
<b>QUARK</b>	
QC10 Meg Hard Disk, UNDER...	999.00
QC20 Meg Hard Disk, UNDER...	1379.00
<b>REMINGTON</b>	
Mac External Drive (Shugart)...	280.00
<b>TECHAR</b>	
10 MB Fixed Mac Drive, UNDER...	1099.00
5 MB Removable Mac Drive, UNDER...	1099.00
<b>WESTERN AUTOMATION LABS</b>	
Dash Extern. Ram Disk 500K, UNDER...	399.00
Dash Extern. Ram Disk 1000K, UNDER...	595.00
Dash Extern. Ram Disk 2000K, UNDER...	969.00

### DISKETTES

BASF 3 1/2"	12.00
Elephant 3 1/2"	25.50
Fuji 3 1/2"	23.95
Maxell 3 1/2"	22.95
Memorex 3 1/2"	23.75
Sony 3 1/2"	21.00
Verbatim	24.00

### CREATIVE/EDUCATIONAL SOFTWARE

<b>ATI</b>	
MacCoach...	42.75
Teach Yourself Jazz...	44.00
Teach Yourself Multiplication...	29.00
<b>ASSIMILATION PROCESS</b>	
M.I.D.I. Conductor...	CALL
M.I.D.I. Composer...	CALL
<b>AXLON</b>	
Typing Avalanche...	35.75
<b>BRAINPOWER</b>	
ChipWits...	26.00
Thinkfast...	22.00
<b>CAMDE</b>	
Nutricalc...	58.00
<b>DAVIDSON AND ASSOCIATES</b>	
Math Blaster...	29.75
Speed Reader II...	35.75
Spell It...	29.75
Word Attack...	29.75

<b>FIRST BYTE</b>	
KidTalk...	48.00
Smooth Talker...	57.75
Speller Bee...	48.00
<b>FORETHOUGHT</b>	
Typing Intrigue...	28.75
<b>GREAT WAVE SOFTWARE</b>	
ConcertWare Plus...	41.50
<b>HARVARD ASSOCIATES</b>	
MacManager...	28.00
<b>HAYDEN SOFTWARE</b>	
Computer Novel Construction Set...	28.75
MusicWorks...	44.00
Score Improvement System SAT...	56.00
Turbo Turtle...	34.50
<b>HIPPOTAMUS SOFTWARE</b>	
Hippo Computer Almanac...	20.00
Hippo Sound Studio...	CALL
<b>MARK OF THE UNICORN</b>	
Pyramid of Peril...	248.00
<b>MICROSOFT</b>	
Entrepreneur...	30.00
Learning Multiplication and Chart...	36.00
<b>PALANTIR</b>	
MacType...	26.00
Math Flash...	29.00
Word Play...	29.00
<b>QED INFORMATION SCIENCES</b>	
Typing Made Easy...	34.00
<b>QUEUET INTELLECTUAL SOFTWARE</b>	
Address Book...	28.00
American History Adventure...	43.75
Comprehensive Grammar Review...	40.00
How a Bill Becomes a Law...	43.75
PreNatal Baby Care...	25.00
Reading Adventure I...	28.00
Reading Adventure II...	44.00
Starting a New Business...	43.75
U.S. Geography Adventure...	44.00
Vocabulary Adventure I...	43.75
Vocabulary Adventure II...	44.00
World Geography Adventure I...	44.00
World Geography Adventure II...	44.00
<b>RUBICON PUBLISHING</b>	
Deja Vu...	23.75
SongPainter...	33.75
<b>SCARBOROUGH</b>	
Make Millions...	28.00
Mastertype...	28.00
Run for the Money...	28.00
<b>SHAKRAZAM</b>	
MusicType 2.0...	31.00
<b>SIMON &amp; SCHUSTER</b>	
Mac Art Department...	23.00
Paper Airplane Construction Set...	23.00
Speed Reading Tutor...	CALL
Typing Tutor III...	33.75

<b>SOFTWARE CONCEPTS</b>	
Concepts Computerized Atlas...	48.00
<b>SPECTRUM HOLOBYTE</b>	
Tellstar Astronomy Program...	57.75
<b>THINK EDUCATIONAL</b>	
MacEdge II...	48.00
MacEdge Plus...	28.75
MacMax & His Mindbox...	28.75
Mind Over Mac...	28.75
<b>TIMESWORKS</b>	
Evelyn Wood Dynamic Reader...	40.00

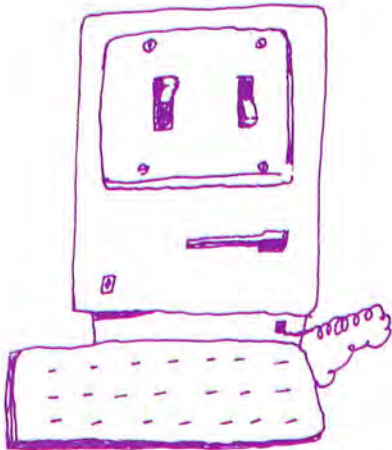
### GAMES

<b>ACTIVISION</b>	
Championship Star Baseball...	21.50
<b>AEGIS</b>	
Mac-Challenger...	21.50
Pyramid of Peril...	21.50
<b>ANN ARBOR SOFTWARE</b>	
Grid Wars...	CALL
<b>ANALOG SOFTWARE</b>	
Lunar Explorer...	28.00
<b>ARTSCI</b>	
Hearts...	35.00
<b>ARTWORK</b>	
Strip Poker...	17.75
<b>AXLON</b>	
MacMatch...	24.00
<b>BLUE CHIP SOFTWARE</b>	
Baron or Millionaire...	29.00
Squire or Tycoon...	28.75
<b>BRAINPOWER</b>	
Telechess...	28.75
Torpedo Run...	40.00
<b>BRODERBUND</b>	
Ancient Art of War...	27.00
Cyborg or Lode Runner...	28.00
<b>CBS SOFTWARE</b>	
Murder by the Dozen...	23.75
<b>CREIGHTON DEVELOPMENT</b>	
MacCommand...	25.75
<b>ELECTRONIC ARTS</b>	
Deluxe Music Construction Set...	19.75
Word Challenge II...	33.75
<b>EPYX</b>	
Rogue...	27.75
<b>GENERAL COMPUTER CO.</b>	
Ground Zero...	17.95
<b>HAYDEN SOFTWARE</b>	
Holy Grail or Sargon III...	23.75
Masterpieces or Perplex...	28.50
Word Challenge II...	23.00
<b>HENDERSON ASSOCIATES</b>	
Real Poker...	23.00
<b>HIPPOTAMUS SOFTWARE</b>	
Hippo Jokes and Quotes...	24.00

<b>INFOCOM</b>	
A Mind Forever Voyaging...	26.00
Cuthroats or Enchanter...	26.00
Deadline or Starcross...	23.00
Hitchhiker's Guide to the Galaxy...	28.00
Infidel or Sorcerer...	23.00
Planetfall or Senstalker...	26.00
Suspect or Suspended...	23.00
Wishbringer or Witness...	23.00
Zork I...	23.00
Zork II or III...	26.00
<b>KASTEL TECHNOLOGY</b>	
Trivia Savant...	32.00
<b>MARK OF THE UNICORN</b>	
Mouse Stampede...	22.00
<b>MAGNUM SOFTWARE</b>	
Gypsy...	24.00
<b>MILES COMPUTING</b>	
Fusillade...	CALL
Harrier Strike Mission...	27.75
MacAttack...	27.00
MacWars...	35.00
Overlords...	CALL
<b>MINDSCAPE</b>	
A View To A Kill...	17.75
Balance of Power...	CALL
Racter...	35.00
The Mist...	CALL
<b>MIRAGE CONCEPTS</b>	
Trivia...	29.00
<b>MCCARRON-DIAL SYSTEMS</b>	
McFlip...	18.00
<b>NEWSOFT</b>	
NewCommon...	21.00
<b>ORIGIN SYSTEMS</b>	
Ultima III...	21.00
<b>PBI SOFTWARE</b>	
Feathers & Spore...	37.00
Fokker Triplane...	22.00
Strategic Conquest...	36.00
<b>PENGUIN</b>	
Pensate or The Quest...	29.00
Pensylvania or Kyphus...	23.00
<b>PROFESSIONAL SOFTWARE</b>	
Super Sports Trivia...	23.00
Trivia Fever Volume II...	18.00
<b>PRIORITY SOFTWARE</b>	
Forbidden Quest...	21.75
Gateway...	13.95
<b>SABAKI</b>	
MacPoly...	23.75
<b>SCREENPLAY</b>	
Asylum...	24.00
Professional Blackjack...	23.75
Trivia Arcade...	49.00



# APPLE TALKS ABOUT SWITCHER



On January 24, 1985, at the annual Apple Shareholder's meeting, Steve Jobs previewed to an amazed audience an even more amazing piece of code that let Macintosh users switch between different applications almost instantly. Written by Macintosh wizard Andy Hertzfeld, the Switcher program now includes many more features than that early version had, but its basic *raison d'être* remains the same — to provide Macintosh users with a degree of functionality and power not otherwise possible. Switcher is now an officially released Apple product. This month's column will answer some of the most commonly (and uncommonly) asked questions about this nifty product.

## What is Switcher?

Switcher is a utility program for the Macintosh 512K and XL that allows you to have more than one application in memory simultaneously. The advantages to such a scheme are many. First, you can switch and transfer data between applications without returning to the *Finder*... a real time saver. Second, most Macintosh applications don't require 512K of memory—in fact, most only require 128K. If you've got all that memory available you may as well use it productively. Third, Switcher can remember the sets of applications that you use most frequently so it's quite easy to construct, test and create your own integrated applications simply by saving your application information in a Switcher document.

## What is the officially released version number for Switcher?

Apple is shipping version 4.4. Switcher may have been the most widely distributed unreleased product in the history of microcomputers; there are, therefore, many early versions of the product floating around from testing stages. You can make certain that your version is 4.4 by checking the version number in the "About Switcher" dialog box, accessible under the Apple menu. Make certain that you are working with the released version!

## As a software developer, are there other ways to fully optimize my program to work with Switcher?

Switcher's open architecture allows the Macintosh developer to provide much more program functionality for any program running under Switcher. First a program can determine whether it is running under Switcher by inspecting low memory location \$282 (SwitcherGlobals). If the long word in this location has a value of either 0 or -1, your program isn't running with Switcher. If the value is not 0 or -1, it's a long word pointer to the Switcher globals area and you know your program is running under Switcher. You can also determine if your program is the active program under Switcher, determine what other applications are currently memory-resident, read and write to other applications low-memory locations and/or heapzones, switch applications under your program's control, and even allow your application to get called even though it may be suspended. This latter feature will allow you to provide multitasking capability for your application by allowing it to execute in the background, even when it's not the currently active application!

## As a developer, how can I get the technical information that will allow me to do what you've described?

All the necessary information is included in a document entitled "Inside Switcher," available on CompuServe's MAUG databases, or available through subscription to "Macintosh Technical Notes," published by Macintosh Technical Sup-

port. These notes are published 12 times a year for an annual subscription rate of \$20. You can subscribe by sending your check to Macintosh Technical Notes, Apple Computer, Inc., Mail Stop 3E, 20525 Mariani Avenue, Cupertino, CA 95014.

## As a software developer how do I go about licensing Switcher so I can include it on my program disk?

Switcher can be licensed by any software developer for a licensing fee of \$250 per year per product, regardless of how many copies you sell. For additional information call or write to Apple Software Licensing, Apple Computer, Inc., 20525 Mariani Avenue, Cupertino, CA 95014.

Developers who license Switcher are required to provide at least one pretested, preconfigured Switcher document on their program disk, and also should provide documentation which deals specifically with how best to use Switcher with their application. Documentation guidelines are provided with the licensing agreement.

## How about some hints on use.

If you can afford the memory always include the *Finder* in a Switcher set... when someone walks into your office and wants a copy of a file, or when you need to throw







away some documents to retrieve disk space you'll know what I mean. Also, if you use the *Finder*, be sure it is the first application that you install in your set.

Each *Switcher* application maintains its own clipboard but *Switcher* allows you to convert the clipboard contents from one application to another when you switch. You can configure *Switcher* to always convert the clipboard when you switch by checking the "Always Convert Clipboard" option in the *Switcher* Options Window. This is probably not the most desirable way to work.


Always converting the clipboard takes time and memory. Most of the time, when you switch between applications you really don't want the clipboard converted. Leave "Always Convert Clipboard" unchecked. Holding down the Option key while switching accomplishes the same thing and is a much more efficient and safe method to move data between applications.

You can create a turnkey *Switcher* system for each set of applications you use. Make *Switcher* the start-up application on your diskette and name the *Switcher* document that you want to use "Switcher.StartUp". Then you can simply insert the disk you want to work with, turn on your Macintosh, get a cup of coffee and return to find all your applications and documents ready and waiting for you.

#### How does *Switcher* actually work?

From *Inside Switcher* by Andy Hertzfeld

*Switcher* performs some of the same functions as the *Finder* and the loader, allowing users to select and launch applications and documents. Instead of using the ROM's Launch routine like the *Finder* does, *Switcher* uses a special routine that launches an application into a subset of available memory, allowing multiple applications to reside simultaneously in memory. An application's current state (all memory locations and register values that are specific to an application) is mostly concentrated in its heap and stack areas, but also includes various low memory globals and system heap objects. *Switcher* must maintain multiple copies of these shared low memory and system heap areas and save and restore them during context switching. To switch between applications, *Switcher* saves these special memory areas into a process state record associated with the current application, and then replaces them with values belonging to a new application.



### Application Switcher Options


- ☐ Switcher in Rotation
- ☒ Always Convert Clipboard
- ☒ Switching Animation
- ☐ Back After Launch
- ☐ Same One Twice
- ☐ Reverse Switch Direction
- ☐ Disable Keyboard Switching

OK
Cancel

Since the Macintosh operating system was not designed to support concurrent applications, *Switcher* must modify a number of system ROM routines using RAM-based patches. Currently, *Switcher* modifies or replaces 26 different system routines. The most important of these is the "GetNextEvent" routine, which is called periodically by most law-abiding applications. Besides performing the usual event-handling functions, *Switcher*'s "GetNextEvent" routine checks to see if the user is requesting a context switch by polling the mouse position and the keyboard bitmap. If so, it suspends the current application and switches control to a new one.

The Macintosh clipboard provides a flexible facility for transferring data between

different applications. Since there is often some overhead associated with writing to the clipboard, most applications don't put stuff into it every time a cut or paste occurs. However, they must make sure the clipboard is valid to cut and paste with desk accessories. Thus *Switcher* has a devious way to request applications to convert their clipboard to global format—it makes them think that they're cutting or pasting into a desk accessory. When the user requests a switch with clipboard conversion, *Switcher* passes a sequence of phony events to the application to make it think it's pasting into a desk accessory, starting with a mouse-down in the menu bar area to get it to think it's pulling down the desk menu. This procedure is highly heuristic and evolved by inspecting the behavior of dozens of appli-




## Switcher

by Andy Hertzfeld

Version 4.4 -- August 12, 1985

© 1985 Apple Computer, Inc.



Helpful Hints:

- Use ⌘[ and ⌘] to rotate between applications.
- Use ⌘\ to return back to the switcher.
- Use the option key to transport the clipboard between applications (or not).
- Use ⌘-shift-option-period as an "emergency exit" to exit hung applications.
- The *Finder* can be run under the *Switcher*; open *Switcher* to quit from the *Finder*.
- Click on the screen of the Mac icon to toggle saving screen bits to save 22K.

Thanks to John Markoff and Bud Tribble.



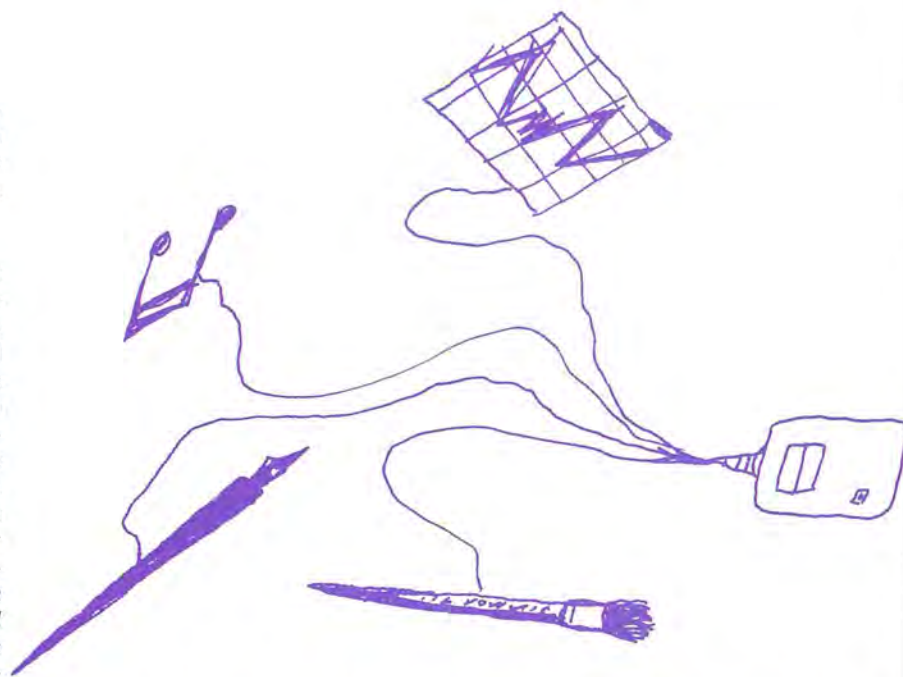
cations. The bottom line is that an application must support cutting and pasting with desk accessories to be able to cut and paste with other applications under the *Switcher*.

### Where can I get *Switcher*?

You can get *Switcher* from three sources: (1) Many Macintosh software developers will be including *Switcher* with their products, along with preconfigured, pretested *Switcher* documents. For the novice this is probably the best place to get started with *Switcher*; (2) you can get the "*Switcher* Construction Kit" from your authorized Apple dealer (suggested retail price is \$19.95). This kit includes the *Switcher* disk and a comprehensive manual which explains how to test and create your own *Switcher* solutions. Note: *Before beginning serious work with Switcher make sure that you've read and understood the Switcher Construction Kit manual.* It will make your *Switcher* use much more enjoyable and productive; and (3) those of you with modems and CompuServe accounts can download *Switcher* from MAUG's Macintosh User Special Interest Group Database.

### How many applications can I run simultaneously under *Switcher*?

*Switcher* works by creating several logical 128K Macintoshes out of one physical 512K Macintosh or XL. The *Switcher* user, therefore, should have some appreciation of short division. I once spoke to an irate user who was very frustrated that *Switcher* wouldn't work on his 128K Macintosh; I tried to explain that you can't subdivide a 128,000 square foot building into four 128,000 square foot partitions. With *Switcher*, you can run three 128K Macintosh applications very comfortably on a



Macintosh 512K and six applications on a Macintosh XL. *Switcher* really comes into it's own with a hard disk and a Mac or Mac XL with at least 1 megabyte of memory although it's still useful with a standard 512K Macintosh and an external drive.

### Can I run multiple copies of the same application? For instance two copies of *MacWrite*?

You can but you must be careful. Some applications (notably *MacWrite* and *MacPaint*) create temporary work files on disk. Applications that create these types of files easily become confused if two copies of the application are trying to open, create or access the same temporary files. If you are running two copies of *MacWrite* from two different volumes you are probably safe. If you really want to run the same application twice make certain that you experiment first before working with important data.


### Does *Switcher* allow multiple applications to actually run simultaneously?

*Switcher* lets multiple applications reside in memory simultaneously. It does not, by itself, allow those applications to actually be executing simultaneously; that is, you can't start a print job or a spreadsheet calculation in one application and then switch to another application and expect the previous task to complete. Only one application can be active at a time. There are, however, program hooks built into *Switcher* so that future Macintosh applications that know about *Switcher* can handle

concurrent tasks like the ones described! More about *Switcher* internals later . . .

### How do you use *Switcher*?

Most of the people in my group are *Switcher* users and some are quite fanatical, including myself. My own personal setup involves a Macintosh XL with 1 megabyte of memory. I've got two *Switcher* documents or sets that I use frequently. The first is my day-to-day set which includes *MacWrite* configured at 144K (so I can print to the LaserWriter), *MacDraw*, *MacPaint*, *Multiplan*, and *Red Ryder*, all at 128K, and the *Finder* at 128K. My second set is for creative work and I use it for preparing sales materials, manual mockups and intimidating memos. Try *MacWrite* at 144K, *MacDraw* at 128K, *MacPaint* at 128K and *PageMaker* at 256K. (Note these configurations are only for XL users or Macintosh owners with 1-megabyte upgrades). For manual production, create *MacPaint* readable screen dumps of the illustrations you want to include by typing the Command, Shift and 3 keys simultaneously. Touch up the screen dumps in *MacPaint*, copy them to the Clipboard, switch to *MacWrite* and paste them in the appropriate spot.

At home on my 512K Macintosh I use *Switcher* with the *Finder*, *Dollars & Sense*, and *Red Ryder*. When I'm doing my home accounting I can quickly access my electronic banking service and make certain that all my electronic transactions are included in my *Dollars & Sense* ledger accounts. 



# For all of you who thought Dennis Brothers was crazy to give away MacTEP, here's MicroPhone.™

## The one he's selling.

When the Macintosh first came out, the most powerful personal computer ever built didn't have the brains to make a phone call.

So Dennis Brothers tore down his Mac, figured out how it worked, and wrote Mac's first communications program, MacTEP.

Which he proceeded to give away.

MacTEP was a classic. The first standard in Mac communications.

Now he's created the second: MicroPhone. A program that goes far beyond any communications software currently offered for any computer.

MicroPhone is so sophisticated, it cuts through the worst tangles you encounter when you go on-line. A delight to the experienced. And a saviour for the novice.

### Run on automatic.

When you open MicroPhone to the desktop you'll find a comprehensive collection of icons pre-programmed to access all major information services: CompuServe,™ Dow Jones News/Retrieval,™ The Source,™ Delphi,™ the works.

A few clicks and you're in. With automatic log-in and sign-on.

But that's just the beginning of its ability to automate the whole telecommunications process. For MicroPhone features the most powerful, yet simplest to set up macros ever seen on a program.

### Write your own script.

Dennis gives you two ways to create these macros. The first is to set MicroPhone in the Watch Me,™ the recording mode.

The program looks over your shoulder as you conduct a communications session following your keyboard and menu commands.

#### Let's get technical box.

*Runs in terminal emulation mode at speeds up to 57.6K Baud. Emulates DEC™ VT52,™ VT100™ and TTY type terminals. Supports TEXT (ASCII) and XMODEM (Christensen) protocols, send and receive. Supports MacBinary. Runs on 128K and 512K Macintosh. LaserWriter compatible. Includes Switcher for use with other Macintosh programs. Compatible with Hayes, Apple and other leading modems. Built-in full text editor licensed from Dreams of the Phoenix Inc. Documentation by Neil Shapiro.*

MicroPhone can remember not only an uninterrupted string of keyboard commands, but also wait-for-prompt conditions. In fact, virtually any series, no matter how long or complex.

The entire sequence is saved. To be invoked at any time with a single key command.

The second way to generate macros is through



MicroPhone's unique "Script" window. Open it and you'll discover an extensive set of functions which can be called up and linked with a series of mouse clicks. The resulting macro is extremely powerful. The method is Mac-simple.

Using Watch Me or the Script window, or a combination of both, you can automate log-ons, file transfers and unattended operations. And navigate back into the farthest reaches of any database with a single stroke.

### Make files fly.

Sending and receiving files is faster and easier with MicroPhone, too. Using XMODEM protocols and MacBinary, MicroPhone transmits or receives anything you

can create on a Macintosh. Including MacPaint documents, text, spreadsheets, charts, database tables, or programs.

MicroPhone allows you to scroll back and forth at high speed to review your session. Then you can select any portion of your session, print it, save it to a file, or copy it to the Clipboard for use by other Macintosh programs.

MicroPhone also features an editor desk accessory for composing text in mid-session using familiar Macintosh editing techniques.

But enough talk. See for yourself what Dennis Brothers has done now to advance the cause of telecommunications. Just take any major credit card in hand and call us toll free to place your order.

Dennis isn't giving it away this time. But at \$74.95, almost.



SOFTWARE  
VENTURES

#### The traditional clip-out coupon. With an untraditional money-back guarantee.

You know how to telecommunicate the hard way. Now do it the easy way. Call 24 hours toll free. Outside California, 800-DENNIS-7. Within California, 800-DENNIS-8. In Canada, 800-DENNIS-9. Or send a check, money order or credit card number for \$74.95 for 4 copies of Dennis Brothers' MicroPhone at \$74.95 each.

In USA and Canada add US \$5.00 for postage and handling per product ordered. All other countries add US \$8.00. In California add 6% (\$4.50) sales tax. 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. If you are not 100% happy, return MicroPhone within 30 days for a full refund.

☐ VISA ☐ MASTERCARD ☐ CHECK ☐ MONEY ORDER

CREDIT CARD # \_\_\_\_\_ EXPIRES \_\_\_\_\_

SEND TO: NAME \_\_\_\_\_

SHIPPING ADDRESS \_\_\_\_\_ CITY \_\_\_\_\_

STATE \_\_\_\_\_ ZIP \_\_\_\_\_

MicroPhone and Watch Me are trademarks of Software Ventures Corporation. MacTEP is a trademark of Brothers Associates. Macintosh is a trademark licensed to Apple Computer, Inc. LaserWriter and Switcher are trademarks of Apple Computer, Inc. CompuServe is a registered trademark of CompuServe Corp. Dow Jones News/Retrieval is a registered trademark of Dow Jones & Company, Inc. The Source is a service mark of Source Telecomputing Corp., a subsidiary of The Readers Digest Association, Inc. Delphi is a trademark of General Votetex Corp. DEC, VT52 and VT100 are trademarks of Digital Equipment Corporation. ©1985 Software Ventures Corporation



# MINIFINDERS

## MINIFINDER INDEX

COMMUNICATIONS/NETWORKING . . . . .	124
DATA FORMATTING . . . . .	124
EDUCATION . . . . .	125
ENTERTAINMENT . . . . .	125
GRAPHICS & DESIGN . . . . .	128
ACCOUNTING . . . . .	130
HOME APPLICATIONS . . . . .	132
NUMBER CRUNCHING . . . . .	134
WORD & OUTLINE PROCESSORS . . . . .	134
DATABASES . . . . .	136
INTEGRATED SOFTWARE . . . . .	137
UTILITIES . . . . .	137
MUSIC . . . . .	140
DIGITIZERS . . . . .	140
ACCESSORIES . . . . .	140

## COMMUNICATIONS/NETWORKING

**InTouch** is a full-featured telecommunications program. It has its own powerful communications command language that lets users do complete unattended sessions. Supports Xmodem, MacBinary and Kermit. Has a macro key function. Large number of communication documents and sample command language files provided. \$149. Software Masters, Suite BB, 3330 Hillcroft, Houston, TX 77057.

**MacDasher** is a communications program with one purpose: to emulate a Data General D210 terminal. It does an excellent job at that. \$49. Kaz Business Systems, Suite 1620, 10 Columbus Circle, New York, NY 10019.

**MacTerminal** provides basic telecommunications and terminal emulation for the Mac user. It emulates DEC VT100s, IBM 3278s and plain teletypewriters (TTYs). Its usefulness as a telecommunications package is somewhat limited since it does not have macros nor any sort of auto redial/auto logon capability. Superb for people needing faithful VT100 or IBM 3278 emulation. \$99. Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014.

Ever go into a computer store and wish you had someone you could trust tell you what the various programs and accessories do and how well they do it? These MiniFinders detail items chosen by the editors. Each one has been rated from one to five mice and there are even a few bomb icons scattered here and there. Red names indicate *this month's additions*. Next time you have to find products you can count on, count on MacUser!

**MITE** offers basic communications capabilities along with VT100 emulation. Complete but somewhat awkward to use. \$145. Mycroft Labs, Inc., PO Box 6045, Tallahassee, FL 32314.

**Mouse Exchange BBS** turns a Mac into an electronic bulletin board system. Allows private electronic mail, public message areas and file distribution. Users can be granted different access levels and password security is supported. Supports Xmodem file transfers. External drive or hard disk recommended. \$39.95. Dreams of the Phoenix, Inc., PO Box 10273, Jacksonville, FL 32247.

**SmartCom II** balances power and ease of use. Capable of unattended operation and has a very powerful command language. Does real-time graphics when run on a 512K and connected to a 512K Mac. Supports MacBinary, Xmodem, and Hayes Verification protocols. The large screen buffer can easily be archived both to the printer and to disk. Very complete program marred only by lack of keyboard macros. \$149. Hayes Microcomputer Products, Inc., 5923 Peachtree Industrial Blvd., Norcross, GA 30092.

**Straight Talk** is a simple, straightforward communications program that includes a link to the Dow Jones News/Retrieval Service and other major on-line services. It runs at either 300 or 1200 baud only. Special features work well with DJN/R. Includes a free password to the Dow Jones network with 1 hour of unrestricted use. \$79. Dow Jones & Co., Inc., PO Box 300, Princeton, NJ 08540.

**Telescope** is the power telecommunicator's terminal program. It can be configured to emulate any terminal and has all the advanced features (except unattended operation). Features include a small electronic mail miniBBS option. Documentation does not adequately explain the 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.

**VersaTerm** is a power telecommunications program. DEC VT100 and VT52 emulation, Tektronix 4014 graphics terminal and Data General DG200 emulation. Supports Xmodem and MacTerminal Xmodem protocols. The MacBinary standard is implemented. Auto redialing and auto logon and users can create a directory of frequently called phone numbers. Easy to use and well documented. \$99. Peripherals, Supplies & Computers, Inc., 215 Mt. Penn Ave., Perkiomen, PA 19606.

**1stPort** is a superb data transfer package. It can handle many document formats, including SYLK, DIF, 1stBase and plain vanilla ASCII. The documentation is clear and precise. More than adequate as a simple terminal emulator. It supports Xmodem transfers. Built-in text editor, makes this program easy to use with remote message and electronic mail services. \$95. DeskTop Software Corp., 244 Wall St., Princeton, NJ 08540.

## DATA FORMATTING

**Microsoft 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. Data can be exchanged with other Microsoft products and charts can be pasted into MacDraw, MacPaint and MacWrite. Has on-screen help.



Limited to 100 data items (64 in a series) on a 128K Mac, approximately twice that on a 512K Mac. \$125. Microsoft Corporation, 10700 Northup Way, Bellevue, WA 98009.

**pfs: File/Report** provides two programs on one disk. *File* is a reliable, easy to use text database. Use it to design simple forms, maintain records, and, in concert with *Report*, generate reports in list format or as designed forms. This package was an early entry into the Mac marketplace and more powerful and versatile products are now available. \$175. Software Publishing Corporation, 1901 Landings Drive, Mountain View, CA 94043.

## EDUCATION

**ChipWits** is a combination game and teaching tool. Players create programs to maneuver robots through a set of eight 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, Inc., 24009 Ventura Blvd., Calabasas, CA 91302.

**MacEdge** and **MacEdge II** each contain eight 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. Average educational value, can be fun to play. \$49.95 each. Think Educational Software, 16 Market St., Potsdam, NY 13676.

**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, Suite 100, 12777 Jones Rd., Houston, TX 77070.

**MasterType** is a 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, Inc., 55 South Broadway, Tarrytown, NY 10591.

**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 psychological profile of subject in business, stress, sex and other situations. \$50. Human Edge Software Corp., 2445 Faber Place, Palo Alto, CA 94303.

**Starting a New Business** is a short tutorial structured as a text game. Players choose one of three businesses to start, then try to run it profitably. Can be mastered in one or two sessions, but worth a look just the same. \$59.95. Queue Intellectual Software, 5 Chapel Hill Dr., Fairfield, CT 06432.

**Think Fast** allows users to improve their recall and recognition abilities. Tests include compare, copy and recall exercises. Users choose the level of difficulty, speed and risk-taking. Has session and summary reports to provide feedback and permanent records. Good for users of all ages. Children will find it fun. The manual is very clear. \$39. BrainPower, Inc., 24009 Ventura Blvd., Calabasas, CA 91302.

**Turbo Turtle** is a turtle graphics program primarily designed as a learning tool for children. It uses Logo commands for graphics, but is not a full implementation of Logo. Com-

mands and common operations are displayed on pull-down menus, executed in a graphics window as they are entered. Procedures can be written and combined for complex designs and recursive operations. Simple to use, good introduction to Logo for young children. \$59.95. Hayden Software, 600 Suffolk St., Lowell, MA 01854.

## ENTERTAINMENT

**Airborne** is classic arcade-style game with "real" sound effects. The player sits at a gun position on a low rise and defends against an assault from flying troops and tanks that land and attack across the desert. Game noises digitized from actual recorded sounds. \$34.95. Silicon Beach Software, Suite 201, 11212 Dalby Pl., San Diego, CA 92126.

**Balance of Power** is the world's first computer peace game. This astonishing simulation allows players to become either the President of the United States or General Secretary of the Soviet Union. The goal is to expand your country's sphere of influence while avoiding nuclear war. Extraordinary artificial intelligence routines and general play make this game a true classic. Mindscape, Inc., 3444 Dundee Rd., Northbrook, IL 60022.

**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 Software, 6740 Eton Ave., Canoga Park, CA 91303.

**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.

**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. Robot can sometimes be appealed to for extra info. A new source of energy must be found before self-destruct. Energy levels, metabolism, danger signs appear on control panel left of text area. Word and sentence understanding is very good. Absorbing game for adventurers. \$39.95. Broderbund, 17 Paul Drive, San Rafael, CA 94903.

**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 or else someone's going to get away with murder! \$49.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140.

**Eat New York** is a unique Mac database. It is a list of over 700 New York City restaurants. You can search for a place to go by category or location. The minireviews that appear on the screen can be edited (as users will often disagree with them) and new entries added. Indeed, all the New York entries could be deleted and a restaurant database for any locality created. \$39. Kaz Business Systems, Suite 1620, 10 Columbus Circle, New York, NY 10019.

**Entrepreneur** allows up to nine players to compete in the software industry. Make the right decisions early on and the game plays itself. Tiresome at best. \$49.95. Microsoft Corporation, 10700 Northup Way, Bellevue, WA 98004.

**Feathers and Space** is an arcade game. Heavy flapping birds assault you and your troops. Protect your camp via a single spaceship with full lateral movement but a barrier halfway up the screen. Weapons include bullets and



# MINIFINDERS

bombs. Twisting the mouse rotates turrets on the ship. Death arrives with three ships lost or three troops carried away. Very average game. \$34.95. PBI Software, 1155B-H Chess Drive, Foster City, CA 94404.

**Felony** provides twelve mystery games in a package. One or more players visit various clue sites, deciphering numbered clues with the enclosed booklet. The first one to solve the case wins. \$44.95. CBS Software, One Fawcett Place, Greenwich, CT 06836.

**Forbidden Quest** is a text adventure with pictures. Begins in a spaceship, with you in extreme danger. Indications are that if you don't do something very quickly, you will die a horrible death. Several levels of on-line help, from simple hints to actual solutions. The disk is accompanied by five graphic prints, called Arttext™, of specific scenes with hidden clues. Very playable. \$44.95. Priority Software, Suite 22, 635 Sanborn Rd., Salinas, CA 93901.

**Gateway**, another Arttext™ game, comes with three 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. You must find the gateway and cross through. Outcome is determined by choices made along the way. Both *Forbidden Quest* and *Gateway* have pull-down menus for conditions, inventory, and game operations. \$49.95. Priority Software, Suite 22, 635 Sanborn Rd., Salinas, CA 93901.

**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." The game comes with 20 missions and you can create up to ten missions of your own. \$39.95. Spectrum Holobyte, Inc., Suite 325, 1050 Walnut St., Boulder, CO 80302.

**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. Suite 337, Magnum Software, 21115 Devonshire St., Chatsworth, CA 91311.

**Legacy** is a text/graphic adventure on two disks (Parts One and Two). A magical orb in Drab Castle must be found through the use of spells and careful adventuring. Well-constructed game and fun to play. Two disks needed for ever-present graphics. \$39.95. Challenger Software, PO Box 1478, Homewood, IL 60430.

**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 Drive, San Rafael, CA 94903.

**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. Defeat the horde and get treated to a graphic fireworks display. \$49. Miles Computing, Inc., Suite 212, 7136 Haskell Ave., Van Nuys, CA 91406.

**MacBackgammon with Cribbage** provides graphic versions of these classic games. Variable skill levels allow the user to set game difficulty. At the expert level both games will challenge experts. The graphics are attractive but slow the games down quite a bit. \$49. Videx, Inc., 1105 Northeast Circle Blvd., Corvallis, OR 97330.

**MacChallenger** lets players land a space shuttle at either Cape Kennedy or Edwards AFB. 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, Inc., Suite 277, 2210 Wilshire Blvd., Santa Monica, CA 90403.

**MacCheckers with Reversi** will provide a stiff challenge to experts.

You can adjust the degree of difficulty to your taste. The graphics and animations are excellent, although slow. The checkers portion can be very hard to beat when the skill level is set to expert. Reversi (similar to Othello) is somewhat easier, even at the expert level. \$49. Videx, Inc., 1105 Northeast Circle Blvd., Corvallis, OR 97330.

**MacJack II** is a blackjack game pitting users against the house. Includes good graphics, insurance against dealer blackjack, splitting and doubling, and table limit that rises with your stake. The game plays very well, and can be quite addictive. \$39.95. DataPak, Suite 401, 14011 Ventura Blvd., Sherman Oaks, CA 91423.

**MacPoker** looks and plays just like *MacJack II*, one player against the house. This format is not as successful or interesting with poker as it is with blackjack. Dealing and play are slow and few playing options are provided. Game is limited to five-card draw. \$39.95. DataPak, Suite 401, 14011 Ventura Blvd., Sherman Oaks, CA 91423.

**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 altered by selecting from a menu. The games are all fun to play, but not particularly absorbing. \$59. Videx, 1105 Northeast Circle Blvd., Corvallis, OR 97330.

**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, Inc., 55 South Broadway, Tarrytown, NY 10591.

**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 Software, 6740 Eton Ave., Canoga Park, CA 91303.

**Mouse Stampede** is an infectious *Centipede*-like game with mice, bats, cheese (normal and moldy), turtles, flies, paint brushes, knives, shopping carts and sneakers on the attack. Activated cats gobble mice until full. Game is fast-paced, high scoring and fun to play. \$39.95. Mark of the Unicorn, 222 Third St., Cambridge, MA 02142.

**NewGammon** is animated backgammon that will challenge even good players. 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. The best backgammon player currently available. \$39.95. Newsoft, PO Box 4035, Newport Beach, CA 92661.

**Pensate** is a truly mind challenging strategy game. The object is to move a piece eight squares while avoiding contact with lots of other pieces that are moving in various patterns. There are multiple levels of difficulty and a play-ahead feature where users must plan moves in groups of up to four turns. The graphics are very well handled and the challenge addicting. \$39.95. Penguin Software, 830 Fourth Ave., Geneva, IL 60134.



# "We will match any mail order price in this issue."

We'll support, service and warranty everything we sell and stand behind it 100%. We won't charge you for shipping or handling, nor will we penalize you for using a credit card.



William F. Gollan  
President, BCP

## PERIPHERALS & ACCESSORIES

<b>Apple</b>		<b>Imaging</b>	
Mac 128k & 512k	CALL	5 Mb. Removable	1289.95
Imagewriter 10"	494.95	Cartridges	39.95
Imagewriter 15"	564.95	Head Cleaner	59.95
External Drive	409.95		
Numeric Pad	89.95	<b>Joysticks</b>	
		Kraft Quick Stk.	54.95
		Video 7 Mouse Stk.	39.95
<b>Assimilation</b>		<b>Kensington</b>	
All Products	CALL	A-B Box w/Cable	74.95
<b>Creighton</b>		Control Cnt.	69.95
Pro Print w/cable	64.95	Dust Mac	9.95
Pro Print A/B	144.95	Dust Image 10"	9.95
<b>Curtis</b>		Surge	39.95
Diamond	34.95	Swivel	24.95
Emerald	39.95	Starter Pac	59.95
Ruby	59.95	Printer Stand	19.95
Safe Strip	19.95	Mouse Cleaner W/Pck.	19.95
Command Center	114.95	Head Cleaner	22.95
<b>DC Hayes</b>		Polarizing Fit.	37.95
Smartmodem 1200	384.95		
Smartmodem 2400	594.95		
<b>Disks</b>		MacVision	179.95
BASF (5)	13.95	<b>Microsoft</b>	
Maxell (10)	32.95	Enhancer	159.95
Memorex (10)	28.95		
Sony SS/DD (10)	29.95	192 Image	379.95
Sony DS/DD (10)	39.95	193 Image	569.95
Verbatim (10)	31.95	<b>PCPC</b>	
Flip & File (40)	21.95	Mac Bottom 10 mb	1229.95
<b>Ergotron</b>		Pro 1200	344.95
Mac Tilt	69.95	<b>Prometheus</b>	
<b>General Computer</b>		Thunderware	
Hyper Drive 20 mb.	CALL	Thunderdrive	179.95

## ACCOUNTING SOFTWARE

<b>Arrays</b>		<b>I/C</b>	
Home Accountant	69.95	<b>Peachtree</b>	89.95
<b>Digital Etc.</b>		A/R	94.95
Mac Accountant	169.95	A/P	94.95
		G/L	94.95
<b>Future Design</b>		<b>Softsync</b>	
Strickly Bus. G/L	CALL	Personal Acct.	54.95
<b>Monogram</b>		<b>State of Art</b>	
Dollars & Cents	89.95	Electric Chk. B.	49.95
Forecast	44.95	<b>Symposium</b>	
<b>Palantir</b>		G/L	119.95
G/L	89.95		
A/R	89.95		

## BUSINESS SOFTWARE

<b>Advanced Logic</b>		<b>Enterset</b>	
Mighty Mac	64.95	Quick Set	64.95
<b>Aegis</b>		Quick Word	39.95
Mac Mail Telecom	CALL	<b>Forethought</b>	
Zap/Invoice	CALL	Factfinder	89.95
House Keeper	CALL	Filemaker	119.95
<b>Alegro</b>		<b>Haba</b>	
Personal Finance	34.95	Habardex	39.95
Business Analy.	34.95	Quartet	134.95
<b>Apple</b>		<b>Hayden</b>	
Mac Project	99.95	Mac Base	119.95
<b>Brain Power</b>		Ensemble	169.95
Statview	109.95	Know it's There	29.95
<b>CSD</b>		Speller +	49.95
Mac Lion	219.95	<b>Human Edge</b>	
<b>Creighton</b>		Mind Probe	34.95
Mac Office	34.95	<b>Living Videotext</b>	
Mac Home	34.95	Think Tank 128	79.95
Mac Spell +	59.95	Think Tank 512	134.95
<b>Desktop</b>		<b>Lotus</b>	
1st Base	109.95	JAZZ	Call
Merge/Port	129.95	<b>Megaheus</b>	
<b>Dow Jones</b>		Megamerge	79.95
Straight Talk	59.95	Megafiler	117.95
Market Mng. +	144.95	Megaform	174.95
Spreadsh. Link	64.95	Megadesk	79.95

**BC BUSINESS COMPUTERS**  
OF PETERBOROUGH  
Gollan Co., Inc.

766 RT. 101 W. • P.O. Box 389 • Peterborough, NH 03458

## BUSINESS SOFTWARE

<b>Microsoft</b>		<b>Omnis 3</b>	
Chart	79.95	<b>Paladin</b>	279.95
File	119.95	Crunch 512	169.95
Multiplan	119.95	<b>ProVue</b>	
Word	119.95	OverVue	169.95
Business Pack	349.95	<b>Sierra On Line</b>	
Excel	244.95	Mac One Write	149.95
<b>Mirage</b>		<b>Software Publishing</b>	
Express (cp)	19.95	PFS File/Report	104.95
Express (ncp)	34.95	<b>StoneWare</b>	
<b>Odesta</b>		DB Master	114.95
Helix 512	234.95	<b>Telos</b>	
<b>Organizational</b>		Filvision	109.95
Omnis 2	149.95		

## LANGUAGES & UTILITY SOFTWARE

<b>Borland</b>		<b>Hippopotamus</b>	
Sidekick	54.95	Hippo C Lev. 1	99.95
Phone Link	29.95	Hippo C Lev. 2	249.95
<b>Central Point</b>		Hippo Lock	79.95
Copy II Mac	24.95	<b>Microsoft</b>	
<b>Creative Solutions</b>		Basic	89.95
Mac Forth Lev. 1	89.95	Logo	79.95
Mac Forth Lev. 2	144.95	<b>Nevins</b>	
<b>Expertelligence</b>		Turbo Charger 512	69.95
Exper Logo	89.95	<b>Pirates Harbor</b>	
Exper Lisp	279.95	Mac Crack	39.95
ExperOps 5 (need Lisp)	194.95		

## GRAPHICS & PUBLISHING SOFTWARE

<b>Axon</b>		<b>Magnum</b>	
Art Portfolio	39.95	McPic V. 1	34.95
Card Shop	39.95	McPic V. 2	34.95
Mac Match	34.95	Slide Show	39.95
<b>Datafood</b>		<b>Manhattan</b>	
Mac Forms	54.95	Ready-Set-Go 512 V 2.0	77.95
<b>Enterset</b>		<b>Matrix</b>	
Quick Paint	34.95	Images	29.95
<b>Hayden</b>		<b>Miles</b>	
Art Grabber	34.95	Mac Knife V. 1	27.95
DaVinci Bldg. Blks.	49.95	Mac Knife V. 2	34.95
DaVinci Comm. Int.	119.95	<b>Silicon Beach</b>	
DaVinci Houses	34.95	Accessory Pak # 1	27.95
DaVinci Int.	34.95	<b>Springboard</b>	
DaVinci Landsc.	34.95	Art a'la Mac #1	27.95
Body Shop	34.95	Art a'la Mac #2	27.95
Video Works	64.95	<b>T/Maker</b>	
Home Design	49.95	Click Art	34.95
<b>Kensington</b>		Click Art Pub.	34.95
Font Set	64.95	Click Art Let.	34.95
Text Fonts	34.95	Click Art Eff.	34.95
Headline Fonts	49.95	ClickOn Wks.	74.95

MONTHLY SPECIAL

**Brain Power**  
Save Almost 50%

* Chipwits	Retail 49.95	BCP 26.95
* Tele Chess	69.95	37.95
* Think Fast	39.95	22.95
* Torpedo Run	49.95	26.95
* Stat View	199.95	99.95

## EDUCATIONAL & PERSONAL SOFTWARE

<b>ATI</b>		<b>Mark of Unicorn</b>	
Mac Coach	49.95	Professional Composer	289.95
Mac Multiplan	49.95	<b>Microsoft</b>	
Mac Value Pk.		Learn MultiChart	39.95
Mac Coach		Apple Mac (Bk)	16.95
MasterType		Presentation G. (Bk)	15.95
Think Tank		Mac Work/Play (Bk)	15.95
<b>Brain Power</b>		Inside MacPaint (Bk)	15.95
Chipwits	34.95	Multi Mice/Men. (Bk)	14.95
TeleChess	44.95	<b>Palantir</b>	
Thinkfast	29.95	MacType	34.95
Torpedo Run	39.95	Math Flash	34.95
<b>First Byte</b>		Word Play	34.95
Smooth Talker	89.95	<b>Rubicon</b>	
<b>Davidson Assoc.</b>		Song Painter	39.95
Speed Reader II	49.95	Deja Vu	27.95
Spell It	34.95	<b>Scarborough</b>	
Math Blaster	34.95	Make Millions	34.95
Word Attack	34.95	MasterType	34.95
<b>Forethought</b>		Run for the \$	34.95
Typing Intrigue	34.95	Tri-Pac (3)	79.95
<b>Great Wave</b>		<b>Simon &amp; Schuster</b>	
Concertware	44.95	Typing Tutor III	39.95
<b>Hayden</b>		Great Paper Air.	27.95
Musicworks	49.95	<b>Think Educational</b>	
Turbo Turtle	39.95	Mind Ov. Mac	34.95
SAT Combo	64.95	Mac Edge	34.95
Word Challenge	27.95		

## GAME SOFTWARE

<b>Activision</b>		<b>Microsoft</b>	
Champ. Baseball	24.95	Entrepreneur	34.95
<b>Artworx</b>		<b>Miles Computing</b>	
Strip Poker	27.95	Mac Attack	32.95
<b>Aegis</b>		Strike Mission	34.95
Pyramid of Peril	34.95	<b>Mindscape</b>	
Mac Challenge	34.95	Balance of Power	32.95
<b>Blue Chip</b>		De Javu	34.95
Barron	35.95	<b>Origin Systems</b>	
Millionaire	35.95	Exodus Ultima III	44.95
Squire	44.95	<b>PBI Software</b>	
Tycoon	35.95	Feathers & Space	24.95
<b>Broderbund</b>		<b>Penguin</b>	
Cyborg	27.95	Pensate	27.95
Lode Runner	27.95	The Quest	27.95
<b>CBS</b>		Transylvania	27.95
Murder by Dozen	29.95	Xyphus	27.95
<b>Creighton</b>		<b>Priority</b>	
Mac Command	24.95	Forbidden Quest	29.95
<b>Epyx</b>		Gateway	34.95
Rogue	27.95	<b>Sierra On Line</b>	
<b>General</b>		Champ Boxing	27.95
Ground Zero	27.95	Frogger	39.95
<b>Hayden</b>		Ultima II	
Holy Grail	34.95	<b>Silicon Beach</b>	
Masterpieces	27.95	Airborne	24.95
Sargon III	34.95	<b>Sir Tech</b>	
<b>Infocom</b>		Wizardry I	39.95
Wishbringer	27.95	<b>Softlife</b>	
Cutthroats	27.95	Mac Slots	34.95
Deadline	34.95	<b>Spectrum</b>	
Enchanter	27.95	Gato	39.95
Hitchhiker's G.	27.95	<b>Spinnaker/Telarium</b>	
Infidel	29.95	Amazon	27.95
Mind F. Voyaging	29.95	Dragon World	27.95
Planetfall	27.95	Fahrenheit 451	27.95
Seastalker	27.95	R with Rama	27.95
Sorcerer	29.95	<b>Synapse</b>	
Starcross	29.95	Essex	29.95
Suspect	29.95	Mindwheel	29.95
Suspended	29.95	Brimstone	29.95
Witness	27.95	<b>Unicon</b>	
Zork I	27.95	Mac Robot	34.95
Zork II, III (ea)	29.95	Animal Kingdom	32.95
<b>Magnum</b>		<b>Videx</b>	
Gypsy	27.95	Mac Checkers	32.95
<b>Mark of Unicorn</b>		Mac Gammon	32.95
Mouse Stampede	24.95	Mac Vegas	37.95

**FREE SHIPPING**  
CONTINENTAL USA/UPS ONLY  
APO/FPO WELCOME



**ORDERS ONLY 800-845-3003**

QUESTIONS  
603-924-9406



# MINIFINDERS

**Perplex** 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, good graphics, and is very playable. \$39.95. Hayden Software, Inc., 600 Suffolk St., Lowell, MA 01854.

**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.

**Pyramids of Peril** is an action-strategy adventure in which a single explorer must unravel the mysteries of the pyramid. Computer maps automatically; combat is engaged in with the mouse. \$39.95. Aegis Development, Suite 277, 2210 Wilshire Blvd., Santa Monica, CA 90403.

**Real Poker** is five-card draw against five other players with Old West names, distinct personalities and playing styles. Three playing speeds. Dealing and play are very fast. Betting and play options shown on buttons. Game evaluates your hand, suggests cards to keep/discard. Dynamic, exciting, addictive game. \$39.95. Henderson Associates, #1, 980 Henderson Ave., Sunnyvale, CA 94086.

**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 effectively doubles the number of levels. Pieces are moved graphically. Disk stores 107 classic games for review and replay. \$49.95. Hayden Software, 600 Suffolk St., Lowell, MA 01854.

**Squire** is a financial simulation that features a unique, real-life mode that lets you set your own financial goals, then play out your strategy using IRAs, stocks, commodities, collectibles and property. \$69.95. Blue Chip Software, 6740 Eton Ave., Canoga Park, CA 91303.

**Suspended** is Infocom's most unique text game. Using a small plastic board and six markers, the player keeps track of six uniquely designed robots which check on damage to a complex's machinery and report back what they perceive as the problem. Decipher their descriptions and fix what's wrong before the complex blows and the world disintegrates into chaos. \$49.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140.

**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 Software, 6740 Eton Ave., Canoga Park, CA 91303.

**Ultima II** lets 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 in spite of confusing graphics. \$59.95. Sierra On-Line, 36575 Mudge Ranch Rd., Coarsegold, CA 93614.

**Ultima III** allows up to four characters to cooperate to explore the vast wilderness of Sosaria; dungeons, oceans, and the Moon Gates help solve the adventure. Outstanding translation of the Apple II smash hit. \$59.95. Origin Systems, 340 Harvey Rd., Manchester, NH 03103.

**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 skills levels. \$34.95. Shapechanger Software, Inc., 113 E. Tyler, Athens, TX 75751.

**The Witness** is a full-text adventure 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 02140.

**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 Software, 6 Main St., Ogdensburg, NY 13669.

**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. The game plays well. \$39.95. Hayden Software, 600 Suffolk St., Lowell, MA 01854.

**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 Software, 830 Fourth Ave., Geneva, IL 60134.

**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.

**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.

**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.

## 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 in frames, using some of the tools from *MacPaint*. They can be copied and altered easily from frame to frame. A limited animation tool, but a lot of fun. \$49.95. Ann Arbor Softworks, 308 1/2 S. State St., Ann Arbor, MI 48104.

**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 Software, 600 Suffolk St., Lowell, MA 01853.

**ClickArt Special Effects** is a *MacPaint* enhancement desk accessory. Allows the user to distort, stretch, rotate and use perspective on *MacPaint* documents. A necessity for serious *MacPaint* users. \$49.95. T/Maker Company, 2115 Landings Drive, Mountain View, CA 94043.

**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 Software, 600 Suffolk St., Lowell, MA 01853.

**DaVinci Commercial Interiors** is a professional-level package of layout aids for interior designers and architects. Features



# MacBackup™

The Professional Duplicating Program

One day your most expensive Macintosh™ program will fail you. To protect yourself from this misfortune you should back up your software with MacBackup™. MacBackup is the easiest, quickest, and most reliable way to duplicate all of your original Macintosh software. When standard procedures won't copy your original software, MacBackup will.

MacBackup will utilize the full power of your Macintosh system (128k, 512k, 1 or 2 drive). MacBackup easily duplicates many protected programs to hard disk drives.

You are free from having to use your original program disk. With MacBackup you'll never see "Insert Your Master."

Our team of programmers work to keep MacBackup effective on all future software. Updates are free. You pay only shipping & handling charges.

Now you can prevent destruction to your original software for only \$69.95.

Macintosh is a trademark licensed to Apple Computers, Inc.  
MacBackup is a trademark of Practical Computer Applications, Inc.



**Practical  
Computer  
Applications**

(612) 427-4789

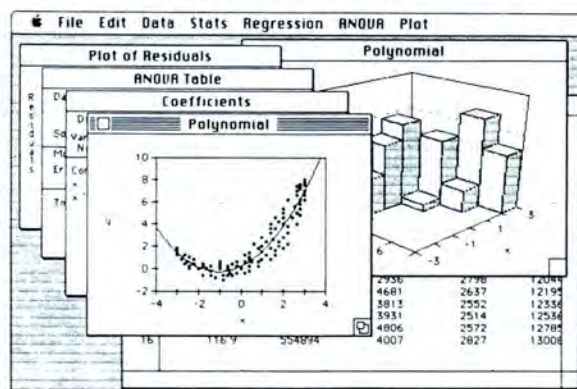


1305 Jefferson Highway, Champlin, Minnesota 55316

Please circle 101 on reader service card.

# StatWorks™

Power with Ease



Only \$125

Demo disk available for \$6.95

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

Please circle 93 on reader service card.



## Disk Ranger™

If this "Utility" is owned, you get great disk labels with no typing! Disk Ranger reads file names directly from disks for labels and a master catalog. Pick a border and print labels for one, several, or all disks with a click of a mouse. Disk Ranger comes with over 50 pin-feed labels. Get 225 extra labels for \$19.95! Use the catalog to help recover wasted disk space. Sorts and even finds missing files! Catalogs hard disks!

Disk Ranger does the work of two programs retailing for over \$89. Now check our price!

Crafted in assembly language: **faster and more compact!**

**= Mainstay =**

28611B Canwood St., Agoura Hills, CA 91301

(818) 991-6540 voice (818) 991-5037 modem

**Suggested Retail Value: \$49.95**

Please circle 120 on reader service card.



Discover the musician in you... with a complete Macintosh music production studio featuring:

**MIDIWorks™ \$100**

Translate songs between MusicWorks™, ConcertWare™, Professional Composer™ or Music Construction Set™, and play through a MIDI synthesizer for high quality sound.

**MegaTrack™ \$150**

Record and playback unlimited tracks with MIDI synthesizers. Convert through MIDIWorks for music printing.

**MacMIDI Star™ \$80**

Hardware interface which allows you to directly connect your Mac to 4 MIDI synthesizers. Upgradable to Tape Sync & Video SMPTE. Works with all MIDI software on the Mac.

Package #1: Star/MIDIWorks **\$120**

Package #2: Star/MIDIWorks/Casio CZ-101 synth **\$495**

**MUSICWORKS** 18 Haviland Boston MA 02115 (617) 266-2886

- **DX/TX VoicePatch Librarian™ \$150**  
Store forty 32-voice DX7 Virtual Cartridges™ on one disk! Organize, load and save patches instantly.
  - **DX/TX Voicepatch Disk™ #1 \$100**  
A disk of useful DX patches prepared by Dave Mash of the Berklee College of Music
  - **MegaTrack™ \$150**  
MIDI "multitrack" tape recorder/music data processor which records up to 72,000 note events and works with any size Mac.
  - **MacMIDI 32™ Dual Interface \$150**  
Connect your Mac to one or two MIDI sources and send on up to 32 MIDI channels.
  - **MacMIDI Sync™ \$250**  
All the features of MM32 plus FSK tape and drum box sync.
  - **MacMIDI SMPTE™ \$350**  
All the features of MM32 plus SMPTE™ Time Code send/receive and drum machine sync.
- MUSICWORKS** 18 Haviland Boston MA 02115 (617) 266-2886



Please circle 114 on reader service card.



# MINIFINDERS

predrawn office sections with furnishings included as a font that the user installs into a System file. \$199.95. Hayden Software, 600 Suffolk St., Lowell, MA 01853.

**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, shadow, underline and outline). \$49.95. Altsys Corp., PO Box 865410, Plano, TX 75086.

**Human Forms** lets users create perfectly proportioned humans in **|||||** any posture or position. Tiny X's make limb, head and detail placement perfect. Requires *MacPaint*. \$79.95. The Reference Corp., 212 Fifth Ave., New York, NY 10010.

**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. Generally easy to use. \$19.95. PBI Software, 1155B-H Chess Drive, Foster City, CA 94404.

**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 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, Inc., Suite 212, 7136 Haskell Ave., Van Nuys, CA 91406.

**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, Inc., Suite 212, 7136 Haskell Ave., Van Nuys, CA 91406.

**MacAccessories Professional Type Fonts** comes in two flavors: text **|||||** and headline. Both sets consist of 16 digitized fonts, very similar to commercial typefaces. These extremely clean fonts are among the best available. The Text set comes in sizes ranging from 12 point to 24 point, while the Headline fonts are from 24 point to 72 point. The large fonts have to be seen to be believed. Some of the very large (48 and 72 point) fonts will only work on a 512K Mac. \$49.95 Text (1 disk). \$69.95 Headlines (2 disks). Kensington Microware, 251 Park Ave. South, New York, NY 10010.

**MacDraft** is the step beyond *MacDraw*. This object-oriented drafting **|||||** program is packed with advanced features such as rotation, zooming, auto dimensioning and scales. A professional level product. \$239. Innovative Data Design, Inc., Suite 8, 1975 Willow Pass Rd., Concord, CA 94520.

**MacDraw** is an object-oriented structured graphics program. Can **|||||** be used to design forms, create presentation materials and do technical illustrations. Drawing sizes up to 8 feet by 10 feet. Text can be easily integrated. *MacPaint* documents can be pasted into *MacDraw* documents, but not manipulated. \$195. Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014.

**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. Comes with Macs. Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014.

**MacPublisher** is a tool for creating newsletters. Allows multiple **|||||** page issues. Layout is fairly easy but hard to do precisely.

Text must be entered via the keyboard, a serious drawback, and style and font changing ability is limited. 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, Inc., 19 Ledge Hill Rd., Boston, MA 02132.

**PageMaker** is an advanced layout and makeup program. Can easily **|||||** create multiple page documents. Output is optimized for LaserWriter. Good documentation. \$495. Aldus Corporation, Suite 400, 616 First Ave., Seattle, WA 98104.

**QuickPaint** is a desk accessory that allows browsing through *MacPaint* documents. Selected portions of documents can be expanded to fill the screen. Disk also includes a wealth of very high-quality clip art. \$49.95. EnterSet, Inc., Suite 408, 410 Townsend St., San Francisco, CA 94107.

**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. \$125. Manhattan Graphics, 163 Varick St., New York, NY 10013.

**Slide Show Magician** lets users easily design and show their own **|||||** text and art presentations in the form of a "slide show." Accepts documents created in *MacWrite* and *MacPaint*, plus any clip-art style graphics helpers. Movie-like special effects options include wipes, barn doors, venetian blinds, and fades. An option lets users install working buttons on the screen. \$59.95. Magnum Software, Suite 337, 21115 Devonshire St., Chatsworth, CA 91311.

**Underware Ribbon** allows users to create *MacPaint* images and **|||||** transfer them to cloth, typically to t-shirts. Fairly easy to do, although care is required. The transferred images can be colored using the special pens provided. Set of a ribbon and five colored pens, \$24.95. Underware Diversions, Inc., 1550 Winding Way, Belmont, CA 94002.

**VideoWorks** is a full-featured professional quality animations **|||||** package. 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, excellent manual and many on-disk examples. \$99.95. Hayden Software, 600 Suffolk St., Lowell, MA 01854.

## ACCOUNTING

**Accountant's Choice** is a powerful system built around an open **|||||** relational database. Functions are accessed through menus. Standard reports are provided but most can be customized. Multiple journals are allowed. Number of accounts is 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, Inc., Suite 210, 10201 Torre Ave., Cupertino, CA 95014.

**Check Mark General Ledger** is a Ledger with five preset journals: **|||||** Cash Disbursements, Receipts, General, Sales, and Purchases. Provides all basic functions needed. 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. Check Mark Software, PO Box 860, Fort Collins, CO 80522.



### HIPPO COMPUTER ALMANAC™

It understands English, thinks fast, and knows over 35,000 useful, intriguing facts. Uses an AI parser to understand and answer questions in plain English. A brief listing of topics include an 800 number directory, world time zone and area code info, loan calculations, metric conversions, calories of food, historical trivia, Olympic winners, World Series, Super Bowl, etc....

**\$34.95**

### HIPPO JOKES & QUOTES™

Fast access to thousands of insulting jokes, dirty jokes, rude jokes, silly jokes, one-liners, puns and quotations. Search for specific jokes or quotes by keyword or author. Digitally recorded laugh sound track. Select jokes with a rating of PG, R, or X.

**\$34.95**

### HIPPO-C™ LEVEL 1

Two great Macintosh K&R C compilers. Both have HOS—Hippo's UNIX™-like Operating System. Level 1 includes a symbolic debugger, on-line tutorial, and over 250 pages of helpful documentation. Level 2 also includes an optimizer, a 68000 assembler, and floating-point for \$399.95. Available non-copy protected.

**\$149.95**

### HIPPO SOUND STUDIO I™

A fun collection of realistic, digitally-recorded sounds. Play sounds directly on the Macintosh keyboard, or create multi-track sequences. Use regular Macintosh speaker, external speaker, or any home hi-fi for great sounds. Modify and mix sounds using sound "processors" such as echo and reverb. Use sounds in your own programs. Includes snare and bass drums, toms, cymbals, hihats, cowbell, claps, shaker, block, thunder, wind, sirens, etc.

**\$49.95**



985 University Ave., Suite #12  
Los Gatos, CA 95030  
408/395-3190

See your local dealer, or contact Hippopotamus. California residents add local sales tax. Please include \$5.00 for shipping. Allow 1-2 weeks for delivery. Macintosh is a trademark of Apple Computer, Inc. Hippo Computer Almanac, Hippo Jokes & Quotes, Hippo-C, and Hippo Sound Studio I are trademarks of Hippopotamus Software, Inc. UNIX is a trademark of Bell Labs. Price, availability, and specifications subject to change without notice.



Please circle 47 on reader service card.

## Real Estate Decision Making for the Mac!

### ProAnalysis

**Innovative Software for Real Estate Investors**

Introducing ProAnalysis; the first sophisticated real estate program designed for the non-programmer who demands professional quality analysis. One application justifies the cost of the software and computer! Facilitates decisions on choice of property and terms, compares financing alternatives, prepares forecast for tax planning, and permits multiple sensitivity analyses.

**Comprehensive Input Modeling:** Accommodates multiple loans of all types and refinancing.

**Advanced Performance Measures...** Incorporates IRR, Adjusted IRR, Net Present Value, and many others.

**Data Output Flexibility:** Applicable to Realtors, Financing Institutions, Tax Planners, Private Investors, and Brokers.

Brochure available.

For 512K Mac \$295

**Technalysis Services**  
14555 DeBell Road  
Los Altos Hills, CA 94022  
(415) 948-7334



If this "Utility" is owned, you'll do small typing jobs with no MacWait! TypeNow turns a Mac into a modern memory typewriter! Address envelopes, or dash off a quick memo. TypeNow even remembers formats for envelopes, or any form! Always ready under the Apple menu --even in other programs. Installation's a snap...or click!

TypeNow is easy. If you can use a typewriter you're ready to go. A desk accessory, TypeNow even takes up less room than an IBM Selectric™. Now check our price!

Crafted in assembly language: faster and more compact!

**= Mainstay =**

28611B Canwood St., Agoura Hills, CA 91301  
(818) 991-6540 voice (818) 991-5037 modem

**Suggested Retail Value: \$39.95**

Please circle 121 on reader service card.



# MINIFINDERS

**Gallery Finance** is one-write system with General Ledger, Cash Disbursements, Payables and Receivables in single package. Additional modules to be added. Data entered in a journal 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.

**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 detailed but complicated, with a few extra pages that make it Mac-specific. Flexible reporting, statements, and account numbering; huge numbers of accounts, transactions, and profit centers, and detailed financial analysis. Requires hard disk and printer. \$695 per module. Great Plains Software, Box 9739, Fargo, ND 58109.

**Maccountant** is a one-write system that provides only very basic ledger entries. Aging of accounts but no detailed records. Payable is basically a check writer. System setup and operation are very rigid. Errors in simple operations and disk crashes make *Maccountant* somewhat unreliable. \$275.00. Digital, Etc., 1749 14th St., Santa Monica, CA 90404.

**MacOneWrite** Cash Disbursements is 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 On-Line, Coarsegold, CA 93614.

**Palantir Financial Series** is simple, inexpensive accounting system for a 128K, one drive Macintosh. Manual is clear and concise. Uses icons for common operations; menus are clear and detailed, with most operations easy to find and use. Flexible report formatting and a customized chart of accounts. Very slow. Some flaws in design and the speed is intolerable. Requires *Microsoft Basic*, printer. \$145 per module. Palantir Software, 12777 Jones Road, Suite 100, Houston, TX 77070.

**Rags to Riches** integrated accounting modules (General Ledger and Accounts Receivable) use 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. \$295 per module. Chang Labs, 5300 Stevens Creek Blvd., San Jose, CA 95129.

**Strictly Business** General Ledger is feature-packed. 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 spools to printer and allows for printing of multiple documents. AppleTalk and hard disk compatible. Easy to use and thorough. Other modules planned. Requires 512K, printer and external drive. \$395. Future Design Software, 13681 Williamette Dr., Westminster, CA 92683.

## HOME APPLICATIONS

**Day Keeper Calendar** is the ultimate computerized appointment and note book, the *Day Runner* of computers. Holds a year's worth of information in each calendar document (you can have several). Starting from the basic display of a whole month you can easily see details of days and in-

dividual entries of many sorts. If you need a computerized appointment book this is it. \$39.95. Dreams of the Phoenix, Inc., PO Box 10273, Jacksonville, FL 32247.

**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. Seven reports can be viewed on-screen or printed. Simple graphing and charting facilities. \$149.95. Monogram, 8295 S. La Cienega Blvd., Inglewood, CA 90301.

**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, if you wish. 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.

**Financial Cookbook** provides nearly 3 dozen "recipes" to help users figure out financial formulas (e.g., mortgage costs at different percentage rates) by inputting pertinent data. Very user-friendly. \$44.95. Electronic Arts, 2755 Campus Drive, San Mateo, CA 94403.

**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.

**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.

**Front Desk** lets small businesses and offices easily keep track of personnel schedules, activities, and payments. Keeps track of up to 15 employees, functioning as a day-, week- and month-at-a-glance calendar. Highly recommended for doctors and dentists' offices. Less useful for offices less dependent on the human factor. \$149.95. Layered, Inc., 85 Merrimac St., Boston, MA 02114.

**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.

**The Housekeeper** is a home inventory database. Users can keep track of assets for both tax and casualty purposes. Specialized reports are easily generated. \$99.95. Aegis Development, Inc., Suite 277, 2210 Wilshire Blvd., Santa Monica, CA 90403.

**I Know It's Here Somewhere** stores information in a simple card filing system. Ideal for hobbyists and collectors, general household or small business use. File formats are flexible and 31 samples are included. Program can cut and paste between files; display and cross reference up to five files at a time; perform simple, wild card or multiple key searches, and print selected items or whole files. \$59.95. Hayden Software, 600 Suffolk St., Lowell, MA 01854.

**MacOffix** combines of many simple but necessary office functions in one easy-to-use package. Simple word processing, forms design, form letter production, report generation and filing. Good design nearly makes the manual unnecessary. \$149. Emerging Technology Consultants, Inc., 4760 Walnut St., Boulder, CO 80301.





## LEARN TO PLAY THE PIANO! Melody Master™ by Professor John Amaral

Fulfill your secret ambitions with the help of your Macintosh computer! Simply load in the music you want to play and learn sections or entire pieces by playing the notes on your MIDI keyboard. Melody Master™ is more fun than an arcade game, and suitable for everyone, regardless of age or experience! You control tempo, sound, and difficulty, and learn at your own pace. Use pre-recorded music from the MacMIDI Performances Library, record your own with MegaTrack™ from Music Works, or score your own with ConcertWare™, MusicWorks™, Professional Composer™, or Deluxe Music Construction Set™. **\$100**

**MacMIDI Performances™ Library**  
Makes available thousands of actual performances by such masters as George Gershwin and Scott Joplin which you can learn to play note-for-note with Melody Master! Choose from favorite selections by Irving Berlin, the Beatles, Michael Jackson, etc., or styles from classics to rock. Write for catalog. **Sampler \$25**

**MacMIDI Piano Lessons™ 1-6 by Professor Robert Winter**  
A graded course of studies, tunes and pieces for use with Melody Master, which will quickly bring your playing level from beginner to intermediate with a firm technical foundation. With MacMIDI Piano Lessons and Melody Master, you will learn to play the keyboard without the traditional pain of tedious practice! **\$100**

Package #1 Star Interface/Melody Master **\$150**  
Package #2 Star/Melody Master/Casio MIDI Keyboard **\$495**  
Package #3 Complete Macintosh MIDI System **\$1000**

**Call or Write**  
(617) 266-2886

## MUSICLAND™ by Professor Martin Lamb

Explore, create and compose music with no previous experience! MUSICLAND™ is four integrated music game/tools which will teach you Form, Composition, Orchestration and the Physics of Music.

MUSICLAND is also a remarkable new composition tool for professionals which helps you envision and create music in entirely new ways! Use with the Macintosh computer alone or your MIDI synthesizer and MacMIDI™ interface for enhanced sound quality.

Acclaimed by the Whole Earth Software Catalog as "The most wonderful, imaginative music program we've found." **\$149**

**Apple MIDI MUSICLAND**  
The award winning original Apple II version, now enhanced for use with MIDI synthesizers. Works with all Apple II MIDI interface cards. **\$149**

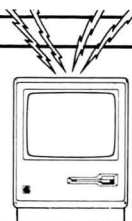
Package #1 MacMIDI Star Interface/MUSICLAND **\$199**  
Package #2 Star/MUSICLAND/Casio CZ-101 MIDI synth **\$549**

**MUSICWORKS** 18 Haviland Boston MA 02115 (617) 266-2886

MUSICLAND is a trademark of the University of Toronto



Please circle 124 on reader service card.



## TurboDownload™

If this "Utility" is owned, download costs are cut by 50% or more at 1200 baud. Even greater savings at 2400 baud. Does it's magic for Xmodem or MacBinary file transfers, gaining speed by error-checking only. The Source™, Compuserve™, and other services will give you more for your money!

It's compatible with most communications programs--stretching the dollars you pay! Lowers the online monthly invoice shock! No medical attention required. Now check our price!

Crafted in assembly language: faster and more compact!

**= Mainstay =**

28611B Canwood St., Agoura Hills, CA 91301

(818) 991-6540 voice (818) 991-5037 modem

**Suggested Retail Value: \$39.95**

Please circle 122 on reader service card.



## Hard Disk Util™

**Liberate your software!**

- Install most copy-protected programs on your hard drive, RAMdisk, or other floppies.
- Free your self from having to constantly slave over 'master' disks.
- Increase your productivity!

Works on: Jazz™, OverVue™ 2.0, PFS™, Home Accountant™, D&S™ 1.3, MacDraft™ 1.1 ALL Microsoft™ Software, PageMaker™, ExperLisp™ 1.04 and over 150 others.

Constantly Updated!

Optional 24hr BBS updates!

Uploads more than Copy II Mac™!

Requires: Macintosh™ 128/512/XL!  
w/One or two disk drives.

Compatible with any hard disk including HyperDrive™ and Apple's HD20™!

Send \$89.95 + \$3 shipping + (Tax in CA) to:

FWB Software, 2040 Polk St. Suite 215  
San Francisco, CA 94109 (415) 474-8055

Please circle 102 on reader service card.

## Scientific & Math Word Processing On Your Macintosh™ Computer

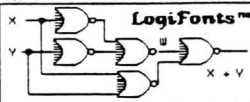
$$F_p = \sum_{n=0}^{\infty} \delta(\omega - k_p \cdot v_n) \prod_{n=0}^{\infty} \int_0^{\infty} f(x) dx \quad \mathcal{L}\{f(x)\} = \int_0^{\infty} f(x) e^{-sx} dx$$

$$\frac{1}{x^2} = -\frac{1}{x} \cdot \frac{1}{x} = -\frac{1}{x} \cdot \frac{1}{x} = -\frac{1}{x^2}$$

All the above can be typed using MacWrite™ & SciFonts™ the best scientific & math font available for the Mac. Has overtyping & many levels of sub & superscripting. Includes a cursive font.

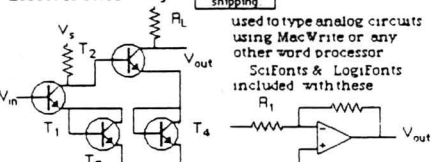
SciFonts™ **\$49.95**  
+shipping

Type complete Logic circuits using



This font includes labelling characters at correct positions for labelling. Has all the logic gates & connectors. **\$40+\$3** included shipping with ElectroFonts

ElectroFonts™ **\$99+\$3**  
shipping



used to type analog circuits using MacWrite or any other word processor. SciFonts & LogiFonts included with these

MacQwerty™ The keyboard reconfiguration program  
**\$35+\$3** shipping  
Change location of any keyboard character

Teachers! Get help from MacTAG™ your T A Grader  
Use your Mac to calculate class grades, read a class list with scores, calculate the weighted averages, & print a histogram for any set of scores. & much more. Only **\$49.95** + \$3 shipping

O.E.D. Quality Editor for Developers Write for details

TO ORDER: PARAGON COURSEWARE  
WRITE OR CALL 4954 SUN VALLEY RD.  
MC/VISA (619) 481-1477 DEL MAR CA 92014  
Cal Res 6% tax

SciFonts, LogiFonts, ElectroFonts, MacTAG, MacQwerty and O.E.D. are trademarks of Paragon Courseware. Macintosh & MacWrite are trademarks licensed to Apple Computer Co.

Please circle 104 on reader service card.

## LIONHEART

### BUSINESS & STATISTICAL SOFTWARE

Explanatory books with professional compiled software; the new standard for statistical use. The influential Seybold Report on Professional Computing has this to say about Lionheart "... our sentimental favorite because of its pragmatic approach to the basic statistical concepts... The thinking is that the computer merely facilitates the calculations; the important thing is to be able to formulate a problem correctly and to determine what type of analysis will be most valuable."

- BUSINESS STATISTICS ..... **\$145**
- EXPERIMENTAL STATISTICS ..... **145**
- MULTIVARIATE ANALYSIS ..... **150**
- QUALITY CONTROL & INDUSTRIAL EXPERIMENTS ..... **125**
- FORECASTING AND TIME-SERIES ..... **145**
- SALES AND MARKET FORECASTING ... **145**
- DECISION ANALYSIS TECHNIQUES ... **110**
- LINEAR & NON-LINEAR PROGRAMMING ..... **95**
- PERT & CRITICAL PATH TECHNIQUES .. **95**
- MONTE CARLO SIMULATION ..... **125**
- OPTIMIZATION ..... **110**

PC/MS-DOS, Amiga, Macintosh, some CP/M

VISA, MasterCard, AMEX, Check

P.O. Box 379, ALBURG, VT 05440  
(514) 933-4918

Please circle 103 on reader service card.



# MINIFINDERS

**MacMuscle** is a fitness program that lets users generate weekly **||||** workout schedules. Features include a detailed chart of the body and its 24 major muscle groups. An animated figure demonstrates the primary exercises. Calculates training pulse rate, which is shown by an animated heart and sound. Limited program that emphasizes weight training. \$89.95. Tech 2000 Software, Inc., 263 Lugonia St., Newport Beach, CA 92663.

**My Office** lets you handle your files and papers in much the same **||||** way that you did before you got a computer. Now folders and files are all in the computer and you can easily find anything, print anything or everything. Excellent use of graphic symbols makes this program the easiest to use of its type. \$129.95. DataPak Software, Suite 401, 14011 Ventura Blvd., Sherman Oaks, CA 91423.

**SmoothTalker** trains your Mac to say anything you want. Users can **||||** program the pitch and tone of each syllable to simulate true speech patterns. Not too useful — but a lot of fun to play with! Latest version includes a female voice. Male and female can be mixed in same document to provide entertainment. \$149.95. First Byte Software, 2845 Temple Ave., Long Beach, CA 90806.

**The Desk Organizer** is a free-form desk management system based **||||** on index card-style files. Has many features including alarms, report generation and calculation. The Meta feature lets the program run along with another application. \$99. Conceptual Instruments, 269 W. Walnut Lane, Philadelphia, PA 19144.

## 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. It produces line, bar and pie charts and changes in the worksheet automatically reflect in charts. Especially useful while working in a word processor. \$79.95. T/Maker Company, 2115 Landings Drive, Mountain View, CA 94043.

**Multiplan** is a very capable basic spreadsheet with simple sorting, **||||** 63 columns by 255 rows, many built-in functions, standard spreadsheet features. Design conforms well to Mac philosophy, with most functions menu or mouse controlled. *Multiplan's* best feature is the ability to link areas of one worksheet to portions of another, in *Multiplan* or *Chart*. \$199.95. Microsoft, 10700 Northup Way, Bellevue, WA 98004.

**StatView** is a high-powered statistical calculation package. Easily **||||** and efficiently handles all the common statistical techniques and tests and many uncommon ones. Has a user definable area as well. Easy to use and well documented. \$199.95. BrainPower, Inc., Suite 250, 24009 Ventura Blvd., Calabasas, CA 91302.

## WORD & OUTLINE PROCESSORS

**Express** contains word processing, mail list and mail merge ap- **||||** plications in a single product. Also makes Mac an electronic memory typewriter! A converted PC product that looks as though it were running on a PC. Compromises made in interface to provide features, sufficient text area on 128K Macs. 512K version will be more Maclike. Quick and dirty letter processor that works. \$29.95. Mirage Concepts, 108, 4055 W. Shaw, Fresno, CA 93711.

**1stMerge** is a mail-merge program that integrates data files with **||||** documents after a blueprint has been designed. On-screen help, and the ability to add and search records. Re-

quires *MacWrite*. Good for mass mailings, including envelopes and labels. \$95. DeskTop Software Corp., 244 Wall St., Princeton, NJ 08540.

**Hayden: Speller** checks spelling errors in *MacWrite* and *Word* **||||** documents against a dictionary of 20,000 common words and user-created dictionary. Suspect words appear minifinder style, with changes made in simple dialog boxes. Corrections are typed in or selected from a list generated by the dictionary. Reasonably fast and quite simple to use. Dictionary is small and words cannot be viewed in context while correcting. \$79.95. Hayden Software, 600 Suffolk St., Lowell, MA 01854.

**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.

**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. Has an a very clear manual. \$125. Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014.

**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, Inc., 485 Alberto Way, Los Gatos, CA 95030.

**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 of the current version (4.5) include document size limited by disk space, global search and replace, page numbers indicated in the scroll bar and excellent LaserWriter compatibility. Easy to use and well documented. Free, except for consortium students. Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014.

**Microsoft Word** is THE 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. Easy to use. Integrates with Microsoft line. \$195. Microsoft Corporation, 10700 Northup Way, Bellevue, WA 98009.

**QuickWord** is a word processing accessory that adds sophisticated **||||** glossaries to *MacWrite*. Simple to install and use, yet powerful and efficient. \$49.95. EnterSet, Inc., Suite 408, 410 Townsend St., San Francisco, CA 94107.

**ThinkTank 128** is the first of a new type of program known as an **||||** outline processor. Lets the user create complex outlines and revise them using moves, cuts and pastes. The interface is not the standard Mac interface but is simple to use and efficient. The program is speedy. Printer support is limited, but files can be printed in a draft-style mode. Only for 128K owners; 512K owners should get *ThinkTank 512* which has many more features and is more useful than the price differential would indicate. \$145. Living VideoText, Inc., 2432 Charleston Rd., Mountain View, CA 94043.

**ThinkTank 512** is a word/outline processor. Very fast intuitive **||||** organizational tool that can handle word processing chores in the midst of structuring a plan or outline. Full keyboard control (without mouse) 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. \$245. Living



# A professional time billing program for your Macintosh

## LEGAL BILLING

LEGAL BILLING is a comprehensive time billing package ideal for attorneys, accountants or any professional that bills time and expenses. And on a Mac, it is incredibly easy to use.

This special Macintosh version offers:

- Multiple Billing Formats
- "Video Time-Slip" for fast entries
- Detailed Description of Services
- Aging Report of accounts receivables
- Productivity Report
- Full use of the Mac Interface
- Plus much, much more

LEGAL BILLING  
MACINTOSH VERSION - \$595.

Available at your dealer or directly from:

Satori Software  
5507 Woodlawn Ave. N  
Seattle, WA 98103  
(206) 633-1469

Visa/Mastercard/Amex accepted



Please circle 87 on reader service card.



## MacBooster™

If this "Utility" is owned, a Mac runs 500% faster with no risk of data loss! MacBooster is a write-thru disk-cache -- it remembers and even anticipates disk usage to reduce slow disk access. It's automatic! Works with copy protected software, and can be copied to your disk. Works with Switcher™! Great for speeding Multiplan™, Word™, and MacWrite™!

MacBooster is safer and more intelligent than a RAM disk. You'll see a lot less of the wristwatch icon! Now check our price!

Crafted in assembly language: **faster and more compact!**

**= Mainstay =**

28611B Canwood St., Agoura Hills, CA 91301  
(818) 991-6540 voice (818) 991-5037 modem

**Suggested Retail Value: \$49.95**

Please circle 123 on reader service card.

# Ribbon Land

P.O. Box 8634 • Red Bank • NJ • 07701

## COLOR PRINTING

(Imagewriter 2 Compatible)

Color Chart (full color graph & charting program)	\$60.00
Color Print (full color graphics from MacPaint)	\$30.00
Color Pix (4 pages of Pre-Separated MacPaint Art)	\$15.00
Christmas Card Construction Kit (full color) ...	\$25.00

## COVERS, CASES & ACCESSORIES

**MacAttire™** - High quality rip-stop nylon dust covers for your entire Macintosh System. Available in Blue, Burgundy and Grey.

Mac & Keyboard Cover .....	\$15.00
Imagewriter Cover .....	\$11.00
Wide Imagewriter Cover .....	\$13.00
Laserwriter Cover .....	\$17.00
External Drive Cover .....	\$6.00
Numeric Keypad Cover .....	\$6.00

## Disk Portfolio

The "Clutch™" - constructed of rip-stop nylon, this disk case holds 8 disks & folds down to wallet size .. \$8.00

**Mouse Pad** - Nylon surface with a neoprene base \$8.00

**MacLuggage** - Cordura & high density foam carrying cases for the Mac & Imagewriter (Both Models). Available in Navy Blue. Macinware ... \$50 Imageware ... \$40 Imageware (Wide Carriage) ... \$50

\*Shipping - Add \$3 for orders under \$50 & all paper orders.

**TOLL FREE** Orders call 800 Information for our NEW TOLL FREE NUMBER or call 201-842-1437.  
Master Card, VISA, C.O.D. and Check orders accepted.  
\*Free shipping for orders over \$50.00.

## IMAGEWRITER SUPPLIES

<b>ColoRibbons</b> - Top quality ribbons come in 6 colors; Red, Blue, Yellow, Green, Brown & Purple	\$5.50 ea./6 for \$28
<b>Heat Transfer</b> - Long lasting ribbons for permanent transfers. Red, Blue, Yellow & Black .....	\$7.50 ea./4 for \$28
<b>Black Nylon</b> - First quality ribbons	\$4.00 ea./6 for \$21

## COLOR KITS

<b>Color 6 Pack</b> - Kit includes 1 each Matrix ColoRibbon and graphic printing instructions .....	\$28
<b>T-Shirt Factory</b> - Kit includes 1 each Heat Transfer Ribbon, graphic printing & iron-on instructions .....	\$28

## RE-INKING SUPPLIES

<b>MacInker</b> Re-Ink ribbons for 5¢ .....	\$49
<b>Color Ink Kit</b> - Red, Blue, Yellow, Green, Brown & Purple	\$8 ea.
<b>Blank Ribbons</b> - .....	\$3.50 ea./6 for \$18

## PRINT HEAD CLEANING KIT

**Clean Image Ribbon™ Kit** - Cleans print head in less than 60 seconds, without removal .....

<b>*Color Computer Paper</b> - Continuous Micro-Perf form feed paper tears down to 8½" x 11". Available in Red, Gold, Bright Blue, Powder Blue, Pink & Ivory.	
100 Sheets ... \$5	300 Sheets ... \$13
600 Sheets or Rainbow Pack ... \$22	

Please circle 95 on reader service card.



# MINIFINDERS

VideoText, Inc., 2432 Charleston Rd., Mountain View, CA 94043.

## DATABASES

**FactFinder** is a freeform information organizer or medium-duty database. Users enter data on to factsheets in any manner desired and select keywords. Factsheets are associated in groups called stacks. Searches are by name or keyword. The speed is barely adequate and only one factsheet can be open at a time. Printing and cutting and pasting between factsheets are supported. Good manual, on-screen help and tutorial. Publisher offers free telephone support (800 number). \$149.95. Forethought, Inc., 1973 Landings Drive, Mountain View, CA 94943.

**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, Inc., 1973 Landings Drive, Mountain View, CA 94943.

**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 Products, 3420 Ocean Park Boulevard, Santa Monica, CA 90405.

**1stBase** is a small, easy use to use database that allows users to join or append files. It is the simplest, most accessible

relational database available for the Mac. Supports calculated fields including statistical summaries such as averages. Integrates with *1stMerge* and *1stPort*. \$195. DeskTop Software, 244 Wall St., Princeton, NJ 08540.

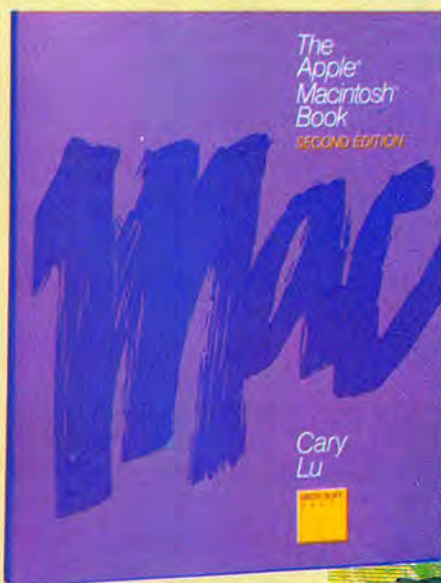
**Habadex** is a telephone directory/database with some list, label and mail merge capabilities. Extreme ease of use is cancelled by the impossibility of selectively removing old data and extremely limited file size. An accessory (\$50) allows actual telephone dialing. \$99.95. Haba Systems, Inc., 15154 Stagg St., Van Nuys, CA 91405.

**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 applications, excellent where relational database is required. Supports multiple windows. Requires a 512K Mac and an external drive, but is slow on that configuration. The recommended hard disk is really required to use Helix effectively. \$395. Odesta, 3186 Doolittle Drive, Northbrook, IL 60062.

**LaserBase** is versatile database that allows full integration of graphics in its records. Files can have multiple levels of password security. Good use of the Mac interface. \$149.95. Kette Group, 13895 Industrial Park Blvd., Minneapolis, MN 55441.

**MacLion** is a true relational database program. Can handle all databasing requirements although set up may require outside (consultant) help. Has a built-in programming language (LEO) and can be customized for any application. Reasonably flexible and easy to use once a database is set up. Can handle very large files as well as multiple

## THE EXPERIENCE CONTINUES



**\$19.95**

Available wherever books and software are sold.



**THE APPLE MACINTOSH BOOK.** It quickly became the most popular book on this revolutionary machine. Now... for current or prospective Macintosh owners, or those considering 512K upgrades... here is a timely and authoritative new edition. And, like the first, this edition is sure to dazzle, inform, and inspire.

Cary Lu, the noted authority on microcomputers, gives you a comprehensive look at the Mac's pace-setting technology and philosophy, and the hardware that is now available: disk drives, I/O ports, printers, and modems. **THE APPLE MACINTOSH BOOK** sorts through today's new Mac software to help you evaluate what's right for you: integrated software, word processing, graphics, communications, spreadsheets, and programming languages. Plus an inside look at special Mac features: networking with AppleTalk, laser printing, typography, and, even future Mac products.

**THE APPLE MACINTOSH BOOK**, second edition... the experience continues.

**MICROSOFT  
PRESS**

**Microsoft Press  
10700 Northup Way  
Bellevue, WA 98004**

Please circle 66 on reader service card.



# FAST INFO FOR MAC USERS!

Use our convenient Reader Service Card to obtain further information about the products and services advertised in **MacUser**.

Circle the numbers on the card corresponding to the numbers appearing on the advertisements for the products or services in which you are interested. For quick reference, we have included both the page number and reader service number on the Ad index page.

Any comments you may have about **MacUser** are welcome in the space provided.

## MacUser

## READER SERVICE CARD

December 1985

Use before February 28, 1986

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** \_\_\_\_\_

• To order a one-year subscription to **MacUser** (12 issues), simply circle number 300 below. 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

December 1985

Use before February 28, 1986

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** \_\_\_\_\_

• To order a one-year subscription to **MacUser** (12 issues), simply circle number 300 below. 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



PLACE  
STAMP  
HERE

# **MacUser**

Reader Service Dept.  
PO Box 2041  
Clinton, Iowa 52735

PLACE  
STAMP  
HERE

# **MacUser**

Reader Service Dept.  
PO Box 2041  
Clinton, Iowa 52735



files. \$379. Computer Software Design, Inc., 1904 Wright Circle, Anaheim, CA 92806.

**Microsoft File** is a flexible data manager. Creates files for variety of data, including simple graphics. Files created in simple row/column format, but reports, forms easily customized by moving field names around on a blank form. Sorting limited to approximately 5000 records on 128K Mac, much more on 512. Easy to use, well designed and full featured. \$195. Microsoft, Corporation, 10700 Northup Way, Bellevue, WA 98004.

**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. Introduces some low-level AI (artificial intelligence) concepts. \$200. Organization Development Software, Inc., Suite 535, 1011 Touhy, Des Plaines, IL 60018.

**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). Organizational Software Corporation, 2655 Campus Drive, Suite 150, San Mateo, CA 94403.

## 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 Software Corporation, 2895 Zanker Rd., San Jose, CA 95134.

**semble** lets you 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. *Ensemble* is compatible with *MacWrite* and *MacPaint* files, and any program using cut and paste operations. Capacity limited by RAM and disk size. Easy to use, light general database with graphics. \$299.95. Hayden Software Corporation, 600 Suffolk St., Lowell, MA 01854.

**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 Corporation, 10700 Northup Way, Bellevue, WA 98009.

**Jazz** provides extremely well integrated modules for word processing, graphs, worksheets, databases and communications. Each module is substantial and the worksheet is packed with powerful functions. The truly exceptional feature is HotView, where data placed in any module automatically updates all other documents that use that data. Provides adequate coverage of most data and communications needs of small businesses. Requires 512K and external Drive. \$595. Lotus Development Corp., 55 Cambridge Parkway, Cambridge, MA 02142.

**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). Be

sure to get version 2.0. \$295. ProVUE Development Corp., 222 22nd St., Huntington Beach, CA 92648.

**Quartet**, an integrated program that works on a 128K Mac, is 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, Inc., 15154 Stag St., Van Nuys, CA 91405.

## UTILITIES

**Accessory Pak 1** is a group 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 Software, Suite 201, 11212 Dalby Pl., San Diego, CA 92126. [NEW]

**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, Inc., PO Box 55, Shrewsbury, NJ 07701.

**Battery Pak** is a set of eight handy desk accessories including scientific and RPN calculators, a background text file printer, a 250-page note pad with search and phone dialing capabilities, a disk file utility, an accessory to launch another application without returning to the desktop and a calendar with notekeeping and search 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.

**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 (4.2) can back up most Mac software. Graphic displays of copy progress. Comes with *MacTools*, a multiuse utility that can recover many damaged files. \$39.95. Central Point Software, Inc., Suite 100, 9700 S.W. Capitol Highway, Suite 100, Portland, OR 97219.

**Epstart** lets Mac users use Epson FX80/100, JX80, RX80/100, LX80, MX80/100 with Grafix Plus or LQ1500 printers. Required, but not included, is a serial printer interface. Easily installs on any System disk and is transparent to the user. Print Adjustment desk accessory allows selection of several options on each printer. Data can be sent via printer or modem port. The documentation is clear. \$45. SoftStyle, Inc., Suite 205, 7192 Kalaniano'le Hwy., Honolulu, HI.

**ExperLISP** is a very buggy, but still incredibly useful, programming language for high-level programmers. The more you use it, the more you'll figure out about it. System crashes are too common for a language this useful and expensive. \$495. Requires 512K and either an external or a hard drive. ExperTelligence, Inc., 559 San Ysidro Rd., Santa Barbara, CA 93108.

**ExperLogo** is a version of the popular teaching language, Logo. Features three-dimensional graphics using "bunnies" rather than the usual "turtles." Very speedy, smooth program. Excellent manual. \$149.95. ExperTelligence, Inc., 559 San Ysidro Rd., Santa Barbara, CA 93108.

**Hippo-C Level 1** offers a good basic learning environment for newcomers to the C programming language. The pro-



# MINIFINDERS

grams limits and restrictions are severe and standalone applications can not be created. Still this is a good place to begin the study of C. Has a useful print spooler desk accessory. \$149.95. Hippopotamus Software, Suite 12, 985 University Ave., Los Gatos, CA 95030.

**Jetstart** lets Mac users use Hewlett-Packard's tiny, quiet ThinkJet printer with their Macs. Installation is quick and simple and the program works without any hitches. Data can be sent to the printer via either the printer or the modem port. \$45. SoftStyle, Inc., Suite 205, 7192 Kalaniano'le Hwy., Honolulu, HI.

**Laserstart** allows use of a Hewlett-Packard LaserJet printer with a Mac. This printer is significantly cheaper than the LaserWriter and has adequate text printing features. It can not efficiently handle Mac graphics. Easy to install and use. Data can be sent to the printer via either the printer or the modem port. Comes with a cable to connect the Mac and the LaserJet. \$95. SoftStyle, Inc., Suite 205, 7192 Kalaniano'le Hwy., Honolulu, HI.

**Lock-It** allows users password control of all their documents. It works quickly and efficiently to protect confidential material. Unfortunately, it is not perfectly bug free and a failure will cause future lack of access to data. If you absolutely need to protect data and are very careful, you can use Lock-It, but the average user should stand clear. \$29. Assimilation, Inc., 485 Alberto Way, Los Gatos, CA 95030.

**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. \$1,795 with 640K RAM and two floppy drives. Dayna Communications, Suite 530, 50 S. Main St., Salt Lake City, UT 84144.

**Mac Disk Catalog** is a utility that will quickly organize a moderate size disk library. It's easy to use and has powerful reporting and label making features. \$39.95. New Canaan MicroCode, 136 Beech Rd., New Canaan, CT 06840.

**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. Simple to use, on-screen dialogs prompt for all actions. \$29. Assimilation, Inc., 485 Alberto Way, Los Gatos, CA 95030.

**Mac Tracks** allows users to store a series of keystroke and mouse movement operations to any command key. Various controls and index (so you can see what you already created) reside as a desk accessory. Documentation is inadequate and behavior is sometimes not what you expect. Invaluable in some places (*Smartcom II* and *Jazz*), it needs some improvement before it gets much use. \$29. Assimilation, Inc., 485 Alberto Way, Los Gatos, CA 95030.

**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.

**MacBooster** is a disk-caching program that adds a great deal of operating speed to a 512K Mac. It installs easily from its master disk. This program can increase the speed of your 512K Mac by 2 to 3 times. \$50. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301.

**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 reference 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, Suite 12, 4701 Randolph Rd., Rockville, MD 20852.

**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, Inc., PO Box 1540, Fairfield, IA 52556.

**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, but a bargain at \$20. Has Mac and MS-DOS disks. \$125, \$145 with 8-ft interface cable. DataViz, Inc., 16 Winfield St., Norwalk, CT 06855.

**MacMate** combines RAMdisk and print spooling functions in a compact package. Both parts are efficient, work well and have on-screen help. This is the best product in its category. \$49.95. SMB Development Associates, PO Box 3082, Chatsworth, CA 91311.

**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. Superb usage of the whole Mac interface makes this the best way to learn Pascal. The documents are mostly references so be sure to get one of the tutorial textbooks in your bookstore. \$125. Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014.

**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 and a resource compiler called *RMaker*. The files included in this two-disk set have all the basic equates, process definitions, and trap calls. Good documentation includes a copy of the Motorola 68000 handbook. Also included is a copy of the "phonebook" edition of *Inside Macintosh*. \$195. Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014.

**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 pro's only. \$70. Jasik Designs, 343 Trenton Way, Menlo Park, CA 94025.

**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. Fairly intimidating due to its enormous power. Has a good manual. \$60. Micro Analyst, Inc., 5802B Gloucester, Austin, TX 78723.

**MS BASIC** was the Mac's first programming language. It has come a long way since its infamous version 1.00. The current version (2.0) of 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. Easy to use. Be sure you get version



# *The Book Of Macintosh Software*

*McCroskey • Mellin • Ritz*

*Rates and reviews all the most popular programs*



## **Book Before You Leap!**

**Software is too expensive to buy sight unseen.**

*The Book of Macintosh Software* does the looking for you with in-depth reviews of over 200 Macintosh programs. Productivity, Graphics, Games, Education, and Utilities programs graded on an A-F scale with concise, no-holds-barred reviews by the software evaluation experts. Helpful, enlightening

introductions help you determine your software needs before you meet the salesman. Illustrations for most programs, system requirements, and complete vendor information give you the edge no matter what sort of software you need.

ISBN 0-912003-20-0

**ARRAYS, INC.**

6711 Valjean Avenue • Van Nuys, California 91406

Sales Information: Outside California 1-800-824-0590 • Inside California 818-901-8828

Please circle 57 on reader service card.



# MINIFINDERS

2.0 or higher. \$150. Microsoft Corporation, 10700 Northup Way, Bellevue, WA 98009.

**MS 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: text for commands; program, for defining procedures, and graphics for program execution. Turtle looks like a turtle, and its screen actions are very precise. \$124.95. Microsoft Corporation, 10700 Northup Way, Bellevue, WA 98004.

**PC to MAC and BACK** has both Mac and MS-DOS disks. This program easily and efficiently transfers text and other data between PCs and Macs. Easy to use, although not too intuitive. Fortunately, the documentation is excellent. Does special format transfers such as *WordStar* to *MacWrite*. Includes a cable for direct Mac to PC connections. \$149.95. dilithium Press, Suite 151, 8285 SW Nimbus, Beaverton, OR 97005.

**Quick & Dirty Utilities, Volume One** is a disk chock full of the handiest programs you have ever bought. Included is a super disk cataloging program, a desk accessory mover, a font manger, a document launcher (when you boot a disk it launches a document), 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.

**Quick Disk** is a RAMdisk utility. Users can create RAMdisks up to 350K on 512K Macs. Works well and has good documentation. \$34. Symmetry Corporation, Suite 103S, 3900 East Camelback Rd., Phoenix, AZ 85018.

**Quickset** is a set of five 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, financial and statistical calculators and a file encryptor. \$99.95. EnterSet, Inc., 410 Townsend St., San Francisco, CA 94107.

**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. All work well. \$84.95. Borland International, 4585 Scotts Valley Dr., Scotts Valley, CA 95066.

**Switcher** is Andy Hertzfeld's contribution to Mac productivity. This program lets users run several programs at once (up to eight 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. Runs on 512K Macs and larger. \$19.95 from Apple, free from MAUG on CompuServe and included with some third-party applications (e.g., Excel). Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014.

**TimeBase** keeps track of daily, weekly and monthly scheduling. Data from other Mac applications can be used within any schedule user creates. Files are limited to space available on the disk. Not easy to use unfortunately. \$149.95. Soft-Design, Inc., 14145 S.W. 142nd Ave., Miami, FL 33186.

**Toshstart** software drives any Toshiba P1340, P1351 or P3X1 family printer that has a serial interface. The software is simple to install and transparent to the user once installed. \$45. SoftStyle, Inc., Suite 205, 7192 Kalamianole Hwy., Honolulu, HI.

**TurboCharger** is a disk-caching program. It works by storing frequently used portions of a disk in a memory buffer and it can dramatically speed up operation (250 to 500% is common). Auto-startup and write buffering. Only works on a 512K Mac but is a must for one. \$95. Nevins Microsystems, 210 Fifth Ave., New York, NY 10010.

**Twelve-C Financial Desk Accessory** brings all the power and functionality of a Hewlett-Packard 12C programmable calculator to your desktop. Can be programmed and all registers can be viewed while calculator is running. \$39.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247.

**XL/Serve** converts a Mac XL into a disk and print server. Uses the AppleTalk network and is easily hooked up. Users can partition the Mac XL's hard disk into multiple volumes (read-only for common access and read-write for private access). Runs in the background on the Mac XL, so users can work on all machines in the network. Comes with a backup and restore utility. \$195. Infosphere, Inc., 4730 SW Macadam, Portland, OR 97201.

## 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. The best program for those who want to listen to music on their Mac. \$69.95. Great Wave Software, PO Box 5847, Stanford, CA 94305.

**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. Many public domain music files available. The manual is clear and thorough. \$79.95. Hayden Software, 600 Suffolk St., Lowell, MA 01854.

**Professional Composer** is aimed at music professional. Produces performance-quality sheet music; has only limited playback facilities. \$495. Mark of the Unicorn, 222 Third St., Cambridge, MA 02142.

## DIGITIZERS

**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 Technologies Corporation, 3100 Patrick Henry Drive, Santa Clara, CA 95052.

**Magic** 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, Suite 104, 10300 Greenbelt Rd., Seabrook, MD 20706.

**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. Compatible with 15-inch ImageWriters. Output has been optimized for LaserWriter. \$229. Thunderware, Inc., 21 Orinda Way, Orinda, CA 94563.

## ACCESSORIES

**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. Simply raising the Mac 4 inches off the desk results in a more efficient viewing angle for users. \$99.95. Ergotron, Inc., PO Box 17013, Minneapolis, MN 55417.

**Mac Daisywheel Connection** is the most straightforward way to hook a Mac to a letter-quality printer. Works well with most popular printers and is easy to install and use. \$89. Assimilation, Inc., 485 Alberto Way, Los Gatos, CA 95030.

**MacNifty Joystick Converter** plugs into the mouse port and allows use of any standard nine-pin Atari-style joystick or controller. Includes a tiny Amiga-style joystick, a pint-sized powerhouse that literally operates with a single finger on the stick. Cursor movement speed is adjustable. \$44.95. Kette Group, 13895 Industrial Park Blvd., Minneapolis, MN 55441.

**MacNifty Stereo Music System** converts Mac sounds to simulated 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, 13895 Industrial Park Blvd., 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. Plugs are friction-fit, not screw-fastened like most Mac peripherals, so in some cases may loosen by themselves. \$34.95. Kette Group, 13895 Industrial Park Blvd., Minneapolis, MN 55441.

**MacStation** is a compact workstation for a Mac, ImageWriter and external drive. Made of strong plastic, it is reasonably attractive. Well vented; will not cause a Mac to overheat. Only flaw is that printer paper feed doesn't really work; users will need space behind the unit to store paper. \$95. The MicroRain Corp., PO Box 96008, Bellevue, WA 98009.

**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. Works well with MacPaint, MacDraw, all Mac software. Allows concurrent use of the mouse. \$495. Summagraphics Corp., 777 State St. Extension, Fairfield, CT 06430.

**Mousetrak** 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, Inc., Suite 503, 1 Weatherly, Mill Valley, CA 94941.

**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, Inc., 485 Alberto Way, Los Gatos, CA 95030.

**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. Those who do rarely ever use a mouse again. \$149. Assimilation, Inc., 485 Alberto Way, Los Gatos, CA 95030.

FREE 15-DAY TRIAL OFFER



**Bore no more!**

Let's face facts. if you really want to be effective in a business environment, then put something special into your communications.

Enter **MacArt for Business**, with hundreds of images that MacArt for Business generates, you can create memos, reports, letters, invitations. Anything and everything you write *will be read*.

**Special Offer!** Mac at Work, a guidebook to the use of windows and mouse technology in creating more than 50 different business documents, PLUS the **MacArt for Business** software program. **\$39.95**

**MacArt for Business Software \$23**

**Take advantage of Our FREE 15-Day Trial Offer, call the Wiley Professional Software sales staff at (212) 850-6788.**

(Apple Macintosh™ and MacPaint™ required.)

Examine the documentation only in the item(s) selected FREE for 15 days. Either keep the product(s) and return the accompanying invoice with your payment (including postage and handling and local sales tax if applicable) or return within 15 days without further obligation.

**Note:** Returns will not be accepted if the seal covering the program disk is broken.



Or write:  
Leslie Bixel  
Wiley Professional Software  
John Wiley & Sons, Inc.  
605 Third Avenue  
New York, NY 10158



Macintosh™ is a trademark licensed to Apple Computer, Inc.

Please circle 49 on reader service card.



# CORRALLING YOUR DESK ACCESSORIES

(continued from page 113)

half/full duplex) and store up to seven telephone numbers.

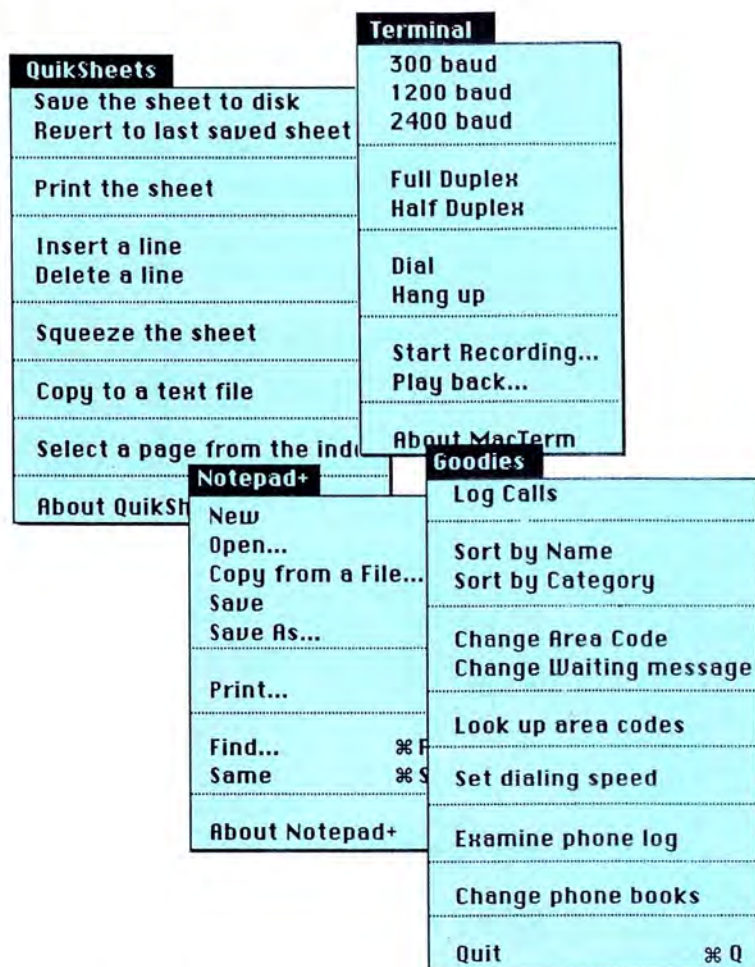
"ReadyPrinter" is a print spooler: it lets you use your Mac while text files are being printed. You can set margins, select the Tab character length, and choose from 10, 12 or 17 characters per inch. Only draft-quality printing is available, and it won't work at all with the LaserWriter.

*SideKick* also has a *PrintManager* (available from the *SideKick* application) that will take the files you have created with the various accessories and print out formatted lists, reports, and even mailing labels. It lets you sort information, print a year-at-a-glance calendar, and print *QuikSheets* either with information or as blank forms. *PrintManager* does work with the LaserWriter; you can get a cautious year-at-a-glance calendar

done in perfectly legible 3-point type.

The installer that comes with *SideKick* is . . . not terrific. You can install any *SideKick* accessory with it, but you can only delete a *SideKick* accessory or one of Apple's basic accessories — even if you have other nonstandard accessories already installed. When you want to install something, you click in its checkbox; when you want something removed, you click in everything but that item. The awkwardness of the installer is accentuated by a phrase from the *SideKick* manual: "Macintosh software that doesn't follow Apple's guidelines probably isn't worth worrying about. p.125."

Hard disk users will find *SideKick*'s accessories a welcome addition to their Apple menus; the rest of us should think of *SideKick* as an application, or just not think about it at all. ☞



Looking through some of *SideKick*'s menus gives you an idea of how thorough its accessories are.

# MAC TO ACCOUNT

(continued from page 114)

user-defined journals; up to 99 profit centers per company with up to 100 departments each; and customized reports. The program spools to the printer so you can continue working while it prints, and allows the printing of multiple documents. Although this last feature caused my system to crash, a revised version was quickly prepared which eliminates the problem.

One peculiar feature is the inclusion of *SmoothTalker* for error messages or entries, if desired. While interesting, the voice intrudes on one's concentration, and I suspect that most people will simply do as I did and toggle it off. Marilyn Afana, the program's designer and the president of First Design, has told me that the talking feature will eventually be replaced by graphics.

*Strictly Business* is AppleTalk and hard-disk compatible. It is also very easy to use and very thorough.

## Conclusions

There are other programs for the Macintosh available now. *BizMac* from Applied Logic Systems contains a built in charting facility, which worked well in the demo version. However, I was unable to get a full program in time to review it. Peachtree Software publishes the *Back to Basics* series, but because of changes in the company they were unable to get MacUser review copies in time.

Until recently, the Mac had very little to offer a business as an accounting tool. Now there is a variety of software for all styles and levels of accounting.

Choosing accounting software is a painful process. Even when the decision to computerize has been carefully made, there are fears that data will vanish into electronic wonderland or be corrupted beyond recognition. The key to allaying these very real fears is to find software that provides the kind of financial record-keeping a business needs, and that is supported by the manufacturer when problems or questions arise.

Careful and intelligent accounting can mean the difference between success and failure in business. So, perhaps will carefully prepared and intelligent accounting software prove the Mac as a power business tool. ☞



# WHERE IS THE SIN IN SYNERGY?

(continued from page 62)

## A Period of Adjustment

Anyone already used to the Mac or the IBM PC might need a little time to adjust to *MacCharlie*. For PC users, the keyboard has a few interesting anomalies. *MacCharlie*'s only ESCape key is on the numeric pad, while the PC has one in the upper left corner of the main keyboard. This could be quite confusing at first. The spacing between the main keyboard and the keys to either side is not quite the same as it is on the PC, and could take a little getting used to.

Switching from the Mac to MS-DOS on *MacCharlie* requires a mental adjustment — perhaps even a lobotomy. One has to learn all about cryptic commands and error messages, for one thing. And it is difficult to work with software that makes you move around the screen with cursor keys, especially when there is a mouse right next to your hand. The mouse can select for Cut and Paste, but not for any operations in the software itself.

## It Works Without MS-DOS

*MacCharlie* has some advantages of its own even when there is no MS-DOS application running. For instance, it is difficult to work with the standard Mac keyboard in your lap because it is too small. It slides between your legs or sits at a peculiar and uncomfortable angle. The *MacCharlie* extension enlarges the keyboard just enough that it now fits comfortably across the lap. The cursor keys and numeric keypad work well with Mac

software like *Multiplan*. And, perhaps more significantly, *MacCharlie*'s RAM acts as a print buffer between Mac and the ImageWriter.

We tested this feature by printing a 12 page *MacWrite* document in standard quality on the same Mac with and without *MacCharlie*. Although the actual printing took almost exactly 10 minutes in both cases, without *MacCharlie* the Mac was tied up until the last moment. *MacCharlie* returned control of the Mac in just seven minutes — (the document had printed to the middle of page eight) — a savings of 30%. It would have been nice to have the entire document sent to RAM so other work could be done (as the manual suggests that it will do), but even so 30% is a significant savings. Any more is unrealistic because of the amount of time the Mac needs to process the material.

The update of *MacCharlie* software is designed to run with *Switcher* so you can jump from an IBM application window to Mac and back again. *MacCharlie* worked with *Switcher* intermittently in our tests, depending on what software was running with it. Although *MacCharlie* will not interface with *AppleTalk*, both can work from the same Macintosh, so an ImageWriter can be used for printing out PC documents, and a centralized LaserWriter can print Mac work.

Maybe looking like an IBM PC is a sin, and maybe not. Obviously, we feel that the Mac is a better machine and one should never have to face the rigors of MS-DOS again.

*MacCharlie* offers an intriguing solution, and a system that crosses the line between Mac and, um, that other machine, can't be all bad. ☐

## MACCHARLIE: REPORT CARD

Overall Rating \*\*\*\*

Follows Mac Interface	
Printed Documentation	**
On-Screen Help	None
Performance	***
Support	****
Consumer Value	****

Comments: IBM compatible computer that uses the Mac as a terminal.

Best Feature: Ability to transfer data and files directly.

Worst Feature: Manual is patronizing and makes claims that aren't entirely accurate.

List price: \$1795. Manufactured by Dayna Communications, 50 South Main Street, Fifth Floor, Salt Lake City, Utah, 84144. (801) 531-0600.

# PALANTIR®

## Software for Macintosh Educational Series



### Mactype®

- Full Dvorak and QWERTY Training
- Not a Game! Structured Exercises
- Achievement Certificates Awarded
- Uses Standard Training Cycles



### MathFlash

- Four-Function Math Flash Cards
- Tracks Progress of 100 Students
- Timed Drills ... Progress Awards
- Prints Report Card



### WordPlay

- Crossword Puzzle Word Games
- Includes Diagramless
- Varying Degrees of Difficulty
- CREATE and PRINT Your Puzzles

128K - Single Disk Drive

Palantir Software  
12777 Jones Road, Suite 100  
Houston, Texas 77070  
For Information:  
713-955-8880

To Place Order:  
TX (800) 831-3119  
CN (800) 235-0025  
US (800) 368-3797

Please circle 131 on reader service card.



# MIDI TO THE MACS

(continued from page 94)

notation for music input (Figure 2). Proportional notation should be familiar to anyone who has used Hayden's *MusicWorks* program (it's what appears as the Grid window there). Music is entered on a grid representing pitch durations (notes) over time. *StudioMac* can also convert files created with the *MusicWorks* program, so that they can be played back through a synthesizer.

*StudioMac* also has the somewhat strange ability to play back through the Mac and MIDI at the same time, and custom waveforms for the Mac voices are user defined. Casio patches can also be stored, either individually or with the music. The program works with the concept of an "orchestration," which determines whether a voice will play through the Mac or a MIDI channel, and the sound settings for that voice. These "maps" can be saved as general templates or with a particular piece of music.

## MEGATRACK AND MIDIWORKS

The *MusicWorks* system consists of the *MegaTrack* sequencer module, a patch librarian program for the Yamaha DX-7 synthesizer and a very interesting program called *MIDI-*

*Works*. This software can interconvert files created by Mark of the Unicorn's *Professional Composer*, Great Wave's *Concertware* series, Hayden's *MusicWorks*, *Deluxe Music Construction Set* by Electronic Arts, and the *MegaTrack* sequencing package. That means that a song recorded through *MegaTrack* can be moved into any of these programs, edited with the large selection of tools available in the programs, and moved back into the sequencer, which will reflect the changes made. *MIDIWorks* is useful for all musicians, regardless of what actual sequencer software is decided upon, as it will open the doors of compatibility between these diverse packages in a very easy way.

*MegaTrack* features unlimited overdubbing (no limit to the number of tracks), compatibility with the 128K Mac and a full complement of editing features (even though it is weaker than the other two high end packages in this respect). Among its few drawbacks is its use of the quantizing mode, which can only be invoked once for each track. The documentation received was deficient (although the company says that improved manuals will be available shortly), but their technical support made up for this shortcoming.

The patch librarian program performed flawlessly, and has the unique capability of merging sounds, so that the waveform parameters of one particular sound can be overlaid on another sound, to create composite instruments. This is a very creative feature, and DX-7 owners can go crazy combining flutes and volcanoes (!).

## MIDIMAC

Opcode's software consists of two sets of programs: the *MIDIMac* sequencing and recording software, and patch librarian packages for the Casio CZ-101 and the Yamaha DX-7.

The *MIDIMac* package is very flexible, with an array of standard overdubbing and editing features plus some pleasant surprises. A series of notes or chords can be recorded and played back in modified time (forwards, backwards or alternations of the two), or in random order. The relations between the rhythm patterns and note durations of these random sequences can be controlled in a multitude of ways.

The quantization power of *MIDIMac* is very useful. A track can be corrected more than once after it has been recorded, and notes can be quantized in a number of ways.

Some people may not like the program's interface—the screen is fairly busy (Figure 3), and is not as intuitive as it could have been. This isn't a problem, though, and the major commands, such as starting and starting recording, have keyboard equivalents that make a lot of sense, for example, hitting the space bar to start the recording process.

The *MIDIMac* sequencer can also call subsequences, just like *Total Music*. This capability places the Opcode and Southworth programs into a high end class by themselves, as long compositions can be recorded while economizing on memory usage.

The Opcode patch librarian programs are very straightforward and work smoothly. It's possible to bring up both Casio CZ-101 and Yamaha DX-7 patch windows on the screen simultaneously, so if both these synthesizers are connected on the MIDI network, patch maintenance can be done on both at the same time. Very nice.

HARDWARE	Interface Included?	TOTAL MUSIC	MIDIWORKS/MEGATRACK	MIDI MAC	CONCERTWARE MIDI	NOTE-WORTHY MIDI COMPOSER	STUDIO MAC
		YES	OPTIONAL	OPTIONAL	NO	OPTIONAL	OPTIONAL
SOFTWARE	Serial Ports Used [C = Communications P = Printer B = Both]	B	P/C/B <sup>3</sup>	P/C		P/C	
	Speed (megahertz)	1.0	0.5	0.5/1/2		1.0	
	MIDI Inputs/Outputs	2/4	1/4 <sup>4</sup>	1/1		1/1	
	Interface Compatibility		OP, ASM	MW, ASM	OP, MW, ASM	OP, MW, ASM	OP, MW, ASM
	# Tracks Supported	99	UNLIMITED	10	8	4	8
	MIDI In/Out	YES/YES	YES/YES	YES/YES	YES/YES	YES/YES	NO/YES
	Maximum Composition Size (Notes on 512K Mac)	50,000 <sup>1</sup>	40,000 <sup>1</sup>	24,000	40,000	50,000 <sup>6</sup>	24,000 <sup>7</sup>
	Transcription Generation	●	● <sup>5</sup>		●		
	Levels of Quantization	33	14	28	3		
	Patch Change	●	●	●	●	●	●
RECORDING CAPABILITIES	Velocity Sensing	●	●	●	●	●	●
	Control Changes	●	●	●	●	●	●
	Pitch Bend	●	●	●	●	●	●
	Visual Editing	●					●
	Loopable Tracks	●	●	●			
	Patch Librarian Capability	● <sup>2</sup>	OPTIONAL	OPTIONAL			●
	External Synchronization	●	●				●
	Punch In/Out	●	●	●			
	File Compatibility		● <sup>5</sup>		● <sup>8</sup>		● <sup>8</sup>

<sup>1</sup>Increased capacity potential with more than 512K RAM.

<sup>2</sup>Doesn't store Casio CZ-101 patches.

<sup>3</sup>MacMIDI Star uses either Printer or Communications port. MacMIDI 32 uses both ports.

<sup>4</sup>MacMIDI 32 has 2 inputs/4 outputs.

<sup>5</sup>MIDIWorks translates files between Professional Composer, ConcertWare, MusicWorks (Hayden), Deluxe Music Construction Set, and MegaTrack.

<sup>6</sup>10,000 notes on a 128K Mac.

<sup>7</sup>1024 notes on a 128K Mac.

<sup>8</sup>Will convert MusicWorks (Hayden) files.

OP = Opcode  
ASM = Assimilation  
MW = MusicWorks

Notes

• Source code is available for StudioMac.

• Most of the reviewed packages WILL work with the Total Music interface.



## CONCERTWARE + MIDI

*ConcertWare + MIDI* is very similar to the standard non-MIDI version of the program, with the addition of new features for MIDI recording. The timed entry mode has been replaced by a record mode, which will take real time entry from a synthesizer. Quantization is active during record mode, and a track can be requantized until a new track is recorded. Up to eight voices can be programmed, each assignable to its own MIDI channel.

Files from the standard *ConcertWare +* can be played through *ConcertWare + MIDI*, while the Mac instruments in the original files can be assigned MIDI patch numbers, so that a Mac instrument change will trigger a patch change in the synthesizer playing that voice.

The strongest feature of *ConcertWare + MIDI* is that it generates excellent musical notation from a recorded sequence within the *Writer* module. The package also includes an updated *Player* with which the user can select the MIDI channels to play back—the eight voices are switchable. The standard *Instrument Maker* module is also included. The original *ConcertWare +* was a good program, and with the addition of MIDI, this program rates high as a truly all-purpose music composition tool.

## MIDI COMPOSER

*MIDI Composer* is the most simplistic of the programs reviewed. It provides MIDI IN capabilities, although recording is real-time only, with no quantization or editing capabilities at all. The tempo of its metronome is adjustable, as is playback tempo which affects all recorded tracks equally. The MIDI channel output of each track is adjustable to any of the 16 channels.

## And So to Conclude

It's difficult to say which system is just right for each user. There are two levels of sophistication of both the hardware and software involved in a MIDI network.

For the person entering this world for the first time, a person who doesn't actually own a synthesizer, but is committed to the purchase of all the equip-

ment needed, the Casio CZ-101 is a logical choice as a first synthesizer. It will provide all the sound needed for making beautiful music, and has just enough programming features to grow with the system. Some of the patch librarian programs, in particular the Opcode librarian software, come with enough preprogrammed patches to satisfy all sonic curiosity for days, even weeks.

The question of which hardware interface is more difficult to answer. The Opcode unit usually wins out over the Assimilations and MusicWorks interfaces, simply because its switchable speed setting ensures compatibility with most of the existing software, as well as with future programs.

And for the sequencing program? *ConcertWare + MIDI* is the best buy of the bunch. Between its MIDI recording features and the notational capabilities provided, it should satisfy your needs for a long time.

And if you already own a synth or ten, well, it's a hard choice between *Total Music* and *MIDIMac*. The *MusicWorks* sequencing program rates a notch lower because the version that was reviewed was lacking some capabilities that the advanced synthesist needs. MusicWorks says that there's an upgrade in the works.

If you get *Total Music*, then the interface question is answered for you. It's a good device, so there should be no hesitation in getting it with its software. And the Southworth interface also works with most of the other software.

If *MusicWorks* or *MIDIMac* is in your future, then the choice is between their respective interfaces. The *MusicWorks* interface provides more outputs, reducing the need for a "thru" box, but two Opcode interfaces can be hooked up to the Mac at the same time (using the modem and printer ports). That's more expensive, so it boils down to personal preference.

As for the librarian programs, the *MusicWorks* package is great for DX-7 owners. The Opcode librarian packages are intended for use on the DX-7 and CZ-101, and both work very smoothly. So get out there, study, play, study and then make great music. □

# PALANTIR®

## Software for Macintosh Financial Series

### General Ledger

- Full Chart of Accounts Provided
- Simple Generation of Reports
- Complete Double-Entry Accounting
- 400K Disk - 400 Accounts

### Accounts Receivable

- Balance Forward and Open Items
- Statements and Period Aging
- Flexible Sales Analysis Reports
- 400K Disk - 300 Accounts

### Inventory Control

- Full Pricing and Re-order Reports
- Simple Inventory Movement Reports
- Complete Inventory Item Status
- 400K Disk - 1000 Items, 400 P.O.'s

Microsoft® Basic 2.0 Required  
128K - Single Disk Drive

Palantir Software  
12777 Jones Road, Suite 100  
Houston, Texas 77070

For Information:  
713-955-8880

To Place Order:  
TX (800) 831-3119  
CN (800) 235-0025  
US (800) 368-3797

Please circle 132 on reader service card.



# Protect Your Mac in Tosh

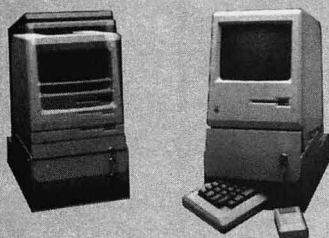


Introducing TOSH, the ergonomic *security* workstation for the Macintosh.

Engineered to provide MAXIMUM theft protection for your *entire* Macintosh system, the TOSH secures and organizes your computer, keyboard, mouse and diskettes. The TOSH will also protect your Macintosh from unauthorized use and access.

Designed also as an ergonomic workstation, the TOSH tilts your Macintosh for comfortable viewing.

Optional features include voltage surge protection, swivel plate, external disk drive security and peripheral cable security.



For more information about our security devices for the Macintosh, Imagewriter printer, Apple IIe and more, contact:

## DOSS INDUSTRIES

1224 Mariposa, San Francisco, CA 94107  
(415) 861-2223

Macintosh is a trademark of Apple Computer.  
TOSH is a trademark of Doss Industries, patent pending.

Please circle 74 on reader service card.

## MACRO MAKER—NEW USES FOR EXCEL

**MatMultiply** computes an element of the result, it moves to the next column and “jumps” back to A11. Cell A12 begins the actual calculation of an individual result element. The formula for each element of a matrix product requires the accumulation of a sum of several terms. Before this summing up takes place, the result element must be set to zero.

The interesting aspect of the formula in cell A12 is the use of the **OFFSET()** function to determine where the element is to be stored. The **OFFSET()** function does not return a value, but instead supplies a reference to a cell (or a group of cells). In this case, **OFFSET()** returns a reference to a cell that is “offset” relative to cell A1. The respective row and column indexes in cells A21 and A19 are the displacements used. Thus, the first time this cell is executed, with both the indexes initialized to 1, **OFFSET(A1, A21, A19)** will generate a reference to cell B2, that is, the cell one row down and one column to the right of A1.

As *Excel* proceeds through the macro, this cell will be executed again with different values in A21 and A19. The **OFFSET()** function then will generate a different relative reference, corresponding to the result element being computed. Cell B2 is the top-left cell of the result matrix; other cells will be stored to the right of and below this cell. **MatMultiply** is building its result on its own sheet (a bit to the right of its own defining cells) in a fashion that is independent of the size and shape of the result matrix.

Cell A13 initializes the cell, A17, that will serve as the index controlling the summation that calculates the next result element. A17 corresponds to the summation index, *p*, in Equation (1). A14 contains the label that defines the top of this summation loop.

Cells A15 and A16 (which could be combined into one rather large cell formula) accumulate the next term into the current element result. The **OFFSET()** function refers to the cell that was initialized to zero by cell A12.

Cell A17 contains a curious-looking formula. In a normal worksheet, it would cause a “circular reference” error, since it attempts to compute the cell value as a function of itself. This is

no problem in a macrosheet. In fact, it is the fastest and easiest way to maintain a variable, in this case the summation loop counter. Recall that the **SET.VALUE()** function was used to initialize this cell's value to 1, but didn't disturb the formula in the cell. When A17 is executed the first time, the current value of the cell (1) will be incremented by 1. Thus A17 will take on the values 1, 2, 3, etc., as the macro's innermost loop is iterated.

Cell A18 takes care of the vital function of terminating the inner loop when the summation is complete. Until the summation has been executed for all its constituent terms, the **GOTO()** function is executed, transferring *Excel's* execution to the label defining the innermost loop at A14. The next time through the loop, the next product term will be taken and summed into the result element. When the summation is complete, the **IF()** condition will evaluate as false, and *Excel* will proceed to cell A19.

Cell A19 increments the row counter. In the next cell, A20, a test is made to see if all the elements in the current row have been calculated. If not, control is transferred back to the column loop top. If the row has been finished, execution proceeds to the next cell, and the next row is computed. The next two cells increment and test the column index in a similar fashion. When all columns have been processed, the macro is finished and the next cell is executed.

Finally, A23 returns the result matrix, using the terminal values of the row and column indexes (decremented by 1 to reflect the “extra” incrementation each received the last time through the loop) to determine the bounds of the result array. *Excel* then copies the local result matrix back to the cells of the calling worksheet.

## The Bottom Line

It would be dangerous to claim that a worksheet program without macros couldn't do these example at all — but even the most dedicated worksheet fanatic must admit that it couldn't be done as cleanly and easily. And that is the essence of power computing. ☐



# Get inTouch - stay in touch

## The Palantir Office Series for the Macintosh



**Electronic mail. Stock quotes from Dow Jones. A weather map from Compuserv. Legal casework from Lexus. The chance to transmit your latest MacPaint masterpiece to the world. A conversation with an IBM PC. And more. It's all a natural with inTouch.**

Here's a MACUSER Five-Mouser. They say, 'This very powerful program has all of the expected features and lots of bells and whistles... The Communications Command Language is the most powerful in any Mac comm program... Learning CCL is a snap thanks to the excellent documentation and large number of sample programs... Even beginners will soon be communicating at full speed.' (MACUSER Magazine, October, 1985)

And since that review, we've added even more features. Like VIDTEX graphics support for Compuserve, and MacBinary for Mac-to-host-and-back file transfers. Plus 32 user-defined and user-labeled function keys.

### Look at all these inTouch benefits:

- **Communications Command Language (CCL), for automated or unattended operations:**

Have your Mac build a file on disk...wait until phone rates are lowest...dial (and redial if necessary)...transmit your messages, commands and data... receive and save the response on disk...hang up...print the transmitted information from the disk...and then dial someplace else for some other purpose. **All unattended.** No problem.

- **32 Function keys, on four levels:**

Send up to 64 keystrokes each, execute a CCL program, and/or switch to another level with eight more function keys.

- **Support for graphs, pictures, photographs:**

inTouch VIDTEX emulation is the **only** way your Mac can display Compuserv's weather maps, stock price charts, or (just in case) their photographs of the FBI's Ten Most Wanted.

- **Broad line-protocol support:**

Text transfer, MacBinary, XModem (Modem-7), and Crosstalk. inTouch is the only system that lets your Mac talk to an IBM PC running Crosstalk. 50 to 19,200 baud transmission rates.

- **A desktop with all the popular options built in:**

Compuserve, The Source, Dow Jones, EasyLink, and Dialcom

- **Built-in editing and file handling for operational efficiency:**

Only inTouch lets you create and edit text, save selections, and append selections to the end of existing files -- **without** leaving the program.

- **Emulation of many terminals:**

VIDTEX, IBM 3101, ADDS Viewpoint/60, BEEHIVE DM5A, TELEVIDEO 925, VT-100, VT-52, Standard TTY, and many more.

Get in touch with the world. **Get inTouch.** Available from your dealer or Palantir® Software.



PALANTIR®  
SOFTWARE

Please circle 52 on reader service card.

PALANTIR® SOFTWARE  
12777 Jones Road, Suite 100  
Houston, Texas 77070  
For Information: 713-955-8880  
To Place Order: TX 800-831-3119  
To Place Order: US 800-368-3797  
To Place Order: CN 800 235-0025



# NOVELS OF THE MIND

(continued from page 100)

full-color illustrations with its two illustrated adventures, *Gateway* and *Forbidden Quest*. These Artext™ prints prove to be more than visual embellishments, though—vital information is conveyed through a careful inspection of the images, information that's crucial to continuing progress in the game and which isn't found in text descriptions or the on-screen illustrations.

*Gateway* casts the player as an average person who's just inherited a rickety, broken-down curio shop from a recently deceased eccentric uncle. A vague, partially-destroyed note hints of a gateway to another dimension, and of great mysteries that lie beyond the void. The storyline is well thought out, and the writing is of novel caliber. *Forbidden Quest* is a bit harder to play (especially at first, where players can expect to die nasty deaths right off the bat), but it shares the same excellent plotting, text and art as *Gateway*. The story begins on a malfunctioning spacecraft and progresses to an alien planet.

*Legacy* (Challenger Software) features so many high-res screen illustrations that the game comes packaged on two disks instead of one. The gamer steps

into the pointed shoes of a young wizard challenged with retrieving a magical orb from the evil Drab Castle and placing it into the hand of the eldest of the Wizards of the Universe, the one who sent you on this quest.

The nicest touch about this game is that it actually requires the sorcerer to collect the material components of a spell, then properly execute the steps necessary to casting it. In other words, merely typing "Cast Spell" won't work!

*Transylvania* is Penguin Software's tongue-in-cheek bow to classic horror movies. The gamer explores a land haunted by vampires, hungry mice, and disapproving ghosts that have a nasty tendency towards practical jokes. Each area is illustrated with an appropriate picture. Don't play this one after midnight!

## Of Magic and Monsters

Finding magical spells and using them wisely is the object of Infocom's *Enchanter* and *Sorcerer*. The former casts the player as a novice wizard deemed by the Council as the only member of the Guild lowbrow enough to slip past the magical protections around an evil fortress. You'll have to

get to the bottom of what's happening in the temple without ending up as a human sacrifice to earn your stripes as a true sorcerer.

Win or lose, *Sorcerer* gives the player the benefit of the doubt. Your first adventure is history, and you lived to tell the tale. But you wake up one morning to find the entire Guild hall empty, the streets deserted, and your old friend and mentor gone. The journey you'll take to learn of his fate is fraught with danger and at least a few surprises.

## High Tech Fantasy

Broderbund's *Cyborg* has an unusual plot twist: a computer brain has been implanted into the player's brain, but much of its information was damaged in some sort of accident. You wake up not quite knowing where or who you are, aware of another intelligence and still unsure of how to use it. Find a way to repair—and use—your "better half" to unravel the mystery of your past.

*Suspended*, Infocom's most unusual text game, starts out with the player being awakened from a cryogenic sleep by an alert notice. Something is amiss in the underground technological complex that powers and feeds the world above, and your job is to find and fix the problems before a major disaster kills innocent people. From your state of suspended animation, you have only a handful of sensory robots at your disposal. Each has certain specialties, such as acute sight or the ability to carry and manipulate tools, and each also has a distinct personality.

Using the enclosed plastic game board and a set of Colorforms-type markers to keep track of robots' positions, the object is to find and fix the problems (and, possibly, a renegade droid) before the civilization above disintegrates into chaos.

## The List Goes On

Text adventures are among the most popular types of computer games, with so many titles available that it's impossible to list them all here.

Whether your taste runs to murder mystery, fantasy, science fiction or high adventure, there's a story waiting to unfold on your screen. ☐

## PROSE POWER

A text adventure is defined as a game played entirely with words: those displayed on-screen to tell the gamer what's happening, and those the player types in as a response. Illustrated text adventures use pictures, either occasionally or with each new movement by the character, to embellish the text.

In "standard" text adventures, the game would proceed as follows. The computer would say, "You're standing in the middle of an intersection that forks to the east and north. There seems to be a small path to the south, but the way is blocked by a thick growth of ivy. On the ground is a piece of paper." To move along the path, the player would type E for east, N for north, or in many cases, could instead click on the on-screen compass for the desired direction. Other options would be to GET PAPER (then, hopefully, read the paper), or

to try examining the ivy. Obviously, there's a way through to the south, but it's up to the player to figure out how to unblock the path. It might require an item hidden elsewhere.

A game's sentence parser influences how articulate the computer can be. Primitive parsers would be able to recognize a very limited number of words and require that players input simple two-word verb-noun combinations like GO DOOR or TALK MAN. And the computer would probably not recognize many actions like TAKE BOOK ("I can't do that right now," says the computer) when it would understand GET BOOK ("Taken."). Truly sophisticated parsers understand a wide variety of commands, like TAKE THE BOOK, THEN PUT THE KNIFE ON THE TABLE, and point out exactly which words don't compute ("I don't understand the word 'Rumpelstiltskin.'")



## AT LONG LAST!

### A Pascal Compiler For Your Macintosh™

Our compilers, unlike interpreted Pascals, create true native code and therefore stand-alone, double-clickable applications.

**NO** run time package and

**NO** interpreter is needed to run your finished applications.

No license fees are required, and the code is not copy protected.

**Our On Stage™ Developer's System** is designed for use by programmers who want to create Mac applications using the full power of the Macintosh. It provides access to all Macintosh Toolbox and Operating Systems routines as well as the AppleTalk and MacinTalk drivers. It is compatible with Lisa Pascal. With the Developer's System you get the choice of outputting 68000 assembly code or object code. Inline assembly code or machine code is supported depending on the route the programmer chooses. Included is a smart linker, an enhanced program editor, Apple's resource maker, Macintosh debuggers, and Apple's editor.

**Step-Lively Software, Inc.**, offers full support to owners of the Developer's System. This includes a telephone hot-line, a bulletin board system, electronic mail with Compuserve™, MCI Mail™ and Delphi™ as well as a regular newsletter. The Developer's System manual is an important part of our compiler and contains sections on how to create Macintosh applications that use all of Macintosh's features such as windows, menus, dialog boxes and the different managers. There are quick reference guides with listings of system errors and Toolbox functions and procedures with their parameters and types. There is also a chapter on programming efficiently with On Stage.

**On Stage Developer's System - \$399.95**

Step-Lively Software also offers its **OnStage Personal System** which accepts standard Pascal programs and is ideally suited to the academic environment. It also allows access to Quickdraw graphics and mouse control routines. The Personal System generates object code so there is no need to purchase a separate assembler. Upgrades to the Developer's System are available to the Personal System owner at any time.

**On Stage Personal System - \$119.95**

A support package will soon be available for the Personal System at extra charge.

Our initial update is free for either package. Future updates will be provided at nominal cost.

**STEP-LIVELY SOFTWARE, INC.**

622 Watervliet-Shaker Road  
Latham, New York 12110

Please Phone (518) 785-7214

Prices are subject to change. Tax where applicable. Shipping and handling extra. On Stage is a trademark of Step-Lively Software, Inc. Macintosh is a trademark licensed to Apple Computer Co. Lisa Pascal, MacPascal, AppleTalk and MacinTalk are trademarks of Apple Computer Co. Compuserve is a trademark of Compuserve, Inc. Delphi is a trademark of Central Videotex Corp. MCI Mail is a trademark of MCI Communications.



Please circle 111 on reader service card.

## We Make It Easy to "Up Your Mac™"

Upgrade to 512K — 1, 1.5 or up to 2 Megabyte

### THE VOAD ADVANTAGES:

- No LOSS of use
- No shipping your Mac
- 120 day warranty
- FREE Mac Memory Disk®
- Immediate availability
- BIG SAVINGS



We ship you a complete, reworked board! You replace your old board, with our FREE loaner tools, and return the old board AFTER you make the swap. What could be easier or faster? Enjoy 512K or a full 2 Megabyte Ram Upgrade. Voad makes it simple and inexpensive.

**Dealer Inquiries Welcome — Use Your Credit Card  
We Ship C.O.D.**

**VOAD**  
SYSTEMS™

**(213) 450-2929**

3304 Pico Blvd., Santa Monica, CA 90405

Macintosh is a registered trademark of Apple Computer, Inc.  
Mac Memory Disk is a registered trademark of Assimilation Process

Please circle 86 on reader service card.

### LASER PRINTING & TYPESETTING.

**PROFESSIONAL  
TYPESETTING AND  
PRINTING (OFFSET OR  
LASER PRINTING)  
DONE FROM YOUR MAC  
DISKS, VIA MODEM OR  
BY FAX MACHINE. WE  
USE HIGH QUALITY  
LINOTYPE LASER  
TYPESETTER OR APPLE  
LASERWRITER. WE  
OFFER COMPLETE  
PRINTING SERVICES  
INCLUDING BUSINESS  
FORMS, LETTERHEADS,  
BUSINESS CARDS.  
VOLUME DISCOUNTS  
AVAILABLE.**

**CALL (313) 356 1004**  
**LASER PRINTING SERVICES**  
26058 W.12 MILE RD  
SOUTHFIELD, MI 48034

Please circle 127 on reader service card.



Organize your  
software library  
with custom labels

MacLabeler™ reads the document, application and folder names off your disk and prints them out on a wrap-around label • Selects names by clicking with the mouse • Puts the disk name on the skinny edge • Eight border patterns.

MacLabeler™ 2.0 works with pin-feed, die-cut QuickLabels™ • Easy registration • Removable adhesive • Non smearing • Designed for the Imagewriter • A complete disk-labeling system.

Version 2.0 now lets you type on the label • Edit names on the label • Shows date label was created • Shows disk space used and available • Prints multiple labels • Installs on a hard disk.

MacLabeler can also display, sort and print a complete directory • Shows folders and what's in all folders immediately • Search disks fast!

**Price: \$49.95 includes 60 labels • Pack of 200 QuickLabels™, \$19 • Shipping \$3 for 1 item, \$1 for each additional • Iowa residents add 4% tax • 128, 512, or XL Macintosh & Imagewriter • Ideafarm Inc., 908 E. Briggs, Fairfield, IA 52556 • Visa/MC OK • (515) 472-7256**

Macintosh is a trademark licensed to Apple Computer Inc.  
MacLabeler and QuickLabels are trademarks of Ideafarm Inc.

Please circle 125 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

Please circle 48 on reader service card.

## YOUR FIRST CONNECTION

(continued from page 87)

checking methods of transferring files and programs): XMODEM, Hayes Verification and *MacTerminal* XMODEM. If you are calling a friend who also has *Smartcom*, either the XMODEM or Hayes Verification choices are acceptable. If your friend is running *MacTerminal* and you have *Smartcom*, then the only acceptable choice for you to make is *MacTerminal* XMODEM. Once you have chosen the protocol you also (for XMODEM and Hayes Verification choices) must choose if you want to transfer a complete file, such as an application file, which has a resource fork or only a data file such as a *MacWrite* document or a *Multiplan* template.

Now take the menu choice that leads to the "Speed and Format" dialog box (also under the Settings). Choose:

- Proper baud rate (same for both the modems involved)
- 8 bits per character
- No parity
- One stop bit

Now choose the "Terminal Settings." In the resulting dialog box you click the following choices to "on":

- TTY (normal)
- Autowrap at column 80
- Insert line feed after each Return
- Local character echo

For all other choices the program's defaults should be used. Once this is done, mouse over to the "File" menu and using the "Save As" choice save this document as "Mac-To-Mac."

Now call the other computer. If you're using a fully Hayes-compatible modem simply click on the phone icon at the lower left corner of the screen. Type the phone number into the dialog that appears and click on OK. If you're using an Apple modem, the procedure is a bit different. Go to the Connection menu. Pull down that menu and select Direct Connect. Now type "ATDT" followed by the phone number and a Return. That's if you have Touch-Tone service. If you have pulse telephone dialing the proper command is "ATDP" and the phone number.

Once you've established the connection (try it out by typing back and forth), mouse down and click on the

"Send" icon at the bottom of the *Smartcom* screen. You'll be presented with a list box showing the files and applications on your disks that may be transferred using the protocol chosen. Highlight your choice and choose to send it. The file transfer process will begin and a dialog box will appear telling how the transfer is progressing.

## Basic Troubleshooting

Did you have problems? Make sure you followed the settings shown in the figures exactly. Pay particular attention to how you have set the various choices detailed above.

One of the most common problems in Mac-To-Mac communication is that one person does not see what he is typing, but only what the other person is typing. This can be easily remedied by setting the "local echo" or "local character echo" choice to "on."

If you are using a protocol transmission and it keeps failing midway through the process, suspect a noisy phone line. This can be caused by anything from faulty equipment at your end to electrical storms and other interference. If a transfer keeps failing midway, try hanging up and redialing. This may reconnect with a better line.

The two computers must work in concert in many ways. If nothing seems to be going right, make sure that each computer and modem is set to the same baud rate. A 1200-baud modem talking to a 300-baud modem is the electronic version of the Tower of Babel. Also be certain that both computers involved are using the same file transfer protocol. If one computer is trying to send Hayes Verification while the other is doing *MacTerminal* XMODEM, they might as well not even be connected.

## The (Electronic) World Is Now Open

Pretty soon you should find that talking Mac-To-Mac is as easy as talking person-to-person. Your next step will be to call one of the many electronic bulletin board systems (BBS) or one of the national computer networks. And, that will be the subject of our second article in an upcoming issue of *MacUser*. ☐



# AD INDEX

Page #	Advertiser	ReaderSvc#
75	Aegis Development	65
51	Affinity Micro Systems	118
111	Altsys Corp.	99
71	Ann Arbor Softworks	35
49	Applied Logic Systems	79
139	Arrays, Inc.	57

107	Assimalation	91
109	Assimilation	53
Cov 3	Batteries Included	51
133	Bay Systems	102
136	Bede Technology	126
22,23	Blyth Software Corp.	85
1	Borland International	128
88	Boston Software Publishers	38
127	Business Computers of Peterborough	—
101	Central Point Software	105
59	Challenger Software	41
101	Comark Inc	67
113	Cortland Computer	—
129	Crickit Software	93
111	DataPak Software Inc	117
150	Desktop Software Center	48
146	Doss Industries	74
5	Dreams of the Phoenix	55
55	Dubl-Click Software	108
63	Enabling Technology	—
57	Enterset	92
99	Great Wave Software	113
23	Hayes Microcomputer Products	130
131	Hippopotamus Software	47
64,65	Icon Review	78
12,13	IDD	129
149	Ideaform	125
28	Infosphere Inc	110
Cov 2	Innovative Technology	39
149	Laser Printer	127
37	Layered, Inc.	71
43	Layered, Inc.	56
133	Lionheart	103
80-83	MacConnection	82
24	MacMemory Electronics	115
17	MacNifty Central	64
10	MacUnderground	106
129	Mainstay Software	120
131	Mainstay Software	121
133	Mainstay Software	122

135	Mainstay Software	123
101	Megamax	116
21	Micro Conversions Inc	73
8	Micro Design	70
136	Microsoft Press	66
6,7	Miles Computing	96
39	Miles Computing	89
Cov 4	Mindscape	90
27	MPH	119
129	Musicworks Inc	114
133	Musicworks Inc	124
11	NEC Information Systems Inc	98
108	Nibble Mac	111
116-119	Northeastern Software	76
95	ODS	94
93	Omnis Trend Software	107
143	Palantir Software	132
145	Palantir Software	133
147	Palantir Software	52
14	Paradise Systems	—
133	Paragon Courseware	104
80-83	PC Connection	82
72,73	PC Network	60
110	Penguin Software	77
45	Personal Computer Peripherals	50
129	Practical Computer Application	101
32,33	Programs Plus	69
135	Ribbonland	95
66	Rubicon Publishing	33
135	Satori Software	87
74	Scott, Foresman Company	109
30	Silicon Beach Software	80
89	Sir Tech Software	62
26	Software Dimensions	112
123	Software Ventures	131
4	Spectrum Holobyte	40
151	Step Lively Software	111
131	Technalysis Inc	—
149	VOAD	86
141	Wiley Professional Software	49

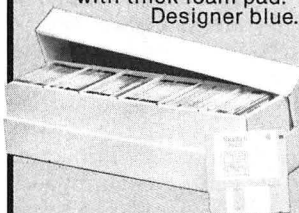
## MAX YOUR MAC!

**WOULD YOU PAY \$49  
FOR A LIFETIME  
SUPPLY OF RIBBONS?**



### MAX YOUR MOUSE!

Make your mouse work faster and last longer. MousePad's special anti-static surface reduces wear, keeps rollers clean and tracking true. Backed with thick foam pad. Designer blue.

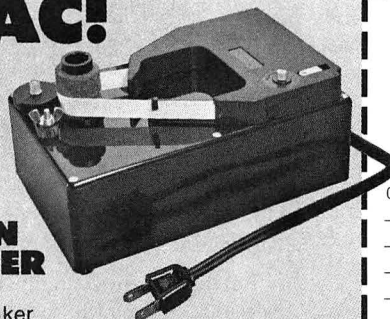


### KEYBOARD COVERS

Sturdy, Mac-colored, hard covers protect keyboard and number pad from dust, dirt, spills and damage. Handy reference charts inside show Mac keycaps and keyboard commands.

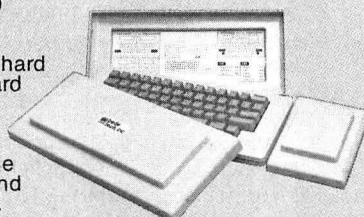
### DISK BLISS

Extra sturdy 200 lb. test corr. bd. disk file holds up to 100 3.5" disks. Comes with removable dividers, cover. Glossy white, dirt-resistant surface. Stackable!



### RIBBON RE-INKER

Motorized Ribbon Re-Inker silently re-inks ImageWriter fabric ribbon again and again. Better print quality than new ribbons! Special lubricated black ink actually extends print head life. Order colored ink, blank ribbons. Built to last. Simple to run. Saves a bundle.



**bede  
tech, inc.**

8327 Clinton Rd.  
Cleve., OH 44144

Member, The Bede Companies, Est. 1976

MU 12

### CALL TOLL FREE

**800-772-4536**

In Ohio (216) 631-4214  
Same Day Shipment!  
Satisfaction Guaranteed  
Or Money Refunded.

QTY.	ITEM	PRICE EACH	TOTAL
___	Ribbon Re-Inker	\$49.00	\$ ___
___	Mouse Pad	\$ 7.95	\$ ___
___	Keyboard Cover Set	\$12.50	\$ ___
___	Disk File	\$ 7.95	\$ ___
___	File 4-Pak—SAVE!	\$27.95	\$ ___

**PURCHASE TOTAL** \$ \_\_\_

Shipping and Handling Charge \$1.50

Ohio residents add 6.5% Sales Tax \$ \_\_\_

**TOTAL ORDER** \$ \_\_\_

Please Print

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Send check, money order, or charge it.

☐ VISA ☐ MasterCard Exp. Date \_\_\_\_\_

Card No. \_\_\_\_\_

Signature \_\_\_\_\_

ImageWriter is a registered trademark of Apple Computer, Inc. Macintosh is a trademark licensed to Apple Computer, Inc.

Please circle 126 on reader service card.





# LOVE CAN MAKE YOU CRAZY

I'VE ALWAYS TRIED TO UNDERSTAND THE nature of the Mac owner. Not just the regular Mac owner, but the nut-case type. I could not pin him or her down until I began to study some of the products designed for the Mac which obviously appeal to the inveterate Mac nut-case.

Have you noticed that the Macintosh lends itself to peculiar and sometimes bizarre add-ons? We're talking about phones that glue on the side of the computer, coin-op devices that hook to the thing and attachments like tilt and swivel contraptions that make the computer look like a robot's head.

If I could understand why the Mac encourages kludgy products maybe I could figure out the Mac nut-case.

The first and easiest solution to the bizarre add-on mystery is that the computer was designed as ONE person's idea of the ultimate machine. It never entered anyone's mind that the user would want to do something else with it or would want to make it perform better than it does. You often hear this argument, but it soon wears thin. It seems like a flimsy excuse and perhaps answers the wrong question. The real question should be why would anyone buy a machine that was obviously a closed system and then proceed to add junk to it?

If there's a parallel in the world to this kind of activity it's in the automobile world. The guy who buys a plain Chevy and then proceeds to add dingle balls, fender skirts, chrome knick-knacks and weird wheels to it. What kind of kick does the user get?

It's possible that the Mac user is such an individualist that he wants to "wear" (metaphorically speaking) his computer on his sleeve showing all the idiosyncratic and individualist aspects of his machine, and, therefore, his personality.

Note the attitude towards the IBM PC, in contrast. The IBM PC is the machine for the corporate drones all looking and acting the same. If they want to do something to their machine, they can do it inside the machine in a slot. They keep it

hidden within. They are secretive and conformist compared to the honest guy—the Mac user.

If the Mac user wants a modem he shows it to the world, "Hey look at this modem!" If he wants a hard disk (with the exception of the expensive *Hyperdrive*) he shows it to the world, "Hey look at this—*MacBottom!*" If he wants a bigger monitor he has to buy a clunky fresnel lens, "Hey look at this klunker!"



But maybe these arguments are just as specious as the idea that Steve Jobs is at fault for insisting on a closed system. Perhaps the answer is in understanding what I call the "Sinclair Syndrome."

Remember the Sinclair?

When good old Clive Sinclair brought out his first Sinclair computer for around a hundred bucks the user got what he paid for—a cheap Z-80 doorstop that could almost pretend to be a real computer. Oh, don't get me wrong, it was a fun little computer and people could do worse than use them to develop stoplight systems in metropolitan downtowns. But that's not what they did with them. People wrote ludicrous spreadsheet programs to run on the thing, they designed full-travel keyboards to hook to the thing, they found a way to attach floppy disks and made special boxes for the thing. Talk about getting carried away!

Soon there were memory add-ons, rack-mount cabinets, robot-arms and numerous whatchamacallits hooked to the little guy. Give me a break. The key to understanding all this is to understand the mentality of the user who would find pleasure in putting together a mish-mosh. What kind of person gets a kick out of wasting time building up something that is simply inadequate into something that is profound?

Again, like the auto scene, you run into people who take a '34 Willys and rebuild it from the ground up and drop tens of thousands of dollars into the jalopy to make it into a masterpiece. Later, if when they want to sell it, they find out that if they're lucky it's merely relatively worthless on the resale market.

Some will say, "Well, it's just like Dvorak to put a price tag on everything, including a labor of love."

Ah, labor of love. That's the key! Now with the IBM owner, the Morrow owner, the Wang owner, the DEC owner . . . nearly every owner of every kind of computer you never find the element of "love" for the machine, do you? People do seem to love the Macintosh. Someone may want to marry one someday. From my own experience I find a critique of the Mac draws fire from users who are "in love" with the machine. It never happens with an IBM. It always happens with cute computers like the Sinclair and the Macintosh.

I'm sure some of you will say, "Sure the Mac is cute. It's also lovable and endearing and deserves better treatment than the IBM PC." I suggest that those uptight souls who adulate the Mac consider the fact that this is all materialism plain and simple! When someone like myself criticizes the machine we aren't criticizing you, the owner of the computer. We could care less. Besides that, it's an inanimate object!

I suggest that when you see enemies all around attacking your beloved computer, maybe it's time to look within. Have a whiskey or something! ☞



# Energize Your Mac!

8  
ACCESSORIES  
FOR ONLY  
**\$49.95\***

Get 8 of the most requested Macintosh accessories, all on one disk!  
Suddenly, your Mac is faster, more efficient, more powerful!  
In 8 significant ways!

## What is BatteryPak?

- 8 memory-resident accessories – they cohabit with and will function concurrently with virtually all Mac application programs
- easy to install – install all 8 accessories, or just the ones you need; installation program included on disk
- compact – each accessory occupies less than 12K of RAM and disk space; all 8 accessories use less than 80K total disk space

## NEW ENHANCED!

1.1 Version  
with many new features  
Available Now!

### The BatteryPak Accessories Are:

1. **Calendar** with DayTimer – keeps you on top of your appointments, automatically
2. 250-page **PhonePad** – fast storage and retrieval of important phone numbers and notes you've made
3. Automatic Phone/Modem **Dialer** – automatically dials any number listed in PhonePad

4. **Scientific Calculator** – full complement of functions, 20 digits of internal precision, for heavy-duty number crunching

5. **RPN Calculator** – continuous memory, full display control, for easy everyday calculating

6. 5-Function **Disk Utility** – Trash File, Copy File, Disk Info, File Info and Change Default Drive (works without the Finder!)

7. **Launcher** – move between application programs fast, without using the Finder!

8. **Print Text** produces draft-quality hard copy while you continue working on other applications

\*MANUFACTURERS SUGGESTED U.S. LIST PRICE

MACINTOSH IS A REGISTERED TRADEMARK OF APPLE COMPUTERS INC.

**GOOD HELP IS NOT THAT HARD TO FIND WHEN YOU USE BATTERYPAK!**

**BATTERIES**



**INCLUDED**

**"The Energized Software Company!"**

WRITE TO US FOR FULL COLOUR CATALOGUE of our products for COMMODORE, ATARI, APPLE and IBM SYSTEMS  
FOR TECHNICAL SUPPORT OR PRODUCT INFORMATION PLEASE PHONE (416) 881-9816

17875 Sky Park North, Suite P  
Irvine, California  
USA 92714  
(416) 881-9816  
Telex: 509-139

© 1985 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.

Please circle 51 on reader service card.



# MINDSCAPE MACINTOSH™ SOFTWARE

SOFTWARE THAT CHALLENGES THE MIND

## BALANCE OF POWER

Power! Now you can be either the President of the United States or the General Secretary of the Soviet Union. While monitoring and responding to crises in a world arena of superpower politics, your goal is to enhance your country's prestige, without provoking a nuclear conflict. It's the ultimate simulation for the nuclear age. Available Fall 1985.

© 1985 Chris Crawford.



## DEJA VU: A Nightmare Comes True

Deja Vu is a graphic/text adventure in which everything seems vaguely familiar, yet you remember nothing. Advanced Macintosh technology lets you explore your environment with a click of the mouse, but you'll still have to solve this Chandleresque murder mystery yourself!

Available Fall 1985.

Deja Vu © 1985 ICOM Simulations, Inc.



## THE PERFECT SCORE: Computer Preparation for the SAT

The Perfect Score for the Macintosh covers all areas of the SAT exam, and includes a timed practice exam, print-out capability and a continuous on-screen clock. All this makes The Perfect Score more computerized than other SAT programs — so you'll learn more. Available Fall 1985.

The Perfect Score is a trademark of Mindscape, Inc. All rights reserved.



## RACTER

Racter is a wizard at wonderfully weird computer conversation on almost any subject. Practice the art of small talk or liven up your next party. Racter is artificial insanity at its best. Talk to Racter, soon!

Available Fall 1985.

Racter is a trademark of Inrac, Inc.



## STEPHEN KING'S THE MIST

Based on the novella of the same name, this eerie adventure takes you into a quiet New England town. Suddenly, a dense fog mysteriously descends, and with the mist comes Stephen King's own brand of terror that only the fearless can survive.

Available Winter 1985.

© 1985 Angelsoft, Inc. Based on "THE MIST" copyright © 1980 Stephen King. All rights reserved.



## James Bond 007 A VIEW TO A KILL

A madman's cravings for power and vengeance spell destruction for Silicon Valley. Take your place as Agent 007 and experience all the elegance and daring of James Bond's finest adventures. Available Winter 1985.

Based on the screenplay A VIEW TO A KILL © 1985 DANJAQ S.A., software © 1985 Angelsoft, Inc.



Macintosh is a trademark licensed to Apple Computer, Inc.

**Mindscape**  
Software that challenges the mind. MINDSCAPE INC.

Mindscape, Inc. 3444 Dundee Road, Northbrook, Illinois 60062 1-800-221-9984. (In Illinois 1-800-942-7315).

Please circle 90 on reader service card.