

OVER 250 PRODUCT REVIEWS!

February 1987 \$3.95

MacUser

THE MACINTOSH RESOURCE

**HAVE MAC,
WILL
TRAVEL**

**The Dynamac
Offers Portable
Mac Power**



SUPERPAINT DOES IT ALL

Bit-Mapped and Object-Oriented
Graphics in the Same Image

SECOND GENERATION SCSI HARD DISKS

We Review and Compare
the Best New Drives

GIVE YOUR MAC A MAKEOVER

A Step-by-Step
Fedit and ResEdit Guide

PAGEMAKER + MACDRAFT

They Add Up to
Real Graphics Power

GETTING MORE FROM MORE

Sharon Aker's Expert Tips
Go Beyond the Manual

NEW!

Turbo Pascal for the Mac: incredibly fast and fully integrated!

Borland's new Turbo Pascal for the Mac™ is so incredibly fast that it can compile 1,420 lines of source code in the 7.1 seconds it took you to read this sentence.

And reading the rest of this page takes about 5 minutes, which is plenty of time for Turbo Pascal for the Mac to compile at least 60,000 lines of source code!

Turbo Pascal for the Mac does both Windows and "Units"

The separate compilation of routines offered by Turbo Pascal for the Mac creates modules called "Units"—which can be linked to any Turbo Pascal™ program. This "modular pathway" gives you "pieces" which can then be integrated into larger programs. (You build the "pieces" once, and you know they work, so you can use them again without having to recompile.) The immediate benefits of this technique are a more efficient use of memory and a reduction in the time it takes to develop large programs. (What you need to run Turbo Pascal for the Mac is 256K minimum—or half a Fat Mac, 1 drive, and the ability to handle astonishing speed.)

"The timing of Turbo Pascal for the Mac couldn't be better. The recent success of the Macintosh in business and its continuing momentum in higher education coincide well with the introduction of Turbo Pascal for the Mac. Turbo Pascal is already an industry standard in the IBM-compatible world, and we're very excited to see Borland International's new commitment to provide this national's new commitment to provide this and other modestly priced, high-quality software for the Macintosh computer."

John Sculley, Chairman,
Apple Computer, Inc.

"Turbo Pascal has become the language of choice at major educational institutions around the country, and more than 500,000 copies of the IBM PC version have been sold. We believe that Turbo Pascal for the Mac is the ideal educational and professional programming tool for the Macintosh."

Philippe Kahn, President,
Borland International



Turbo Pascal for the Mac is so compatible with Lisa™ that they should be living together

Routines from Lisa Pascal,™ Macintosh Programmer's Workshop Pascal, and Inside Macintosh can be compiled and run with only the subtlest changes. Turbo Pascal for the Mac is also compatible with the Hierarchical File System of the Macintosh.™ (You can define default volume and folder names for the names used in compiler directives.) Compatibility is also familiarity, and you'll feel right at home with Turbo Pascal for the Mac because it fits neatly into every aspect of the Macintosh environment. The pull-down menus are there, along with dialog boxes to guide you in making choices and picking options.

Turbo Pascal for the Mac cranks out more than 12,000 lines a minute

Better than 12,000 lines per minute of compiled source code race out of Turbo Pascal for the Mac. There is definitely "No Waiting." And none of the "stop/start" compiling delays that afflict some of the software programs that we're not mentioning here. (They can take 10 minutes to do what Turbo Pascal for the Mac can do in 10 seconds!)

You don't spend a lot of up-front time learning to use Turbo Pascal for the Mac. It's as easy as it is fast—which is not to say that it's over-simplified or written for people who have recently learned to walk erect. Instead, it's electronic proof that sophistication and complication don't need to go hand-in-hand.

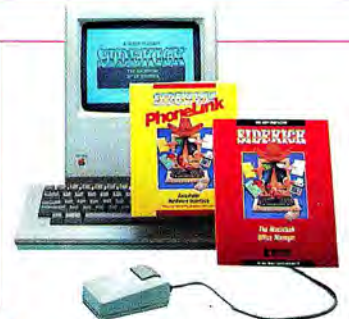
In all software, there's the Hard Way, the Wrong Way, the Weird Way, the No Way, and the Borland Way. Welcome to the Borland Way!

How to walk and chew gum!

Turbo Pascal for the Mac lets you do up to 8 different things at once. You can have up to 8 separate programs in memory, work on one, move on; work on another, move back—or duck and weave between all 8 at the same time! And you can do these 8 Easy Pieces while you run the compiler. Multiple editing windows allow you to edit, compile, and execute each window individually. With several windows open at the same time, you switch from one open window to another faster than a cat burglar—and never get caught. It's "take the source code and run!"

The 27-Second Guide to Turbo Pascal for the Mac

- Compilation speed of more than 12,000 lines per minute
- "Unit" structure lets you create programs in modular form
- Multiple editing windows—up to 8 at once
- Compilation options include compiling to disk or memory, or compile and run
- No need to switch between programs to compile or run a program
- Streamlined development and debugging
- Compatibility with Lisa Pascal and Macintosh Programmer's Workshop Pascal (with minimal changes)
- Compatibility with Hierarchical File System of your Mac
- Ability to define default volume and folder names used in compiler directives
- Search and change features in the editor speed up and simplify alteration of routines
- Ability to use all available Macintosh memory without limit
- "Units" included to call all the routines provided by Macintosh Toolbox



Clear your desk, SideKick's here!

SideKick® brings true desktop management and communications to your Mac. Now you can automatically dial phone numbers, log on to bulletin boards, schedule appointments, jot down notes,

calculate business expenses—and more—while running all your other Mac software. Once you get SideKick you'll wonder how you ever did without it!

See order form on right-hand page ▶

Introducing Reflex for the Mac, **NEW!** Borland's remarkable new relational database

Because it is a truly relational database, Reflex for the Mac lets you get your various acts together. Lets you connect "A" to "B" to "C," or "Dog" to "Cat" to "Fight." Or whatever links and connections you need to make and need to see. It's a simple spreadsheet-style series of electronic and visual cross-references. There's a clear connection (which you first make by drawing it on-screen) between "Client"—"Matter"—"Attorney"—"Time Sheet"—"Expenses" and "Bill." Or between "Slow Driver in Left-Hand Lane"—"Mile-long Traffic Jam" and "Shot from Behind." It's all relational.

Designed to make the most of your Mac's visual talents, Reflex for the Mac lets you place fields and pictures wherever you want them on the page—and print them that way with your Report Generator.

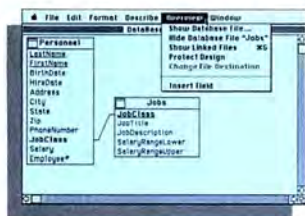
A funny way to use Reflex for the Mac

Let's say you have to make a lot of speeches and you like to tell jokes, but can't always remember the right one for the right audience at the right time. So you use Reflex for the Mac to set up multiple files

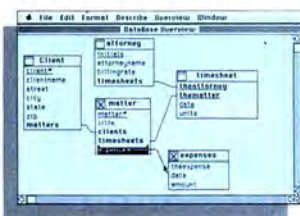
that all connect to each other.

Your "Joke" file connects to your "Audience" file, which is split into categories like "Friendly," "Hostile," "Dumb," "Student" or whatever—all of which are interconnected and relational. Reflex for the Mac lets you find the right joke for the right audience, right now.

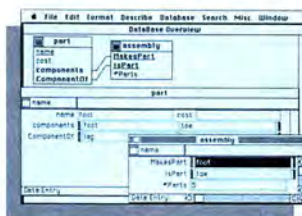
(The serious sides of business include applications like client billing, stock portfolio management, tax planning, and your checkbook.)



After opening the "Overview" window, you draw link lines between databases directly onto your Macintosh screen.



The link lines you draw establish both visual and electronic relationships between your databases.



You can have multiple windows open simultaneously to view all members of a linked set—which are interactive and truly relational.

Mac News for Kangaroos!

Heart of America, one of the U.S. 12-meter contestants in the America's Cup races in Australia, is relying on Reflex for the Mac to help Bring The Cup Up. (They're also using Borland's SideKick and Turbo Pascal.) Reflex analyzes 20 different variables like wind speed, heel angle, backstay load, trim tab angle, rudder angle and 15 other criteria to show and tell Heart of America where to be when—and what to do now to win!



You need Reflex for the Mac

Get some Reflex action out of your Mac. Call now. With Reflex for the Mac, you'll have all the right connections—for only \$99.95!

Heart of America's skipper Buddy Melges with Borland International's skipper Philippe Kahn on a testing, training, and analytical run, Santa Cruz, California.

"Really uses the visual strength of the Mac to produce a database design tool

Adam Greene, InfoWorld

... a stunningly wonderful application generator/dbms

Esther Dyson, Release 1.0

Bridges the gap between the pretty programs and the power programs

Stewart Alsop, PC Letter "

YES! I want the best!

Send me Turbo Pascal for the Mac, Reflex for the Mac, or SideKick for Mac at:

\$99.95

To order by phone or for a dealer nearest you,

call (800) 255-8008

in CA call (800) 742-1133

— Turbo Pascal for the Mac \$99.95 \$

— Reflex for the Mac \$99.95 \$

— SideKick for the Mac (with PhoneLink) 99.95 \$

Outside USA add \$10 per copy

CA and MA res. add sales tax \$

Amount enclosed \$

Prices include shipping to all US cities.

Payment: VISA MC Money order Check

Credit card expiration date

Card #

Name

Shipping Address

City

State Zip

Telephone

CODs and purchase orders WILL NOT be accepted by Borland.

Outside USA make payment by bank draft, payable in US dollars drawn on a US bank.

All prices are suggested list prices and are subject to change without notice.

*Introductory price—good until 1/15/87.

NOT COPY PROTECTED

60-DAY MONEY-BACK GUARANTEE

If within 60 days of purchase you find that this product does not perform in accordance with our claims, call our customer service department and we will gladly arrange a refund.

Minimum system requirements:

Turbo Pascal for the Mac: 256K, Reflex for the Mac: 512K, SideKick for the Mac: 128K.

M58

BORLAND INTERNATIONAL

Vive la différence

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

Borland products include Turbo Prolog, Turbo Pascal, Turbo Pascal for the Mac, Turbo Tutor, Turbo Editor Toolbox, Turbo Database Toolbox, Turbo Graphix Toolbox, Turbo GameWorks, Turbo Lightning, Lightning Word Wizard, Reflex, The Analyst, Reflex for the Mac, Reflex Workshop, SideKick, SideKick for the Mac, Traveling SideKick, and SuperKey—all of which are trademarks or registered trademarks of Borland International, Inc. or Borland/Analytica, Inc. Traveling SideKick is not in any way associated with Traveling Software, Inc. of Seattle, Washington.

Macintosh is a trademark of McIntosh Laboratories, Inc. and is used with its express permission. Lisa is a registered trademark of Apple Computer, Inc. Inside Macintosh is a copyright of Apple Computer, Inc. Lisa Pascal is a trademark of Aiol Seiki Kabushiki. Copyright 1986 Borland International EI-1081A

Please circle 128 on reader service card.



MacUser

THE MACINTOSH RESOURCE

Cover Illustration by Roger Metcalf



POWER COMPUTING

THE MORE YOU GIVE, THE MORE YOU GET

An expert's advice on how to make the most out of *MORE's* organizational power. *by Sharon Zardetto Aker*.....70

PRODUCT SURVEY

GIMME A LITE, A MAC LITE Preview the new "take-out" Mac from Dyna-mac. It's pricey, but choice. *by Neil L. Shapiro*.....76

TEST DRIVE Everyone wants a SCSI drive, but which one? Here's our across-the-board comparison of ten to consider. *by David Shargel, David Biedny and Steven Bobker*.....90

GRAPHICS

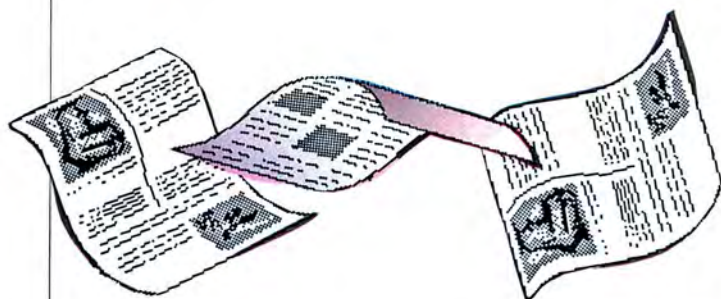
IT'S DRAW, IT'S PAINT, IT'S SUPER-PAINT!

A new graphics program that combines the best of *MacPaint* and *MacDraw*. Why do you think they call it "super"? *by Sharon Zardetto Aker*.....84

GRAPHIC DESCRIPTIONS Use *Page-Maker* to fill in the gaps in *MacDraft* and end up with a professional illustration package. *by Dan C. Davis* 96

ENTERTAINMENT

PLAY BALL!!! Put *HardBall* on your Mac and it's baseball season 12 months of the year. *by Wayne J. Sassano*.....102

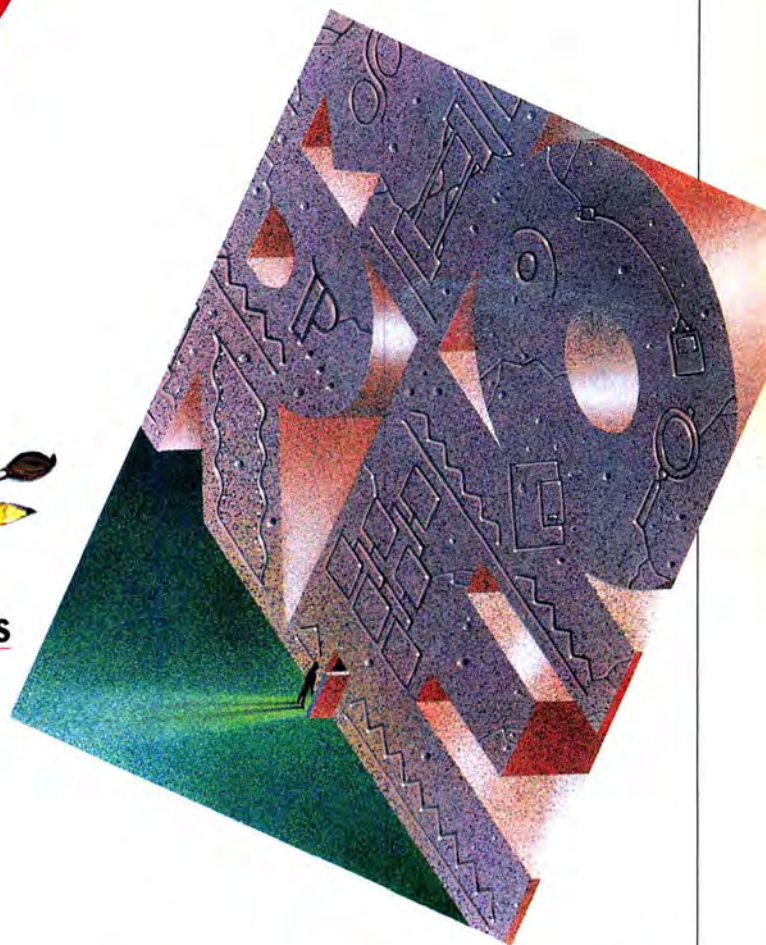


RESOURCES

DRESSING YOUR MAC FOR SUCCESS

Step-by-step instructions for adding a little pizzazz to your Mac screens. *by Philip C. Russell*108

THE SPEED OF PASCAL *LightSpeed Pascal* is the development system of choice for novice programmers—and experts just might like it, too. *by Steve Brecher*.....118



DEPARTMENTS

LETTERS Readers have their say, *from the Mac community*29

NEW ON THE MENU Latest updates, Rumor Manager and more.....38

QUICK CLICKS Ten of the newest from space goddesses to hardware.59

TIP SHEET Mac hints, tip and shortcuts. *compiled by Ellen Hirame* 128

MINIFINDERS Hundreds of capsule reviews to help you pick and choose.142

STRIP SHOW A page of programs in Softstrip format.170

COMING NEXT MONTH.....10

ADVERTISERS INDEX..... 180

MACUSER AD DIRECTORY..... 190

MACUSER BACK ISSUES..... 133

MACUSER SUBSCRIPTIONS... 16, 165

C O L U M N S

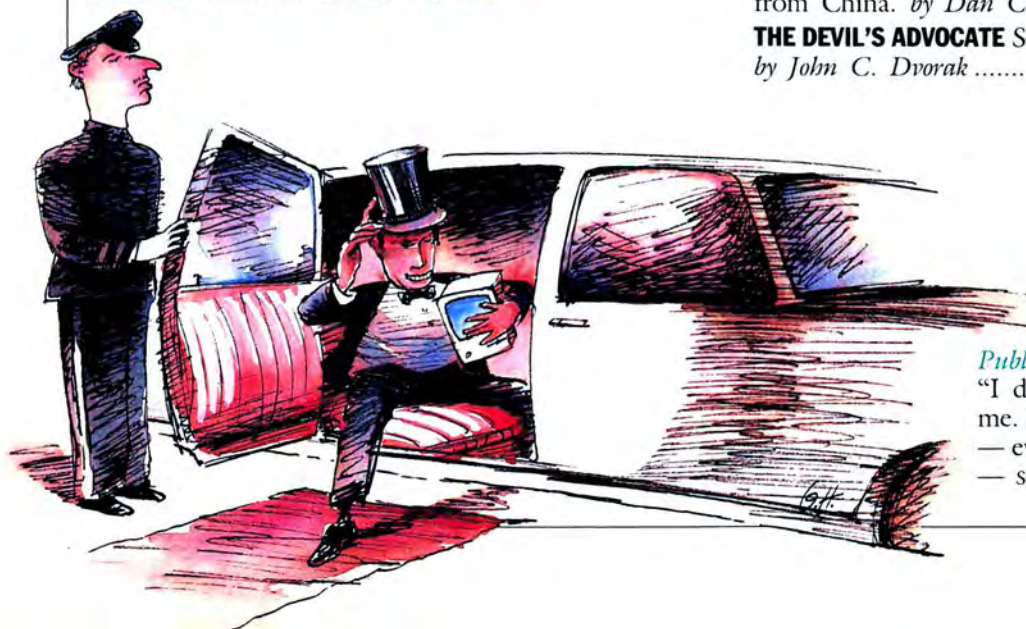
THE EDITOR'S DESKTOP It's Time To Play Together. *by Neil L. Shapiro*15

PINSTRIPED MAC Business As Unusual. *by Robert R. Wiggins*51

THE MACINTOSH BOUNDARY Being Somebody: Three Cases. *by Doug Clapp*.....57

THE HELP FOLDER Special Report from China. *by Dan Cochran*...135

THE DEVIL'S ADVOCATE Six Formulas. *by John C. Dvorak*196



Publisher's Thought for the Month:
 "I don't want any yes-men around me. I want everyone to tell the truth — even though it costs him his job."
 — Samuel Goldwyn 1882—1974

OverVUE. Best Database of the Year.



Choosing a database manager is no easy task. It's by far the most confusing and fiercely competitive field in Mac software. But now your buying decision is crystal clear, because the editors of MacUser and the readers of MACazine have both selected OverVUE as the Best Database of the Year.

Said MacUser (Jan. 1986), in selecting OverVUE for its **Editors Choice Award**: "OverVUE 2.0 is a deceiving program in that the more you use it, the more you realize what it can do."

Power, speed and logical menus make this a dream database."

When MACazine (Jan. 1986) bestowed OverVUE with its **Readers' Choice Award**, they wrote: "We selected OverVUE because of its ease of use, clairvoyance and statistical capabilities. The fact that OverVUE was subsequently selected by our readers as Best Database simply confirms our original assessment: the product is a jewel and the customer support a bonus!"

OverVUE's clean sweep of these two prestigious awards only confirms what everyone else has been saying all along:

Infoworld (July 8, 1985): "...it is Macintosh software done right."

Icon Review (Fall 1985): "OverVUE 2.0 is our favorite database workhorse... it simply offers the best balance of power and ease-of-use available on the market today."

Nibble Mac (Oct. 1985): "OverVUE is not only easy to set up, it's the easiest for data entry. Its tools for entering repetitive data minimizes typing time."

Online Today (electronic version — Nov. 1985): OverVUE 2.0 is a heavy-duty data management tool... It does all the things a good relational database manager should."

OverVUE's features and power make it the ultimate database choice. Clearly, users and editors alike think OverVUE is something special. We think you will, too.

So visit your nearest software dealer and purchase your very own copy of OverVUE, the Best Database of the Year.

Write for information concerning our new Mail Management and Personal Finance Templates.



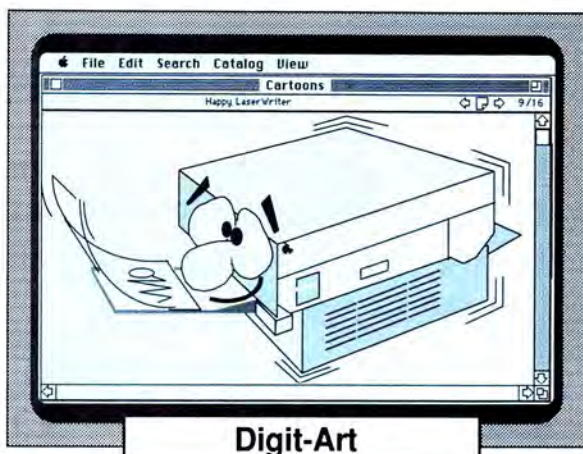
ProVUE Development Corp.
222 22nd Street • Huntington Beach, CA 92648 • 714/969-2431
Please circle 159 on reader service card.

EDITOR IN CHIEF	Steven Bobker
WEST COAST EDITOR	Michael D. Wesley
SENIOR EDITOR	Louise Kohl
PRODUCTION EDITOR	Daisy Genovese
TECHNICAL EDITOR	David Schargel
EDITORIAL ASSISTANT	Jeri Harrison
CONTRIBUTING EDITORS	Sharon Zardetto Aker
	Dan Cochran
	Tracie Forman Hines
	Ian McKinnell
CONTRIBUTING BUSINESS EDITOR	Robert R. Wiggins
CONTRIBUTING ANTI-EDITOR	John C. Dvorak
EDITOR AT LARGE	Neil L. Shapiro
ART DIRECTOR	Lisa Orsini
ASSOCIATE ART DIRECTOR	Marybeth Cuniff
PRODUCTION DIRECTOR	Alan Jeffries
PRODUCTION MANAGER	Randi B. Kantor
NATIONAL ADVERTISING DIRECTOR	Steven J. Rosenfield
ADVERTISING MANAGERS	
SOUTHEAST/DIRECTORY	Russell Brody
NORTHEAST	Jonathan Just
SOUTHWEST	Gary Meyer
NORTHWEST	Noreen St. Pierre
MIDWEST	Kevin Sullivan
ADVERTISING SERVICES MANAGER	Mindy Roland
CIRCULATION DIRECTOR	Marc B. Randolph
SUBSCRIPTION COORDINATOR	Deborah Cooper
CUSTOMER SERVICE	Debbie Testa
FINANCIAL CONTROLLER	Vincent J. Fanzo
ASST. FINANCIAL CONTROLLER	Ann-Marie Francino
CREDIT/COLLECTIONS SUPERVISOR	Paula Miles
PUBLISHER	Felix Dennis
VICE-PRESIDENT	Susan Freeman
ASSISTANT TO THE PUBLISHER	Susan Huang
RESEARCH & DEVELOPMENT	Kottwitz & Associates
RECEPTIONIST	Jacqueline Gatling
PRESIDENT	Robert G. Bartner
CHAIRMAN OF THE BOARD	Peter Godfrey

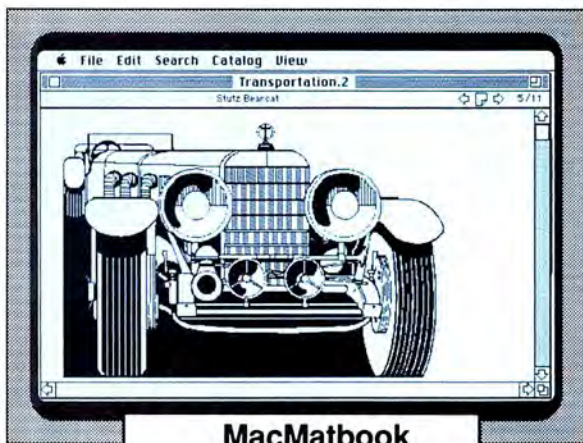
MacUser (ISSN 0884-0997) is published monthly by MacUser Publications, Inc. © 1986, MacUser Publications, Inc. all rights reserved. Compiled and packaged by Felden Holdings Ltd. Business and Editorial Offices: 25 West 39th Street, New York, NY 10018. Telephone: (212) 302-2626. West Coast Offices: 359 Bel Marin Keys Boulevard, Novato, CA 94947. Telephone: (415) 382-8500. Midwest Offices: 1150 Wilmette Avenue, Wilmette, IL 60091. Telephone: (312) 251-2541. European Offices: 14 Rathbone Place, London W1P 1DE, England. Telephone: 01-631-1433. US subscription rates are \$27 for 12 issues, \$45 for 24 issues and \$62 for 36 issues. For Canada and Mexico, subscription rates in US funds are \$29 for 12 issues, \$49 for 24 issues and \$68 for 36 issues. For other countries add \$50 per year to the US rates for airmail. Add \$12 per year to the US rates for surface mail. Single copy price is \$3.95 (Canada \$4.95). For back issues (subject to availability) send \$4 per issue, plus \$2 shipping for first issue, \$1 each additional issue to MacUser Back Issues, 831 Federal Road, Brookfield, CT 06804. For foreign back issue orders add \$1.50 per copy for postage and handling. Corporate and educational rate \$23 per year. For subscriber service questions call 1-800-MAC-USER, 1-203-853-1858 within Connecticut and Canada or write MacUser Subscription Dept., 29 Haviland Street, S. Norwalk, CT 06854. Application to mail second-class is pending at NY, NY & additional mailing offices. POSTMASTER send address changes to MacUser, 29 Haviland St., S. Norwalk, CT 06854.

MacUser

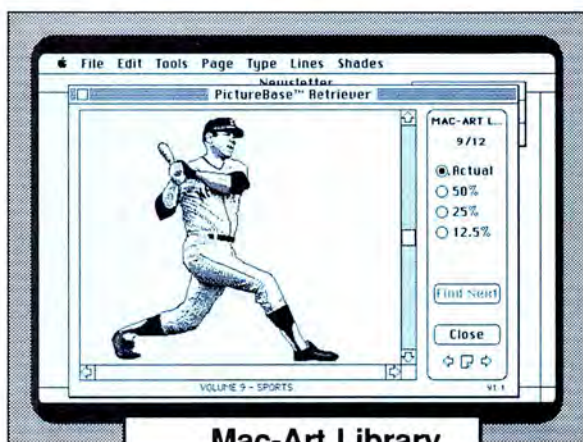
MacUser is an independent journal, not affiliated in any way with Apple Computer, Inc. BPA membership (Selected Market Audit Division) applied for August, 1985. Printed in the USA.



Digit-Art



MacMatbook



Mac-Art Library



MacMemories

“Look What They’ve Done!”

Macintosh graphics in PictureBase Format.

Now you can purchase quality graphics in PictureBase Library file format. These four companies (and many others) offer their line of Macintosh clip art ready-to-use with PictureBase and your favorite page layout or graphics program.

If you don't already own the PictureBase Art Management System, buy it. Then see how PictureBase can change the way you use graphics.

Digit-Art from Image Club Graphics

Digit-Art means quality, useful MacDraw™ graphics covering subjects such as Travel, Entertainment, Sports, Symbols, Borders, and even Forms. The package also includes a collection of cut and paste fonts.

MacMatBook from Electronic Publisher

Perfect for advertising graphics, MacMatBook offers two-three volume sets of graphics from People to Transportation, to Animals and Food. A wide variety of styles including many cartoon graphics.

Mac-Art Library from CompuCRAFT

Illustrate your desktop publishing ideas with the Mac-Art Library. In this set of twelve disks you'll find a wide range of professional graphic images from Buildings, Farm Life, and Tools, to Signs, Symbols & Borders.

MacMemories from ImageWorld Graphics

Award winning turn-of-the-century artwork with contemporary uses. The eighteen subjects range from Art Nouveau to the Wild, Wild West. Available individually or as the thirteen disk Medallion Set or five disk Blue Ribbon Set.

Free Sampler Disk Offer!

For a limited time, when you purchase PictureBase direct from Symmetry, we'll include a free sampler disk of these and other fine graphics.

PictureBase: \$69.95 (suggested retail)

To order call toll free: 1-800-624-2485 (In Arizona 602-844-2199)

Symmetry
CORPORATION

761 East University Drive, Mesa, AZ 85203

Please circle 3 on reader service card.



We'll make it easy

Face it. You're a job hopper. Constantly skipping from one kind of crisis to another.

With that in mind, we are pleased to announce a program that can change gears as fast as you do:

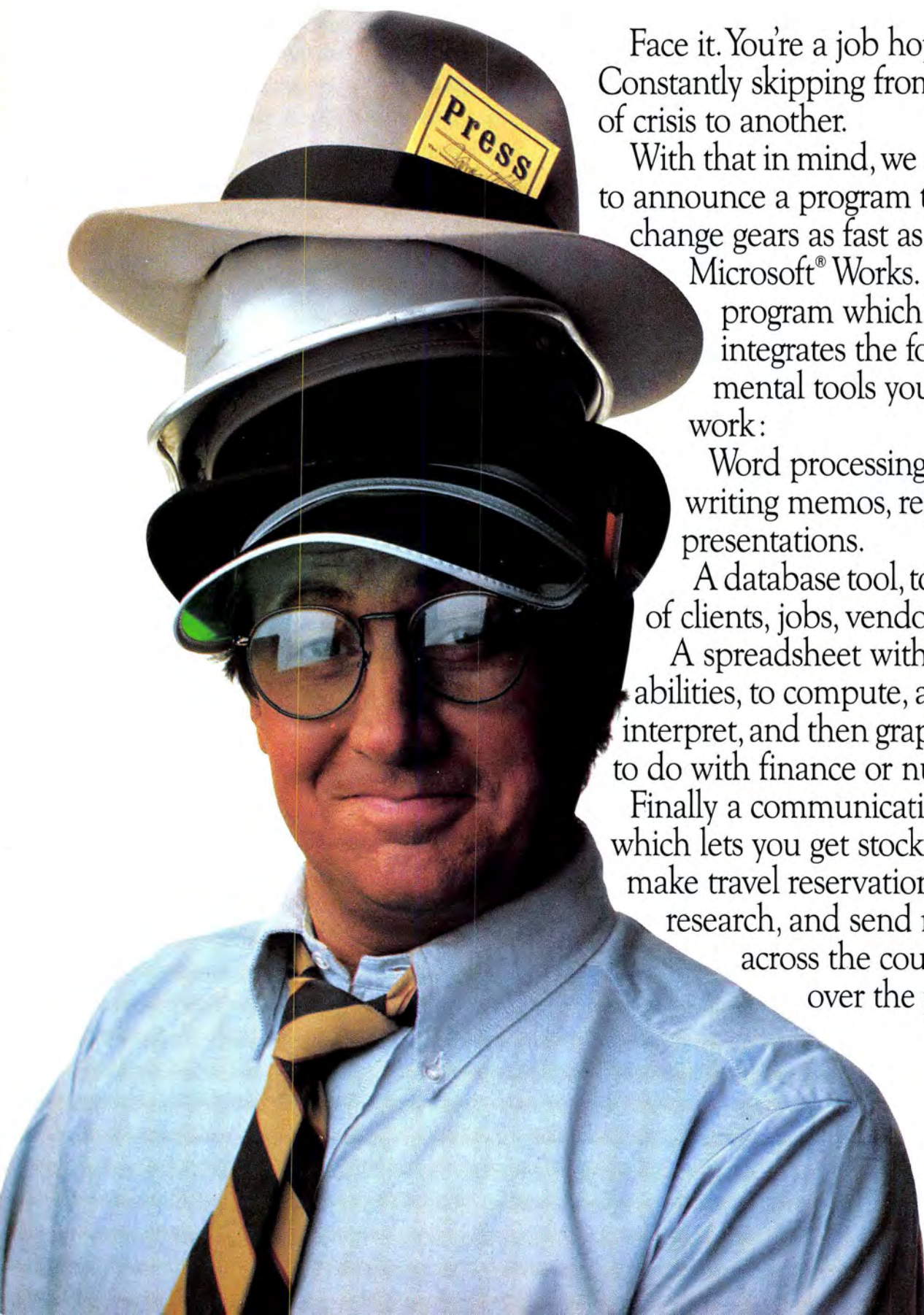
Microsoft® Works. A one disk program which gracefully integrates the four fundamental tools you need at work:

Word processing, for writing memos, reports, presentations.

A database tool, to keep track of clients, jobs, vendors.

A spreadsheet with charting abilities, to compute, analyze, interpret, and then graph anything to do with finance or numbers.

Finally a communications tool which lets you get stock quotes, make travel reservations, do research, and send reports across the country, right over the phone lines.



for you to change jobs.

Microsoft Works lets you juggle all these jobs, move swiftly and easily between them, while transferring and combining their information as you please. Because you do all these jobs with one, easy to learn, totally integrated program.

Quick study. Quick change.

The first job is the easiest. Learning to use Microsoft Works.

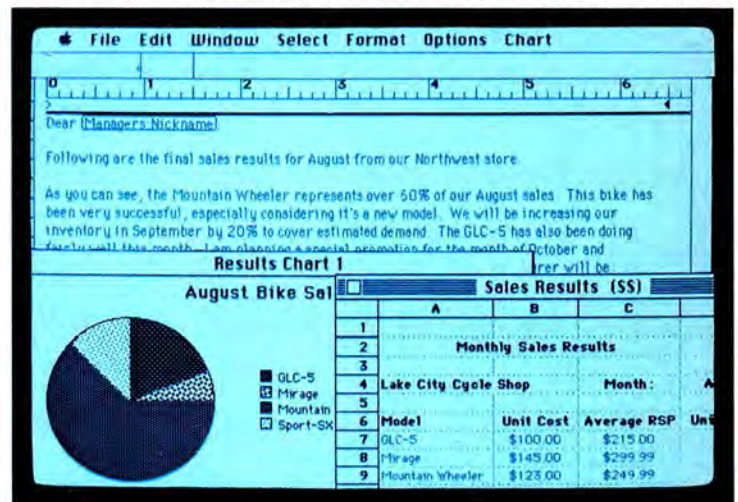
It's a snap. The overall program and each tool within runs Macintosh™ style. Which, as you probably know, is a natural, common sense, point-at-what-you-want system.

And Microsoft Works is seamlessly melded together. You can have all four tools on screen at once. Jump instantly from one to another. And later combine work done in each part of the program on a single printed page.

This easy exchange of data makes jobs go faster and easier. One practical example being mass

mailings of form letters where you need to combine names from the database with text written in the word processor.

All in all, Microsoft Works is a superb solution for day to day, get-it-done problems. An inspiring display of convenience, efficiency, and utility.



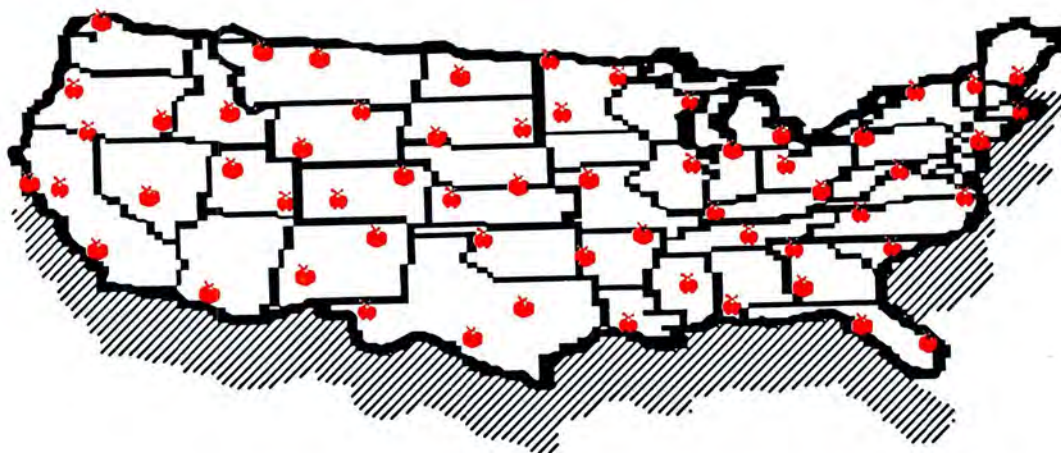
And, of course, it's a product of Microsoft, the preeminent developer of programs for the Macintosh. Which is not a claim, it's a fact.

If you're in a business that won't let you stick to one thing, check out Microsoft Works. The program that can change jobs as fast as you do.

Introducing Microsoft® Works

The High Performance Software

Join the MAUG™ Community



Talking About MAUG!

"Maug might be Ali Baba's cave as far as I am concerned. And the treasures strewn in front of me look every bit as fabulous as those in the Arabian Nights."

—Jeffrey Young, *Macworld*

"The undisputed best spot to hunt for Macintosh software is the Macintosh section of the CompuServe Micronetted Apple Users Group (MAUG) SIG."

—John Markoff, *Byte*

"Dare I assert that all that is good about the hacker ethic is alive and well and living on CompuServe?"—John J. Anderson, *Creative Computing*

"Wondering where to get a ramdisk for your Fat Mac? Well, at the risk of sounding like a broken record, you can download it from CompuServe if you are a member of MAUG. More likely by now the question may be, why aren't you a member of MAUG?"—John J. Anderson, *Creative Computing*

MAUG: Better Than Ever!

MAUG (the Micronetted Apple Users Group) has expanded into three huge areas featuring thousands of software programs, files and reviews that you can download into your own Apple computer. Whether you own a Macintosh, an Apple II or an Apple III, you too will treasure discovering MAUG!

Many exciting new events are planned such as on-line conferences with celebrity guests. In the past, MAUG has featured real-time talks with Steve Wozniak, Bill Atkinson, Mark Pelczarski, Doug Clapp and other stars from the world of Apple computing. You just never know who you'll meet on MAUG!

What Is MAUG Anyway?

If your computer has a modem peripheral and can use the telephone line you can join in on all the MAUG excitement! Presently three huge electronic bulletin-board areas await your joining. Each area has room for hundreds of public messages, thousands of programs to share and a real-time conference line. The three MAUG areas include:

- The Macintosh Users Group Forum: A lively area for Macintosh owners to meet and share thousands of programs and files. Subtopics include hardware and software, games and graphics, music and business. Whether you've a Fat Mac or a skinny one, a Lisa or a Macintosh XL, you'll find MAUG as indispensable as your mouse!
- The Macintosh Developers Forum: Whether you're developing hardware or software for the Macintosh you'll be in on instant updates to the *Inside Macintosh* Software Supplement, informal support direct from the Mac Team in Cupertino, as well as being able to meet hundreds of your peers for in-depth information exchanges.

- The Apple II And III Users Group Forum: MAUG started in 1979 about the Apple II. And, with us, it's been a neverending love affair. These 8-bit, wonder machines are as exciting as ever and MAUG proves it with hundreds and hundreds of messages related to hardware and software, games and graphics, power business uses and more — not to mention the thousands of programs and files available.

How To Join MAUG!

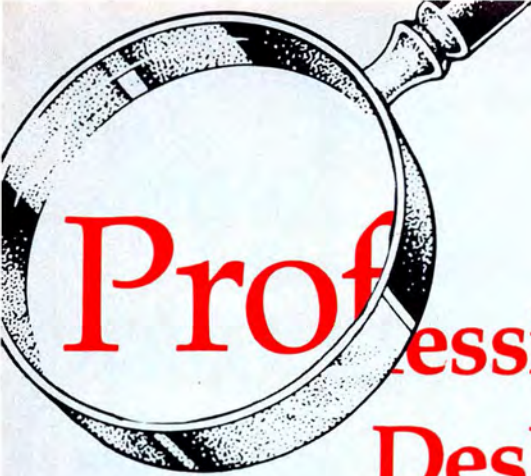
MAUG is available on the CompuServe Information Services network. To buy a CompuServe Starter Kit, see your nearest computer dealer. To receive a CompuServe brochure, or to order direct, call or write: CompuServe, P.O. Box 20212, 5000 Arlington Centre Blvd., Columbus, OH 43220 1-800-848-8199 (In Ohio: 1-614-457-0802). Once on CompuServe the command GO PCS-51 will take you to our front door.

MAUG!

We think it's
the nicest place
your computer
can take you!

MAUG is a trademark of the Micronetted Computer Users Inc (MCU). CompuServe is An H&R Block Company.
Apple II, Apple III, Macintosh, Lisa, Macintosh XL are registered trademarks of Apple Computer, Inc.

Please circle 163 on reader service card.



Professional Typesetting for Desktop Publishing



Macintosh to Compugraphic MCS codeless typesetting software

Using Set & Send, everyone can be a professional typesetter and have:

1. Quality

Resolution: 2600 dot per inch
Kerning: automatic text and headline
Spacing: adjustable word and letter
Hyphenation: intelligent automatic
Point size: 4 to 127 pt. in 1/2 pt. increments
Leading: in 1/4 pt. increments
Type face: any from the Compugraphic collection,
over 1300 now available

2. Cost Savings

- 60-80% savings on typesetting costs.
- No expensive training required. The user does not need to know typesetting codes.
- Eliminate costly re-keying of information through electronic data transfer.

3. Fast Turnaround

- Ready in minutes. After receiving a file the Processing Center can have the type ready in minutes.

4. Convenience

- Remote entry via modem 24 hours a day.
- Easy accessibility. Over 50% of the typesetters in North America use Compugraphic MCS.
- MicroSoft Word files automatically transformed into typeset files.
- Proof on an ImageWriter or LaserWriter.

5. Profit Increase

- Set & Send combines Quality, Cost Savings, Fast Turnaround, and Convenience to increase your profitability!

For further information on how Set & Send can increase your profitability, contact Bree Communications Incorporated or your Apple dealer.



661D Market Hill Road, Vancouver, B.C. Canada V5Z 4B5 (604) 875-1622

Set & Send is a trademark of Bree Communications Incorporated. Macintosh, ImageWriter and LaserWriter are trademarks of Apple Computer Inc. Compugraphic MCS is a trademark of Compugraphic Corporation. MicroSoft is a trademark of MicroSoft Corporation.

Please circle 72 on reader service card.

This ad was produced using
SET & SEND

Your Business Is On The Line



Before you lay your money down on an accounting program, you need to analyze the field. With **Strictly Business**,™ the odds are in your favor, because our General Ledger was voted the best Accounting Software on the market by Macuser (Jan '86). And, the new Accounts Payable and new Accounts Receivable packages, just being released, are sure bets to be winners also.

Strictly Business is the only *truly* integrated accounting package, with automatic posting to G/L. Other programs say they're integrated, but their modules don't use the same base of information. So, don't put your money on a long-shot, go with the favorite — Strictly Business. Designed with beginners in mind, but powerful enough for the most sophisticated applications, Strictly Business has clear, well-outlined set-up procedures. If you ever need help, we provide free technical support, with your questions answered directly by an accountant.

The feature-laden Strictly Business package includes: Balance sheet; Profit & Loss; up to 99 individualized journals; 15 different reports, plus graphs; up to 99 Profit Centers with up to 100 departments; Passwords; double-entry accounting; thorough audit trail; budgets and previous year totals with comparative analyses on current & Y-T-D totals.

Strictly Business' strong suit is its flexibility. The chart of accounts can contain 3, 4 or 5 digit account numbers. You can even have up to 48 separate bank accounts. Our custom form generator allows you to create custom invoices, checks, and other forms as easily as working with MacDraw.™

Other modules out of the gate soon include: Job Cost, Inventory, Order Entry and Payroll.

Don't gamble on accounting software. We'll give odds that you won't find a better accounting program.

**FUTURE
DESIGN
SOFTWARE™**

13681 Willamette Dr. • Westminister, CA 92683 • 714/891-9796

MacDraw is a trademark registered to Apple Computer Inc. • Strictly Business is a trademark registered to Future Design Software

Please circle 148 on reader service card.



COMING IN MARCH

Tune in to a beginner's discussion on some uses for FEDIT

An inside look at **WRITE NOW**, the word processor that's MacWrite, spell checking, and lots more

Which **WORD PROCESSOR** is right for you? Find out in a comparative review

Yes, manuals can be useful, find out how in our **GUIDE TO USING MANUALS**

Keep your personal book-keeping and finances up to date with **MACMONEY**

Computer aided drafting the **EZ DRAFT** way

P L U S 

The Macintosh Boundary from **Doug Clapp**. **John Dvorak** on the state of the Mac. **Michael D. Wesley's** West Coast Report. **Dan Cochran** with Answers from the Mac Team. Three pages of **hints and tips**. Over 250 **MiniFinders**. An expanded **Quick Click** section, now including hardware. More **Cauzin Soft-strips**.

 **IN MacUser**

FINE PRINT WEASEL

Editor's absolutely reserve the right to publish none, some, all, or just the parts we managed to complete of the above, due to the inherent problems that occur when reviewing software, hardware and the ever elusive vaporware.

You've got the top... Now, get the 'Bottom!

The MacBottom SCSI.

The 21 megabyte
hard disk drive
from the hard disk
drive pioneers*

Just slip the 2" high
MacBottom SCSI under
your Macintosh Plus
and notice the perfect fit.

Next, plug in the built-in 25-pin
connector cable.

And that's all there is to it! You've just installed your
own 21 megabyte hard disk drive. Now, get ready for the fun...

MacBottom is fast! Up to seven times faster than using floppies. It's whisper quiet, too. You won't even
know it's there.

And, it's dependable. You'll never have to worry about losing valuable data
because in addition to owning the most advanced Winchester disk in the
industry, you've got our HFS Backup—a backup which continues to win
popularity contests among buyers of the "other guys" hard disks.

MacBottom is a snap to use, too. Once you drag your programs to the
hard disk, you use them exactly as you always have. Only now, you get
more time to use them because your Macintosh boots up automatically.
And MacBottom's very generous printer buffer lets you keep working even
during the lengthiest printouts.

Turn your Macintosh off, and MacBottom is ready to transport. Just tuck it into your briefcase, and go!

Call 1-800-MACBUTT (in Florida call (813) 884-3092) for the name of the dealer nearest you,
and take a personal tour of the MacBottom SCSI. You'll like what you see.

Personal Computer Peripherals Corporation
6204 Benjamin Road, Tampa, Florida 33634



*Personal Computer Peripherals Corporation pioneered hard disk drive systems for the Macintosh.
They continue to manufacture and support the most successful serial drive ever made.



The Desktop Publishing Revolution Continues.



AST Research Announces The AST TurboScan.™ It's the perfect addition to your Macintosh™ desktop publishing system.

AST TurboScan optically scans and digitizes photographs, artwork, handwriting, text... anything that can be rendered on paper. It allows you to incorporate such images into newsletters, reports, letters, artwork... any type of document.

A Revolution In Resolution!

AST TurboScan's 300 dots-per-inch (dpi) resolution matches your LaserWriter's® dpi for optimal visual clarity. So you can scan and print at near half-tone quality. And we've included AST TurboScan Utility™ software to let you enlarge, reduce and merge scanned images

with text and other graphics.

You can scan in either of three modes: Line Art Mode for images that are black and white without shading; Halftone Mode for photographs and other images with continuous shading; and Mixed Mode for a combination of Line Art and Halftone modes. There's also resolution, contrast, brightness and gray scale controls. And advanced data compression reduces scanning time and saves disk storage.

AST—Leading The Revolution! At AST we're in the vanguard of creating new solutions. And AST TurboScan is just one of the many quality products we offer to improve

or enhance the performance of your Apple® computer.

Contact your nearest AST-authorized Apple Products Dealer today! Or send the coupon to AST Research, Inc., 2121 Alton Ave., Irvine, CA 92714-4992. Phone: (714) 553-0340. BBS: (714) 660-9175. FAX: (714) 660-8063.



Name _____
Title _____
Company _____
Address _____
City _____ State _____ Zip _____
Telephone _____

Send to: AST Research, Inc., 2121 Alton Ave., Irvine, CA 92714-4992,
Attn: Apple Enhancement Products Group

AST and the AST logo registered trademarks and TurboScan and TurboScan Utility trademarks of AST Research, Inc. Apple and LaserWriter registered trademarks of Apple Computer, Inc. Macintosh trademark of McIntosh Laboratory, Inc., licensed to Apple Computer, Inc., and used with the express permission of the owner. Copyright © 1986 AST Research, Inc. All rights reserved.

Please circle 213 on reader service card.

AST
RESEARCH INC.



The Evolution Of Data Storage.



In The Beginning... there were floppy disk drives. They were slow. Then came Winchester hard disks that plugged into a Macintosh™ serial or floppy port. These offered increased storage but were still slow.

And Then One Day... someone invented SCSI (Small Computer System Interface), a much faster interface than floppy or serial ports. And suddenly, hard disks were more than just lots of storage. They were fast.

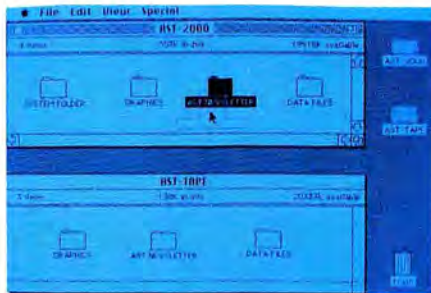
Hard disks became very popular. But a new problem arose. Disk crashes. Though infrequent, crashes were very traumatic.

Thus It Came To Be... tape backup was developed. And it was good. Data stored on a hard disk could now be "backed up" onto a tape cartridge and stored. In the eventuality of a crash, data could then be restored to the hard disk. The trauma was over.

Tape backup was slow, however, and the engineers at AST Research could not rest. They labored to create a better hard disk/tape backup system. And, thus, after many months

of toil they developed a 256K Cache and a Tape Motion Optimizer Algorithm. Innovations so unique, patents were applied for.*

An Unprecedented Advance... the Cache was a RAM buffer into which files could be moved for backup to tape. The computer would then be freed up. Work could continue while backup was occurring! And, yes, it was even user friendly.



And, if the hard disk should need maintenance, the tape could be used like a floppy diskette — written to directly via the fast 256K RAM Cache.

The system was complete! The AST-2000™ was born.

AST-2000: The Pinnacle of Data Storage Evolution. The AST-2000 combines a 20 MB Winchester hard disk, 20 MB Tape, 256K Cache and SCSI connector. It is the ultimate data storage system for your Apple® Macintosh Plus.

Contact your nearest AST-authorized Apple Products Dealer today! Or send the coupon to AST Research, Inc., 2121 Alton Avenue, Irvine, CA 92714-4992. Phone: (714) 553-0340. BBS: (714) 660-9175 FAX: (714) 660-8063.

Name _____
 Title _____
 Company _____
 Address _____
 City _____ State _____ Zip _____
 Telephone _____

Send to: AST Research, Inc.,
 2121 Alton Avenue, Irvine,
 CA 92714-4992, Attn: Apple
 Enhancement Products Group

AST
 RESEARCH INC.



*Patents pending.
 AST and the AST logo registered and AST-2000 trademarks of AST Research, Inc. Apple registered trademark of Apple Computer, Inc. Macintosh trademark of McIntosh Laboratory, Inc., licensed to Apple Computer, Inc., and used with the express permission of the owner. Copyright © 1986 AST Research, Inc. All rights reserved.

Turbo Mouse™

Twice the speed, in half the space.

Finally, a Mouse that's really quick. One that doesn't require a lot of room on your desk. One that's easy to use, even on a desk full of papers. Turbo Mouse from Kensington.

Turbo Mouse turns mouse technology upside down. It puts the mouse ball on top, rather than on the bottom like a standard mouse. You move only the mouse ball, not the whole mouse. That's why Turbo Mouse is quicker, quieter, and easier to use.

Turbo Mouse doesn't get its speed only from this ease of use. It has an automatic acceleration feature that senses the speed at which you are working and moves the cursor further when you move the mouse ball faster.

Turbo Mouse has two mouse buttons - one for right-handed users and another for lefties. And, since it's only 4" x 6", Turbo Mouse will fit neatly at the end of your keyboard.

Turbo Mouse, is compatible with Macintosh,™ Apple®Ile and Apple IIc.

For more information, or a dealer near you, call 800-535-4242.

In NY call 212-475-5200.

KENSINGTON™ 





by Neil L. Shapiro

IT'S TIME TO PLAY TOGETHER

The reason I bought my first micro-computer was because I wanted to play the old, public-domain, text-only version of *Star Trek*. So, I have always been interested in computer gaming. I consider gaming on a computer to be just as worthwhile, in its own way, as spreadsheeting on a computer.

So, one of the few things that disappoints me about the Macintosh is that there are not as many games available for it as other micros. In the past couple months I've been happy to see if not a light at the end of this tunnel, perhaps a few dancing fireflies.

WHY NOT GAMES?

First, why is there this shortage of games on the Macintosh? Part of it is the way the gaming companies perceive the Mac and a part of it is the gaming field in general.

The most obvious reason is that the Mac does not have color. By this time most readers of this magazine are already repeating the Litany of the Mac over and over again to themselves: "It doesn't need color, it has resolution!"

Makes you mad enough to see red on a Mac's screen when someone brings up that old cliché, huh? Trouble is, many of the best game companies still believe that. They even believe it after having released a few test products (but the tests have been mostly botched as we'll get into below).

But beyond trouble with games on the Mac, there is trouble in the land of gaming itself. There are fewer and fewer gaming companies involved in the field every year. And some of the best are already history.

THE NOT-SO-JOLLY ROGER

What's the worst thing that ever happened to the field of gaming generally?

It's the Grinch that stole a lot of Christmases — Software Piracy.

Let's face it, turning down a "free" disk with a game on it is one of the hardest things a person can do. The

alternative is to admit that, "No, I really would rather pay \$40 in order to pretend that I am a space Captain blasting with all lasers at a hostile universe." This is sometimes a hard admission for a person to make. And, even if said person enjoys a game he or she may tend to classify it as a not very worthwhile amusement. Such pirates are only fooling themselves.

Then there is the philosophy that if you weren't going to buy the game anyway, who are you hurting? This has probably brought more gaming companies into Chapter 11 than most attorneys have.



The point is the proliferation of copies. The more "broken" copies of a game available, the more that will be cloned. Broken (that word means de-copy protected) game disks are the bunny rabbits of the computer cabbage patch. They reproduce seemingly without any help at all.

And, of course, many of these people really would have bought the game.

Then there is the argument that games are overpriced so it's OK to copy them. To me this sounds so absolutely stupid that I don't think anyone who really believed such a thing could ever have learned how to turn on a computer in the first place, not even the Mac. I think that when someone says this they are revealing themselves to be a liar. Either they are lying to themselves, or just outright lying. With the possible exception of felons convicted of major crimes, the moral bankruptcy of this position should be readily apparent to anyone.

Then there are those who simply can't afford the games, but love playing them. They feel guilty when they take a game, but joy of playing outweighs guilt of copying. But that's because they really do not understand the results.

It's easy to say that if you deprive

programmers and entrepreneurs of their income they will go out of business and we will all suffer. And that's true.

You know what's harder? It's having to say that I have seen people who I consider to be some of the finest and most creative people I have ever personally met simply broken on the rack of games software piracy. Lives ruined, or at least terribly upset. It's a nightmare for these people.

Feel guilty if you're in the above class. Sorry, but feel very guilty.

One of the problems that the Macintosh is facing is that it is very difficult to come up with complete copy-protection on the Mac and so the surviving game companies are quite leery of the Mac.

If you want a game — buy it. Particularly if you want more games from that company. That's about all that we, as consumers, can do to see that more fun games are published for the Macintosh. Make such publishing financially rewarding for those involved. (And that certainly includes sending in your shareware payments for all those great shareware games).

MANUFACTURER RESPONSIBILITIES

Meanwhile, leaving aside the responsibility of the consumer, I think that many of the various manufacturers involved in gaming have simply not truly understood the Mac's special capabilities and its limitations.

For arcade-style gaming and some types of simulations, the Mac's most serious limitation is that it does not have a built-in joystick port nor any published standards for attaching a joystick to the mouse port.

We've seen many games come out for the Mac from major companies "testing the water." The games involved joystick control on other computers and turned into travesties of themselves on the Mac.

The mouse is simply a terrible control for most games unless the designer actually starts off programming with the mouse in mind.

Because of the fact that many of the most popular computer systems do not use a mouse, most gaming companies that sell to many different computing audiences cannot program to the mouse but have to program around it.

Sure, Mac-only companies like Silicon Beach Software have shown with games such as *Dark Castle* that the mouse can work. But some of the best gaming companies are directed toward multiple audiences and we need them in the Mac arena, too.

While there are joystick adapters for



Let's talk money.

MacUser isn't a cheap magazine. At \$3.95 a copy, a whole year's supply of the world's greatest Macintosh magazine from the newsstand will set you back \$47.40. That's a chunk of change for some ink on paper.

Now there are tens of thousands of you who buy *MacUser* every month from the newsstand. Believe us, we appreciate your support. We're glad that *MacUser* is so useful you're prepared to invest the best part of fifty bucks per annum.

But consider this. By subscribing to *MacUser* now you save \$25.00 off the newsstand price. Which represents a 50% discount! And even saves \$5.16 off our basic subscription rate.

You already know *MacUser* is probably the best investment you can make for your Mac system. Can you think of any reason you shouldn't take advantage of a \$25.00 saving? Fill in the coupon opposite and mail it today.

MacUser

The Macintosh Resource (We can get it for you wholesale.)

TAKE ADVANTAGE OF MacUser's CHARTER SUBSCRIPTION OFFER

Your Next 12 Issues for Just \$21.84

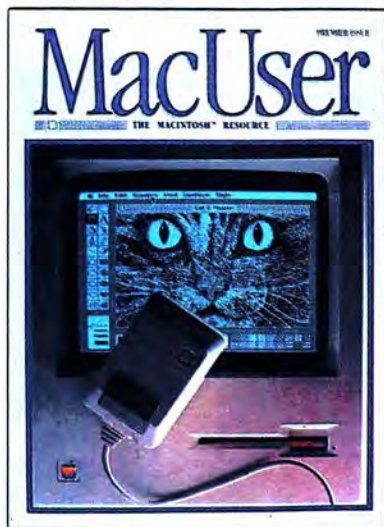
Only \$1.82
an issue—

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

●
Saves you
\$5.16 off
the basic
subscription
rate!

YES!

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



Your subscription may be tax-deductible

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

Card No. _____ Expires _____

Signature _____

Name _____

Company _____

Address _____

City, State, Zip _____

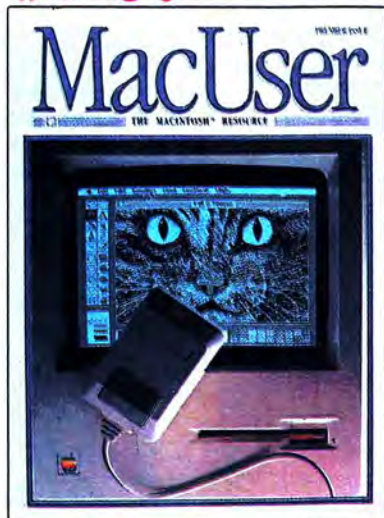
Allow 4-6 weeks for delivery of your first issue.
Canada and Mexico \$24.00 in U.S. funds. Other
foreign countries \$30.00 prepaid in U.S. funds.
Surface delivery.

3027

Offer expires June 30th, 1987

YES!

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



Your subscription may be tax-deductible

☐ 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.

3027

Offer expires June 30th, 1987

MacUser

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



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

(TURN PAGE
FOR
SUBSCRIPTION
ORDER FORM)

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT 88 NORWALK, CT

Postage will be paid by addressee

MacUser

P.O. Box 1540

Neptune, NJ 07754-9964



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT 88 NORWALK, CT

Postage will be paid by addressee

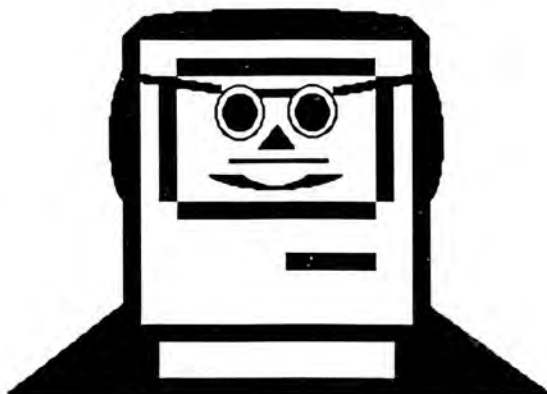
MacUser

P.O. Box 1540

Neptune, NJ 07754-9964



If you're a Macintosh™ Artist
and you can draw Fred the
Computer, you may be able to
get the job you've always
wanted!*



Fred The Computer

No, this is not an ad for some crazed art school. **Axlon, Incorporated**, a crazed toy company founded and operated by Nolan Bushnell, would like to hire a Macintosh™ Artist. This artist must be proficient at creating artwork with the Macintosh™, although proficiency with art software for the PC and Amiga™ is also desirable. Candidates for this job should have the ability to turn concrete ideas into finished computer art and to independently create artwork to complement company projects. If you have those qualifications and are looking for employment with a dynamic company, **Axlon** is looking for you.

If you are interested in this position, please send your resume, salary history, and portfolio (both hard copy and disk), to:

Tom Zito
AXLON, INC.
1287 Lawrence Station Rd.
Sunnyvale, CA 94089

*As you can see from the appearance of this advertisement, we are in desperate need of this Macintosh™ artist.



Mac 512 Reborn:

Enhance turns *any** Mac 512e into a 2Mb SCSI Super Mac Plus.

In fact, your Reborn 512e is better, and faster, than a standard Mac Plus or an Apple-upgraded 512e! Here's why:

30% faster than Mac Plus.

Our Enhance™ design breaks the bottleneck between your system RAM and the video display. Absolutely Mac Plus compatible, the system just runs *faster*, so you wait less.

2 megabyte standard, expandable to 6.5Mb.

With 2Mb you have power to spare. Spreadsheets have room to move, databases run faster still, and all your desktop publishing software fits under Switcher.

SCSI port included, for fast peripherals.

Peripherals like our DataFrame XP™ hard drive family—rated the fastest Mac SCSI drives of all.

Lifetime warranty, too!

It doesn't get any better than that.

Call (415) 964-8884 today for your nearest authorized dealer. And we'll rush you literature on all the great SuperMac™ products.

SuperMac Technology
950 North Rengstorff Avenue
Mountain View, CA 94043



*For you careful readers, it should be obvious that any 512e and our Enhance give you the hottest Mac around for less than the price of a new Plus.

the Mac, they really don't cut the mustard. And, though I have seen a couple decent joysticks from secondary manufacturers what we need is a standard, and we need Apple to set that standard.

Apple needs to come up with one more piece of hardware for the Macintosh — a joystick. If Apple released their own joystick for the Macintosh that would have the effect of establishing a standard methodology of how to program for a Mac joystick.

C'mon Cupertino, just think of all the great software that will be released for the Mac within 2 months of your releasing a joystick. Go talk to Woz. He

If we all work together — Apple, gaming manufacturers, gaming consumers — then soon we can all play together.

should be able to design one on his next lunch hour.

Meanwhile, I think that Apple needs to devote one of their software evangelists full time to having new games produced for the Macintosh and for the Apple IIGS operating in its native mode (with a Mac-like style of interface).

Now that Apple can offer color on one windowing machine (the Apple IIGS) they should be able to segue that opening into a wealth of gaming software development for all of their machines. After all, if you are going to develop a game for the Apple IIGS with its very Maclike Toolbox ROM calls, it hardly makes sense not to port it over (reprogram) to the Macintosh, too. Even if you don't understand why resolution can be as good as color. Heck, for the effort involved in a pretty straightforward port, why not try?

I predict that the first companies to do this port are going to be absolutely amazed at the reception they get in the land of the Mac. But, again, it's got to be up to Apple to get this ball rolling (at least behind the scenes).

If we all work together — Apple, the gaming manufacturers, the gaming consumers — then soon we can all play together.



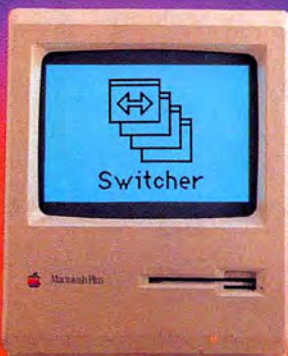
Microsoft Excel



PageMaker



MS Word



Switcher



MultiUser Helix



FullPaint



Omnis3 Plus



Switched on Mac:

SuperRam 2Mb and 4Mb RAM expansions give spreadsheets *room*, databases *speed*, and end the PageMaker shuffle.

Three telltale signs of a severe memory shortage:

1. Your spreadsheet runs out of room and dies.
2. Your database goes away for minutes at a time and talks to the disk.
3. Desktop publishing has you shuffling back and forth between your paint, word processing, and page makeup programs.

SuperRam™ helps you think big, think fast, think smart:

Expand to 2 or even 4 megabytes and end those "out of memory" messages.

Let your applications run in fast, big RAM, and watch your database sorts go by in seconds instead of minutes.

And load all your desktop publishing packages under Switcher and jump back and forth from page makeup to word pro-

cessor to paint program to word processor to page makeup *instantly*. You won't know how you lived without SuperRam.

Don't start. Stop. Start. Stop. When you can go go go!

Upgrade your Mac Plus now. Or buy your new Mac with our 2Mb or 4Mb right off the bat.

Our 'double buffered' memory technology gives you a very important benefit: The 2Mb version allows for an easy upgrade to 4Mb. Only SuperMac™ gives you this important option. You don't think you'll ever need 4Mb? You probably never thought you'd need 2Mb! Keep your options open.

SuperRam is dealer-installed—in minutes. No need to wait for 1 meg RAM chips, either! We deliver *now*, using widely available, reliable, proven 256K chips.

A lifetime warranty.

It doesn't get any better than that.

Advanced surface mount construction, elegant design, and a noiseless, brushless fan combine to provide reliability that lets us back you as long as you own your system.

Wait no more. Call (415) 964-8884 for your nearest authorized dealer.

Our operators will *immediately* send you information on *all* the SuperMac products.

SuperMac Technology
950 North Rengstorff Avenue
Mountain View, CA 94043

 **SUPERMAC**
TECHNOLOGY



Get Your Mac Back with SuperSpool™!

It's a real crime that when your ImageWriter™ is printing, you can't use your Mac. So work grinds to a halt until you get your Mac back.

Now, SuperSpool comes to the rescue.

It "captures" (spools) the files to be printed, commands the ImageWriter to print them *in the background* and returns the Mac to you — almost instantly.

With SuperSpool, you can print and work on your Mac *at the same time!*

SUPERFAST. SuperSpool is, by far, the

fastest print spooler available. This chart shows just how much faster you can get your Mac back. The competition takes 6 to 10 times longer. Now you can finish your business plan *while* your spreadsheet is printing. Think of all the time saved!

SUPER COMPACT.

Other spoolers require the storage capacity of a hard disk. SuperSpool doesn't. It's so efficient, floppy-disk systems can use it.

SUPER FRIENDLY. SuperSpool works with *all* major Macintosh applications (such as Excel and PageMaker).

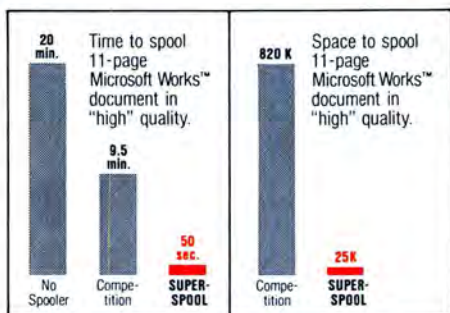
It is totally transparent; you launch it and forget it.

You can send a continuous stream of documents to be printed and SuperSpool will queue them automatically. You can view all the jobs in the print queue, change their order, delete jobs, pause the printer, and receive extensive on-screen help — without leaving your application program. SuperSpool will even let you switch between applications without disrupting your printing.

MONEY BACK GUARANTEE: We're so

confident that SuperSpool outperforms every other ImageWriter spooler that if you are not completely satisfied, return it to us within 30 days for a full refund.

Get SuperSpool at your local SuperMac dealer today, or order direct. At \$59.95, it's a small price to pay to get your Mac back.



Lightning fast. Compared to SuperSpool, the competition takes 6 to 10 times longer to give your Mac back.

Warning: Running out of disk space is a real problem with the competition's spool files. Not so with SuperSpool.



SUPERMAC
SOFTWARE

950 N. Rengstorff Avenue
Mountain View, CA 94043
(415) 964-8884



ONLY \$59.95!

Macintosh (Mac) and ImageWriter are trademarks of Apple Computer, Inc. ©1986 SuperMac Software.

WELL, I'M IMPRESSED

Whenever I have room, and whenever it's justified, I like to end this column with one or two quick recommendations of the best programs I've seen lately. This month there are two which have really impressed me.

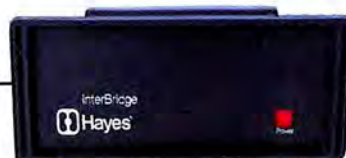
Dark Castle from Silicon Beach Software (which we mentioned briefly in the discussion above) is simply a must-have for anyone who ever wanted to play a computer game. The animation is superb as you run a knightly persona through a castle fraught with level after level of

I have never seen a program more discussed on the computer networks within days of its release as *Dark Castle* has been.

danger and excitement. In fact, it was the arrival of this game that inspired me to write this editorial. I have never seen a program more discussed on the computer networks within days of its release — and by as many people — as *Dark Castle* has been. This is what convinced me that my feeling that there is a very, very large audience of game-hungry Mac owners is more than just projection on my part.

Then there's *Visual Interactive Programming (V.I.P.)* from Mainstay, within which I have been completely absorbed for the past few days. It's a programming language that takes full advantage of the Macintosh interface. You don't so much write a program as you build a visual flowchart. You build the flowchart by choosing procedure icons and filling in the blanks within each one's pull-down menu. While I have not yet become proficient in it, and have not run any benchmarks or even written any major programs as yet — I am sure that it will open the field of programming to potentially thousands of Mac users. It's an amazing to use and even fun language. And, more than most things I have recently seen, *V.I.P.* demonstrates why the Mac is unique and why that uniqueness makes it a great machine.

AppleTalk™ networks communicate better after a little bridgework.



© 1986 Hayes Microcomputer Products, Inc.

It took Hayes, the PC communications leader, to bridge the gap between AppleTalk networks.

Introducing Hayes InterBridge™. There's nothing like it!

Now one AppleTalk network can communicate with another. Across the hall. Across town. Or across the country.

It's a local bridge, that lets you share information with other AppleTalk networks in your company. Or, if one network becomes overloaded, InterBridge allows you to split that network and split the workload.

It's a remote bridge, that lets you share information with AppleTalk networks everywhere. All it takes is one InterBridge and one Hayes Smartmodem 2400™ on each end.

And it permits casual access to expensive peripherals by both local and remote AppleTalk networks. InterBridge allows you to access a LaserWriter™ file servers and gateways on another network,

even if they're thousands of miles away.

This feature alone can save thousands of dollars you'd otherwise spend on dedicated peripherals for each of your AppleTalk networks!

No matter how you look at it, or how you use it, Hayes InterBridge is quite a bargain. Now you can get a lot of fancy bridgework, without a fancy price.

See your authorized Hayes dealer for details. Or contact Hayes at 404/441-1617.

Hayes Microcomputer Products, Inc., P.O. Box 105203, Atlanta, Georgia 30092.

Hayes®

Say yes to the future

Please circle 130 on reader service card.

Trying to stay alive makes these programs killers.

Examine	Open	Close	Speak
Operate	Go	Hit	Consume

Go where computer adventures have never gone before. But you've got to be careful.

Deja Vu: A Nightmare Comes True™ and Mindscape's new *Uninvited™* put you in the kind of tight spots that make droplets of sweat appear on your mouse.

MacUser Magazine and the Software Publishers Association both named *Deja Vu: A Nightmare Comes True* the best entertainment software program for 1985. And they had good reason.



Point and shoot. Just click OPERATE, your weapon, and your target.

With close to a megabyte of involving graphics to manipulate with the ease of a mouse, you're free to do your detective work. Not that your problems are simple. You've awakened in a drug induced stupor with the police and a gruesome gang of hoods on your tail. To make your plight worse, you don't remember who you are.

So you've got to be on your toes. Grab your mouse. Aim your .38. And deter a threat without wasting time.

Examine	Open	Close	Speak
Operate	Go	Hit	Consume

Examine the newest Mindscape thriller. It's not a sequel. But it is sensational.

Uninvited lets you take a terrifying journey of fear through the eerie confines of a dark, mysterious mansion. *Uninvited* really goes bump in the night with full digitized sound. Animation puts the locals, a

collection of demons and specters, in an exciting new light as they step out of the shadows. It won't take long for you to discover that they prefer not to have house guests.

You've got quite a mystery to solve. And your hide to save. So don't wait for a formal invitation.

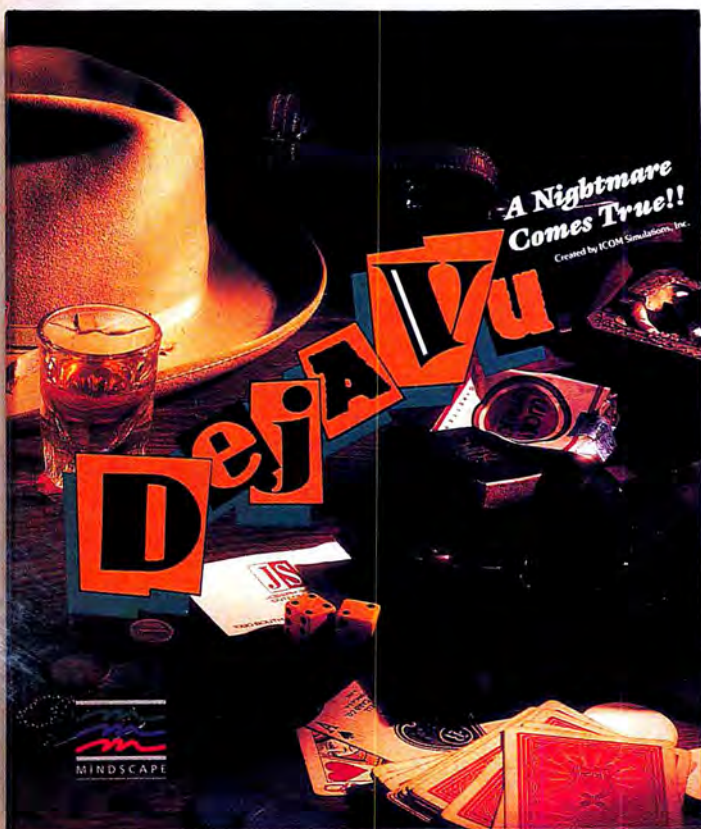
Examine	Open	Close	Speak
Operate	Go	Hit	Consume

Consume the kind of excitement you would do almost anything to avoid in the real world. Experience what *MacUser* called "...a complete breakthrough in gaming."

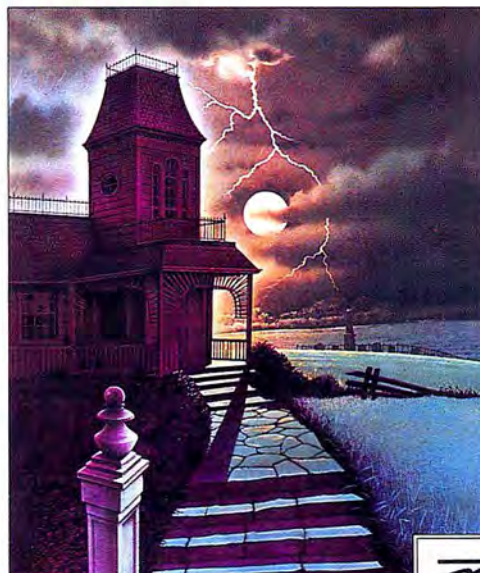
Deja Vu: A Nightmare Comes True and *Uninvited* are available now to maximize your Macintosh™ for spell-binding action. Enjoy them both.

And discover how much fun murder and mystery can be.

Mindscape 
Software that challenges the mind.



Uninvited.



Developed by ICOM Simulations, Inc.



Visit your retailer or call 1-800-443-7692 (in Illinois 1-800-654-3767) for VISA or MasterCard orders. To purchase by mail, send VISA or MasterCard number with expiration date, check or money order to Mindscape, P.O. Box 1167, Northbrook, IL 60062. Add \$3.00 for shipping and handling. Allow 3-5 weeks for delivery. *Uninvited* and *Deja Vu: A Nightmare Comes True* are each \$49.95.

Copyright © 1986, Mindscape, Inc. Mindscape is a trademark of Mindscape, Inc. Software copyright © 1985 and 1986 ICOM Simulations, Inc. Macintosh is a trademark licensed to Apple Computer, Inc.










THE MOST COMPLETE COLLECTION OF MACINTOSH™ SHORTCUTS EVER ASSEMBLED






Here, in one easy-to-use, all new, deluxe spiral-bound edition, are more than a thousand indispensable hints and tips that will help you get more from your Macintosh and software than was ever possible before.

Because operating manuals only give you the bare bones needed to run your Mac and its programs, most users are missing out on a tremendous number of tricks-of-the-trade — hints, tips, shortcuts, little gems of advice that can save you hours and days of frustration.

Now enter *The Power User's Manual*. This extraordinary reference source has been compiled from magazines, newsletters and the hands-on experience of hundreds of Macintosh users. It's a virtual treasure trove of hints and tips you won't find in any operating manual — because they were never intended for public consumption.

Here's just a small sampling of what *The Power User's Manual* will show you:

-  How to use borderless objects in MacDraw as "erasers" (Page 68)
-  How you can program the standard MacCalculator to solve equations (Page 33)
-  How to know when to replace batteries, which ones to use and where to find them (Page 21)
-  How to solve the problem, instantly, of disks that don't show a Bomb icon, but still seem unbootable (Page 1)
-  How to manipulate very small images selected with the Lasso by "remote control," in MacPaint (Page 80)
-  How to put additional Note pads on one disk, even if the Note Pad is already filled with information (Page 35)
-  How to get your Mac to select text word-by-word instead of character-by-character (Page 10)
-  How to automatically name cells to the right of their labels in Excel (Page 41)
-  How to update your desktop file and save icon positions when you close a drawer in the HyperDrive (Page 56)

-  How to use a single key to create menu dividing lines that *don't* indent from the left edge in Microsoft BASIC (Page 104)
-  How to gain fast access to built-in fonts from the draft mode on the ImageWriter II (Page 60)
-  How to keep both hands on the keyboard and still move from field to field in all dialog boxes (Page 4)
-  How to generate a Tab character within a field (especially helpful for inserting tables) in Microsoft File (Page 108)
-  How to emergency-exit using Switcher, in case your particular application "hangs" or "crashes" (Page 32)

Whether you're a desktop publisher, student, hacker or business person — whatever applications you use — the more than one thousand hints, tips and shortcuts in *The Power User's Manual* will prove absolutely invaluable. They deal with the Macintosh itself (128K to the MacPlus), the System File, the Finder, MacWrite, MacDraw, MacPaint, MultiPlan, the ImageWriter (all versions), the LaserWriter (all versions), the Font/DA Mover and dozens of other specific software and hardware.

The Power User's Manual, with 168 help-packed pages and three cross-referenced indexes, makes it simple to locate instantly the hints you need. The Table of Contents gives the starting page for each of 82 different categories. The Major Category Index lets you scan a large number of hint titles without having to read the whole manual. And the Subject Index is arranged alphabetically, to direct you to the appropriate category and page.

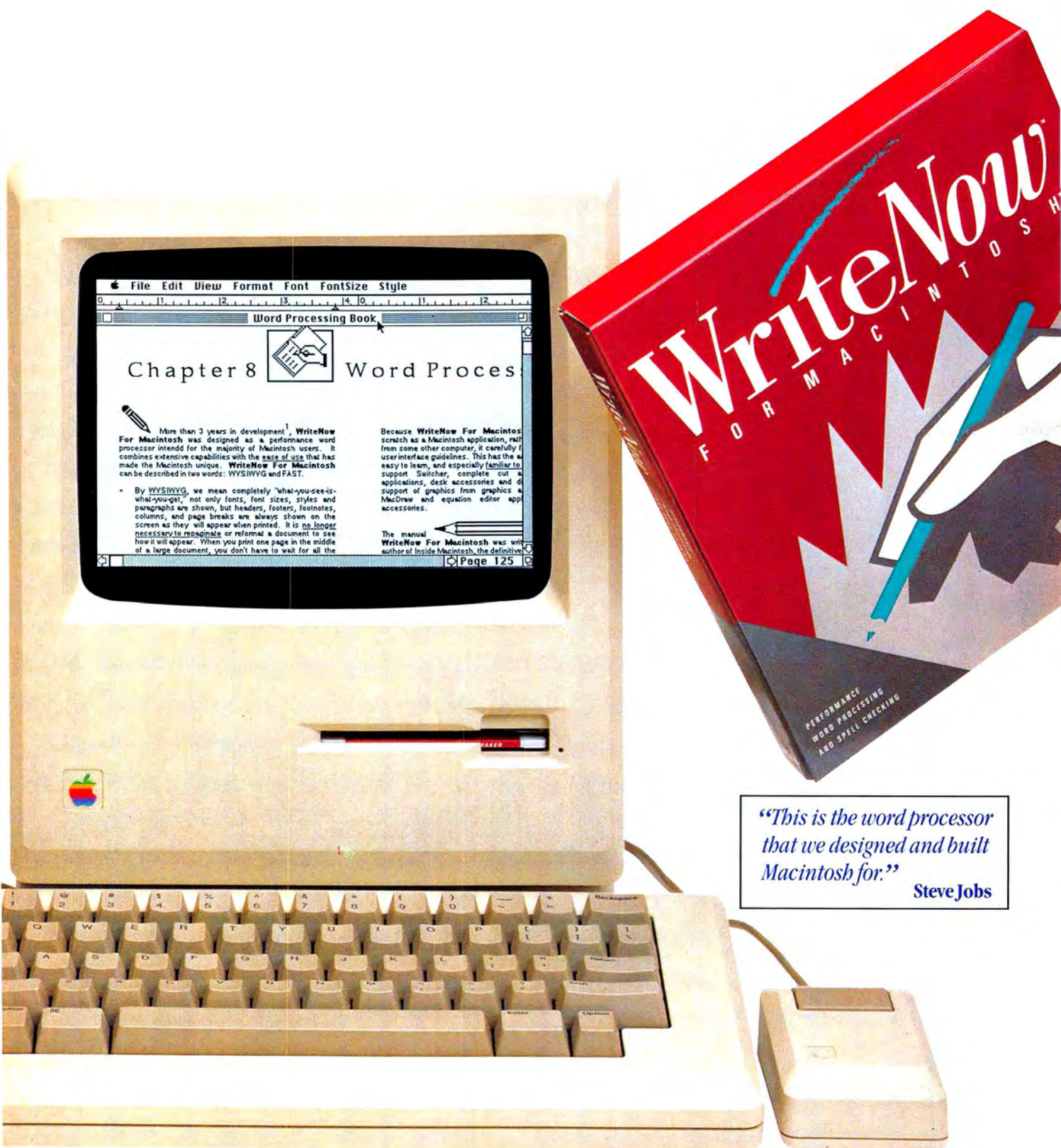
If there is just one reference source every Macintosh owner should own, this is it. The cost is only \$17.95 plus \$2 shipping/handling, and it may just be the wisest accessory investment you've ever made. Of course, it comes with our 100% money-back guarantee if you are dissatisfied for any reason. Order your copy right now, while this first-edition is still in stock.

Send to: MacUser, 831 Federal Rd., Brookfield, CT 06804

Please send me _____ copies of *The Power User's Manual* for just \$17.95 plus \$2 shipping/handling each. If I am not satisfied, for any reason, I may return my copies within 30 days for a full refund.

- ☐ Check or money order for \$_____ enclosed.
☐ Charge my VISA ☐ Charge my MasterCard

Card No. _____ Expires _____
Signature _____
Name _____
Address _____
City _____ State _____ Zip _____



Chapter 8 Word Processing Book

More than 3 years in development, WriteNow For Macintosh was designed as a performance word processor intended for the majority of Macintosh users. It combines extensive capabilities with the ease of use that has made the Macintosh unique. WriteNow For Macintosh can be described in two words: WYSIWYG and FAST.

- By WYSIWYG, we mean completely "what-you-see-is-what-you-get," not only fonts, font sizes, styles and paragraphs are shown, but headers, footers, footnotes, columns, and page breaks are always shown on the screen as they will appear when printed. It is no longer necessary to repage or reformat a document to see how it will appear. When you print one page in the middle of a large document, you don't have to wait for all the

Because WriteNow For Macintosh was written from scratch as a Macintosh application, built from some other computer, it carefully follows user interface guidelines. This has the advantage of being easy to learn, and especially familiar to users of other Macintosh applications. WriteNow supports Switcher, complete cut and paste support of graphics from graphics applications, and equation editor applications.

The manual WriteNow For Macintosh was written by the author of Inside Macintosh, the definitive

Page 125

WriteNow

FOR MACINTOSH

PERFORMANCE
WORD PROCESSING
AND SPELL CHECKING

*"This is the word processor
that we designed and built
Macintosh for."*

Steve Jobs

Performance Word Processing is here... WriteNow™ For Macintosh™

Introducing WriteNow For Macintosh, the next step in word processing. WriteNow For Macintosh combines the power you would expect from a dedicated word processing system with the ease of operation that you're used to with MacWrite.™

□ Performance.

This program is fast. Very fast. *Especially with large documents.* Saving, scrolling, finding and replacing, and printing happen *lightning-fast.* Regardless of document size, repagination is automatic and reformatting is instant.

□ On-Screen Multiple Columns.

You can do true *WYSIWYG* (What-You-See-Is-What-You-Get) editing in *one, two, three, or four columns* directly on-screen. Page breaks and characters from 4-127 points are displayed on-screen as well.

□ 50,000-Word Spelling Checker.

A fast, on-line 50,000-word spelling checker is included. You can add or delete words and create "personalized" dictionaries. The spelling checker also has a handy "guess" feature that recommends the correct spelling of misspelled words.

□ Headers, Footers, and Footnotes.

Now you can display a unique header and footer for each page. Footnotes can be automatically numbered and edited on-screen as well.

□ Unlimited Open Documents.

Open as many documents as memory allows, making cutting, pasting, or reviewing between windows a breeze.

□ Embedded Graphics.

Graphic images can be part of a sentence,

part of a paragraph, or a separate paragraph, and can be proportionally or freely sized.

And Much More.

To learn more, contact your local computer dealer today.

Suggested Retail: \$175

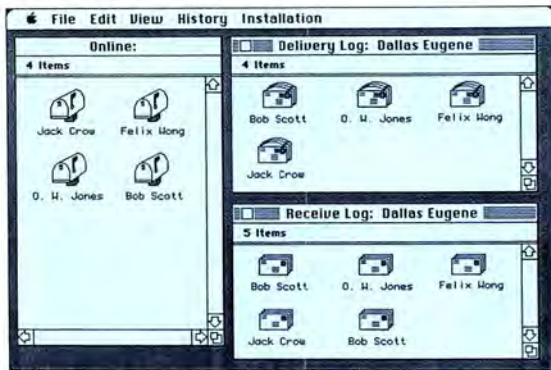
Min. Requirement: Runs on any Macintosh. (Macintosh 512K or larger recommended for spell checking.)

T/Maker®

T/Maker Company
1973 Landings Drive,
Mt. View, CA 94043
(415) 962-0195

Videx® - Solutions for the Macintosh™ ...

Mail Center® *Electronic Mail for the Macintosh Office.*



Mail Center is a communication program that transfers letters, charts, and programs via the AppleTalk Personal Network™. Mail Center lets you use AppleTalk to communicate directly from workstation to workstation without interrupting the person receiving mail. No file server or hard disk is required.

Bar Code Labeler *For All Your Labeling Needs.*



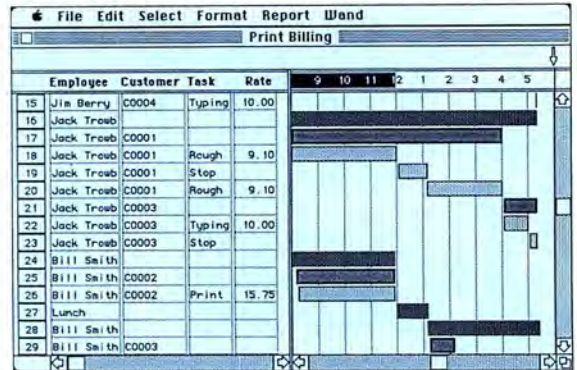
Bar Code Labeler allows you to design custom labels. All of the Macintosh font and type styles can be used to print mailing labels, bar code labels, or virtually any other type of label. Bar Code Labeler uses information from any program that saves information in a text format such as OverVue, Omnig 3, and MacWrite. Bar Code Labeler will print on label stock using either the LaserWriter or ImageWriter printers.

TimeWand® *A Portable, Time-Stamped, Bar Code Reader.*

The TimeWand is an intelligent yet inexpensive bar code reading system. With its built-in micro-processor and up to 16K of memory, the TimeWand can be programmed to read different types of bar codes. Different program options can be selected, such as requiring the bar codes to be scanned in a predetermined order. The TimeWand's recharging/downloading station uses a serial connector to communicate with a variety of host computers. Since communication is keyless, the scan information is sent quickly and error free. Versatility is the hallmark of the TimeWand system.

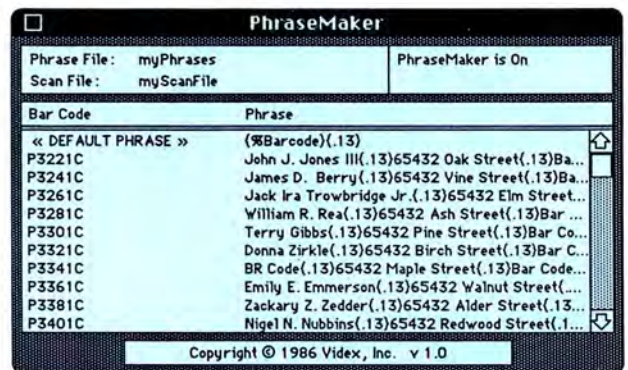
Videx, Mail Center, and TimeWand are registered trademarks and PhraseMaker and TimeWand Manager are trademarks of Videx, Inc. Macintosh and AppleTalk Personal Network are trademarks of Apple Computer, Inc.

TimeWand® Manager *A New Dimension in a Data Base.*



TimeWand Manager is a powerful software program written specifically for the TimeWand system, enabling you to easily organize your bar code information. TimeWand Manager can sort, perform calculations, display timelines, cross-reference, search, and print a variety of reports. This valuable program is ideal for both reviewing and reporting daily operations.

PhraseMaker™ *A Powerful New Software Tool.*



PhraseMaker is a unique new program that allows the TimeWand to be used with virtually any Macintosh program. Written as a desk accessory, PhraseMaker automatically cross-references bar code data received from the TimeWand with a list of stored information. Similar to a macro, PhraseMaker can enter text, menu commands, cursor movements, and bar code data directly into a program without typing.

Mail Center (Twin Pack) \$299, (Six Pack) \$499;
Bar Code Labeler \$89; TimeWand (2K) \$198;
TimeWand Manager \$489;
PhraseMaker \$299.



1105 N.E. Circle Blvd., Corvallis, OR 97330-4285
503-758-0521

Please circle 171 on reader service card.

WorksPlus™ Spell

Spelling Checker



Lundeen & Associates



For those who didn't place first in the Spelling Bee...

and even for those who did.

You bought Microsoft® Works to save time and unnecessary effort. So, let WorksPlus Spell track words for your Works!

WorksPlus Spell is the fastest spelling checker on the market—**10 times faster** than any other. Spell checks a two-page memo in 1 second; a 50-page proposal in less than 30 seconds!

Ever have trouble remembering the spelling exceptions? "*I before e...*"??? Spell doesn't. It knows all those endless rules as well as verb tenses, plurals, adjectives, and adverbs.

Can't remember a word's spelling? Spell can look it up for you. Simply type a command key and the first few letters and Spell will insert the correct word right into your document.

Spell can also check each word as you type without slowing your speed. A gentle beep warns you of a misspelling or typo. Just choose the correct alternative and continue typing!

Its main directory contains 70,000 words. If you need more, you can add

words to either the main dictionary or a document's personal dictionary. Or, you can delete words.

But Spell is more than a spelling checker. Its Glossary feature saves you typing the same phrases over and over. Just abbreviate those frequently-used phrases. Spell will automatically insert the complete phrase for you. You can also use its automatic hyphenation feature to give your documents a compact, professional appearance.

WorksPlus Spell is *the* spelling checker to use with your Macintosh™ and Microsoft Works program. Spell is so well integrated that even the Works Help

file is updated to include it. Now you can write, check, and print a document **without ever leaving** the Works program.

We're so sure that you'll win every time you use Spell that we'll include a blue ribbon with your purchase! In addition, Spell comes with a 30-day money-back guarantee so you can't lose.



Lundeen & Associates
P.O. Box 30038
Oakland, CA 94604

Please circle 173 on reader service card.

WorksPlus™ Spell

Send me ___ copies of
WorksPlus™ Spell at \$59.95 each \$ _____
In the USA & Canada, add \$3.00
per copy for shipping and handling _____
Outside the USA/Canada, add
\$10.00 per copy for shipping and
handling _____
CA residents add sales tax _____
Amount enclosed \$ _____

Method of payment:

☐ VISA ☐ MasterCard ☐ Check

_____ account number

_____ exp. date

_____ signature

Ship to:

name _____

address _____

city _____

state _____ zip code _____

Be Sure You Only Buy



Software That Fits™!

There's a lot of Mac software on the market, and more coming every day. Choosing which program is right for your application doesn't have to be a gamble.

Try That Program First!

No matter how many reviews you read, no matter how many experts you consult, there's only one way to know whether a program will do what you want it to . . . run it on your machine, with your data.

Not just an hour or so in a store, and not with a "demo" disk. We're talking full-bore, flat-out, pedal-to-the-metal test drive.

FREE For Three!

Through February 28, 1987, you can try any three of the programs we offer, and we'll send along a copy of SMART ALARMS, free for you to evaluate.

Think of all the competing programs you've been wanting to try . . . Superpaint/Fullpaint, Macdraft/Macdraw, Ragtime/ReadySetGo, Double Helix/Omnis3.

What are you waiting for? Pick your programs from any that we offer, and call us for prices. Trial prices apply towards purchase, if you decide to keep a program.

Select From More Than 500 Titles!

We offer the most popular Mac software, under a trial use plan. We even include manuals. *You* pick the program, and you only pay for the trial. *You* decide whether it's worth buying. If it fits, keep it, and pay the difference. If it doesn't, send it back. Either way, you'll know for sure!

Call For Our Winter Catalogue!

Remember, we have more than 500 software titles in stock, so call and order the ones you've been thinking about. Get a hands-on tryout for a fraction of the purchase price . . . whichever ones you decide to keep, all you pay is the difference. And, remember our Free-For-Three offer when you order.

Software That Fits™
1-800-972-3018

(713) 540-2300



Save on Sony Disks!

(SS) boxed **\$1.16** bulk **\$1.06**
(DS) boxed **\$1.70** bulk **\$1.32**

Why Pay More?

Save on disk drives and ribbons, too! Call us.

MacRENTALS™ P.O. Box 4028 • Humble, TX 77347

Please circle 152 on reader service card.



Steven Bobker

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

STRIP SHOW RESPONSE

Thank you for including Softstrips in your magazine. When you're one of the first to buy into a new technology, it seems like it takes forever for the world to catch up. As I remember, it was like that for those of us who got those little Macintosh 128s back in 1984. So I'm sure many of us appreciate your willingness to devote a page now and then.

I would like to see *Excel* templates, utilities and maybe a diversion or two. There must be a number of people who don't have access to CompuServe and the easy downloading of public domain software, so some of that would be appropriate, too.

ED CAPEN
DALLAS, TX

I greatly appreciate your support of the Cauzin Softstrip Reader. Please continue to publish demo programs, shareware and sample programs in Softstrip format.

RANDY JENNE
EDMONTON, CANADA

I want to thank you for your interest in the Cauzin Softstrip system. I look forward to the "Strip of the Month" in each issue. Please continue to carry this feature. Why couldn't new software be previewed using this system? It wouldn't need to be a full program, but enough for potential buyers to experiment with. Many of us have (regrettably) paid substantial sums for programs based on advertising or reviews, only to find out later that this was not the program to do the job intended.

ORVA J. COWAN
VANCOUVER, WA

I am one of the early purchasers of the Cauzin Softstrip. I think it has great potential if enough interest is generated. A service that you could perform would be to make up a data base of *MacUser* articles and tips and publish the information in Softstrip format.

Thanks for including the Cauzin strips in *MacUser*.

DONALD ROBERTSON
BRENTWOOD, CA

JUST TESTING

As a side note to the Radius Full Page Display (Nov. '86), I noticed that whoever set up the photo is like I am — they prefer the old Mac keyboard to the new one, even though the photo shows a Mac Plus.

Keep up the good work. Your magazine has the most informative, timely coverage of new Macintosh products and humorous, thought-provoking editorials. (Now I will see if you paraphrase readers' letters to make them fit, make the editor sound Einstein-like in the replies and make the writer look like an idiot — as another Mac magazine did to me.)

JOE HANNAN
KINGMAN, AZ

Frankly, I prefer to sound like Noel Coward, if I get a choice. As you can see, we just edited the length a bit — that's so we'd have room to fit the complimentary part in. The photo was set up in-house; we just grabbed the first keyboard available that didn't have an editor attached. — LK

TRY TO REMEMBER

I had to write Neil Shapiro. Your "Musings on a Flat Mac" (Oct. '86): "A few who love the Mac . . . are trying to remember the *WordStar* commands they learned in a misspent youth. I've even had to relearn how the *PIP* program works." That took me back to the days of my old NorthStar Advantage, and I had to think, "PIP? Gee, that's familiar, what the heck was that?" Thanks for the memories.

RICHARD E. BUHLER
ALBUQUERQUE, NM

PRINTER ERROR

As a graphic designer particularly well-versed in typography, I want to take issue with Mr. Shapiro's "The Reek of Hot Toner" (Nov. '86).

First of all, you're barking up the proverbial wrong tree. It's not *printers* with whom you should take issue over the quality of type and desktop publishing. Printers know printing, not type (although they may claim otherwise). Typesetting houses know type. And as a designer who knows both type and typesetting, there's no way I'd use the type that a LaserWriter outputs as camera-ready copy for a quality printed piece. Not only the resolution, but the proper kerning and overall feel isn't at all up to what a good typesetter can produce. Maybe it is up to par with what a printer can produce.

I hope you're right that whatever

production limitations currently exist will be overcome within the next year or so. But don't go to a printer for your design work. Hire a graphic designer.

KRISTEN MILLER
MINNEAPOLIS, MN

JUST IN TIME

How did you do it? First Neil Shapiro is writing an editorial about the Flat Mac and the next thing I know somebody's made one! Must be the power of the press.

I'd appreciate hearing what you think of it. A picture I've seen shows no mouse. What have they done with the rodent roller? The entire unit looks so flat that I've sent Dynamac a self-addressed, stamped envelope in hopes that they'll send me the computer by return mail.

Still, I know nothing about its craftsmanship. Should I be waiting or anticipating?

STEVE MORTON
STILLWATER, OK

I need a truly portable Mac. Although battery operation would be kinda nice, it is not a definite requirement. Two disk drives would be essential, as would a built-in modem. All I need is a portable computer that is completely compatible with the desktop unit — a computer I can take with me on trips, write reports, etc., and on returning to the office, slap the disk in the desktop unit and print.

Just recently I saw an article about a lap-top Mac that is being considered, but the estimated price was from \$5000 to \$7000. Such a price is completely out of the question! If a lap Mac could be brought out in the \$1500 range, I'd say there are tens of thousands of peddlers who would jump at it.

Let's get someone to consider the market for all us Willy Lohmans.

HUGH C. OSBORN
HICKORY CORNERS, MI

As you have no doubt noticed by glancing at our cover this month, the flat Mac is actually here. Was that fast enough for you? Whether or not you think it's worth the price is up to you. You'll get all the information you need from Neil's article — we felt that under the circumstances, it would be cruel to let anyone else review this one. — LK

READY, SET . . .

In the beginning of October I received a notice from Manhattan Graphics about

INTRODUCING

Laser

Super Spool™

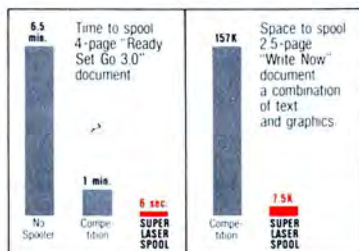
The fastest
LaserWriter®
print
spooler
under
the sun.

It is also incredibly compact, and it can handle downloadable fonts.

BLINDINGLY FAST.

SuperLaserSpool returns control of your Mac to you 5 to 40 times faster than its competitors.

If you're in a network, and the network is busy, SuperLaserSpool will automatically engage the LaserWriter when it's your job's turn to be printed. No more time wasted waiting for the LaserWriter to be free!



Look how much faster SuperLaserSpool will give your Mac back compared to its competition.

SuperLaserSpool's files are so small, you don't have to worry about running out of disk space.

INCREDIBLY COMPACT. Other spoolers write such large files that running out of disk space becomes a real problem. Not so with SuperLaserSpool. Its files are so compact, floppy-disk systems can use it.

DOWNLOADABLE FONTS. Unlike most of its competitors, SuperLaserSpool can handle files that have multiple downloadable fonts.

EASY TO USE. With SuperLaserSpool, you can view all the jobs in the print queue, change their order, delete jobs, receive on-screen help, and check on network activity. Your spool files are always safe, even after a

power failure.

SuperLaserSpool works with practically all major Macintosh applications. You can leave and enter different programs at any time without disrupting the printing of documents already spooled.

And it's completely invisible: You can launch it and forget it's even there.

Two versions are available:

- **SINGLE-USER VERSION: \$149.95**
- **MULTI-USER VERSION (for 1 to 5 users on one network): \$395.00**

Get SuperLaserSpool at your local SuperMac dealer today, or order direct.



950 N. Rengstorff, Mountain View, CA 94043
(415) 964-8884

Macintosh is a trademark licensed to Apple Computer, Inc. LaserWriter is a trademark of Apple Computer, Inc. ©1986 SuperMac Software.

purchasing an update of *ReadySetGo*, *ReadySetGo* 3. I immediately mailed my check, since I've found *ReadySetGo* 2.1 quite awkward to use despite its recent improvements. A few weeks went by and since I had not received the upgrade, I gave them a call. The woman on the phone said they would be shipping in mid-November. In other words, the product was far from ready at the time they were asking for people's money. I asked her if they had mentioned this delay in the ads and flyers and she said, "Oh, I guess not . . ."

Even though I feel certain that I will eventually get my copy of *ReadySetGo* 3, I think it's unfair not to inform the public about such delays. I am using these programs for professional purposes, and I lose money when there are delays.

There is probably nothing illegal in what Manhattan Graphics did; the point is one of integrity. This is yet another chapter on the topic of vaporware, which deserves the attention of legislators. As I understand the laws governing book publication, you can't advertise a book until it has been copyrighted and produced. Why doesn't this apply to software?

J. LAWRENCE THOMAS
NEW YORK, NY

TAKING US TO TASK

In your November '86 issue several references were made to Andy Hertzfeld's *Servant* as "a multitasking replacement for the *Finder*." *Servant*, while a wonderful alternative to the *Finder*, does not provide a multitasking environment. Although multiple applications' windows can be on screen at the same time, this interface is simply a more intuitive implementation of the context-switching environment first seen on the Macintosh with *Switcher*. Memory-resident applications are always instantly available, but when an application's window is deactivated, that application is suspended until its window is reactivated (except in special cases).

Recently Mr. Hertzfeld answered questions about multitasking by saying that the current Macintosh could not effectively support such an environment, and that while he had tried to make multitasking a reality with *Servant*, there were too many "bottlenecks" to make it practical. He did say, however, that future applications that are designed with *Servant* in mind will be able to perform certain operations (like printing or downloading data) in the background. These are the "special cases" mentioned above. It seems to me that

Compare.



"Not all memory upgrades are created equal."

Carlos Suarez
President

To help clear up the confusion about Macintosh Plus™ memory expansion products (and to point out some of the reasons why our MaxPlus 2Mb upgrade immediately became the world's best-selling Macintosh memory board), we offer this list of five key questions to ask when comparing products.

1. Will it let me expand to 4Mb?

YES MacMemory, MaxPlus
NO Dove

2. Does it use the same surface-mount technology Apple® uses?

YES MacMemory, MaxPlus
NO Levco, Dove

3. Do I get extras like RAM disk and print spooler software?

YES MacMemory, MaxPlus
NO Levco, SuperMac

4. Will I have toll-free technical support and the longest board warranty available? (Two years)

YES MacMemory, MaxPlus
NO Levco, Dove, SuperMac

5. Am I getting the most for my money?

YES MacMemory, MaxPlus (\$399)
NO Levco (\$395)
Dove (\$399)
SuperMac (\$499)

For a more extensive comparison chart, and the dealer nearest you, just call us at 800-862-2636, or 408-922-0140 inside California.

*Data compiled as of December 1, 1986.
Competitive products compared: Levco: OnePlusOne.
Dove: MacSnap2, SuperMac: SuperRAM.
MacMemory: MaxPlus.

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

Beyond Compare.

Shift into high gear with TurboMax™, the high-performance accelerator board we loaded with all the features a power user needs. (Coming in February)

We started with *speed*. We added a new, more powerful 16 MHz CPU to nearly triple the speed of the Mac™. Really serious number crunchers can plug in the optional 68881 math co-processor to achieve speeds *hundreds* of times faster than a standard Mac.

We added *memory*. 1.5 Mb of *extra* memory that runs large programs easily, and can expand to a full 4 Mb to do even more.

We added our super-speed *SCSI port*. It nearly doubles the speed of the SCSI on your Macintosh Plus, and *adds* the high-speed SCSI to your Mac 512K. Hard disks run faster. (And internal hard disks will just plug in.)

We made sure your Mac would remain *100% compatible* with your software.

We built in *MaxSave™*, our hardware/software system that gives you a reliable, recoverable RAM disk in memory and the ability to work while your ImageWriter™ prints. To complete the package, we included an additional power supply, internal fan and a full, two-year warranty.

And price? Beyond compare. For the price of its closest competition you can buy the TurboMax and *two* Excels (the spreadsheet from Microsoft *and* the car from Hyundai).

Who could ask for anything more?

"A Macintosh™ accelerator board is on every power user's wish list. But price kept most of us wishing. We worked hard at MacMemory to produce the power board you need at the price you can afford."

John Lozano
Engineer



Math Co-Processor
Optional 16MHz 68881 floating-point chip addressed as peripheral to 68000. Works with all programs using SANE or offering 68881 support.

SCSI Port
Added super-speed SCSI port, up to two times faster than the Macintosh Plus. Adds 50-pin port to 512K Macintosh or speeds up existing MacPlus port. Ready for optional internal hard disk.

CPU
16MHz 68000 processor. 200% faster than the Macintosh or Macintosh Plus. Addresses all daughterboard RAM with no video wait states for overall speed improvement of 250%.

RAM
Additional 1.5 Mb of 120ns RAM, structured as 256Kx8 SIMM modules. Expandable to 4Mb with addition of two 1024Kx8 megabit modules.

MacMemory

The Macintosh Performance Family

2480 North First, San Jose, California 95131 / 800-862-2636 in California 408-922-0140

Please circle 115 on reader service card.



WHAT EVERY DESKTOP PUBLISHER NEEDS IS A PHOTOGRAPHIC MEMORY.



**TAKE A PICTURE.
ANY PICTURE.**

It can be a photograph, artwork, a technical drawing. Feed it into the Microtek Intelligent Image Scanner, and it's on your computer screen almost instantly. Then you can edit, paint, and cut and paste it, and reproduce the sharpest image your laser printer can handle.

**MACINTOSH OR
IBM COMPATIBLE.**

The Microtek Scanner can be used with either system. And naturally, it works with the most popular publishing software for both.

**INCOMPARABLE
VALUE.**

For a scanner this sophisticated, you'd expect to make a heavy investment. But the Microtek Image Scanner is less than the cost of a laser printer and can pay for itself in no time.

It's simply the best way to improve your publishing image. For more information call 800-654-4160 (Inside California 213-321-2121).

MICROTEK

16901 S. Western Ave., Gardena, CA 90247.

Please circle 140 on reader service card.

this could be described as multitasking only by those willing to stretch their imaginations a bit. For now it looks as though people who need multitasking will have to go back to the Lisa, or bite their tongues and buy an Amiga, which they will subsequently have to program.

By the way, Apple did not purchase exclusive rights to the *Servant* code. Andy has indicated that he plans to market his own incarnation of *Servant* independently, so there will probably be two versions — Apple's and Andy's. I'll take Andy's.

PATRICK J. KURAS
BRIGHTON, MA

TAKING EXCEPTION

Your article "The Big Picture" takes a small-minded approach to examining the large screen marketplace. As an enthusiastic user of Micrographic Image's MegaScreen, I am amazed by your statement, "All they (Micrographics) offered was the bigger screen."

A close examination of the MegaScreen shows that it has a significantly larger desktop than the Radius, a programmable video output for using other monitors and recorders and, most importantly, MegaScreen has been available for more than three months.

The Radius displayed at the Seybold conference in San Francisco had a severe flicker problem and no Radius screens were present at the MacExpo in Dallas — where over 20 MegaScreens were in use. Your article makes it sound as if you are more awed by the Hertzfeld/Smith names than by the Radius product itself.

Granted, MegaScreen is more expensive, but the \$2000 price tag of the Radius puts it outside the home market and into the businessplace. In that market, considering MegaScreen's advantages, \$2995 is not that much more to pay.

NORMAN L. KINSEY
CHICAGO, IL

While I don't deny that the Radius you saw had a screen-flicker problem, I've never observed that. In fact, I find the Radius screen sharper than even the Mac screen. I also prefer the Radius software. In particular, the MegaScreen's tiny (in context) constantly flickering cursor makes the screen very hard for me to use. I much prefer the steady, large cursor on the Radius.

There is nothing seriously wrong with the MegaScreen. I just feel that the cheaper Radius is a better machine for most users. And yes, it needs a video output. Thanks for pointing that out. — SB



THE MAC ATTACK!



BATTERYPAK

9 desk accessories

"The Best Desk-Accessory-Package Award — the hands down winner!"
— A+ MAGAZINE

"... a 'wish list' of desk utilities."
— INFOWORLD MAGAZINE

"The best we've seen — a five-mouse rating!"
— MACUSER MAGAZINE

9 super-charged productivity tools. The only accessory package you need:

1. Calendar with Daytimer
2. 250-page Phonepad
3. Automatic Modem/Phone Dialer
4. Scientific Calculator
5. RPN Calculator
6. Disk Tools accessory package
7. High-Speed Launcher
8. Print Text Spooler
9. Windows Listing

ONLY \$49.95* NOT COPY PROTECTED

TIMELINK

electronic calendar/diary system

"... a welcome addition to the Macintosh office."
— MACUSER MAGAZINE

Will quickly become your essential tool for planning, scheduling and record-keeping.

- Electronic diary windows for each day, week, month and year — put any combination on the screen simultaneously
- Instant updating between time frames — a change in one window is automatically entered in the others
- Built-in database capabilities let you keep track of expenses, billable hours and other timely data
- Add/Subtract, Time Between Dates and other features help you plan ahead
- Cut and paste to your desktop calculator and MacWrite — totally compatible

ONLY \$49.95* NOT COPY PROTECTED

HOMEPAK

telecommunications +

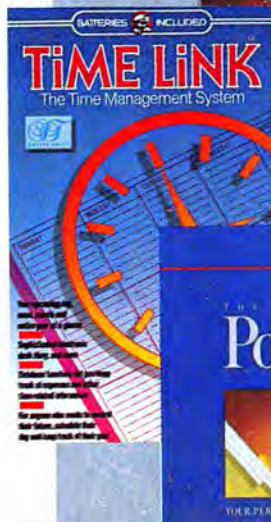
"... an excellent telecommunications program. Hometerm by itself is a five-mouse program."
— MACUSER MAGAZINE

- Easy access to bulletin boards, public databases, Dow Jones, Compuserve...
- Powerful Macro capability — one command logs you on to your favorite service
- Store up to 10 Macros and 5 phone numbers — per document
- X-modem protocol; compatible with all the most popular modems
- Download and upload directly to disk — no buffer to slow you down
- On-line Conference capability and much more

ONLY \$49.95* NOT COPY PROTECTED



new enhanced version!



THUNDER!

the writer's assistant

"Finally, a spelling checker I can't live without!"

STEVEN BOBKER

EDITOR IN CHIEF, MACUSER MAGAZINE

3 PROGRAMS IN ONE!

① SPELLING CHECKER with 50,000 word dictionary — add more of your choice

- Real-time mode: program alerts you when you've made a mistake
- Stand-alone mode: have Thunder! check the text after you've finished writing
- Error? Select the correct spelling from a list of similar words — Thunder! makes the change instantly

② ABBREVIATION EXPANDER saves you thousands of repetitive keystrokes — names, addresses, etc.

- Simply enter a pre-set abbreviation and Thunder! expands it to full form — each abbreviation can represent up to 80 characters
- Built-in abbreviations for Days, Months, U.S. States and Canadian Provinces

③ DOCUMENT ANALYZER gives you a statistical report including number of words, average sentence length, FOG score and much more!

ONLY \$49.95* NOT COPY PROTECTED

ISGUR PORTFOLIO SYSTEM

investment manager with telecommunications

"... gives investors many of the technical analysis and reporting tools used by professionals."
— INFOWORLD MAGAZINE

"It is dangerous to look at any software package and say, 'This is the one,' but this one comes very close."

— COMPUTERIZED INVESTING

Helps you manage any combination of investment portfolios more efficiently — stocks, bonds, options, commodities, mutual funds. For casual investors and professionals.

"The Editor's Choice"

— PC MAGAZINE

- Designed by Lee Isgur, top Wall Street analyst and V.P. of PaineWebber NY.
- Program updates your portfolios automatically with the latest market data — pre-set for all the popular on-line financial services
- Powerful features show you the most profitable decisions: "Suggest", "Raise Money", "Gains/Losses" and many more
- Analyze, compile and display your investment data in new ways, to gain new insights
- Includes Calendar/Memo desk accessory — automatically advises you of important dates

ONLY \$199.95* NOT COPY PROTECTED



BATTERIES INCLUDED

BATTERIES INCLUDED, an ITM company, 30 Mural Street, Richmond Hill, Ontario, Canada, L4B 1B5 (416) 881-9941, Customer Information (416) 881-9816

If you can't find this product at your local retailer, you may order it direct from us at the full suggested list price plus \$5.00 for postage and handling. For product orders please call 1-800-387-5707 (U.S. only). With all Batteries Included products you can always have the latest version of your program by returning the original disk and \$10.00. Write to us for our full color catalog of products for the APPLE, APPLE MACINTOSH, ATARI, ATARI ST, COMMODORE, COMMODORE AMIGA, AND IBM SYSTEMS.

©1986 Batteries Included. APPLE, APPLE MACINTOSH, ATARI, ATARI ST, COMMODORE, COMMODORE AMIGA, AND IBM are registered trademarks respectively of APPLE COMPUTERS INC., ATARI CORPORATION, COMMODORE BUSINESS MACHINES INC., AND INTERNATIONAL BUSINESS MACHINES INC. Some features may vary with computer system used.

*All prices shown in U.S. funds. Retailers may sell for less.

Please circle 51 on reader service card.

If you can't find this product at your local retailer call our toll-free number to order: 1-800-387-5707

One of Man's Most Effective Communication Tools is Now Obsolete.



Now There's a Easy Way to go from Idea to Outline in One Step!

Take the step, drop that blister-causing carbon tool called a pencil. Oh, it's still useful for some things, but not when it comes to organizing ideas and opinions into outlines. We respectfully submit a better way, an easier way, a way some would even call a miracle. *Voila!*TM

Voila! is a **Desk Accessory Outliner** that provides you with all the third generation outlining features you've been waiting for . . . and then some.

With *Voila!* there is no limit to the number of Headlines, Subheads or Expander windows you may create. And you have the ability to edit fonts, sizes and styles for a single Headline, a Level, an entire Family or the entire Outline. These unprecedented editing features, combined with **Imagewriter** and **Laserwriter** compatibility, allow you to create Outlines of unsurpassed quality. *Voila!* will even print your Outlines in one of four formats: **Arabic**, **Roman**, **Standard** or **Symbol**. And on top of all this a **Table of Contents** is instantly created for each Outline.

Perhaps the most innovative feature of *Voila!* is the ability to automatically transform any word processing document into an Outline, in seconds. Business plans, proposals and manuscripts are converted into Outline format with the click of a mouse! And *Voila!* doesn't limit you to the written word. Both **text** and **graphics** may be included as a part of any Outline.

Voila! reads and writes both **ThinkTank**TM and **TEXT ONLY** files. It requires a Macintosh 512K or Macintosh Plus and is compatible with all hard disks. For further information, or for the name of the dealer nearest you, call Target Software toll free.



Voila! - Only \$99.95
From the makers of MacLightningTM

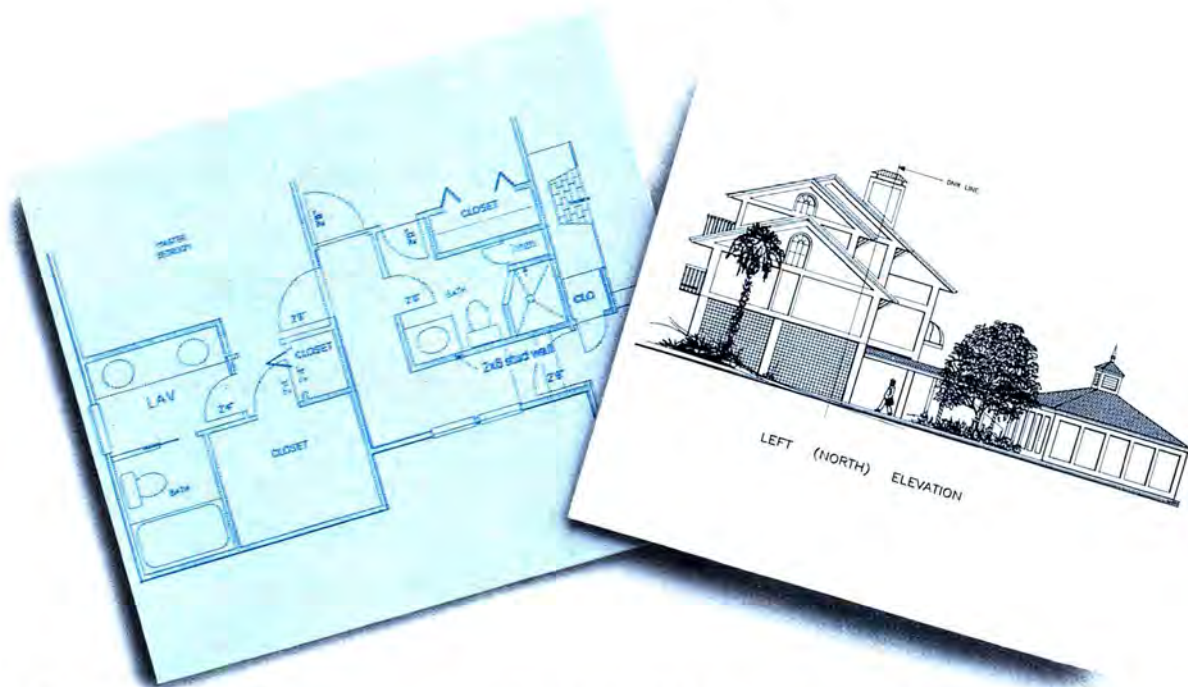
Target Software

14206 SW 136th Street, Miami, Florida 33186
National 1-800-622-5483; In Fla. (305) 252-0892

MacDraft 1.2

It keeps getting better.

NOW SOLD
WITH NO
COPY PROTECTION



Drawing Environment

Choose your scale and units and MacDraft will do the rest. Dimensions of objects, snap grids, rulers, cursor positions, area calculations and auto dimension lines will be computed for you.

New Features:

Resize groups & bit maps proportionally. Bit maps can also be stretched in an X, Y direction independently.

Cursor position indicator. Determines the relative position of an object on the drawing.

Hard disk install or de-install your copy of MacDraft.

New drawing scales. Choose from 32, including 2 new engineering scales; 4x & 10x, both in US and metric units.

Increased accuracy. Select from

1 to 4 places behind the decimal point. The values will be rounded off correctly.

Automatic area calculation of any object to scale regardless of complexity. Even trace the boundaries of overlapping objects to obtain net area.

Pict format allows you to save a drawing as well as open a document that has already been saved in this format. Transfer large drawings to a plotter driver that supports the format and conveniently use selected page layout programs.

64 Fill & ink patterns plus dynamically edit, create and save your custom patterns.

Plus:

Create circles by radius or diameter, arcs by radius or defining 3 points. For irregular shapes our polygon and free-hand tools offer dynamic editing, auto

closure and adding sides to an existing object. Zoom in and magnify a portion of your drawing up to 8x; or zoom out and see as much as 4' x 4' in a single window, maintaining full drawing capabilities at any view. Even rotate objects 1° at a time.

Don't Be Deceived

MacDraft is only \$269.00, yet it offers the majority of drawing capabilities of CAD systems costing much more. It is the only drafting program that takes full advantage of the Macintosh user interface.

idd inc.

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

Backup & Utility Software

Apple Computer	
Switcher Construction Set	14.00
Central Point Software	
Copy II Mac (Includes MacTools)	20.00
Dreams Of The Phoenix	
Quick & Dirty Utilities Vol. 1 or 2	27.00
FWS Software Hard Disk Util	57.00
Hard Disk Backup	39.00
Hard Disk Partition	39.00
Ideafarm Mac Labeler (Version 2.2)	29.00
Infosphere	
MacServe (Network Software)	249.00
LaserServe	
(LaserWriter Print Spooler)	125.00
Kent Marsh Ltd.	
MacSafe (Advanced File Security)	49.00
MacMaster Systems Fedit Plus V1.0	32.00
MacMemory, Inc.	
MaxRam & MaxPrint	
(Ram Disk & Print Spooler Software)	37.00
MacroMind	
MUD (MacroMind Utility Disk)	32.00
Mainstay	
Disk Ranger, MacSpool, or N'Cryptor	32.00
Flashback (Hard Disk Backup Utility)	36.00
Navis Microsystems	
TurboCharger (Version 2.0)	39.00
New Canaan MicroCode	
Mac Disk Catalog II (512K)	32.00
MDCFinder (512K)	20.00
PBI Software	
HD Back-Up (Backup for MFS & HFS)	29.00
HFS Locator Plus	
(DA Organizer for HFS)	27.00
Personal Computer Peripherals Corp.	
HFS Backup	35.00
Softstyle Printworks	49.00
Epstart V2.0, Jetstart, or Toshstart	27.00
Laserstart	59.00
TI Start or ColorMate V2.1	49.00
ColorMate Art	25.00
PlotStart w/Cable	69.00
SuperMac Software	
SuperSpool	
(ImageWriter Print Spooler Utility)	39.00
SuperLaserSpool	
(LaserWriter Print Spooler Utility)	99.00
Williams & Macias	
myDiskLabeler V2.11	25.00
myDiskLabeler w/Color	34.00
myDiskLabeler for LaserWriter	35.00

Desk Accessory Programs

Affinity Microsystems Tempo	59.00
Batteries Included	
Battery Pak (9 Desk Accessories)	29.00
Borland	
SideKick with PhoneLink	59.00
Cortland	
Top Desk (7 New Desk Accessories)	35.00
Imagine Software	
Smart Alarms & Appointment Diary	39.00
Silicon Beach Software	
Accessory Pak #1	21.00

Languages

Apple Computer MacPascal	99.00
Macintosh 68000 Development System	159.00
Borland Turbo Pascal	65.00
Megamax, Inc.	
Megamax C Compiler	175.00
Microsoft	
Microsoft Basic Interpreter	
(Version 3.0)	65.00
Microsoft Basic Compiler (Version 1.0)	125.00
Microsoft Fortran Compiler	
(Version 2.2)	169.00
Think Technologies Lightspeed C	129.00
Lightspeed Pascal	89.00
TML Systems TML Pascal V2.0	69.00
TML Source Code Library	59.00
TML DataBase Toolkit	65.00
True Basic, Inc. True Basic	89.00
True Basic Runtime	95.00
Algebra, Pre-Calculus, Calculus,	
Statistics, Trigonometry, 3D Graphics,	
Discrete Math, Probability,	
& Chippendale utilities (each)	36.00
Zedcor, Inc. ZBasic	65.00

Communications Software

Apple Computer MacTerminal	99.00
Compuserve Compuserve Starter Kit	27.00
DataViz	
MacLink Plus with Cable	
(Transfer Mac/IBM Files)	139.00
Dow Jones	
Straight Talk (Access News/Retrieval)	62.00
Dreams Of The Phoenix	
Mouse Exchange Terminal	27.00
Hayes Microcomputer Smartcom II	89.00
Software Ventures	
Microphone (Mac Communications	
by Dennis Brothers)	59.00
Think Technologies, Inc.	
InBox-Starter Kit	
(3 Personal Connections)	215.00
InBox-Additional Personal Connections	59.00

DataBase Management

Ash-ton-Tate dBase Mac	309.00
Byte Software Omnis 3 Plus	279.00
Omnis 3 Multiuser (2-5 Users)	
Specify MacServe or Corvus)	569.00
Borland Reflex	59.00
Forethought FileMaker Plus	159.00
Microsoft Microsoft File 1.04	110.00
Odesta Helix (Version 2.0)	105.00
Double Helix	275.00
ProVUE Development OverVUE 2.0d	149.00
Software Discoveries, Inc.	
Record Holder	45.00
Telos Software Business FileVision	199.00

Business Software

Apple Computer MacProject	159.00
Assimilation Process	
Business Essentials	49.00
Batteries Included	
Isgur Portfolio (Investment	
Manager with Telecommunications)	109.00
Time Link (Electronic	
Calendar/Diary System)	32.00
Cricket Software Cricket Graph	129.00
Dow Jones Market Manager PLUS	125.00
Spreadsheet Link	62.00
Execucom	
Mindsight	
(Business Planning & Analysis)	179.00
Layered	
Notes For Jazz, Excel, PageMaker,	
or Microsoft Works (each)	42.00
Lotus Jazz (Version 1.A)	269.00
Micro Planning Software	
Micro Planner Plus	299.00
Microsoft Microsoft Works 1.0	189.00
Microsoft Multiplan 1.1	105.00
Microsoft Chart 1.0	72.00
Microsoft Excel 1.03	225.00
Legislot/Nolo Press WillWriter V2.0	
(Includes Testimonial Trust)	32.00
Pro Plus Software	
Market Pro	
(Portfolio Management System)	259.00
Satori Software	
Legal Billing (Time Billing	
for Attorneys & Accountants)	389.00
Project Billing (Full Featured	
Time Billing Package)	449.00
Bulk Mailer (Mail List	
Management up to 8,600 Names)	79.00
Bulk Mailer Plus (Mail List	
Management up to 90,000 Names)	229.00

Word/Idea Processors

Apple Computer MacWrite	99.00
Living Videotext More (Third	
Generation Idea Processing)	159.00
Think Tank 512	99.00
Microsoft Microsoft Word 3.0	Call
MindWork Software MindWork	89.00
OWL International	
Guide Hypertext for the Macintosh	95.00
Symmetry Acta (Outline Word	
Processor in DA Format)	39.00
Target Software Voila! (Full Featured	
Desk Accessory Outliner)	53.00
T/Maker Company	
WriteNow (Dedicated Word Processor	
w/On-Line Spell Checking)	105.00

Spelling Checkers

A.L.P. Systems	
MacProof V2.0 (Spelling, Style,	
& Grammar Checker)	129.00
Assimilation Process The Right Word	49.00
Batteries Included Thunder!	
(Interactive Spelling Checker)	26.00
Creighton Development	
MacSpell+ (Requires 512K)	55.00
EnterSet, Inc.	
MacGas (with Glossary & Thesaurus)	55.00
Greene, Johnson Inc.	
Spellswell (60,000 word Dictionary)	45.00
Hayden Software Hayden: Speller	27.00
Lundeen & Associates	
WorksPlus Spell (Glossary & Spelling	
Checker for Microsoft Works)	32.00
Target Software	
MacLightning 2.0	
w/Merriam Webster Dictionary	53.00
Additional Thesaurus Library	29.00
Medical Dictionary or Legal Dictionary	53.00

Desktop Publishing

Boston Software Publishers	
The MacPublisher II	139.00
Mac-Hy-Phen	69.00
MacIndexer	62.00
Manhattan Graphics	
Ready, Set, Go! (Version 3.0)	169.00
Ready, Set, Go! Desk Design	37.00
Orange Micro, Inc.	
Ragtime (Integrated Page Processing)	239.00
Solutions, Inc.	
Glue (Transfer Graphics Conveniently	
and "Print to Disk" Facility)	35.00

Accounting Packages

BPI	
BPI Entry Series-General Accounting	225.00
Chang Labs	
Rags to Riches GL, AR, or AP	125.00
Rags to Riches Three Pack-GL/AR/AP	299.00
Inventory Control	245.00
Professional Billing	245.00
Professional Three Pack-	
GL/Professional Billing/Payables	349.00
Continental/Arrays	
The Home Accountant	89.00
Digital, Etc. Turbo Macaccountant	289.00
Monogram Dollars & Sense	81.00
Open Systems	
Open For Business II	499.00
Palantir	
GL, AR, or Inventory Control (each)	59.00
Peachtree	
Back To Basics GL, AR, or AR (each)	89.00
Sierra On-Line	
MacOneWrite CD, AR, or GL (each)	39.00
MacOneWrite Three Pack (GL/AR/CD)	59.00

Statistics Packages

BrainPower StatView 512 Plus	179.00
Cricket Software Statworks	79.00
StatSoft StatFast-2	75.00
Statware, Inc.	
Stat80 (Professional)	279.00
Systat Systat (Version 3.0)	459.00

Graphics Software

Allays Corp. FONTastic	27.00
Ann Arbor Softworks	
Full Paint (Un-Protected,	
includes ColorPrint)	55.00
Apple Computer MacPaint	99.00
Broderbund Print Shop	49.00
Toy Shop	41.00
Casady Company	
Fluent Fonts (Two-Disk Set)	29.00
Fluent Laser Fonts	49.00
Choice of: Bodoni, SanSerif,	
Ritz & Right Bank, Monterey,	
Calligraphy & Regency, or Prelude	
Dubl-Click Software	
World Class Fonts Volume I	
(Three Disk Set)	29.00
World Class Fonts Volume II	
(Three Disk Set)	29.00
Hayden VideoWorks	59.00
DaVinci: Building Blocks	52.00
DaVinci: Commercial Interiors	119.00
Innovative Data Design	
Paste-Ease (Volumes I & II)	35.00
I/O Designs	
ColorPrint Software Only	25.00
ColorPrint Starter Kit-3	39.00
MicroSpot MacPalette	52.00
Miles Computing	
Mac The Knife Volume III or Volume IV	27.00
Mindscape ComicWorks	49.00
GraphicWorks	49.00
Silicon Beach Software	
SuperPaint (Advanced Graphics	
Tool for The Macintosh)	56.00
Silicon Press	
(Color Printing Tool for Labels)	42.00
Symmetry PictureBase	45.00
T/Maker	
Click Art Letters or Personal Graphics	29.00
Click Art Publications or Effects	29.00
Click Art Letters II or Click Art Holidays	29.00
Click Art Business Image	29.00

CAD Products

Apple Computer MacDraw	159.00
BrainPower DesignScope	129.00
Challenger Software	
Mac 3D (Version 2.0)	149.00
Cricket Software Cricket Draw	179.00
Dreams Of The Phoenix	
Phoenix 3D Level One	27.00
Enabling Technologies Easy 3D	69.00
Professional 3D	199.00
Innovative Data Design	
MacDraft (Version 1.2)	179.00
MicroSpot MacPlot	119.00
MacPlot Professional	234.00

Educational/Creative Software

Addison Wesley Puppy Love	14.00
Broderbund Sensei Geometry	65.00
Davidson & Associates	
Speed Reader II	37.00
Math Blaster or Word Attack!	27.00
Electronic Arts	
Pinball Construction Set	27.00
Deluxe Music Construction Set V2.0	64.00
First Byte	
Kid Talk, Speller Bee, or Math Talk	42.00
First Shapes	32.00
Great Wave Software	
ConcertWare Plus	32.00
ConcertWare MIDI	89.00
KidsTime	29.00

Hayden MusicWorks	32.00
Score Improvement System for the SAT	59.00
Score Improvement-Achievement Tests	59.00
Kette Group Studio Session	69.00
Micro: Maps	
MacAtlas U.S.A. or MacAtlas World	49.00
Microsoft Hands On Excel	32.00
Learning Multiplan & Chart	39.00
Mindscape	
Perfect Score SAT	
w/The Perfect College	47.00
The Lucher Profile	24.00
Dick Francis' High Stakes	26.00
Rubicon Publishing	
Dinner at Eight	35.00
Silver Palate Collection	29.00
Dinner at Eight-Silver Palate Bundle	59.00
Simon & Schuster Typing Tutor III	35.00
Paper Airplane Construction Set	24.00
Software Concepts	
Concepts Computerized Atlas	39.00
Spinnaker Typing Made Easy	32.00
Springboard	
Early Games for Young Children	29.00
Easy as ABC	29.00

Game Software

Accolade Hard Ball	25.00
Activision	
Shanghai or Hacker	27.00
Hacker II: The Domesday Papers	32.00
Championship Star League Baseball	22.00
Alter Ego (Male or Female Version)	36.00
Tass Times In Tonetown	29.00
Artworx Bridge 4.0	21.00
Broderbund Ancient Art of War	27.00
Bullseye Software	
Fokker TriPlane Flight Simulator	35.00
Ferrari Grand Prix	35.00
Electronic Arts Autoduel	34.00
ChessMaster 2000	31.00
Patton vs Rommel or One-On-One	27.00
SkyFox, Archon, or Scrabble	27.00
EPYX Winter Games or Rogue	24.00
Temple of Apshai Trilogy	24.00
Hayden Software Sargon III	29.00
Infinity Software, LTD	
Grand Slam Tennis	29.00
Infocom	
Leather Goddesses of Phobos;	
Ballyhoo, Cuththroats, Hitchhiker's	
Guide, Planetfall, Seastalker,	
Trinity, Wishbringer, Enchanter,	
Zork I, or Witness (each)	23.00
Moon Mist, Zork II, Zork III,	
Sorcerer, Suspect, Infidel, or	
A Mind Forever Voyaging (each)	26.00
Deadline, Spellbreaker, Starcross	
or Suspended (each)	29.00
Invisibles-Hint Books (each)	6.00
MacroMind	
Maze Wars+ (Multi-Player Game	
via Modem or Network)	32.00
Microsoft	
Flight Simulator (Version 1.0)	32.00
Mindscape Balance of Power	30.00
Deja Vu: A Nightmare Comes True	33.00
Indiana Jones:	
Revenge of the Ancients	25.00
James Bond 007: A View To Kill	24.00
James Bond 007: Goldfinger	24.00
King Of Chicago	32.00
Racter	27.00
The Uninvited	30.00
Omnitrend Software	
Omnitrend's Exodus II	39.00
Origin Systems Exodus: Ultima III	38.00
PBI Software	
Strategic Conquest Plus	
(Multi-Player War Game)	39.00
Polarware Transylvania,	
Sword of Kadosh, or The Quest	15.00
Xyphus or The Crimson Crown	15.00
Practical Computer Applications	
MacGolf (Version 2.0)	36.00
Paiou	
Paiou Chess (3D & Multi-Lingual)	31.00
Q Ware, Inc. OrQuest	35.00
Silicon Beach Software	
Enchanted Scepters	21.00
Dark Castle	28.00
World Builder	42.00
Simon & Schuster	
Star Trek (The Kobayashi Adventure)	24.00
Sir-Tech Mac Wizardry	36.00
Spectrum Holobyte GATO	26.00
Orbiter	27.00
Sublogic	
JET (Simulates Land Based	
F-16 & Carrier Based F-18)	35.00

Disk Drives/Hard Disks/Upgrades

AST Research	
AST-2000	1995.00
20 MB External Hard Disk with	
20-MB Cartridge-Tape Backup for	
the Macintosh Plus.	
AST-4000	4735.00
74 MB External Hard Disk with	
60-MB Cartridge-Tape Backup for	
the Macintosh Plus.	

In Connecticut Call (203) 378-3662

Dove Computer Corporation

MacSnap Model 524 (512K to 1MB Upgrade)	139.00
MacSnap Model 546 (512K to 2MB Upgrade)	389.00
MacSnap Plus 2 (MacPlus to 2MB Upgrade)	259.00
MacSnap Plus 2H (MacPlus to 2MB Upgrade w/1MB Chips)	799.00
MacSnap Plus 4H (MacPlus to 4MB Upgrade w/1MB Chips)	1599.00

Ehman Engineering

All Ehman Drives come with a 12-Month Warranty 800K Disk Drive	
---	--

(Totally Silent Operation)	219.00
20HD (20MB SCSI Hard Drive for MacPlus)	Call

Iomega

Single Cartridge Drives	
Bernoulli Box 10MB for MacPlus	1209.00
Bernoulli Box 20MB for MacPlus	1619.00

Dual Cartridge Drives	
Bernoulli Box 2-10MB for MacPlus SCSI	1819.00
Bernoulli Box 2-20MB for MacPlus SCSI	2359.00

10MB Cartridges (3 Pack)	159.00
20MB Cartridges (3 Pack)	209.00
Head Cleaning Kit	69.00

LoDown

Hard Disks & Tape Backups for the MacPlus	
LoDown 20/20 Combo (20 MB Hard Disk w/20MB Tape)	1439.00

LoDown-720 (20 Megabyte Tape Drive)	789.00
LoDown-20 (20 Megabyte Hard Disk)	889.00

MacMemory, Inc.

MacPlus (2MB Upgrade w/MaxRam/MaxPrint/MaxChill)	265.00
MacPlus Enhanced (2.5MB w/MaxRam/MaxPrint/MaxChill)	489.00
MaxSave (Internal Recoverable Ram Disk for the MacPlus)	79.00

MaxPack (MaxPlus and MaxSave Bundle)	339.00
---	--------

MDI, Inc.

HD-20 (20MB Hard Disk for MacPlus)	859.00
HD-30 (30MB Hard Disk for MacPlus)	1199.00

TDBK-20+ (22MB Cartridge Tape Backup)	859.00
--	--------

Mirror Technologies	
Magnum 800K External Drive	229.00

MagNet 20X (External 20MB Hard Drive w/Cable)	779.00
MagNet 30X (External 30MB Hard Drive w/Cable)	949.00

MagNet 30X (External 30MB w/MacServe & Cable)	995.00
MagNet 40/40 (40MB w/40MB Tape, MacServe Included)	2695.00

MagNet 85X (74MB w/40MB Tape, MacServe & Cable)	4495.00
--	---------

Magnum Tape 20 (20MB Tape Backup)	929.00
FastPort ("SCSI" Port for your Mac 512K)	139.00

Peripheral Land	
PL 20-21MB Formatted for MacPlus	789.00

PL 30-32MB Formatted for MacPlus	979.00
MacFast 20-21MB w/Tape Controller for Mac 512K or MacPlus	979.00

MacFast 30-32MB w/Tape Controller for Mac 512K or MacPlus	1259.00
MacBack 20-27MB Tape Backup	799.00

MacPort Plus Host Adaptor-SCSI Interface for Mac 512K	159.00
--	--------

Personal Computer Peripherals	
MacBottom HD-21 (20MB Hard Disk for MacPlus SCSI)	869.00

PKI	
McD 800K External Drive	189.00

ProAPP	
World's Fastest High-Capacity MacPlus SCSI Hard Disk System:	

ProAPP 40S Hard Disk System: (Sub-30mssec. Voice Coil Technology)	Call
ProAPP 20MB Hard Disk System (Mac 128K, 512K, MacPlus SCSI)	Call

Western Automation Labs	
Dasch External RAMdisk (2048KB)	399.00

Western Computer	
Big Mac Twin Pack (20MB Hard Disk w/20MB Tape Backup)	1599.00

Modems	
Anchor Automation	

Signalman Express 1200 Baud	235.00
Signalman Lightning 2400 Baud	355.00

Hayes Microcomputing	
Interbridge	549.00

Smartmodem 1200	379.00
Smartmodem 1200 Mac w/Smartcom II & Cable	429.00

Smartmodem 2400	579.00
Transel 1000-128K	269.00

Transel 1000-512K	359.00
Transel 1000 Mac Accessory Kit	31.00

Prentice	
Popcom X-100 Modem w/Straighttalk	259.00

Prometheus	
Promodem 1200M w/ProCom-M	299.00

U.S. Robotics	
Password 1200	199.00

Courier 2400	389.00
--------------	--------

Printers

Brother

M-1109AP ImageWriter Compatible	269.00
HR-20 (20cps) Daisywheel/Serial	349.00
HR-35 (35cps) Daisywheel/Serial	729.00
Juki	
6100 (18cps) Daisywheel Serial	399.00
6200 (30cps) Daisywheel Serial	579.00
6300 (40cps) Daisywheel Serial	689.00

Okidata

ML-192 Apple Mac/Lisa	389.00
ML-193 Apple Mac/Lisa	559.00
Toshiba	
P-321 24 Pin (216cps) Par/Ser. 10"	499.00
P-341 24 Pin (216cps) Par/Ser. 10"	739.00
P-351 24 Pin (288cps) Par/Ser. 15"	1079.00

Blank Media

Single Sided 3 1/2" Diskettes

BASF 3 1/2" SS/DD Disks (box of 5)	9.00
Bulk (Sony) 3 1/2" SS/DD Disks (10)	15.00
Sony 3 1/2" SS/DD Disks (box of 10)	16.00
CenTech 3 1/2" SS/DD Color Disks (box of 10)	18.00
Fuji 3 1/2" SS/DD Disks (box of 10)	16.00
Maxell 3 1/2" SS/DD Disks (box of 10)	16.00
Verbatim 3 1/2" SS/DD Disks (box of 10)	17.00
3M 3 1/2" SS/DD Disks (box of 10)	19.00
C.Itoh Color Disks SS/DD (box of 10)	21.00

Double Sided 3 1/2" Diskettes

BASF 3 1/2" DS/DD Disks (box of 5)	14.00
Bulk (Sony) 3 1/2" DS/DD (10)	21.00
CenTech 3 1/2" DS/DD Color Disks (box of 10)	24.00
Sony 3 1/2" DS/DD Disks (box of 10)	24.00
Fuji 3 1/2" DS/DD Disks (box of 10)	24.00
Maxell 3 1/2" DS/DD Disks (box of 10)	24.00
Verbatim 3 1/2" DS/DD Disks (box of 10)	25.00
3M 3 1/2" DS/DD Disks (box of 10)	27.00
C.Itoh Color Disks DS/DD (box of 10)	29.00

Digitizers

Kette Group

Capture any sound from the real world!	
MacNifty Audio Digitizer w/SoundCap	99.00

Koala Technologies Corp.

KAT Graphics Tablet	139.00
MacVision	175.00

Magnum

Natural Sound Cable & Editor	89.00
Sound Effects	26.00

New Image Technology

Magic Digitizer	249.00
-----------------	--------

Summagraphics

MacTablet 6x9 size	289.00
MacTablet 12x12 size	379.00

ThunderWare

ThunderScan V.3.2 (Mac 128, 512K, & MacPlus)	175.00
Power Port (Required to use ThunderScan on a MacPlus)	29.00

Power Port to ImageWriter II Cable	19.00
---------------------------------------	-------

Accessories	
A.M. Products	

3 1/2" Head & Computer Cleaning Kit	18.00
-------------------------------------	-------

Assimilation Process

Numeric Turbo	119.00
Mac Turbo Touch	89.00

Bech-Tech

Fanny Mac	79.00
-----------	-------

Curtis Manufacturing

Diamond-Surge Suppressor-SP1	29.00
Emerald-Surge Suppressor-SP2	36.00

Ruby-Surge Suppressor-SPF-2	55.00
Sapphire-Surge Suppressor-SPF-1	47.00

Environmental Software Company

MacAttire, Available in Navy-Blue, Burgundy, or Silver-Gray	
--	--

External Drive or Keypad Cover	7.00
ImageWriter II Cover	11.00

Wide ImageWriter Cover	13.00
Mac & Keyboard Cover	15.00

MacPlus & Keyboard Cover	15.00
MacPlus, HD-20, & Keyboard Cover	18.00

LaserWriter Cover	17.00
-------------------	-------

Ergotron

MacTilt (Mac 128/512K or MacPlus Version)	75.00
MacBuffer 256K	249.00

MacBuffer 512K	369.00
MacBuffer 1024K	569.00

Hayes

CH Mach IV Joystick	59.00
---------------------	-------

Innovative Concepts

Flip 'n' File/Micro	9.00
Flip 'n' File II/Micro	18.00

Innovative Technology

The Pocket Pack (holds 6 disks)	9.00
The Disk Directory (holds 32 disks)	18.00

The Easel (holds 20 disks)	12.00
The Pyramid	14.00

The Library	29.00
I/O Design	

MacPlus Carrying Case	69.00
ImageWriter Carrying Case	39.00

ImageWriter II Carrying Case	49.00
ImageWriter Wide Carrying Case	49.00

Kalmar Designs

Teakwood Roll-Top Disk Cases: Micro Cabinet (holds 45 3 1/2" disks)	14.00
--	-------

Double Micro Cabinet (holds 60 3 1/2" disks)	21.00
Teakwood Printer Stand 24"	29.00

Kensington System Saver Mac A/B Box (Specify Mac or MacPlus)	65.00
Disk Case (holds 36 Mac disks)	19.00

Disk Drive Cleaning Kit	20.00
External Disk Drive Cover	8.00

ImageWriter or ImageWriter II Cover	9.00
Macintosh (Plus) Dust Cover	9.00

Mouse Cleaning Kit w/Pocket Mouse Pocket	17.00
Mouseway (Mousepad)	8.00

Polarizing Filter	34.00
Starter Pack (includes Tilt/Swivel)	59.00

Surge Protector	35.00
Tilt/Swivel	22.00

Control Center	65.00
Printer Stand	18.00

Copy Stand	22.00
------------	-------

Kette Group

MacNifty Joystick Converter	35.00
MacNifty Stereo Music System	

MNS-200	75.00
MacNifty Stereo Music System	

MNS-300 (Dolby Bass, Treble)	99.00
Kraft QuickStick III	49.00

MacMemory, Inc.

MacChill (Internal Piezo-Electric Fan)	37.00
Moustrak MousePad 7" x 9" Size	8.00

MousePad 9" x 11" Size	9.00
MPH Computer Products	

MAC-B-COOL	99.00
------------	-------

N2 Products Inc.

MacPlus to ImageWriter II Cable (6 feet)	19.00
MacPlus to DB-9 Adaptor Cable	19.00

MacPlus to SCSI Drive Cable	24.00
MacPlus to SCSI Daisychain Cable	29.00

Ribbons Unlimited

Available in Black, Blue, Brown, Green, Orange, Purple, Red, Yellow, Silver & Gold	
---	--

ImageWriter Ribbon-Black	4.50
ImageWriter Ribbon-Color	5.00

ImageWriter Rainbow Pack (6 Colors)	25.00
ImageWriter II-Four Color Ribbon	12.00

Smith & Bellows

Hand Crafted Mahogany Disk Case: Holds up to 90 Diskettes	27.00
--	-------

Hand Crafted Basswood Disk Case: Holds up to 90 Diskettes (Natural or Stain)	19.00
--	-------

Systems Control

MacGuard Surge Suppressor	55.00
X-10 (USA) Inc.	

X-10 Powerhouse Computer Interface	65.00
X-10 Wall Switch Module	15.00

X-10 Lamp Module	15.00
X-10 Appliance Module (Specify 2 or 3 Pin)	15.00

Books

Microsoft Press

Creative Programming in Microsoft Basic	15.00
Command Performance: Microsoft Excel	20.00
Excel in Business	18.00
Inside MacPaint	15.00
Macintosh Midnight Madness	15.00
MacWork/MacPlay	15.00
Microsoft Macinations	16.00
Microsoft Multiplan: Of Mice and Menus	14.00
Microsoft Works on Apple Macintosh	15.00
Presentation Graphics on Macintosh	15.00
The Apple Macintosh Book Vol. 2	15.00
The Printed Word	14.00

Ordering Instructions

VISA AND MASTERCARD ACCEPTED

To order, call us anytime Monday thru Friday 9:00 to 9:00, Saturday 10:00 to 6:00. For fast delivery if ordering by mail, send cashier's check, certified check or money order. Fortune 1000 & Government checks honored immediately. Personal and other company checks allow 2-3 weeks to clear. Mastercard & Visa, include card number and expiration date. Connecticut residents add 7.5% sales tax. Sorry, we cannot accept COD's. Purchase Orders: All merchandise FOB CT, and Handling. Please call (203) 378-3662 for credit information and terms.

Shipping Charges: Software Only — \$3.00 Minimum charge U.S. Mainland, U.S. Postal, APO, and FPO add 3% (\$5.00 Min.). Alaska or Hawaii add 6% (\$10.00 Min.). Canadian orders add 12% (\$15.00 Min.). Foreign Orders except Canada-Add 18% (\$25.00 Min.).

Hardware

Please call for shipping charges. **Our Policy** — Your credit card is not charged until we ship. No surcharge is added for charge orders. If we must ship a partial order, the shipment that completes the order is sent freight free. We do not guarantee machine compatibility. All products are new and include factory warranty, therefore all sales are final. Defective software will be replaced by the same item only. Defective hardware will be replaced or repaired at our discretion. Prices & availability subject to change without notice. Products purchased in error, subject to 20% restocking fee. All returns must have an authorization number or they will not be accepted. Call customer service at (203) 378-3662 to obtain one before returning defective products for replacement.

NEW ON THE MENU

SOMETIMES BIGGER IS BETTER

The great wonder of the Macintosh is that it makes technology accessible to everyone, not just computer specialists. But computers, and especially the Mac, are visually oriented and may lock out the visually impaired. A new piece of software from a company called Berkeley Systems aims to make Macintosh technology accessible to users with vision problems. The program expands the size of the standard Macintosh display to make it more readable.

The product, called *inLARGE*, sets aside an area in RAM for the normal screen image, then

passes larger pieces of the image to the screen in enlarged mode — almost like adding a Zoom feature to all Mac software. The screen can be toggled between the enlarged image and "the big picture" so you can see where the enlarged area is in relation to the page. *InLARGE* can increase the size of the view area from 2 to 16 times, in increments of one. A scanning option scrolls the enlargement window over the document at a speed set by the user. *InLARGE* requires no special equipment — just a Mac disk.

According to Wes Boyd, the programmer, *inLARGE* is compatible with all the productivity software they have tested, and shouldn't run into any difficulties unless an application relies heavily on smooth animation. *InLARGE* was developed on a grant from the National Eye Institute, which has also provided the company with development funds for a voice synthesis software reviewer, their next planned product. For more information, contact Berkeley System Design, 1708 Shattuck Ave., Berkeley, CA 94709, (415) 540-5535. — MDW



Back of a Mac: Kids! Don't try this at home!

BACK TO THE FUTURE?

In accordance with our recent policy, we once again bring you news of the Mac in a new context. Any guesses as to where it turned up this time? (Ardent Trekkies are disqualified from answering.) Hint: go see *Star Trek IV*. No, it's not running *The Enterprise*. Actually, it's in an even more unusual context: an office. That's right; someone in *Star Trek IV* is actually using the Mac Plus for business, and it's not even the future. The Mac shares a very funny scene with Scottie, and both do commendable jobs. I spent the whole time trying to figure out what software they could possibly be using. — LK

POWER TO THE PEOPLE

Thunderware, best known for the ThunderScan, have just introduced the latest solution to the missing power pin not provided with the Mac Pluses mini-8 connector. Their new Power Port accessory (wonderfully differs from all of the other Power adapter cables on the market in that there is no need to plug your cabling into an electrical outlet. Power Port plugs into and gets its power from the external disk drive port. A mini-8 plug then connects to either serial port. While plugged into the external drive port, this adapter provides you with a connector for an external drive, and a "powered" DB-9, as found in the 512K Mac. Both power pins (+5 V and +12 V DC) are available on the DB-9. Probably the best thing about Power Port is its list price of \$29. This price is significantly lower than any of the other power adapters available. For information, contact: Thunderware, Inc., 21 Orinda Way, Orinda, CA 94563. — DS

BUG OF THE MONTH

Congratulations to Janet and Steven Carter of San Jose, CA, for giving us the neatest bugs to come across our desks in a long while. To tell you the truth, we all thought *MacWrite* 4.5 was bug free, but Janet and Steven have discovered otherwise.

It seems that shortly after inserting a ruler after typing some text, the insertion point was nowhere to be found. As every Mac owner knows (!?), hitting the <Enter> key will scroll your document to display the insertion point. That is exactly what Steve did. Nothing happened. Steven then hit the

<Enter> key once more. Suddenly, a watch icon appeared and *MacWrite* was frozen, permanently. Sorry about that document, Steve.

While you are all out attempting to destroy *MacWrite*, Steven and Janet will be splurging on the \$25 they received for finding this bug.

Send any bugs that you may find to Bugsy, c/o *MacUser*, 25 W. 39th St., New York, NY 10018. Always remember to include all of the details, including *Finder/System* versions, what additional DA's, etc., and exactly how you found the little buggie. — DS

WINDS OF CHANGE

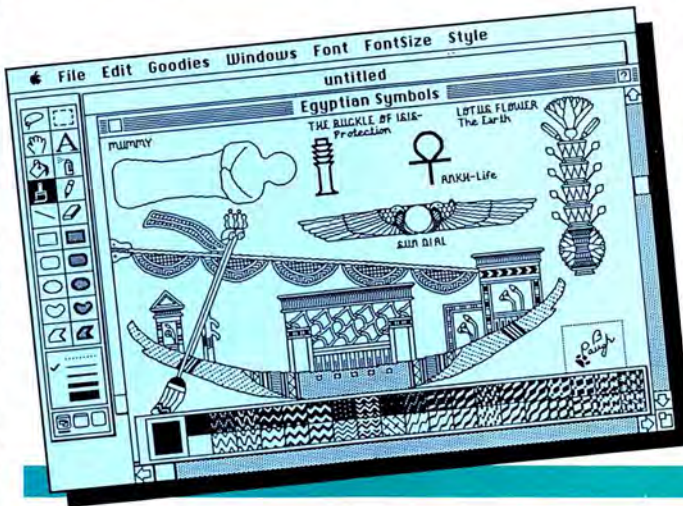
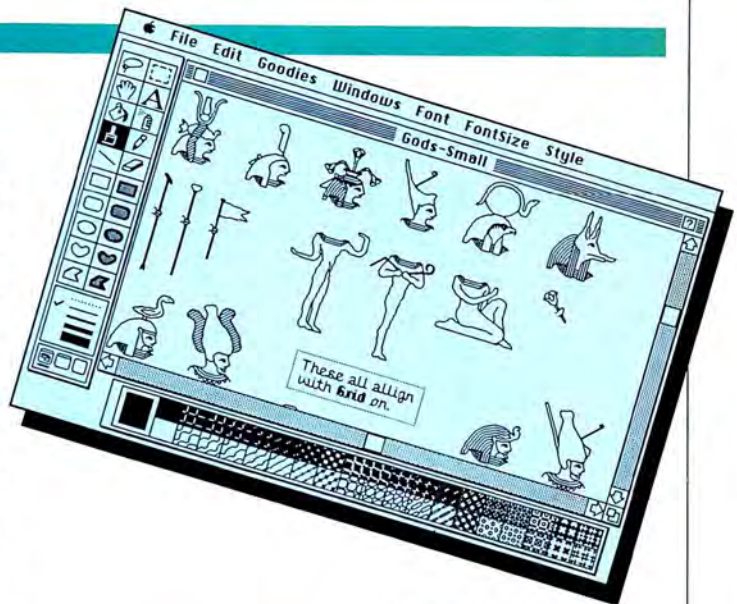
For a while now it's been obvious that our five mouse rating system needed revision. When there were few Mac programs, a 1 to 5 scale was sufficient to differentiate the programs in each category. Now that's no longer true. Consider two or three four-mouse programs that are better than anything with a three-mouse rating. They may not all be equal in value to each other, though. Our current system doesn't allow us to make these distinctions for you.

Thus, we have decided to institute a new system, which we call "mice and mice parts." Don't worry about the parts. There'll be no drawn and quartered mice. We'll be adding five new ratings: half mouse ratings from ½ mouse to 4 ½ mice. That gives us a ten-point scale instead of our old five-point system. After an extensive series of meetings we've revised all our ratings, both in current articles and MiniFinders.

Masthead readers will by now have noticed that David Biedny has left us for greener pastures. He's been replaced by David Schargel, who brings both impressive technical and writing skills to the position. You'll be seeing a lot of David S.'s writing and work in our pages. And David B.'s byline will still be appearing. — SB

IF U CN RD THS . . .

Here's one for the books — or the papyrus. A conspicuous gap in the font world has been filled with the arrival of *ProGlyph*, the program that brings ancient Egyptian hieroglyphs to your Macintosh. And not just one hieroglyphic font, mind you, but four, and each in three type sizes. While admitting that the fonts are not perfect, the designer, Michael A. Berger, believes that they are quite good enough for most scholarly uses. (They look pretty good to us, but admittedly this is not an area of specialty around some of the *MacUser* offices.)



If you take a somewhat more casual approach to Egyptology (you used to wear an ank back in the sixties), take a look at *MacTut*. *MacTut* is clip art you can use with either *MacPaint* or *FullPaint* to create authentic-looking "ancient" documents or tomb paintings. You have a choice of borders, symbols god and goddesses and — my personal favorite — "gods — small." These are not the gods of the lesser pantheon, they're just, well, not so big. Each disk sells for \$16. Available from Dubl-Click Software, 18201 Gresham St., Northridge, CA 91325. — LK

RUMOR MANAGER

The year of Mac hardware is just about to slip into high gear. What will be the standard Mac in December 1987 will bear no resemblance to any machine currently available or hinted at (even in these pages). However, this Very Enhanced Mac will be able to run all software that currently runs on a Mac Plus. Price? The goal is \$4999 list. . . Low end users will also have a machine (in the \$1500 range) with a built-in hard disk, but without the staggering (25 to 35 MHz) speed of the main machine. . . we've been testing a preproduction hover disk. It's a better performer than any hard disk we've tried so far. . . The

next 45 days should see the release of the "ultimate" Mac word processor. The only question is: Will it come from the wilds of Utah or the urban sprawl of Michigan? . . . The precognitive word processor now in limited testing is so-so. For some people, it will do, but it's not smart enough. We tried it on this column and you wouldn't believe the silly results it came up with. . . With the abandonment of Apple's low-end laser printer, marketing attention is swinging to the high end. The machine that comes out will have as many features, as much resolution and as much speed as can be packed

into a price of \$9999. The "marketing pros" have determined that they can sell a lot of 'em at that figure. . . The file manager wars are going to get real serious in a month or two. Look for some real serious bargains on some of the highest rated programs and some fabulous trade-in offers. . . This spring will also be a good time to get into telecommunications. New high-speed modems (9600 baud and way up) will drive down the price of 2400-baud variety. . . The great graphic action space adventure is coming soon. (How did the Mac get along so well this long without one?) . . . A revolution in the

art of making color CRTs (made in the USA, too) coupled with recent decreases in other costs finally make the Color Mac seem a possibility. . . Mac magazines are about to get much larger. Add-on hardware is going to be the cause. (Look at *PC* or *Byte*.) . . A serious professional tax preparation program will be coming out soon. It will integrate with the leading accounting packages. Speaking of which, there are several companies developing some very heavy-duty Mac accounting packages. . . Finally, our Mac sales prediction for 1987: 1,000,000, mostly to "business" users.



MAC CLASSIFIEDS

ORDERS ONLY
CALL TOLL FREE

1-800-468-9044

INFORMATION AND
PA ORDERS 814-234-2236

SOFTWARE

BUSINESS & PRODUCTIVITY

Ann Arbor	
Full Paint	\$59.95
Arrays	
Home Accounting	\$51.00
Batteries Included	
Battery Pack	\$27.00
Thunder	\$29.00
TimeLink	\$29.00
Homepak/Mac	\$29.00
Isgr Portfolio	\$119.00
Blyth Software	
Omnis 3+	\$289.00
BPI	
General Accounting	\$219.00
Central Point	
Copy II Mac	\$24.00
Chang Labs	
Rags to Riches	\$259.00
Creighton	
MacSpell+	\$57.00
MacSpell+/Office Bundle	SCALL
Crickit	
Crickit Graph	\$129.95
Statworks	\$79.95
Desktop Software	
1st Base	\$94.00
1st Merge	\$47.00
1st Port	SCALL
1st Base, Merge, Port bundle	\$177.00
Digital Etc.	
Macaccountant 2.0	\$99.00
Turbo Macaccountant	SCALL
Dubl-click	
Calculator construction set	\$59.00
ESOFT	
Color Print	\$24.95
Color Chart	SCALL
Forethought	
Factfinder	\$69.00
Filemaker	\$89.00
Filemaker+	SCALL
Kensington	
Fonts	\$29.00
Fonts for Headlines	\$40.00
Layered	
Front Desk	SCALL
Living Videotext	
Thinktank 128	\$59.95
Thinktank 512	\$97.95
Manhattan Graphics	
Ready Set Go V2.1	\$99.00
Ready Set Go V3	SCALL
Microsoft	
Excel	\$219.00
Multiplan	\$105.00
File	\$109.00
Word	\$109.00
Basic	\$87.00
Fortran	SCALL
Chart	\$72.00
Logo	SCALL
MacEnhancer	\$149.00
Mindscape	
Graphic Works	SCALL
Monogram	
Dollars & Sense	\$89.00
Forecast	\$40.00
Paladin	
Crunch 512	\$99.00
Supercrunch	SCALL
Palantir	
inTalk	SCALL
MacType	\$26.00
Mathflash	\$26.00
A/R, G/L, Inv. Acct. modules	SCALL
Peachtree	
GLAP/AR	\$83.95
Sartori	
Bulk Mailing	\$77.00
Sierra Information Systems	
Accountants Choice	SCALL
Sierra-on-line	
Mac One Write Acct. modules	\$133.00

Silicon Beach Software

Silicon Press	SCALL
Accessory Pak 1	\$23.00
Softstyle	
Decision Map	\$79.00
Softsync	
Personal Acct.	\$52.00
Springboard	
Certificate Maker	SCALL

GAMES & EDUCATIONAL

Accolade	
Hardball	SCALL
Avalon Hill	
MacPro Football	SCALL
Broderbund	
The Toy Shop	SCALL
Print Shop	SCALL
Electronic Arts	
Archon	\$26.95
Autoduel	\$33.95
Chessmaster 2000	\$29.95
D-Music Constr. Set 1.0	\$33.95
D-Music Constr. Set 2.0	\$67.95
Financial Cookbook	\$33.95
Golden Oldies Vol. 1	\$23.95
One-On-One	\$26.95
Patton vs Rommel	\$26.95
Pinball Constr.	\$26.95
Seven Cities of Gold	\$26.95
Sky Fox	\$26.95
Ultima III	\$39.95
Ultima III Cluebook	\$ 9.95
Infocom	
Leather Goddess	SCALL
Moon Mist	SCALL
Zork II or Zork III	\$26.00
Zork I, SeaTalker, Enchanter, Hitchhikers Guide, Planetfall, Wishbringer, The Witness, Cuthroats	\$23.00
Microsoft	
Entrepreneur	\$31.00
Flight Simulator	\$32.95
Miles Software	
Harner Sink Mission	\$29.00
Macattack	\$29.00
Overloads	SCALL
Fusillade	SCALL
Macwars	SCALL
Mindscape	
Balance of Power	\$30.00
Deja Vu	\$29.00
King of Chicago	SCALL
Racter	\$26.00
Rambo	\$24.00
SAT	\$45.00
The Mist	\$24.00
View to Kill	\$24.00
PBI	
Feathers & Space	\$21.00
Strategic Conquest	\$29.00
Fokker	\$35.00
Silicon Beach	
Airborne	\$19.95
Dark Castle	\$29.95
Enchanted Sceptre	\$22.00
World Builder	\$47.95
Simon & Schuster	
Great Paper Airplane Kit	SCALL
Spectrum Holobyte	
GATO	\$28.00
Orbiter	\$34.95
Tellstar L1	\$28.00
Tellstar L2	\$44.95

Regular Hours East Coast Time

M-F 9am-8pm
Sat 10am-6pm
NEW HOURS/MAR 01
M-Thurs 9am-9pm
Fri 9am-6pm
Sat 10am-6pm

Software orders over \$50.00 will be shipped **FEDERAL EXPRESS** (yes, even with these prices)

You only pay TCP's standard shipping charge of \$4.00 per order. This offer also valid on peripherals and accessories under 8 pounds. Orders arriving before 11:00 AM our time will be shipped out same day.



DRIVE A HARD BARGAIN!

Get the Lowest Price Around on MAC HD's from TCP!
ALL HARD DRIVES SHIPPED FEDERAL EXPRESS FOR \$4.00

MIRROR TECHNOLOGIES MIRROR TECHNOLOGIES

Call for our latest price on Mirror Tech Products !!

Magnet 20X	Magnum 800k
Magnet 30X	Magnet 85x or 172x
Magnet 40/40	Magnum Tape Bkups
Fast Port Option	

HERE'S THE LoDOWN ...

20 Meg HD	\$725
50 Meg HD	SCALL
50 Meg Tape Bkup ..	\$979
Tape 20 and 20/20 ..	SCALL

Other Brands of HD's in Stock
If a product you want is not advertised, please call - it might be in stock



PCPC MACBOTTOM 20
HARD DRIVE

\$879.00

SCSI Version Available \$869.99

CORPORATE & EDUCATIONAL PURCHASES

We offer a full line of services catering to you. Please call us for quotes on all your computer, peripheral, and supplies requirements

MICROSOFT

The High Performance Software™

EXCEL	\$219.00
FILE	\$109.00
WORD	\$109.00
WORKS	SCALL

Tempo FROM AFFINITY

\$57.00

Odesta Corporation **HELIX**

DOUBLE HELIX

SCALL

BLYTH SOFTWARE

OMNIS 3+

\$279.00

Executive Asst

SCALL

Target Software

MacLightning	\$52.00
Medical	
Thesaurus	\$32.00
Legal	
Voila	SCALL
Dictionary	\$67.00



GRAPH	\$129.95
STATWORKS ..	\$87.95

Ashton-Tate

Dbase Mac

SCALL

LIVING VIDEOTEXT

MORE

\$159.00

BORLAND

Reflex/Mac

\$59.00

Turbo Pascal/Mac

SCALL

Sidekick w/phone link

\$54.00

HARDWARE

Assimilation	
MacPort Adapter	\$75.00
MacTurbo Touch	\$77.00
Numeric Turbo	\$129.00
Beck-Tech	
Fanny Mac	\$79.95
Microsoft	
Printer Enhancer	\$149.00
MODEMS	
Prometheus	
Promodem 1200m	\$327.00
(includes software)	
Prentice	
Popcorn X-100	\$251.00
TAPE DRIVE BACKUP	
LoDOWN	
T20, T-60	SCALL
Mirror Tech 20 meg tape backup	SCALL

PRINTERS

EPSON	
All models in stock	
CALL FOR LOWEST PRICES !!!	
PANASONIC	
1091	\$229.00
1092	\$329.00
1592	SCALL



STAR

A NEW STAR IS BORN... NX-10

SCALL FOR PRICE AND AVAILABILITY

Star to Mac Interface

\$323.95

SG-10, SD-15, SR-10, SR-15

\$364.00

SD-10

SCALL

SG-15

SCALL

ACCESSORIES

Blohard	
MACFAN	\$99.95
IO Design	
MAC+ Bag	\$69.95
Imagewriter Bag	\$49.95
Imagewriter II Bag	\$54.95
Innovative Concepts	
Flip-n-File Micro (holds 25)	\$7.95
Flip-n-File (holds 40)	\$15.95
Innovative Technologies	
Easel (holds 20 disks)	\$14.00
Disk Director (holds 32)	\$19.95
Pocket Pack	\$9.95
Library	\$29.95
Compupack for Mac 512, 128 (has enough space for hard drive)	\$54.00
Compupack for Mac+	SCALL
Mousepad	\$5.95

Kensington

Swivel	\$20.00
Filter	\$29.00
Control Center	\$59.00
A-B Box	\$59.00
Surge Suppressor	\$32.00
Accessories starter pak	\$53.00
Mouse cleaning kit & pocket	\$16.00
N2 Cables SCALL for price & configuration	

3 1/2" DISKS BOXED IN 10s				
# OF BOXES		1-4	5-9	10+
SONY	SS/DD	13.95	13.45	12.95
	DS/DD	19.95	19.45	18.95
MAXELL	SS/DD	13.45	12.95	12.45
	DS/DD	19.95	19.45	18.95
FUJI	SS/DD	13.45	12.95	12.95
	DS/DD	18.45	17.95	17.45
VERBATIM	SS/DD	14.45	13.95	13.45
	DS/DD	18.95	18.45	17.95



TUSSEY COMPUTER PRODUCTS

P.O. BOX 1006
STATE COLLEGE, PA 16804

Take the easy path to power.

More people use our Microsoft® BASIC than any other language on the Macintosh.™ Why? Because it's a powerful language that's simple and easy to use. But now there's a new, more advanced version available.

Introducing Microsoft's BASIC Interpreter for the Macintosh, Version 3.0.

Start with programming itself. We've used all the power of the Macintosh to make the process as effortless as possible. The full-screen editor and interactive debugging let you get your programs up and running quickly. Faster and easier than with any other language.

So advanced it's BASIC.

Don't worry about being restricted by the language. This new version features improvements like a block IF/THEN statement to make structured programming a snap. And we've just added a complete programmer's toolbox from Clear Lake Research. So now building your most advanced programs can be as simple as putting the pieces together. And it doesn't stop there.

Experienced programmers will like the easy



access to the Macintosh ROMs—over 140 routines available through the toolbox. And there's advanced support for the Mac's sound and graphics, as well as the new hierarchical file system. There's even support for the Apple® LaserWriter.

Lastly, we've added a new runtime interpreter to the package. So now you can share your finished programs without extra cost or hassle.

When you look at all that the Microsoft BASIC Interpreter has to offer, the choice is clear. Even the price is easy to handle. Only \$99 for the most popular language on the Macintosh.

If you're ready to stretch your programming muscles, give us a call at (800) 426-9400. In Washington State and Alaska, (206) 882-8088. In Canada, call (416) 673-7638. We'll give you the name of your nearest Microsoft dealer.

Microsoft® BASIC Interpreter for the Macintosh.

The High Performance Software.

Microsoft is a registered trademark of Microsoft Corporation. Apple is a registered trademark of, and Macintosh is a trademark licensed to Apple Computers, Inc.

BACK ON TRACK

While it is no doubt true that every Mac owner loves the Mac, it doesn't follow that they all love the mouse as well. Those who didn't followed a different drummer to the trackball. They found trackballs to be fast, convenient and not named after a

mammal. However, trackball enthusiasts have had a rough patch since Assimilation went under and took their trackball with them.

Well, while Assimilation is still a thing of the past, their trackball has been reincarnated

as Turbo Mouse — a name which might pull in even more converts. And the manufacturer is not unsympathetic to your old controller. They provide a plastic mouse housing that adheres to the side of your Mac, so you can tuck it away. Or if you don't really feel like going cold turkey, they also provide a second mouse port.

The Turbo Mouse is a two-speed; the faster you spin the ball, the faster your cursor moves across the screen. It is also supposed to be 40 percent faster than a "standard" mouse — as opposed to one you've hot-wired and souped up. And with two buttons, it's ambidextrous.

Turbo Mouse lists for \$129.95; more information is available from Kensington Microware, 251 Park Avenue South, New York, NY 10010, (212) 475-5200. — LK

EVERYTHING HAS A PRICE

Software prices are like the weather; everyone complains about them but no one ever does anything about them. Well, hardly ever. In what may well be a unique move, Sierra On-line has dropped the price of their *MacOneWrite* accounting series from \$245 to \$89.95 for the three-module set. Seems they noticed that a fair amount of their sales were coming from a discount mail order house. So Sierra president Ken Williams decided that "those guys are selling *OneWrite* for the same price we should have offered it for all along." The lower price takes care of pesky discount houses, too, as the company believes that it doesn't pay anyone to discount anything selling under \$100. — LK



UPDATES

Do you have the latest versions of your programs? Most programs indicate what version they are when you look in the About . . . choice at the top of the Apple menu. If your version isn't the latest, contact the publisher about possible upgrades. Look for addresses in our Mini-Finder section. A special note on Apple System software: If you have a 512K or larger machine and don't have *Finder* 5.3/*System* 3.2 see your dealer for a free upgrade. If you have them but didn't get new printer drivers and a new Control Panel and Chooser DAs, see your dealer at once. You need them! Apple System software upgrades are free at dealers as long as you bring your own disks.

We've added some information starting this month. The righthand column indicates whether a program is copy protected (CP) or not (NCP), HFS compatible (+) or not (-), and requiring at least 512K of RAM (5). Finally, an S indicates a program is shareware (that is, you can try it before you buy it).

Here's our list (as of press time). — SB

Acta	1.1	NCP, +	InTalk (was inTouch)	2.1	CP, +	MS Fortran	2.2	CP, +
Aztec C	1.06H.1	NCP, +	Jazz	1A	CP, +, 5	MS Word	1.05	CP, +
Back to Basics	1.03	CP?, +	Just Text	1.1	NCP, +, 5	MS Works	1.0	NCP, +
BatteryPak	1.03	CP, +	Laser Prep	3.1	NCP, +	Multiplan	1.1	CP, +
Bulk Mailer	1.23	NCP, +	LaserWriter	3.1	NCP, +	MusicWorks	1.1	CP, +
Business Filevision	2.03	CP, +	Legal Billing	1.12	CP, +	myDiskLabeler	2.11	NCP, +
CalendarMaker	1.1	CP, +	LightSpeed C	1.5	NCP, +	Omni III Plus	3.22	CP, +
Chooser	2.0	NCP, +, S	LightSpeed Pascal	1.0	NCP, +	OverVUE	2.0d	NCP, +
ColorChart	2.3	NCP, +	Lode Runner	1.0	CP, +	PackIt III	1.2	NCP, +, S
ColorMate	1.3	NCP, +	Mac-3D	2.0	CP, +	PageMaker	1.2	CP, +
ColorPrint	2.1	NCP, +	MacASM	2.0	NCP	PictureBase	1.1	NCP, +
ComicWorks	2.03	NCP, +	MacBase	1.0	NCP, -	Quartet	1.1	CP, +
ConcertWare+	1.0	NCP, +	MacBillboard	4.01	NCP, +, S	QUED	1.51	NCP, +
Copy II Mac	3.1	CP, +	Mac C	5.0	NCP, +	Quick & Dirty Util., Vol. 1	1.6	NCP
Copy II HD	6.1	NCP, +	MDS	2.0	NCP, +	Quick & Dirty Util., Vol. 2	1.0	NCP, +
Cricket Graph	6.1	NCP, +	Mac Disk Catalog II	2.1.1	NCP, +	Rags to Riches	2.6	CP, +
Crunch	1.0B	NCP, +, 5	MacDraw	1.9	NCP, +	RagTime	1.0	CP, +
Desk Accessory Mover	2.0	CP, +	MacDraft	1.2	CP, +	ReadySetGo	3.0	NCP, +
Disk First Aid	1.4	NCP, -, S	MacGolf	2.0	CP, +	Record Holder	2.1	NCP, +
DiskInfo	1.0	NCP, +, 5	MacInTalk	1.1	NCP, +	REdit	1.2	NCP, +
Disk Ranger	1.43	NCP, +, S	MacInTax	1.0	NCP, +	Red Ryder	9.4	NCP, +, S
Dollars & Sense	2.1	NCP, +	MacLabeler	2.2	CP, +	Reflex	1.0	NCP, +
Dungeons of Doom	1.4	CP, +	MacLightning	2.0	NCP, +	ResEdit	1.0.1	NCP, +
Easy3D	4.0	NCP, +, S	MacLink	1.14	CP, +	Sargon III	1.0	CP, +
Edit	2.0d1	NCP, +	MacMoney	2.02	NCP, +	SideKick	1.11C	NCP, +
Ensemble	1.01	CP, +	MacNosy V2	2.27	NCP, +	Silicon Press	1.1	NCP, +
ExperLisp	1.0	CP, +	MacOneWrite	1.0	CP, +	Slide Show Magician	1.3	CP, +
ExperLogo	1.5	NCP, +	MacPaint	1.5	NCP, +	Smartcom II	2.2B	NCP, +
Fedit Plus	1.0	NCP, +	MacPalette	1.0	CP, +	SoundCap	1.0	CP, +
FileMaker	1.0	NCP, +	MacPascal	2.1	CP, +	SpellNow	1.0	NCP, +
FileMaker Plus	3.0	CP, +	Mac +][3.0	NCP, +	Spellswell	1.2d	NCP, +
Filevision	2.0	NCP, +	MacProject	1.1	NCP, +	StatView 512+	1.0	NCP, +
Finder (MFS-128K)	1.0	CP, +	MacProof	2.0	NCP, +	StatWorks	1.2	NCP, +
Finder (MFS-HFS)	4.1	NCP, +	MacPublisher II	2.7	CP, +	STELLA	1.1	CP, +
1st Base	5.3	NCP, +, 5	MacServe	2.1	CP, +	Studio Session	1.0	CP, +
FlashBack	2.6	CP, +	Macspec	1.3	CP, +	SuperPaint	0.95	NCP, +, 5
Flight Simulator	1.4	NCP, +	MacSpin	1.1	CP, +	Switcher	5.0.1	NCP, +, 5
Fokker Triplane	1.0	CP, +	MacSpool	2.1	NCP, +	System (MFS-128K)	2.0	NCP, +
FONTastic	2.0	NCP, +	MacTerminal	2.0	NCP, +	System	3.2	NCP, +
Font/DA Mover	2.7	NCP, +	MacTools (MFS/HFS)	6.1	NCP, +	Tempo	1.1	NCP, +
Fontographer	3.2	NCP, +	MacWrite	4.5	NCP, +	ThinkTank 512	1.3	NCP, +
Front Desk	1.8	CP, +, 5	Mac Zap Copier	4.2	NCP, +	Thunder!	1.0	NCP, +
FullPaint	1.0	NCP, +, 5	MailManager	1.0	CP, +	ThunderScan	3.2	NCP, +
Gato	1.0	NCP, +, 5	Measure Test	2.17	CP, +, S	TML Pascal	2.01	NCP, +
Hard Disk 20	1.42	CP, +	MicroPhone	1.0	NCP, +	TMON	2.585	NCP, +
Hard Disk Utility	1.1	NCP, +	Micro Planner Plus	1.1	CP, +	Turbo Desk	1.4	CP, +
Helix	1.28	NCP, +, 5	MockPackage+	4.3.4	NCP, +, S	TurboCharger	2.0	NCP, +
Helix, Double	2.0r11	NCP, +, 5	MORE	1.00A	NCP, +	VersaTerm	2.1	CP, +
HFS Backup	DH1r35	NCP, +, 5	MS BASIC	2.1	NCP, +	VideoWorks	1.1	NCP, +
HFS Locator Plus	1.1	NCP, +, 5	MS Chart	1.0	CP, +	Word Handler	1.6	NCP, +
ImageWriter	1.4	NCP, +	MS Excel	1.0	NCP, +	WriteNow	1.0	NCP, +
ImageWriter, Apple-Talk	2.3	NCP, +	MS File	1.02	CP, +	ZBasic	3.02	NCP, +



WORKS PLUS SPELL

Some pieces of software inspire their own set of add-on enhancement products. *Lotus 1-2-3* for the IBM PC and *AppleWorks* for the Apple IIe have had many third-party products created specifically for them, and now *Microsoft Works* has its first. Like *AppleWorks*, *MS Works* combines a word processor, data base, spreadsheet and telecommunications software into one integrated package. *MS Works* doesn't have a built-in spelling checker, or didn't until recently, when Lundeen and Associates announced *Works Plus Spell*. *Works Plus Spell* is the first in what could be a flood of add-ons to *MS Works*.

Works Plus Spell piggybacks onto *MS Works*, loading concurrently and setting up a new menu with spell checking commands. It has the option of working interactively — checking spelling while you enter text

— or independently by scanning selected text or an entire document and reporting errors. *Works Plus Spell* has a dictionary with more than 70,000 words, including frequently used names, state abbreviations, months and days. The dictionary can be customized.

In addition to checking a document for spelling errors, *Works Plus Spell* also adds a glossary and hyphenation. According to Tim Lundeen, the spelling checker is extremely fast. The version I saw is indeed very fast and very smooth. The almost seamless integration is at least partially due to the fact that Lundeen was responsible for writing some of the code for *MS Works*.

Works Plus Spell will sell for \$59.95 and may be purchased from Lundeen and Associates, PO Box 30038, Oakland, CA, 94604, (800) 233-6851. — MDW

Cobb - Workstation

Tyree

Paden - Color

Emmet

Jake
HD20-SC

Macintosh Plus

Macintosh Plus
HD20-SC

**THE 1987 MACINTOSH
PRODUCT FAMILY**

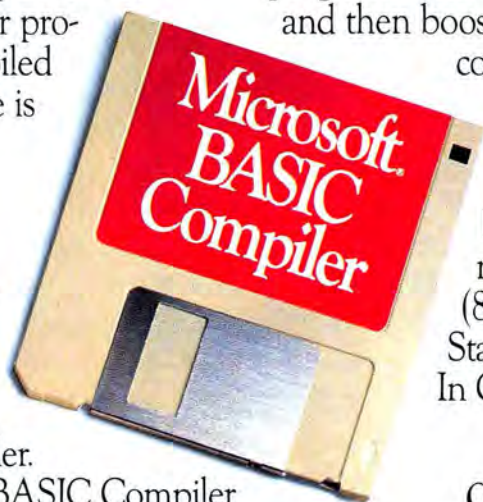
Break the BASIC speed limit.

BASIC programmers be warned: You could be breaking records before you know it. Microsoft's new BASIC Compiler for the Apple® Macintosh™ gives your programs the raw speed of compiled code. And faster performance is just the beginning.

A BASIC synergy.

This compiler has all the advanced features that made our BASIC the Macintosh leader. From graphics and sound to support for the new HFS, this BASIC is a killer.

And while the Microsoft® BASIC Compiler zips right along solo, combining it with our



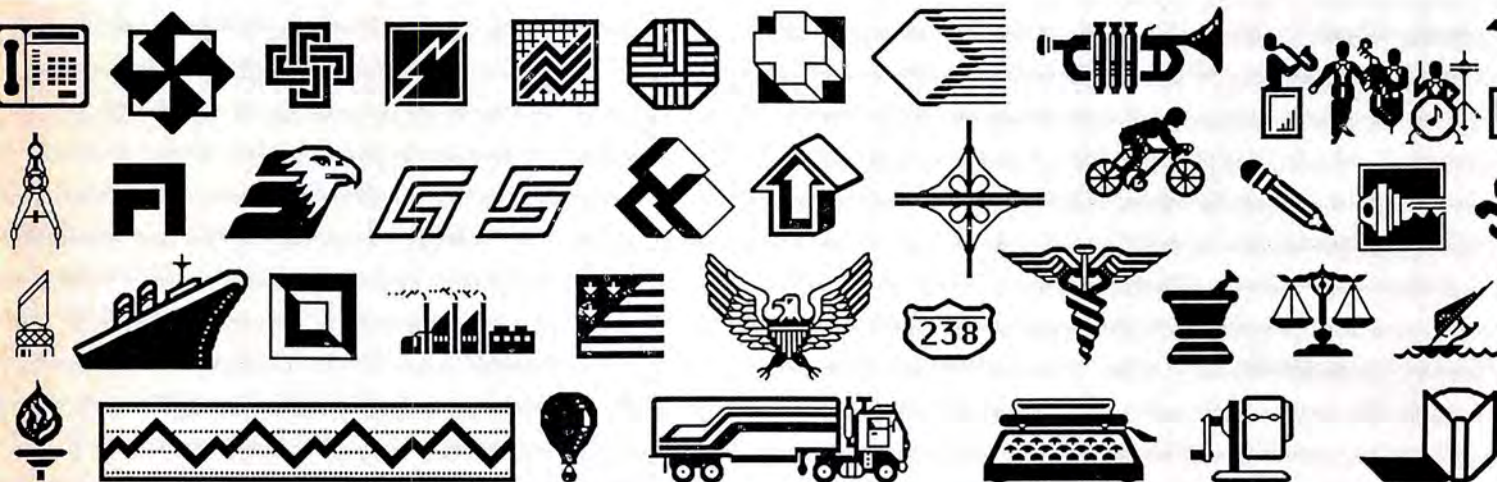
BASIC Interpreter makes a development system that can't be beat. Write and debug your programs with our interactive interpreter, and then boost into high gear with the compiler. All while using the most advanced BASIC available.

So shift into the passing lane. For the name of your nearest Microsoft dealer, call (800) 426-9400. In Washington State and Alaska, (206) 882-8088. In Canada call (416) 673-7638.

**Microsoft® BASIC
Compiler for the Macintosh**
The High Performance Software

Microsoft BASIC Compiler for the Macintosh is a version of the Absoft BASIC Compiler licensed from Absoft Corporation, Rochester Hills, Michigan. Microsoft is a registered trademark of Microsoft Corporation. Apple is a registered trademark and Macintosh is a trademark of Apple Computer, Inc.

New ClickArt® Images and Fonts



Above is a small sampling of ClickArt Business Image, a portfolio of over a thousand high quality business images, industrial symbols, professional borders, flowchart templates, graphic alphabets and abstract logos designed to enhance business communications and improve your business image. Each image was specially designed to eliminate the jagged lines and rough edges normally associated with MacPaint images. Business Image art prints clean and crisp on the ImageWriter and the LaserWriter.

ClickArt Business Image
\$49.95 suggested retail.



ClickArt Plymouth•LaserLetters
\$79.95 suggested retail.



ClickArt Letters 2
\$49.95 suggested retail.



ClickArt Holidays
\$49.95 suggested retail.



ClickArt Publications
\$49.95 suggested retail.



ClickArt Bombay•LaserLetters
\$79.95 suggested retail.



ClickArt Seville•LaserLetters
\$79.95 suggested retail.



ClickArt Letters 1
\$49.95 suggested retail.



ClickArt Personal Graphics
\$49.95 suggested retail.



ClickArt Effects
\$49.95 suggested retail.

Right away you'll see the difference ClickArt fonts and images make in reports, newsletters, memos, flyers, invitations or any other kind of written communication produced on a Macintosh.

For a complete description of each ClickArt Portfolio and a directory

of images and fonts see your local computer dealer or call or write T/Maker for a Macintosh Software Product Catalog.

T/Maker®

T/Maker and ClickArt are registered trademarks of T/Maker Co. Macintosh, LaserWriter, ImageWriter and MacPaint are trademarks of Apple Computer, Inc.

T/Maker Co.
1973 Landings Drive
Mt. View, CA 94043
415-962-0195

Please circle 175 on reader service card.

GIVE US A HINT

It sometimes seems as if book indexes are set up mainly for folks with ESP. You know what you're looking for is in there somewhere; you saw it. But how is it listed in the index? It's like using a dictionary to find out how to spell something — you practically need to know the right answer before you start.

Well, Phil Russell's *The*

Mouse Droppings Book of Macintosh Hints, or "What Apple Didn't Tell You About Your Macintosh Computer" has taken a stab at getting around index frustration by using keywords. Most hints in the book, Russell says, can be traced through several keywords.

The Mouse Droppings Book, etc. is an outgrowth of the Corvallis, Oregon Macintosh Users Group. It will no doubt come as less than a surprise to find that their newsletter is called *Mouse Droppings*. The book is 100 pages long, 14 of which comprise the index, and deals mainly with *MacWrite*, *MacPaint* and the Mac in general. It costs \$8.95 (postage and handling included) and can be ordered from Philip C. Russell, 430 SW Crest Circle, Waldport, OR 97394. You can put it on your shelf right next to the *Power User's Manual* from *MacUser*. — LK

OOPS!

In all the excitement and deadline pressure surrounding our Desktop Publisher of the Year contest, we inadvertently (does anyone ever do anything inadvertently?) omitted some information about the winner in the Book Category. *Making It Easy: Crafts and Cooking Activities* is a rather lavishly illustrated book, so in addition to the authors, we'd like to pass kudos along to the illustrator, Lee Jeannie Ambrose. — LK

IT'S HERE, IT'S THERE....

Well, I think we'd be safe in saying that the Macintosh has become a genuine cultural artifact. First it turns up in a Visa ad, now we run across it in *Blue Champagne*, a collection of sci-fi stories by John Varley.

"The Unprocessed Word" is a half-serious look at the effects of word processing on creative writers. Varley provides anonymous testimonials to support his negative claims:

"SR," Halifax, Nova Scotia:

I used to write with a pencil and paper — I never even used a typewriter for my first drafts . . . until the day someone convinced me to buy a Macintosh Computer, known in the industry as a Fat Mac. I loved it! In only three or four months I taught myself to type and wrote seventy or eighty letters. I purchased a *MacPaint* program, and soon was turning out wonderful dot-matrix artwork to amuse my friends. Then I bought a *MacAlien* program and had hours of fun every day eluding the space monsters that tried to eat me alive. (The *MacWrite* program still had a few



glitches, but I knew I'd work them out . . . one of these days . . . when I got around to it . . . mañana . . . what's the rush?) In the meantime, I was having too much fun . . .

Well, you've probably guessed I'm a Type B writer. It was always easy enough to find an excuse not to write . . . and the Mac made it even easier! Now winter is coming on, I've missed a dozen deadlines, my family is starving, and bill collectors are pounding on the door."

Where will the Mac turn up next? Watch this space. — LK

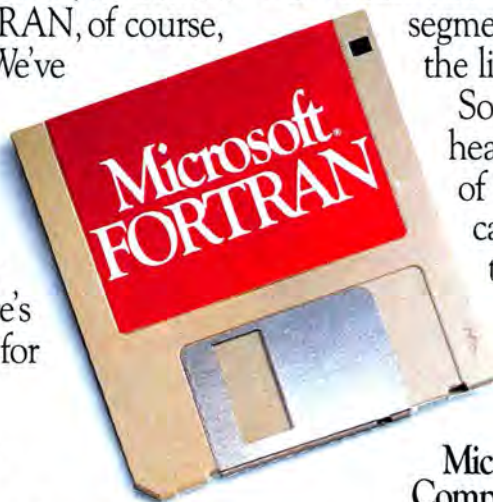
Mainframe muscle for your Mac.

Beef up your Macintosh™ with the fastest FORTRAN around. Microsoft's FORTRAN Compiler for the Apple® Macintosh, version 2.2.

This is full ANSI '77 FORTRAN, of course, but there's more to the story. We've also added enhancements from the proposed ANSI FORTRAN '8x extensions. As well as support for Mac graphics, sound, and the new Hierarchical File System. There's even a programmer's toolbox for the Macintosh ROM.

Cutting problems down to Mac size.

This FORTRAN tackles mainframe



problems without flinching. Our IEEE Math package handles numbers like a champ. And our virtual data arrays and dynamic program segments mean you're freed from the limits of available RAM.

So give your Macintosh some heavyweight help. For the name of your nearest Microsoft dealer, call (800) 426-9400. In Washington State and Alaska, (206) 882-8088. In Canada call (416) 673-7638.

Microsoft® FORTRAN
Compiler for the Macintosh
The High Performance Software

Trapeze™ is a revolutionary new spreadsheet created especially for the Macintosh.™ It was designed by a spreadsheet user who was tired of the limitations of row and column spreadsheets. He wanted a program that was as easy to use as his Mac. One that would let him do things like organize his spreadsheet model as he went along, and change his model without ruining it. He wanted to be able to define what the spreadsheet would do, rather than have the program define what he could do. He wanted to use logical names, and formulas he could understand. He wanted to see graphics, charts and text on the same page as his spreadsheet data,

and to make the output look professional enough to use in presentations. And he wanted to do it all *fast*.

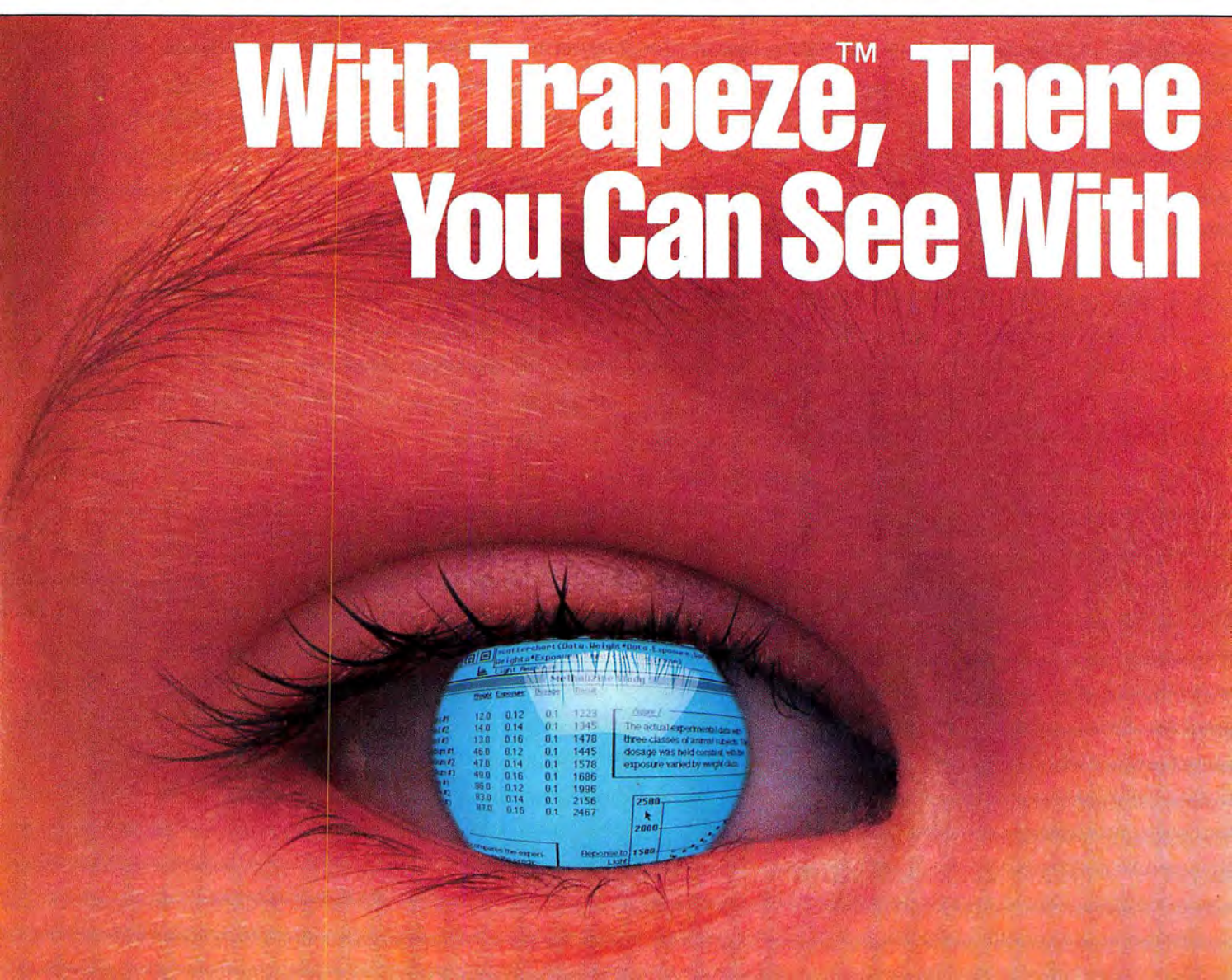
The result is a spreadsheet that is as innovative as the Macintosh. Trapeze is so unique, in fact, that it is being called the next generation spreadsheet. Here's why:

Flexibility—Trapeze doesn't lock you into a grid of rows and columns. Instead, it stores information in blocks. You define the block according to *what* it is, not where it is, and can move it anywhere on the page. That gives you the freedom to do things like add a row without ruining your model. And the unique auto-sizing

feature causes blocks to automatically adjust in size when you make additions or changes to your worksheet.

Power—The block format of Trapeze lets you set up worksheets quickly. Even complex models can be created easily, because Trapeze contains over 100 functions and formulas, many of which are unavailable in other spreadsheets. You can create charts which plot thousands of points, and multiple databases allow you to efficiently organize your data for presentation. Trapeze takes full advantage of the power of the Macintosh; in fact, the size of your model is limited only by available memory.

With Trapeze™, There You Can See With



Style—Trapeze lets you use all of the Macintosh fonts, styles, and sizes—even color—in any block. You can create graphs on the same page with your spreadsheet or import graphics from MacPaint™ forms from MacDraw™ or text from a word processing program. Blocks may contain text, charts, graphics, numbers—virtually anything you need to make your worksheet look good. Since the blocks can be moved around freely, you can lay out your page however you wish. And you can do most of it *without ever touching the keyboard*.

Versatility—Its unique function set makes Trapeze as useful for nonfinancial users as it is for

financial ones. The program can perform matrix operations, simultaneous equation solutions and more statistical functions than any other spreadsheet. Up to 32 documents may be open at the same time, so you can work with figures for different divisions of your company—or perform several analyses of engineering data—and consolidate the information into one report. And the elimination of copying formulas and checking all related information lets you analyze complex technical data with unprecedented speed and accuracy.

Trapeze is available now for \$295, and comes with a 30-day,

money-back guarantee. To order, contact the dealer nearest you or call toll free 1-800-443-1022 today. Once you begin using Trapeze, there's no limit to what you can see.

Minimum system requirements—Macintosh 512K with external drive or enhanced Macintosh 512K. Supports Laserwriter™ and Imagerwriter™ I and II.

Macintosh is a trademark of McIntosh Laboratory Inc., licensed to Apple Computer, Inc., and is used with express permission of its owner. MacPaint, MacDraw, Laserwriter and Imagerwriter are trademarks of Apple Computer, Inc. Trapeze is a trademark of Data Tailor, Inc.

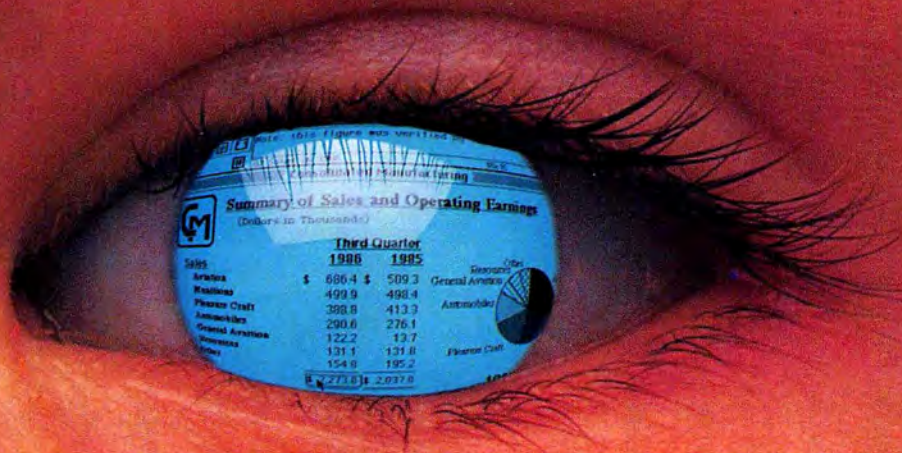


The spreadsheet without limits.

Data Tailor, Inc. — 1300 S. University Drive—Suite 409
Fort Worth, Texas 76107 © Data Tailor, Inc. 1986-1987

Please circle 103 on reader service card.

Are No Limits To What A Spreadsheet.



GIVE YOUR SOFTWARE A GOOSE.

Now that software companies have discovered Mac's graphics interface, their products have become a lot more useful. Because now you can add pictures to your documents. And you know what they say about one picture.

That's where ThunderScan® really

becomes valuable. Because ThunderScan can turn most printed images into high-resolution Macintosh graphics. Which means you can insert quality graphics into your files. Making your programs perform like never before.



ThunderScan and MacDraw



ThunderScan and PageMaker

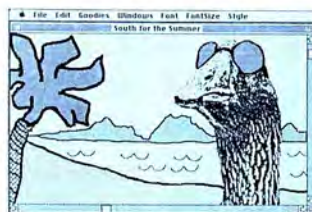
Programs like PageMaker™, GraphicWorks™ and ReadySetGo™ for desktop publishing. With ThunderScan you don't have to rely on your own artistic abilities or someone else's clip art disk. Instead, you can illustrate your words with just the right graphics (even one-of-a-kind items like your logo or your own portrait). Improving both the professional appearance and

readability of your publications.

Use ThunderScan with Business Filevision®, dBASE® Mac or Filemaker™ Plus to add pictures and photographs to your data, for more complete, more informative databases. It's perfect for research, real estate portfolios, personnel files — any time you're working with more than words or numbers.



ThunderScan and Business Filevision



ThunderScan and FullPaint

ThunderScan's powerful image enhancement software, you can really get wild with SuperPaint and FullPaint™.

And that's just the start.

ThunderScan can boost the performance of MacDraw™, MacDraft™, MacPaint™— Mac-

Anything! Plus, Thunderware's new optional \$29 connector

makes ThunderScan Mac Plus compatible without a wall plug. So if you want to make the best of Mac software even better, take a gander at ThunderScan. At just \$229 there's no better way to give your software a goose.



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

ThunderScan

Filevision is a registered trademark of Telos Corporation. GraphicWorks is a trademark of Mindscape, Inc. MacDraft is a trademark of Innovative Data Design, Inc. Filemaker is a trademark of Nashoba Systems, Inc. dBASE is a registered trademark of Ashton-Tate Corporation. FullPaint is a registered trademark of Ann Arbor Softworks. Macintosh is trademark licensed to Apple Computer, Inc. Mac, MacPaint and MacDraw are trademarks of Apple Computer, Inc. ThunderScan, Thunderware and the Thunderware logo are registered trademarks of Thunderware, Inc.

© 1986 Thunderware, Inc.

CALENDARMAKER™

Breaks The Color Barrier!

version 2.2
still only

\$30



February 1987

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Remington Rand buys the Eckert-Mauchly Corp., the developers and manufacturers of ENIAC in 1950. 1	Simply change the year to update all information. 2	Enter up to 255 characters. 3	Choose a Monday through Sunday calendar. 4	5	Backup Hard Drive Backup 6	Right Justify Text 7
Hitachi pleads guilty in 1962 to attempting to steal IBM trade secrets. 8				Lincoln's Birthday 12		Valentine's Day 14
	Washington's Birthday (observed) 16		Club Mac Midwest meeting. 18			
Trip to Chicago 22		Steve Jobs born 1955 24			Meet with Don & John 4:30 PM 27	Let's squeeze a lot of words in this box that no one can read just to show how much can be entered into the square. We can show a lot of text when you get right down to it. Let's just see if we can fill the whole darn square up. 28

No need to buy calendars for the next 40 years! Enter birthdays, annual events, holidays, anniversaries, etc. and track 'em forever! Use pictures and icons, too. Print blank calendars to write notes the old-fashioned way or enter up to 255 characters for each day using your keyboard. Read files from SideKick®, MORE™, BatteryPak™, etc. Print to a Paint file, Draw file or printer. Use your imagination! Three calendar formats, too:



Tall or wide.

Not Copy Protected
LaserWriter™ and
Hard disk compatible

For Macintosh™
512, 512E, Plus, XL

And NOW! COLOR!

Use your ImageWriter II for color calendars the likes of which you haven't seen before. It's easy. Color your pictures, borders, backgrounds, icons...color where you want it! Even color-code each day's text. Individually format text in each day: right, left, centered, font, size, style.

PLUS, we'll throw in a FREE bonus program. IconMover™. Design, transfer, scrounge and save CalendarMaker icons for that special emphasis.

CalendarMaker \$30
MacBILLBOARD \$35
MockPackage Plus \$35
Shipping \$1 per package

MasterCard & Visa accepted.

Also available:

MacBILLBOARD™. Create and use MacPaint™ compatible files. Handle graphics larger than screen size. Print a normal page or enlarge to 500 sq. ft. Creates greeting cards and iron-on transfers. Comes with BONUS program, MacBANNER. Creates color banners.

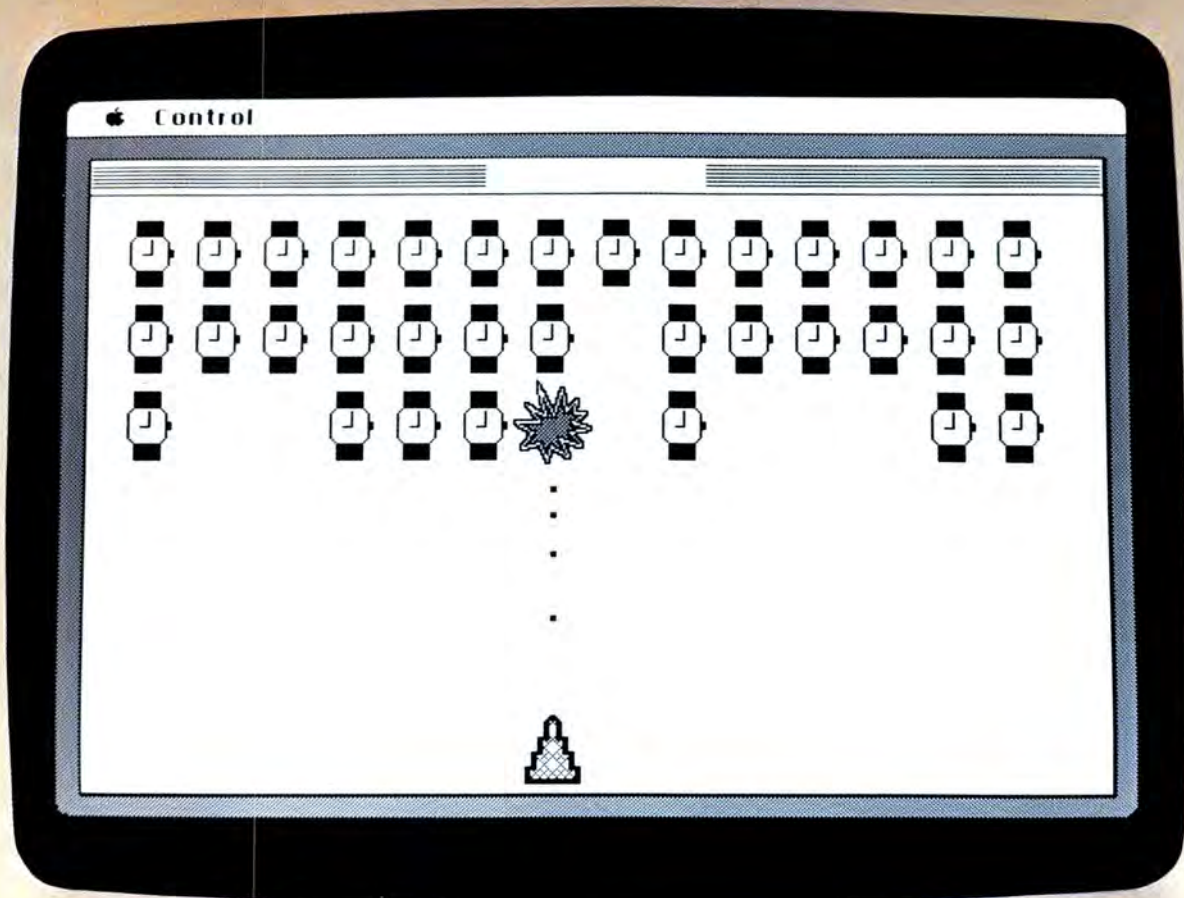
MockPackage Plus™: a quartet of desk accessories (MockWrite, MockPrinter, MockTerminal & MockChart) plus EZ-Menu.

See your local dealer
or order from:
CE Software
801 - 73rd Street
Des Moines, IA 50312
(515) 224-1995



Please circle 38 on reader service card.

Beat the clock.



On your Macintosh Plus, it's the one thing that comes between you and a finished job.

You can win, though. With the Rodime 20 Plus™ hard disk.

Data retrieval is eight times faster on the Rodime 20 Plus and its SCSI connection than with the Mac Plus's regular diskette drive. And six times faster than with any hard disk that uses the floppy port.

So you'll be doing spreadsheet recalculations and database sorts in seconds.

And, of course, there's storage. 20 megabytes – that's 25 floppy disks' worth – on the 20 Plus. And over twice as much on the Rodime 45 Plus™. All in a package that fits right under your Mac Plus.

Best of all, it's made by Rodime. The acknowledged leader in hard disk technology and reliability.

There is more. Like software that makes it easy to back up an entire disk, or any documents, onto floppies. And the one-year limited warranty.

But those things will seem like extras after you see the speed.

Because the Rodime 20 Plus lets you work instead of wait.

And that beats all.

RODIME
SYSTEMS

RODIME, INC. PERIPHERAL SYSTEMS DIVISION • 29525 CHAGRIN BLVD. • PEPPER PIKE, OH 44122 • 216-765-8414

See us at MacWorld Exposition in Booth #1311.

Please circle 10 on reader service card.



by Robert R. Wiggins

BUSINESS AS UNUSUAL

If you're like most business people, you bought your Mac to do pretty mundane business things. Word processing, spreadsheets, communications, data bases, that kind of stuff. But now that you've got your basic business needs satisfied, don't you sometimes wonder what programs are out there beyond business as usual? Maybe there's a program that could change your life, or your work habits, or just make your job easier if only you knew about it. I know about some that most don't. So this month I thought I'd share some of the things that have run across my desktop that you may not have seen or heard of, or may have thought weren't for you, but might be just what you've always wanted or needed.

BEYOND WORD PROCESSING

You're probably as tired as I am of hearing about desktop publishing. This old horse has been beaten within an inch of its life. But by letting your eyes glaze over when the subject comes up, you may be missing some interesting applications that could be useful to you. Take *PageMaker* from Aldus. You probably thought it was just for people doing newsletters and magazines. Not so. *PageMaker* can come in handy for producing business reports. Say you want to put

text next to a graphic. *MacWrite* and *Word* won't let you, but *PageMaker* will (as will some of the second-generation word processors now hitting the market). *PageMaker* can also be used for fancy formatting and easier control of font sizes. In the same vein, *Just Text* from Knowledge Engineering can be used to produce some amazing reports, although it is more like typesetting in that you need to learn some special commands. *Just Text* also comes with *LaserTools* which provide fantastic output of ThunderScans, *MacVision* scans, and *MacPaint* pictures.

Beyond *MacWrite* also lie the idea processors, like *MORE* from Living Videotext and *Acta* from Symmetry. *MORE* is an outliner that lets you organize your thoughts, includes some rudimentary word processing capabilities so you can expand on your ideas, and lets you save it all out as *MacWrite* or *Word* files to polish it up for publication. *MORE* also has graphics capability to show your outlines as tree charts (great for organization charts) and bullet charts (great for those desktop presentations or for printing out as foils or blowing up onto flip-charts). *Acta* is a more basic outliner, but it's a desk accessory so it's always available for jotting down ideas or adding to existing outlines. And since it saves out to *MacWrite* for printing, you can tidy things up or expand the ideas out into a full report in *MacWrite*. *Acta* even supports Undo.

There are also several text processing desk accessories useful for jotting down ideas while embroiled in another program. *MockWrite* from CE Software (shareware) has a companion desk accessory called *MockPrinter* which allows

printing to either an *ImageWriter* or *LaserWriter*. The *Quick and Dirty Editor* desk accessory from Dreams of the Phoenix supports tabs and auto-wraparound if desired. *MiniWRITER* from Maitreya Design (shareware) has the most features, allowing text files to be inserted into other files, its own print function which includes the ability to download PostScript files to the *LaserWriter*, and "Smart Quotes" which automatically turns normal quotes into the left and right quotes used in publishing. Each of these three desk accessories limit the size of the file to 32K, but *miniWRITER* lets you specify which 32K you want (you give it a starting point when opening a file that's too large).

BEYOND SPREADSHEETS

While *Excel* offers enough capabilities to keep even the heaviest number-cruncher happy, there are some other data analysis programs for the Macintosh which provide some additional power. *Mindsight* from Execucom offers a sophisticated financial modeling capability, with the ability to do "what if" analysis, goal-seeking, and model consolidation. *StatWorks* from Cricket Software is a powerful and easy to use general statistics package. *StatView* from BrainPower is another powerful statistical package. *MacSpin* from D2 Software lets you look at data in three dimensions and discover correlations (or the lack thereof) between variables visually. For investors, there's *Market Pro* from Pro Plus Software, an easy to use portfolio manager, and *Profit Stalker II* from Buttndown Software, a program to generate charts to organize financial data.

BEYOND COMMUNICATIONS

Are you using your Macintosh as an ASCII terminal with a program like *Smartcom II* or *Red Ryder*? Did you know you could communicate using a desk accessory while word processing or working on a spreadsheet? *MockTerminal* from CE Software (shareware) offers simple dumb terminal (TTY) emulation, and includes MacBinary XMODEM uploading and downloading capabilities in addition to simple text send and text capture, as well as dialing capabilities with a built-in phone book. Dreams of the Phoenix, as part of its *Quick and Dirty Utilities*, offers a trio of desk accessories to accomplish communications. *Q&D VT52* offers VT52 terminal emulation in addition to TTY. *Q&D XMODEM* adds the ability to MacBinary XMODEM uploads and downloads. *Q&D Dialer* provides a dialing capability



THE MOUSE JUST MET HIS MATCH



QuickStick

The Mouse was on the ball at first until he met his match . . . Quickstick from Kraft. Quickstick is two input devices in one. Runs both Mouse or joystick software with just the flick of a switch. Great for desk Top Publishing, games, graphics, or spreadsheets and wordprocessing. For all your input needs, think Kraft!

Model 820030 \$69.95
(2-button Model)

Model 820331 \$79.95
(3-button Model)

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

Please circle 42 on reader service card.

THE PINSTRIPE MAC


and limited macro capability for *Q&D VT52*.

Downloading is a very time-consuming operation since Macintosh files tend to be large. To speed up the process, Mainstay offers a desk accessory called *Turbo-DL* which speeds up XMODEM downloads from CompuServe by sacrificing the error correction component of XMODEM (although it retains the error detection part). So if you have very clean phone lines, you can speed up downloading from CompuServe. Ron Risley has gone a step farther with *BackDown*, a shareware desk accessory that operates in the background, allowing you to go on and use your Macintosh for other things while the download is accomplished.

BEYOND DATABASE

The arrival of *dBase Mac* has the press abuzz. But, let's face it, it's just a data base program, no matter how powerful it is. Besides, you probably already settled on a data base program. But there are some interesting programs out there that go beyond simple data bases. When the Macintosh was young Telos brought out *Filevision*, a visually oriented data base system that let you draw pictures and have data associated with various picture elements. Last year Telos came out with *Business Filevision*, an even more powerful visual database. If you've never seen either of these programs, you should, as they must be seen to be believed. They may not have any application to your particular business, but you may be surprised at the number of templates available and the uses they can be put to. A visual data base of a different kind is *PictureBase* from Symmetry. *PictureBase* lets you organize "clip art" of *MacPaint* and *MacDraw* pictures into data bases and give each picture a title and keywords and comments. You can then search the data bases for the keywords or titles or both.

WHERE TO FIND IT ALL

The commercial products mentioned above are all available now at dealers or from mail order houses. The products identified as "shareware" are widely available at no charge via the national networks such as CompuServe, users' groups, from the authors, or informally; if you decide to keep and use them, you are asked to send in the license fee. Please do send in the money if you use the products. Doing so will not only give you a clear conscience, but will encourage developers to continue using this form of distribution which keeps costs down. 

**\$39
Trial**

Value Line's new software: For the complete investor.

Value Line's software lets you get the whole investment picture in clear focus.

Simply awesome
—T.J.M.

Amazingly
complete —B.A.L.

A quantum leap
forward —J.A.H., Jr.

A valuable, easy-to-
use, foolproof tool
—C.R.R.

Well done and very
useful—R.S.E.

Editor's Choice-PC Magazine



VALUE/SCREEN Plus packs a lot of investment power into one integrated investment package. **Stock Selection:** You can instantly screen the entire VALUE/SCREEN Plus database for all the stocks that meet your unique, demanding investment criteria. **Stock Reports:** You can get stock reports, just as fast. **Portfolio Management:** You can enter your own stock ownership information to create a powerful computer-driven portfolio. You can even track hypothetical investment portfolios to evaluate stock selection criteria. **Report Generator:** You can get formatted or customized reports up to 230 columns wide. **Spreadsheet Files:** You can load any of this data into spreadsheets.

Microsoft Excel and Jazz are among the popular spreadsheets to which VALUE/SCREEN Plus can be linked.



Excel is a trademark of Microsoft, Inc. Jazz is a trademark of Lotus Development Corp. VALUE/SCREEN Plus is a registered trademark of Value Line, Inc.

\$39 Trial If you act right now, we'll send you the complete software package—which regularly sells for \$95—for only \$39. And we'll include 2 monthly data disks worth \$29 each, absolutely free. There are no timesharing charges, since up-to-date data is mailed to you regularly on disk.

800-654-0508

- ☐ I have an Apple Macintosh, 512K or Plus, and want to take the \$39 two-month trial.
- ☐ Please send information on the [] IBM or [] Apple version.
- ☐ My check for \$39 is enclosed (NY residents, add sales tax)
- ☐ Please bill my (circle one)
Visa MasterCard American Express

Account# _____ Exp. Date _____

Signature _____

Name _____

Address _____

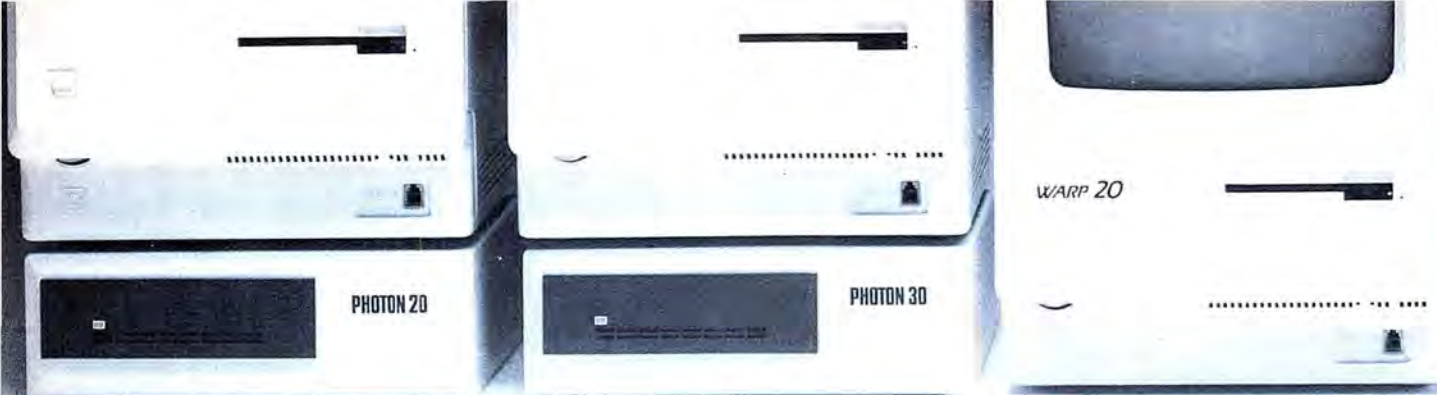
City, State, Zip _____

Tax-deductible if used in managing your investments. Purchase is nonassignable.

Value Line Software
711 Third Avenue
NY NY 10017



Please circle 90 on reader service card.



RUN THE PHOTON 20
20 Mb External Hard Drive

\$589.00

RUN THE PHOTON 30
30 Mb External Hard Drive

\$795.00

RUN THE WARP 20
20 Mb Internal Hard Drive

\$795.00

Take The Mo

How Quality Can Be Inexpensive.

Warp Nine Engineering is a manufacturer of quality Macintosh products. We sell these products directly to you. We do not sell through computer stores. This means our prices are generally 40% less than computer retailers.

If you don't feel it's necessary to pay the dealer's premium prices, take a closer look at us.

Quality. Reliability. Ease Of Use.

We know quality is important to you, therefore, it is even more important to us. Every Warp product includes our Quality and Assurance Report detailing each step of production and testing and signed by the person in charge of that step.

Avoid hard drives that run hot. The hotter the drive, the shorter the life. Because we use a special fan, our drives are cool, quiet, and reliable. Good fans are expensive, and some drive manufacturers do not use a fan. Ultimately, they run a higher risk of failure. Although it costs a little more to produce, we know that a cooler drive lasts a lot longer.

Each of our drives comes preformatted. This means your drive runs right from the box. Just plug it in and you're working in minutes.

Better Support Than A Dealer.

With every Warp Nine product, you also get a toll free Macintosh expert. We are referring to our technical support team. Each member has been hand picked and trained to give you the answers you need. If you have been frustrated by poorly trained dealer support, our technical experts will win a warm place in your heart.

The Photon 20.

A 21Mb external SCSI hard drive. Store as much information as fifty-two 400K floppy disks. HFS and MFS compatible. Supports all your Macintosh software. Can daisy chain up to seven SCSI devices. MacPlus version. **\$589.00**
*512K with our PlusPort. **\$745.00**

The Photon 30.

Our 31Mb external SCSI hard drive. Faster access and 50% more storage

capacity than a 20Mb. Stores as much as 9300 double-spaced pages. Best of all, the Photon 30 is priced less than you'd pay for nearly every 20Mb drive on the market. MacPlus version. **\$795.00**
*512K with our PlusPort. **\$945.00**

The Warp 20.

A 21Mb internal SCSI hard drive for the MacPlus or 512K. The quiet, powerful cooling fan helps insure optimal operation. Our intelligent design and step-by-step manual make installation very straightforward regardless of your technical expertise. MacPlus version. **\$849.00**

*512K with internal PlusPort. **\$795.00**

The Phaser 800.

Whisper-quiet 800K double sided disk drive. Compatible with 128K, 512K, MacPlus and HFS. No hardware or software modifications necessary. Dis-

	Photon 20	Photon 30	Low Down	Data Frame	Apple HD20 SC	Hyperdrive FX-20	Warp 20	Hyperdrive 20
Fan	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Avg. Seek Time	65	58	65	65	65	65	65	66-85
SCSI Compatible	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HFS Compatible	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Internal/External	External	External	External	External	External	External	Internal	Internal
Price	589.00	795.00	995.00	1095.00	1299.00	1195.00	795.00	1595.00

*PLUSPORT ADAPTER FOR YOUR MACINTOSH 512K.

The Warp Nine PlusPort adapter puts a MacPlus type SCSI port on the back of your Mac 512K. It is included with each 512K price. This adapter allows you to connect our SCSI hard drive and tape back up to your 512K and transfer data at the high speed that the MacPlus does. No modifications. No soldering. Just Clip on. Very simple to install.



RUN THE PHASER 800
800K Floppy Disk Drive

\$199.00



RUN THE TRANSPORTER 20
20 Mb Tape Back Up

\$795.00



RUN THE PHOTON 2001
20 Mb Hard Drive/20 Mb Tape Back Up

\$1495.00

ney And Run.

tinguishes 400K and 800K diskettes and will read and write to them accordingly. Features push button and automatic electronic ejection. Cable included. All models. **\$199.00**

The Transporter 20.

A 20Mb SCSI tape drive. Back up and restore the valuable data from your hard drive onto cassette tapes. Ensures safekeeping of all your applications and data, (both text and graphics). Features volume, file-by-file, and incremental back up. With the incremental feature, back up daily files in as little as three minutes. MacPlus version. **\$795.00**
*512K with our PlusPort. **\$945.00**

The Photon 2001.

A 21Mb SCSI hard drive and a 20Mb tape back up in one convenient unit. Store data on the hard drive then back it up onto your tape. Will back up a full 20Mb of data in under twelve minutes or changes in your files in as little as three minutes. Priced over \$1,000 less than the AST 2000. MacPlus version. **\$1495.00**
*512K with our PlusPort. **\$1645.00**

Introducing Our New Software Products.

The Fullback—Called the best back up program for the Mac. Backs up text and graphics from your hard drive to floppy disks very quickly. Volume

back up (everything), file-by-file and incremental (last changes). **\$39.95**

Print Sprint—A print spooler. Allows you to work on your Macintosh while your Imagewriter is printing. **\$29.95**

Special Bundle Price—Buy any Warp product and get both **The Fullback** and **Print Sprint** on one disk. **\$39.95**



Two New Memory Upgrades For The MacPlus.

Simply clip on with no modifications necessary. Both the **DataRam** and **MonsterRam** are fully compatible with all your software. Both come with our internal piezo electric fan.

DataRam—2Mb upgrade. Expandable to 4Mb. **\$259.00**

MonsterRam—2.5Mb upgrade for a Mac-Plus with an internal hard drive. **\$545.00**

WarpCare Warranty.

All Warp Nine products are covered by a 90 day factory warranty. If at any time your drive fails while under

warranty, simply call us, return it and we will send you a brand new unit immediately. A full one year warranty is available for all Warp products. Ask us about it.

30 Days To Love It.

We are so confident that you will love your Warp Nine drive, we will give you 30 days to use it. If at the end of that time you don't think it's a great buy, call us and send it back for a full refund.

Easy To Order. Fast Delivery.

Call us toll free. We'll be happy to answer any questions you may have. **1-800-328-6795 ext. 433**, or **1-800-654-5294**. In Minnesota call collect **612-426-9769**.

We accept Visa, MasterCard or C.O.D. orders.

WARP NINE ENGINEERING INC.

1751 W. County Road B. Suite 107,
St. Paul, Minnesota 55113



Warp Nine, Warp 20, Photon 20, and Photon 30 are trademarks of Warp Nine Engineering Inc.; Macintosh and HD 20 SC are trademarks of Apple Computer, Inc.; Hyperdrive is a trademark of General Computer Corp.; LowDown 20 is a trademark of LowDown; DataFrame is a trademark of SuperMac.

Please circle 178 on reader service card.



MacBuffer LW

MacTilt

Stop Waiting for Your LaserWriter

The Apple Macintosh and LaserWriter created Desktop Publishing and made high quality graphics a cost-effective reality. This also marked the advent of a new form of office bottleneck, "waiting for the LaserWriter." This means that, while printing, the Macintosh is held hostage, needlessly waiting for the LaserWriter to complete the complex calculations necessary to produce the finished page. In fact, every Mac on the network is forced to wait for a single print job.

operator on the network can send MacBuffer LW their print jobs and get back to work.

MacBuffer is compatible with most of the major Macintosh software packages and the most popular desktop publishing programs such as PageMaker. It comes in 1 and 2 megabyte models and connects via Appletalk.

mode. Get the most out of your Imagewriter I or II with MacBuffer.



MacBuffer

Stop Waiting for Your Imagewriter

If you are an Imagewriter user, MacBuffer for the Imagewriter will dramatically reduce the time the Macintosh spends waiting for the Printer. In addition to less time spent waiting, MacBuffer enables two Macs to share one printer and has a Local Copy and Single Sheet

MacBuffer LW; MacBuffer; and MacTilt, the professional workstation for the Macintosh (pictured above), are all designed to help you get more done in less time.

For more information, contact your local Apple Dealer or

ERGOTRON inc.
P.O. Box 17013
Minneapolis, MN 55417
(800) 328-9839/(612) 854-9116
Telex #4310015

PageMaker® Compatible

Ergotron's MacBuffer LW brings productivity to desktop publishing by eliminating needless waiting. Productivity means that every

PageMaker is a registered trademark of Aldus Corp. LaserWriter, Macintosh, and Imagewriter are trademarks of Apple Computer Inc. MacTilt, MacBuffer, and MacBuffer LW are trademarks of Ergotron Inc.

Please circle 183 on reader service card.



by Doug Clapp

BEING SOMEBODY: THREE CASES

I was recently chosen as one of the most influential people in...I think it was "The Macintosh community?" The microcomputer industry? Something like that. Very weird. I have as much trouble getting things to work as anyone else.

But it made me think. How do you get to be a "somebody" anyway? What's the process?

Here's a trio that might be illuminating. Three people that I love, all good friends. All Macintosh "Somebodies" or fast on their way to "Somebodyhood." Paul Mithra, Dennis James and Howard Katz. Ring any bells? No matter, we're off.

There's suave, hip, ferociously cool Paul Mithra. An archetype of L.A. cool. As thin as I'll never be again. An earring, a ponytail, a beautiful wife, and two button-cute little girls. Paul was the editor of my first book. The book wasn't that great, but it wouldn't have been written if Paul hadn't said "Amazing! I love it! Keep 'em coming!" after every chapter. He praised the book out of me. An object lesson for editors everywhere.

Paul's not only thinner than me, he's smarter than me. And he loves books. He knows how to organize chapters and revise awkward sentences. He knows what size to make a book, to make it feel good in a reader's hand.

Paul went wild when the LaserWriter was introduced. He loved the LaserWriter. He loved the promise of the machine. He spent hundreds and hundreds of hours printing, playing, testing, formatting text, trying different sizes, styles, fonts, and layouts. He plunged into typography, looking for beauty, and used what he learned to maximize the LaserWriter's possibilities.

In his spare time, Paul did freelance editing. And he did prepublication manuscript reviews for Scott, Foresman, a noted educational book publisher that also publishes computer books. His reviews were wise, his suggestions sage. He's now authoring a book for Scott, Foresman on Broderbund's *The Print Shop*. It's another example of what

happens when you love what you do.

In real life, he's now an editor and LaserWriter expert-in-residence for LA's Graphic Typesetting Service. And he still finds time to play in a punk rock band on weekends.

Then there's Dennis James. A man like Sara Lee. You can't not like Dennis James. A long time ago, he got a job with a tiny company that wrote resumes. His boss was a beautiful happy blonde named Randy. So he married her. Then, together, they began selling dedicated word processing systems.

Denny loved the work. He was a hit. Sold a ton of word processors. Was then hired away by a Los Angeles computer store called Rainbow Computing.

In its heyday, Rainbow was a fairytale computer store. The employees loved — and understood — what they sold. Fun men and women, each and every one. Technicians that could fix anything. And who treated computers with surgical care.

And they always had a beer keg in back. I hope there's a Rainbow Computer in the next life. But the Rainbow stores were purchased by another company and slowly became more pedestrian.

By then, though, Egghead Discount Software had burst into life. Denny quickly became an Egghead employee, then a store manager, then manager of a larger store. Egghead became one of the nation's largest software retail chains.

If you think David Durkee or Paul Mithra loves the Macintosh, you should meet Dennis James. This is a guy who'll load 47 applications into *Switcher*. Who can find nifty, undocumented features that even the programmers didn't know where there. He's a great salesman because he loves what he does and he loves software. He calls me up with "Did you know you could do this with that?"

"I didn't know that," I say. I say that a lot.

Programmers, editors, and salesmen. But maybe you're none of those. Maybe you're a hobbyist. Just somebody with a Macintosh who loves the machine.

Meet Howard Katz of Vancouver, British Columbia. Hobbyist extraordinaire. Howard appeared out of nowhere spearheading a small Vancouver computer show. "Could I fly up and sit on a panel? Free flight up and free rooms?" For free, I'll go anywhere.

Somehow, Howard managed to also snare John Dvorak, the deeply missed Andrew Fluegelman, Microsoft Applications Manager Jeff Raikes, Andy Hertzfeld — and a horde of other "names" to Vancouver. It was a blast.

From then on, Howard became a fixture of computer shows — any show, anywhere. Not that he had much money. At least once, he camped out on my hotel room floor. And Howard became a fixture of every party, everywhere. I'd turn around and there'd be Howard, buttonholing Phillipe Kahn or Dennis Brothers or Scott Watson.

Howard, it seems, is incapable of gloom. His Macintosh glee is infectious. He's a great dinner companion; a super house guest. He smiles a lot.

These days, he's better connected than I'll ever be. Last I heard, he was in Menlo Park, rewriting the documentation for Steve Jasik's *MacNosty*.

In his off-time from being "Canada's Microcomputer Pioneer and World's Greatest Hobbyist" he's a writer and an assembly language programmer. He's good at both.

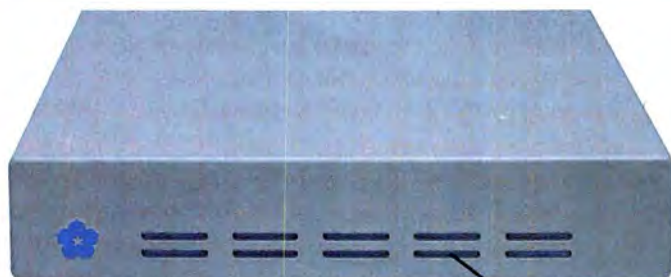
And he just finished an article for *Byte* — or was it an assembly language book — or was it a top secret Macintosh program? One of those, maybe all three.

The editor, the salesman and the hobbyist. I've always wanted to get the three of them together, and I finally did: right here.

You wanna be somebody? It's easy: you just gotta love it. ☞

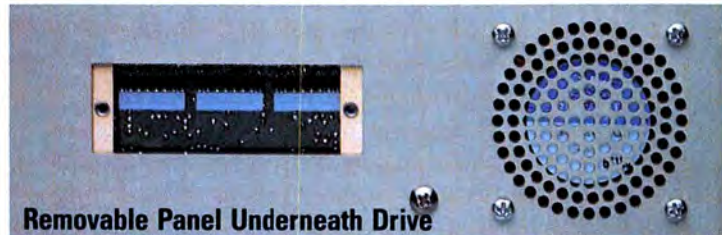
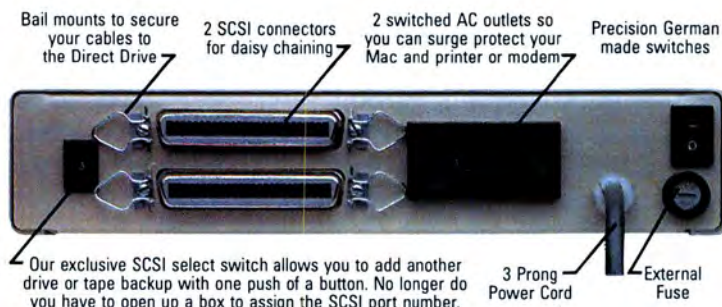


Nobody does it better . . .



This sleek attractive 2" high box is only 10" by 10" and does not stick out behind the Mac

Triple layered air filtration



Removable Panel Underneath Drive

To add three or more SCSI devices some small plugs called terminating resistors must be removed from the middle units. Jasmine designed this small panel so you never need to play technician and open our box.

Our ultra quiet fan pulls air through the drive and sends it out the bottom

The Mac was designed for the rest of us. Nothing complicated. No archaic language. Elegant simplicity.

Then something happened. Users are asked to solder, open boxes and become technicians. In the SCSI drive market, Jasmine finally put an end to that.

There's a Jasmine right for you.

20 MB \$589* 80 MB \$1380*

The Direct Drive 20

Our first product has met with resounding success and we're proud to put our name on it. The Direct Drive will satisfy your hunger for power and we know it fits your pocket book. And you can still get it for less than \$600 delivered!

The Direct Drive 80

A true performance breakthrough! This sleek drive designed by Quantum blazes away with an amazing 30 millisecond access time. It features error correction and media defect handling to ensure long life and perfect performance. This drive is so intelligent it constantly scans and locates any defective sectors and locks them out . . . automatically. It fits into the same slim 2" high box as the Direct Drive 20. It just may be the best drive offered for the Macintosh yet! This drive would cost \$3000 from anyone else, but Jasmine offers it for only \$1380 complete. If you're a power user, call direct and we'll get you running fast.

Technical Support

The Jasmine technical support line answers all your questions about using your drive—no matter how simple or technical.

Service a Consideration?

The Direct Drive series is so easy to service that we can promise a maximum 48 hour turnaround on any drive that needs repair. We will recover any data if possible in the event you have forgotten to back-up your files.

Explore the exciting world of Jasmine and find out why we are the fastest growing manufacturer of SCSI drives for the Mac. Easy to use. Easy to order. Dial direct.

In a world full of experts and overpriced product lines, Mac enthusiasts dream of a company that will give them quality engineering at a price the rest of us can afford. Here's how Jasmine fulfills that dream:

Only Jasmine

- adds shock absorbers to protect your drive.
- ships your drive with a full P.D. and shareware library.
- tests each drive in real time before shipping.
- includes full 3-way electronic surge protection.
- adds two switched AC outlets at no extra charge.
- features the SCSI device select switch.
- never *requires* you to open the box to daisy chain multiple drives.
- includes a 1-year replacement warranty & 30-day money back guarantee.
- offers air delivery service in the Continental U.S.
- offers you the choice of 2-ft. or 6-ft. cables.

**See Us At
MacWorld Expo
Booth 1400**



Jasmine
COMPUTER SYSTEMS
Quality you can afford

555 De Haro Street
San Francisco, CA 94107

415/621-4339

* Prices effective January 1, 1987 and include our 4% prepaid cash discount. M/C and Visa add 3%. COD orders add 5%. Direct Drive is a registered trademark of Jasmine Computer Systems. Mac is a licensed trademark of Apple Computers, Inc.

Please circle 53 on reader service card.

QUICK CLICKS

DARK CASTLE

List Price: \$49.95. Published by Silicon Beach Software, Inc., PO Box 261430, San Diego, CA 92126. (619) 695-6956. Requires 512K+. Not copy protected.



Silicon Beach has produced another startling advance in computer games. They have paired their "RealSound" with equally genuine graphic animation in a superior choreography not unlike the most complex of ballet sequences. *Dark Castle* is something of a masterpiece.

The publisher's designation of *Dark Castle* as "arcade game" understates the subtlety of the integration of audio-video effects they have created. This is an action game in the most literal sense.

Your mission is first to enter the castle and, after successfully traversing several

difficult chambers, earning powerful weapons and protective devices in the process, to defeat the Black Knight. The mouse both directs throws and shoots weapons. Your other hand, busy at the keyboard, controls six configurable keys that produce movement: left, right up, down, operate or take, jump and duck. Nuances of keyboard pressure influence the velocity of your actions. Although this format appears to be routine, the game is not. *Dark Castle* recreates the perilous atmosphere of the initial scenes in *Raiders of the Lost Ark*.

You'll be faced with ever-increasing challenges. There is no repetition and there are no shortcuts. Each villain is a distinct character, with individual speech and motion. For example, the vultures, who are truly mean creatures, not only "caw" loudly when struck, but they also emit a thoroughly satisfying "splat" when they plummet to the ground.

In some rooms you must jump from one moving object to another. In order to time the leap accurately you must simultaneously study both the nuances of movement of your on-screen body as you swing, and also the rhythm of the external objects. Each misstep has its consequence. You might fall stunned and reeling, might grasp a new perch at the very last moment or might fall to your death in one of numerous positions. Each result depends entirely upon the skill

and timing of your leap. You can walk in tiny steps or run at a breathtaking pace. In every aspect, the graphics and the sound are beautifully integrated. Your control is total, as long as your reflexes, coordination and rhythm are perfect. You must not only solve the multitude of problems with which you'll be faced, but you must also be able to execute the solutions.

With practice, skill will improve, so each attempt advances your arduous cause. However, games in progress can't be saved. That's a significant drawback. Without the ability to save, it could take months of frequent play to complete the game. Fortunately, the elegance of the implementation and the humor will keep you going.

There are few additional complaints that can be made. It seems inexplicably harder to position descent on some staircases than others. The written documentation is haphazard in comparison to the beautifully executed instructions available on screen.

On the positive side, there are unadvertised advantages to the pursuit of this adventure. *Dark Castle* might be represented as the ultimate diet tool. With both hands in use and your attention riveted to the screen, it is, naturally, quite impossible to eat, smoke or even sleep. For those who do not need to diet, I recommend continuous IV feeding during play. The game is spectacular. — Linda Joan Kaplan

RAGS TO RICHES PROFESSIONAL BILLING

List Price: \$399.95. Published by Chang Labs, 5300 Stevens Creek Boulevard, San Jose, CA 95129. (408) 246-8020. Requires 512K+, printer, two disk drives or hard disk. Not copy protected.

Rags to Riches is an accounting system for small business that consists of several modules: *General Ledger*, *Accounts Receivable*, *Accounts Payable*, *Inventory* and the newest addition, *Professional Billing*. *Professional Billing* provides independent professionals—attorneys, consultants, etc.—a way to track and bill their services based on time. As with the other modules in the series, *Professional Billing* is well designed and easy to use.

Professional Billing consists of a set of related data entry and summary windows for detailed information concerning clients, activities and jobs (also called "matters"). "Activities" are the general services you provide, such as conferencing with a client

or preparing materials. "Jobs" are specific actions performed for a client on a contract basis. Information posted in a data window automatically updates the related summary windows. And client data, activity and job information can be entered into a data window simply by selecting the desired information in the summary window.

Professional Billing keeps a running track of activities and billing information. A client statement records all activity for the client, including current and aged balances, payments received, etc. Charges can be grouped into subclasses. This makes it easy to use the program in a professional group and separate charges out by individuals, or to group related activities.

Professional Billing also makes it easy to charge out a job on a fixed fee instead of an hourly rate, to keep track of retainers and to manage non-billable activities.

Built-in reports include job, activity and client lists; batch and job summaries and batch analysis; client aging; statements and a current voucher, to inform clients of billings since their last statement; transaction journal; productivity analysis, which calculates the ratio of billable and nonbillable time for each professional; and work in progress, which recaps all billing activities

CLIENT SUMMARY			
<input type="radio"/> Current <input type="radio"/> Due <input type="radio"/> Retainer <input type="radio"/> All			
Key	Name	Amount	
	Rico Computer	\$1,324.79	
	Apple Computer	\$42,291.42	
FOR:	Genetech Corporation	\$1,000.12	
Current:	Healtel Packard Company	\$1,498.75	
Due:	IBM Corporation	\$2,100.00	
	Intel Corporation	\$25.00	
<input type="radio"/> Show Job			
Date	Qty	Item	Amount
2/1	5.00	Research	925.00
2/1	10.00	Conference with Client Mr. Jones Cole	1,000.00
2/1	2.00	Telephone Conversation	250.00
2/1	3.00	Research	500.00
2/1	32.00	Conference with Client	4,000.00
2/1	3.00	Telephone Conversation	250.00
2/1	38.00	Research	4,750.00

for a given period. Reports will only print to a printer—they can't be seen on screen.

The *Rags to Riches* modules are integrated to an extent. While data entered in *Professional Billing* do not automatically update *General Ledger* if it's present, you can merge your data into GL. *Professional Billing* also functions as a standalone product. *Professional Billing* is HFS compatible and copies very nicely onto a hard disk, although the manual makes no mention of the fact.

Professional Billing continues the high standards of design, ease of use and functionality found in the other *Rags to Riches* modules and is an excellent product for the small business professional.—MDW



Automate

One Keystroke = A Thousand Words.

Touch-n-Go is the answer to repetitive keyboard and mouse entry. Simple key combinations and short abbreviations eliminate tedious typing and lengthy sequences of mouse movements.

Point and Click From the Keyboard. With **Touch-n-Go** you can perform any mouse operation from the keyboard. You'll never have to move your hands to change fonts or scroll to the end of a document.

Automate any multi-step procedure. Open a MacWrite document, set-up margins and tabs, choose a font and style, then stamp the letterhead on the top of the page – all with a single keystroke!

Touch-n-Go is simple to use. In no time you'll customize keys to make menu selections, scroll through documents, enter formatted paragraphs of text – even combine tasks into other simple abbreviations.

- Create and edit your own glossaries of over 10,000 time-saving abbreviations
- Create entire libraries of customized commands for each of your applications
- Memory-efficient – only 15k
- Macros have never been so easy to use and so powerful
- Mac Plus compatible

Touch-n-Go \$39 When purchased separately.
Just one of seven performance enhancing utilities from **TopDesk**.

TopDesk \$59.95
Includes *Touch-n-Go*, *BackPrint* and five other outstanding utilities

Lose Wait

Print and Work at the Same Time.

BackPrint lets you continue to work without interruption while you print. Never again will you have to stare at a "Printing in Progress" message.

Print High Quality Graphics. *BackPrint* is especially designed for high quality background printing of text and graphics from programs like MacWrite, MacDraw, Microsoft Word, Excel, MultiPlan, File, and Aldus PageMaker.

Superior Performance. *BackPrint* eliminates both printer slowdown from heavy typing and typing slowdown from printing. And that's important because your background printing shouldn't be accomplished at the expense of working at full efficiency. And *BackPrint* is incredibly fast at formatting your documents. This comparison from MacUser (August 1986) tells the story best.

	Time required to format a 5-page Word file.	Time required to format a 5-page MacWrite file.
BackPrint	16 seconds	44 seconds
MacMate!	2 minutes, 8 seconds	9 minutes, 28 seconds
MacSpool	5 minutes	7 minutes, 40 seconds
MaxPrint	2 minutes 33 seconds	2 minutes, 58 seconds

- Queue up an unlimited number of pages from different documents to be printed in succession
 - Prints any document that can ordinarily be printed in high quality, standard quality, best, or faster modes
 - Memory efficient – only 6k
 - Mac Plus compatible
- "BackPrint is by far the fastest spooler" - MacUser (Aug 86)

BackPrint \$29 When purchased separately.
Just one of seven performance enhancing utilities from **TopDesk**.

**CORTLAND
COMPUTER**

P.O. Box 9916, Berkeley, CA 94709

See your Apple dealer or call 415-845-1142 to order.
Please circle 198 on reader service card.

QUICK CLICKS



DASCH

List Price: 512K, \$395; 1024K, \$450; 2048K, \$545. Western Automation Laboratories, Inc., PO Box 3438, Boulder, CO 80307. (303) 449-6400. Hardware and software. Compatible with all Macs.

If you're looking for speed on the Mac, consider the DASCH external RAMdisk. This is a hardware item, available in 500K, 1M and 2M varieties. It connects to one of the serial ports (modem or printer), but appears to the System as an additional disk drive. Since its only moving parts are electrons, it is much faster than a floppy or hard disk.

How much faster? Depending on what you're doing, you can expect a 200 to 300 percent improvement. *PageMaker* took 16 seconds to launch from a floppy disk, and only 5.5 seconds from the DASCH. A 15K document file in 4-point type (small enough to fit on one *PageMaker* page) took 36 seconds to read in from a floppy, and only 16 seconds from the DASCH. (The same file took 27 seconds to load from a serial-connected Apple HD20.)

The speed gains made possible with a RAMdisk occur during disk read and write operations, so you would assume that you would get the most advantage out of putting your document files on the DASCH. However, the DASCH is not permanent memory like a disk. When the power goes, so do your files. Anything you haven't backed up to disk is gone. I know. I had to write this review twice. This is aggravated by the fact that there is no battery backup for the DASCH, and none is planned, so

even a momentary power outage will send your files into the ozone.

Still, if you put your System and application files on the DASCH, you will see dramatic improvement when launching and quitting, and in any operation or program that repeatedly accesses a disk (for example, font changes). This will be more dramatic when working from a 512K Mac, or when using *Switcher* with relatively small partitions for your programs — both situations force portions of your System and applications to be swapped from disk to memory and back more frequently.

The DASCH has a serial port at the back to which you can attach your *ImageWriter*, and software is provided to let you partition any portion of the DASCH as a printer buffer. If your partition is large enough, you will see a 2 to 1 improvement in speed when printing standard quality documents. You'll get even better results with draft quality, but it's not really worth it with high quality. This function doesn't work with *AppleTalk*, so it is of no help for *LaserWriter* users.

There is a configuration routine that lets you establish which disks will be automatically copied onto the DASCH at startup; more than one can be specified. A dialog box will tell you which files are being copied and how much RAM is left. It's supposed to let you make the DASCH automatically become the startup disk as well, but that feature has a bug. (The workaround is simple: COMMAND-OPTION and double click on the *Finder* on the DASCH.) Another shortcoming: you can't reconfigure or uninstall the DASCH without rebooting the Mac.

A well thought out utility makes it easy to back up files from the DASCH to a floppy or hard disk. A dialog box allows you to assign files on the DASCH to specific disks/folders



where you want their backups to reside. Whenever you run the backup utility, it will automatically copy those files that have been modified since the last backup, prompting you for the disks it needs. It will also ask you what to do about files that have not yet been assigned a backup location. The drawback here is that you have to quit what you're doing to back up. It would have been preferable to allow the backup to be run from within an application. You can run it in *Switcher* (128K partition), but it needs to be relaunched each time you use it.

Is the DASCH worth the expense with the price of hard disks coming ever downward? It depends on what you're doing and how much speed is important to you. Until 1-megabit chips become available at reasonable prices, the DASCH might provide a cost effective alternative. — Henry Bortman

PROFESSIONAL BIBLIOGRAPHIC SYSTEM

List Price: \$295. Published by Personal Bibliographic Software, Inc., PO Box 4250, Ann Arbor, MI 48106. (313) 996-1580. Version 2.6 reviewed. \$20 upgrade for registered owners of previous versions. Copy protected.

Professional Bibliographic System is a specialized data base application, specifically designed for the creation of large bibliographies. Twenty predesigned templates are included to simplify creation or modification of a bibliography. These templates, called workforms, have a complete set of fields already laid out so that all you have to do is enter data.

We first reviewed this program a year ago (Quick Clicks, *MacUser*, February, 1986) and found it generally very useful but with a few flaws in design and execution. The latest version, 2.6, offers several significant changes that improve overall design

and performance. While it still falls short in some areas, *PBS* offers serious researchers an excellent tool. The workflow approach makes *PBS* quite easy to use, and the designs are consistent with standard bibliographic formats so the final product is a professional quality bibliography as detailed as the user wants to make it.

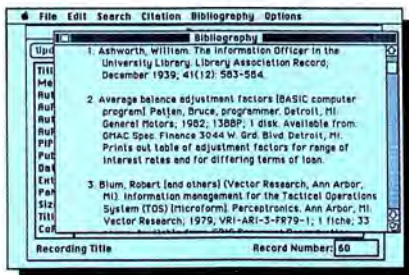
The two most serious drawbacks of the program noted in our previous review were speed of operation and flexibility of formatting the finished product. Both of these issues have been addressed in version 2.6. *PBS* is still very slow in searching a data

base and reformatting a bibliography for display or printing, but the speed has been improved over earlier versions. In addition, *PBS* 2.6 is fully HFS compatible and no longer requires the insertion of a key disk when installed on a hard disk drive.

PBS version 2.6 offers more flexible punctuation styles in formatted output, and makes full use of bold, italic and underline styles. Unfortunately, this area remains a weakness. You can't, for example, see a bibliography on screen as it is going to print out. You will see everything in the proper place, but the program won't format styles on screen. Style options are made from a checklist dialog box and there is no indication within a record or in the screen display of the final bibliography of which fields are boldfaced, underlined or italicized.

Add-on modules, called *Biblio-links* are available that let you download data from specialized online data base such as BRS, DIALOG, and MEDLARS directly into a *PBS* data base. Each *Biblio-link* sells for \$195.

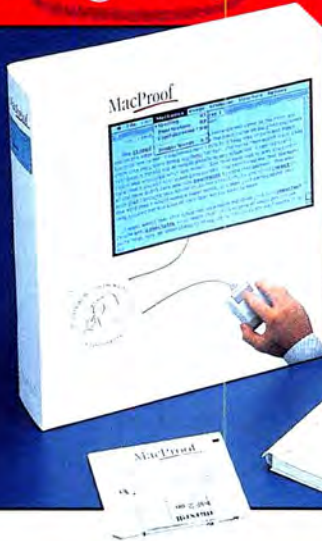
Design problems notwithstanding, *PBS* is a tremendously valuable tool because of the time it can save. — MDW



No More MacStakes With MacProof™!

Your writing will be righter (more correct) with MacProof.

MacProof software from ALP Systems can make you a better writer by finding errors or problem areas in your documents. Whether you are in a business or in a classroom,



if you appreciate conscientious writing you'll appreciate MacProof. MacProof will give you fast, reliable and impartial editing help by checking for writing errors in four areas.

"BEFORE WE SING IT, WE RIGHT IT FIRST WITH MacProof."
The Oak Ridge Boys®

MECHANICS

- Spelling
- Punctuation
- Capitalization
- Double Words

STYLE

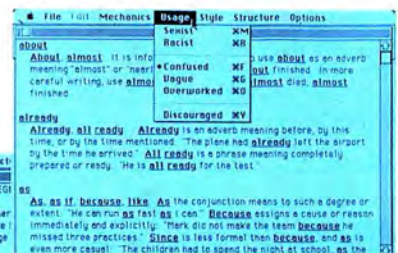
- "Be" Verbs
- Nominalizations

USAGE

- Sexist Language
- Racist Expressions
- Confused Words
- Vague Words & Phrases
- Overworked Phrases & Expressions
- Discouraged Expressions

STRUCTURE

- Abridgment
- Expansion



**Automated Language
Processing Systems**

Breaking the Language Barrier

U.S. Headquarters

ALP Systems, Inc.
190 West 800 North
Provo, Utah 84604
Telephone: 1-800-354-5656
Telephone: 1-801-375-0090
Telex: 453-195 ALPS PRVO
Telefax: 1-801-375-7217

European Headquarters

ALP Systems, S.A.
Route de Boudry 14
CH-2016 Cortaillod/Neuchâtel
Switzerland
Telephone: 41.38.44.21.11
Telex: 952-751
Telefax: 41.38.42.11.85

Available in Network and Standalone Versions.

"MacProof can make you a better writer."

Dr. T. H. Bell

**Former U.S. Secretary of Education
September, 1986**

Suggested Retail Price:

195.50

(Not Copy Protected)

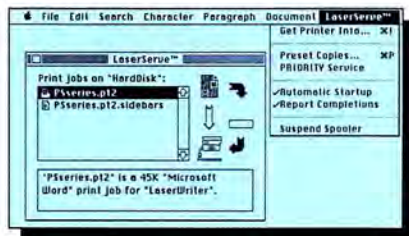
Distributor Inquiries Welcome.

QUICK CLICKS



LASERSERVE

List Price: \$125. Infosphere, Inc., 4730 SW Macadam Ave., Portland, OR 97201. (503) 226-3620. Requires 512K+ and 800K or hard disk. Not copy protected.



One of the biggest holes in Apple's plan to take over the world of desktop publishing is that created by the lack of a good print spooler for the LaserWriter. Several attendees at the Boston MacWorld Expo were looking to buy Mac systems, but thought they might have to end up with an AT system because of this lack.

Relief has come. The folks at Infosphere, best known for XLServe and MacServe, have

now released a printer spooler that works on AppleTalk networks—with either a LaserWriter or ImageWriter II (with AppleTalk card)—and they have done an excellent job.

The software works as advertised and the manual is clear and well-illustrated. The user interface to the product was also done "right," something of a departure from the norm these days. By "right" I mean it's truly easy and intuitive to use.

Installation requires installing a desk accessory and placing an application in the System folder. You run the application once to install the spooler—after that everything is done from the DA.

Several options are available, all of which are accessible from either a single dialog box or a special LaserServe menu. You can independently turn on or off both spooling (sending files to disk instead of the printer) and despooling (sending print files previously stored on disk to the printer). You can select which disk you want the spooled files to be sent to. You can cancel, suspend or restart spooling, and rearrange the order in which files get printed (despooled). You can have the spooler autoloading at startup, or

choose to load it manually. You can even have it inform you each time a job finishes printing, and if you're not around to click on the "OK" button, the alert box will go away by itself in 20 seconds.

All right, you're asking, how fast is it? A 13K Word file that took 3 minutes and 49 seconds to print without spooling was spooled in 2 minutes and 8 seconds. That's roughly a 45 percent speed improvement. Bit-mapped graphics showed less improvement. A full-page FullPaint document filled mostly with black took a minute and 34 seconds to print directly, and a minute and 22 seconds when spooled.

However, more dramatic results will be seen when spooling several files, since you need only wait for them to spool, not to print. And if several people are sharing a printer on a network—LaserServe has been successfully tested with both MacServe and TOPS—the effect is multiplied. Each user only has to wait for his or her own files to spool—not for everyone else's to print—before being able to get back to work.

LaserServe is a much needed and well done utility for network printing applications.—Henry Bortman

RAGTIME

List Price: \$395. Published by Orange Micro, 1400 North Lakeview, Anaheim, CA 92807. (714) 779-2772. Copy protected.

Ragtime is an exciting program, if somewhat unusual in design and concept. It is called an "Integrated Page Processor," which implies desktop publishing and the integration of text and graphics. Ragtime provides this, but adds a twist by incorporating a built-in spreadsheet as well. The combination is surprisingly effective and Ragtime makes difficult page layout tasks quick and simple.

A Ragtime page is built around the concept of a frame—a box that serves as a window on an application. Ragtime frames can hold text, graphics in MacPaint or MacDraw format or a spreadsheet. Frames can be used to create columns of any size or shape, and a special feature called a pipeline connects frames so that text flows automatically from one to another. Frames

can also be nested within other frames to display text and graphics side by side.

Frames are built, moved or altered in a Page Layout mode. An icon bar below the menu bar contains the tools to build frames, draw rule lines and build box outlines. A small window appears when you create or alter a frame to indicate precise measurement and location of the frame in inches, centimeters, points or picas. Once you click anywhere inside a frame the program jumps into the appropriate application, with a new icon bar and set of menus.

Ragtime's word processor is slow but works very well. Text is formatted with the placement of rulers, as in MacWrite. The rulers are very simple, offering only left and right margin and normal and decimal tab control. The rulers are also very small and sit on top of the first line of text when displayed, which takes some getting used to. Ragtime's word processor has one nice feature that is almost brilliant. You can perform global replace on any combination of character attributes, such as font or style. Now if you could just do full search and replace.

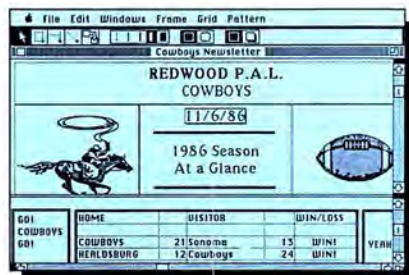
Graphics frames can hold almost any Mac graphic, imported through the Clipboard or read directly from PICT files. Ragtime supports full Cut, Copy, Paste and Duplicate actions for any portion of a frame or page. Pictures can be scaled to the size of a frame or clipped to fit. Resizing a frame will show more or less of a clipped graphic, offering a great deal of flexibility if you want to make changes as you work.

Also included is a fairly standard spreadsheet with a full set of statistical, financial and numerical functions. It can display rows and columns in R1C1 or A1B1 format, with or without column titles. Each cell can be formatted for different fonts or styles and spreadsheets can be linked to other spreadsheets. Unfortunately the Ragtime spreadsheet doesn't have any charting capabilities. Since it is intended for desktop publishing applications, it should.

Ragtime incorporates a number of extra nice features for page processing, including the ability to protect portions of a page so you don't accidentally destroy a carefully constructed layout, and generate forms as stationery pads for documents that will retain a similar format. Any time you want to reuse a page layout, simply tear a sheet off the form pad and all the formatting is there. Ragtime also offers manual leading and font sizing, full LaserWriter support and the ability to handle odd paper sizes. The program is very slow when printing pages with heavy graphic content on an ImageWriter as it seems to save a spooling file to disk (be sure to leave plenty of disk space free for a large file when printing to an ImageWriter). On the other hand, it prints as fast and as intelligently (last page first, etc.) to the LaserWriter as any program yet released.

Ragtime allows several windows to be open at one time, and can provide split views of a page—up to three views horizontally and three vertically.

Operation is generally very easy to follow. You can sometimes forget what mode you



An 'i' for an 'i'.



Or a "t" for a "t." In fact, any letter or number you can think of. Because the Abaton Character Reader (ACR) gives you the ability to "read" documents right into your Macintosh.™ From there, using the appropriate word processing software such as MacWrite,™ Microsoft® Word and others, you can create all kinds of documents, newsletters and reports.

Our new optical character recognition analysis approach means our ACR system

can read hundreds of typewriter and printer typefaces and styles, including proportional typefaces. Plus bold and underlined characters. And it can read character sizes anywhere from 6 to 12 points—even if they're on the same line.

There's a sheet-feed ACR system that allows you to scan up to 10 pages sequentially. Automatically. And we also offer a flat-bed unit that allows you to scan directly from bound documents—without removing the pages.

Every Abaton ACR comes with our powerful C-Scan scanning software. This gives you the ability to scan line art and half-tones at 300-dot-per-inch resolution—images perfect for use with today's page composition programs and laser printers.

With the Abaton ACR, you avoid the time-consuming procedure of manually typing documents into your computer. Just queue up the pages and go. It's that simple.

If you'd like more information on the Abaton ACR or any of our other high-resolution scanning systems, contact Abaton today at (415) 463-8822. Or visit your local Abaton dealer (authorized IBM, Compaq or Apple dealer) for details.

The Abaton ACR.

It's just what you need to give your Macintosh a little extra character.

Apple is a registered trademark and Macintosh and MacWrite are trademarks of Apple Computer, Inc. IBM is a registered trademark of International Business Machines Corporation. Compaq is a registered trademark of Compaq Computer Corporation. Microsoft Word is a trademark of Microsoft Corporation.

Abaton

Abaton Technology Corporation
7901 Stoneridge Drive, Suite 500
Pleasanton, CA 94566 (415) 463-8822
Please circle 46 on reader service card.





Letraset Understands Design... LetraPage™ Delivers It!

For 25 years, Letraset has supplied professional artists and designers with creative tools. That experience is the heart of a new software package for the Macintosh computer. Effective communication is still a challenge. But now there's a program that offers professional solutions.

Communication by Design... Design by Choice

It's one thing to design and produce printed material. But it's another to get it read. The solution is extensive choice and the power to explore it creatively. That's why LetraPage has more design options than any other program currently available.

Virtually Unlimited Graphic Effects

The LetraPage Graphics Palette offers a unique design vocabulary to add attention getting touches to your work. Nothing else comes close.

- ◆ 96 fill patterns for use individually or overlaid to produce unlimited visual effects.
- ◆ The same patterns can become variable width rules and multiple rules or mixed with standard rules.
- ◆ Dramatic drop shadows turn rectangles, circles and ovals into design elements.
- ◆ A graduated range of 9 tints gives you more creative control when fine tuning visuals.

A New Standard for Letter Spacing.

Look at the ways LetraPage handles type professionally while eliminating page make-up's biggest problem - poor letter spacing.

- ◆ Automatic and manual kerning dramatically improve letterspacing... greater impact in headlines - better readability in text.
- ◆ If the words don't fit, improve them right on the layout with LetraPage's word processing capabilities.
- ◆ A 93,000 word hyphenation dictionary combines with letter-spaced justification to produce smooth, even text.

PLUS

Create type as large as your page...it's a first in page design software.

LetraPage Works the Way You Do.

Your tools should support the creative process without intruding on it. LetraPage offers more layout options than any other program...and the power to explore them for the best solution.

- ◆ An on-screen tool box of 14 layout and drawing tools ensures ideas are realized almost as quickly as they are conceived.
- ◆ Text and graphic elements are precisely positioned using LetraPage's spec sheets...final art is produced to impeccable standards.
- ◆ Only LetraPage separates art to control colors individually.
- ◆ The options also include document lengths over 1000 pages and grids up to 48 equal columns.



EUM

ings
the
n Street
Art Museum
for
Summer
1986

The Sport of Kings: The Art of Richard Reeves

A Retrospective

The museum is pleased to present the first retrospective of the work of Richard Stone Reeves, considered to be the world's finest living painter of thoroughbred race horses. The



Secretariat:
on display

master of his field for more than three decades, he has been commissioned to paint more international racing champions than any other artist in history.

The names of the horses are legend:
Secretariat, Northern Dancer, Forego, Ruffian, Silent Screen, Slew o'Gold and Noble Dancer are among the celebrated champions depicted in 40 paintings and six drawings. They are captured in the brush strokes Reeves in

Highlights of the Programs Concerts:

- The Striegler Concerto for Tympany and Piano
- The Brahms A Major Quartet for Piano and Strings
- Schubert Trout Quintet for Piano and Strings
- Debussy Sonata for Violin and

ts in the Courtyard



useumGuide

allery:
Canadian Inuit
as don't live in igloos
But for thousands of
have adapted to one of
inhospitable climates on
kimo is the word we use
native people of the far
In their own language, they
mean "the real people."

Art of the Canadian Inuit, an
exhibition of sculpture and prints by
Inuit artists from the Canadian
Arctic, will be featured at the Main
Street Art Museum from June 1
through July 15. The exhibition is
sponsored by Canadian Arctic
Producers with the assistance of the
Department of Indian and Northern
Affairs, Canada.

Beginning around 1948,
Canadian Inuit artists have produced
a wealth of stone sculpture, in
addition to prints and drawings on
paper, that have been marketed
throughout the world and acclaimed
for their beauty and strength. These
works of art have as their subject
matter the people and the years; the
Inuit have lived over the years; the

Events & Happenings
at the
Main
Street
Art
Museum
for
Summer
1986

Concerts in the Courtyard

Chamber Music Samplers
Thursday, July 11, 18 and 25
at 8:30 PM

Each program features a faculty member and accomplished young artists who appear regularly at festivals and civic concerts.

Highlights of the Programs Include:

- The Striegler Concerto for Tympany and Piano
- The Brahms A Major Quartet for Piano and Strings
- Schubert Trout Quintet for Piano and Strings
- Violin and

The Sport of Kings: The Art of Richard Stone Reeves

A Retrospective
The museum is pleased to present the first retrospective of the work of Richard Stone Reeves, considered to be the world's finest living painter of thoroughbred race horses. The master of his field for more than three decades, he has been commissioned to paint more international racing champions than any other artist in history.

The names of the horses are legend:
Secretariat, Northern Dancer, Forego, Ruffian, Silent Screen, Slew o'Gold and Noble Dancer are among the celebrated champions depicted in 40 paintings and six drawings. They are captured in the brush strokes Reeves in exquisite detail, giving the public the opportunity to see the original paintings of great thoroughbreds for time.

Reeves has been commissioned to paint five Triple winners. His art has taken the great farms and race tracks of the four continents, and his work hangs in the homes of some of the world's most influential people. Among the works in the show

LetraPage Supports Your Skills and Expands with Them.

LetraPage rewards the regular user with many levels of creative control and productivity. More sophisticated graphics are possible; more complex publications and documents can be produced. These examples show what we mean:



\$495.00

- 1 Tight letter spacing—achieved with LetraPage kerning—gives the masthead its impact.
 - ◆ LetraPage's hyphenation and justification smooths out the text for a clean even appearance.
 - ◆ Text is turned into illustration by centering a sentence and using the Picture Spec Sheet to duplicate the rules quickly and easily.
- 2 LetraPage offers up to 48 columns per page—so a 6 column grid was chosen to add visual interest.
 - ◆ The masthead gets added drama with a LetraPage custom size—127 point!
 - ◆ An original drawing was scanned in, then precisely sized with LetraPage's unique percentage scaling.
- 3 A visual counterpoint to the large type was created by producing reverse letters on the diamond shapes.
 - ◆ Vertical rules from the tool box were drawn directly on the layout to give the "Concerts" article a subtle style of its own.
 - ◆ LetraPage's cropping tool eliminated unwanted detail from the illustration of the horse.

There's a lot more to LetraPage. Like built-in telecommunications, color capabilities for the ImageWriter II and a save page to disk feature. Contact your Authorized Apple Dealer and ask for a demonstration. **Or call us at 1-800-255-2550.** We'll tell you the name of your nearest dealer and send you more information.

I'd like to learn more about LetraPage for the Macintosh. Please send me details.

Name/Title

Company

Address

City/State/Zip

Telephone

Letraset P.O. Box 3900 Peoria, IL 61614
In Canada 416-475-7511

LetraHyphen™

Improves the Appearance of Text Setting... Automatically.

LetraHyphen is a dictionary-based hyphenation program that enhances the appearance of all styles of text setting. Using a 93,000 word dictionary, it places a hyphen at grammatically correct word-break points throughout the text. If the text is edited or a column width change occurs, hyphens are deleted and added to the revised text. The end result is more polished material and the credibility that goes with a professional appearance.

...and Saves Pages

Since LetraHyphen uses space more economically the number of pages required for the same amount of text can be reduced. You save money by using less paper.

LetraHyphen is for use with MacPublisher II, Microsoft Word, PageMaker and any other Macintosh word processing or desktop publishing program which supports discretionary hyphenation.



LetraIndex™

Dramatically Reduce Time Spent Indexing!

LetraIndex is an index generator. It creates an index from a master list of key words determined by the user. Alternatively, LetraIndex can create a master list which can be the index. With either approach, the tedious and time-consuming task of creating an index can be substantially reduced.

Built-in Flexibility

LetraIndex is also useful throughout the creation of the document. Draft indexes may be prepared at any time to assist editing. Word counts for the entire document can be generated quickly. LetraPage can also re-number the index if page numbers change.

LetraIndex is compatible with MacWrite2.2, disk-based MacWrite (4.5-on) and Microsoft Word.



COMMUNICATION
by Design
Letraset

⊗ ESSELTE ©Letraset USA 1986

Macintosh is a trademark licensed to Apple Computer, Inc. MacWrite, ImageWriter and LaserWriter are trademarks of Apple Computer, Inc. Microsoft Word is a trademark of Microsoft Corporation. PageMaker is a trademark of Aldus Corporation. MacPublisher II is a trademark of MicroCosmos. LetraPage, LetraHyphen, and LetraIndex are trademarks of Letraset USA, a division of Esselte Pendaflex.

QUICK CLICKS

are working in at first, but *Ragtime* is easy to learn and use so it won't take long to become comfortable with it. The manual is excellent, with a detailed tutorial and full reference section. Unfortunately, the pro-

gram is copy protected and requires the insertion of a key disk at random intervals when working from a backup or hard disk.

This is an excellent program overall. The word processor is not strong enough to

stand alone, but is a solid component of the total package. *Ragtime* is perhaps the easiest page layout program I have used yet, and still maintains quite a bit of power. — MDW

LEATHER GODDESSES OF PHOBOS

List Price: \$39.95. Published by Infocom, 125 CambridgePark Drive, Cambridge, MA 02140. (617) 492-6000. Not copy protected.

Years ago, when the first adventure games like *Zork I* and the original *Adventure* came out, computer gamers were enthralled by the ability to type things like "Get gold" or "Attack dragon with sword" and get a reasonable response. Today's computer gamers apparently want something more stimulating than a chaste kiss on the cheek from a newly rescued, suitably grateful princess.

Actually, *Leather Goddesses of Phobos* is not as racy as its title makes it sound. For one thing, those promiscuous ladies of the Martian moon Phobos are out to conquer the earth and enslave the inhabitants. Rather than disporting with same ladies, your mission, should you decide to buy the game, is to defeat those kinky ladies and save the planet. The costumes may be slightly different. [Editors Note: Slightly? Female adventurers find themselves garbed in brass bikinis; males in brass loincloths!]

but the main outline is the same as many other games. Just a different flavor, as it were.

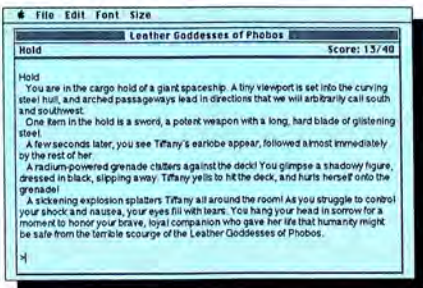
In addition, those who just want to enjoy another good Infocom text adventure without the innuendo can play the game in "tame" mode and be guaranteed that the infamous sultan's harem will be strictly "G" rated — though maybe a bit duller than "suggestive" mode and definitely less fun than "lewd" mode.

Truth to tell, despite the great title, the best feature of *Leather Goddesses of Phobos* is not the sex, but the humorous writing. *Leather Goddesses* continues the wacky tradition of the Steve Meretzky/Infocom comedy-adventures starting with the vastly underrated *Planetfall* and continuing with the wildly successful *Hitchhiker's Guide to the Galaxy* (with Douglas Adams).

Leather Goddesses is a worthy successor to these wonderful games. It's easier by far than *Hitchhiker's Guide*, and the humor is broader, less British, and certainly more bawdy. Like all text adventures, there are no exciting graphics or sound effects to spark your imagination, just words. But as fans of Infocom know, a good sentence can easily be worth a thousand pictures.

Leather Goddesses of Phobos will take you to such varied places as a Martian polar orphanage for robots, an encounter with a Venus flytrap — on Venus — and Cleveland. Yes, Cleveland: you don't think you're going to find the headline to a 1933 Ford (which your sidekick needs for his super anti-*Leather Goddesses of Phobos* machine) in a Martian desert, do you?

Potential female warriors need not worry that the game discriminates against women. At the beginning you tell the game what sex you are — by going to the appropriate bathroom! — and the game adjusts your role, and your future sex partners, accordingly. *Leather Goddesses'* packaging is of the usual high-quality Infocom fans have come to expect. The documentation contains a hilarious and campy 3D comic book (with the necessary tinted glasses) and a scratch 'n sniff card keyed to pungent smells in the game. *Leather Goddesses of Phobos* may lack graphics, but it sure smells interesting. — Larry Husten



PENMOUSE+

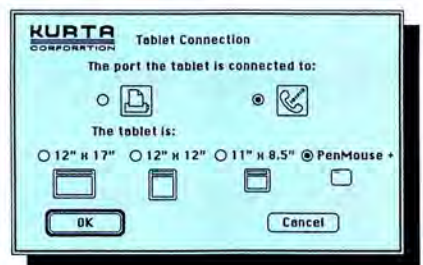
List Price: \$295. Kurta Corporation, 4610 South 35th Street, Phoenix, AZ 85040. (602) 276-5533. Compatible with 512K and Mac+; uses modem port.

The PenMouse+ is Kurta Corporation's low-end entry in the graphics tablet market. The company makes tablets in many different sizes and style for a variety of computer systems.

Graphics tablets provide a pen-like, rather than a mouse-like object to hold in your hand while drawing or tracing. Since most of us learned to draw on paper with pencils, pens and crayons, it is easier to use a tablet and pen combo than a mouse for drawing computer graphics. This is especially true for tracing — using a pen on a tablet makes it much easier to see what you're trying to copy.

The PenMouse+ has a unique pen. The pens of most graphics tablets are connected to the tablet by a cable. Signals telling the tablet where the pen is in relation to the

tablet travel along the cable. The PenMouse+ pen has no cable. Instead, a tiny transmitter built into the pen body transmits the signals on an FM frequency, making the pen easier to use.



The PenMouse+ has an exceptionally smooth "trace" mode that allows for very precise drawings. In fact, it is so precise that if you move the pen quickly, the drawing on the screen lags behind. This is because the tablet is doing such a good job of tracking and drawing the points you pass through that it takes longer for the comput-

er to process and display them than it took you to draw them.

An alternate "draw" mode yields a display that is more in synch with your pen motions, at the cost of a more jagged image. Most users will stick with the trace mode. Besides, it's fun to be able to do something faster than the computer — and then sit back and watch the screen catch up with you.

But. But. But. But. (There are four big ones.)

(1) The unit tested did not track evenly in the horizontal and vertical directions. I traced a 3-inch circle; it came out 3 inches wide, but only 2.5 inches tall. This is not acceptable behavior for a precision drawing device.

(2) The pen is hard to control when you're drawing — and when you're not. The pen does not actually have to touch the tablet to draw. As long as it's within a half an inch, it will work. "Clicking" is done either by pressing down on one of the small buttons on the pen, or by pressing down the pen point itself. Likewise, the release of pressure on either the button or the tip represents a

MacInTax™

THE INCOME TAX PROGRAM



“The best of the crop is MacInTax . . .”

MacUser, January 1986

“I give MacInTax my highest recommendation.”

MacWorld, March 1986

“ . . . our personal favorite: MacInTax ”

InfoWorld, March 3, 1986

“SoftView's MacInTax is wonderful . . .”

Jerry Pournelle, Columnist, Byte, August, 1986

TOP-RATED TAX PROGRAM:

- DISPLAYS EXACT FORM ON SCREEN
- PERFORMS TAX CALCULATIONS AUTOMATICALLY
- LINKS ALL FORMS AND SCHEDULES AUTOMATICALLY
- DISPLAYS AND LINKS WORKSHEETS AND ITEMIZATION WINDOWS
- DISPLAYS COMPLETE IRS INSTRUCTIONS ON SCREEN
- PRINTS ENTIRE FORM WITH ALL DATA — FULLY IRS APPROVED FOR SIGNATURE AND SUBMISSION
- ALLOWS ESTIMATES FOR TAX PLANNING AND “WHAT IF” PROJECTIONS
- INTERFACES DIRECTLY TO SPREADSHEETS, DATA BASES, ACCOUNTING PROGRAMS
- OPERATES ON ALL MACINTOSHES, ONLY REQUIRES ONE DISK DRIVE. MacInTax FEDERAL CONTAINS 26 FORMS AND SCHEDULES. MacInTax CALIFORNIA CONTAINS 15 FORMS AND SCHEDULES.

SOFTVIEW

SOFTVIEW®

MacInTax FEDERAL: \$99.00

(Yearly updates: \$45.00)

MacInTax CALIFORNIA: \$45.00

(Yearly updates: \$25.00)

MacInUse: \$49.00

To order call: 1-800-MACNTAX (Outside California)

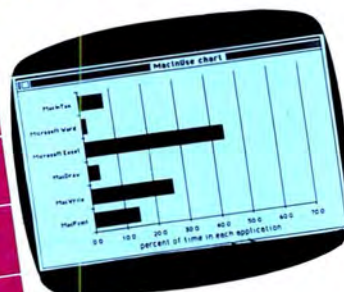
1-800-MACVIEW (within California)

MacInTax AND MacInUse ARE TRADEMARKS OF SOFTVIEW, INC. MACINTOSH AND MACWRITE ARE TRADEMARKS OF APPLE COMPUTER, INC. MULTIPLAN, EXCEL AND MS WORD ARE TRADEMARKS OF MICROSOFT CORP.

Please circle 112 on reader service card.

INTRODUCING

MacInUse™



FIND OUT WHAT YOUR MAC IS DOING!

- AUTOMATICALLY RECORDS EACH APPLICATION USED — NAME, DATE, START TIME, DURATION, AND OPTIONAL COMMENT.
 - MAINTAINS USAGE INFORMATION IN A “TEXT” FILE — EASILY EXPORTED TO OTHER APPLICATIONS.
 - INCLUDES TEMPLATES AND MACROS FOR MACWRITE,™ MS WORD,™ MULTIPLAN,™ AND EXCEL.™
- MacInUse — WHO NEEDS IT?**
- PEOPLE WORKING AT HOME — FOR CONTEMPORANEOUS TAX RECORDS.
 - CONSULTANTS — FOR CLIENT BILLING RECORDS.
 - MANAGERS — FOR EMPLOYEE PRODUCTIVITY AND RESOURCE TRACKING.

THE MACINTOSH TRACKER

TRACKS THE USAGE OF YOUR MAC

QUICK CLICKS



"mouse button up" condition. You can be holding down the proper button, thinking that you're drawing away, while, unbeknownst to you, you have also inadvertently put pressure on — and then let up on — the pen tip itself. The result: you kept drawing but the image on the screen stopped halfway. Not good.

(3) The documentation — this was the improved version — was confusing. Text did not always match illustrations; many things were left unexplained or underexplained.

Although Kurta's technical support was excellent, it might be better to put out a good manual that doesn't require people to call for support in the first place.

(4) The tablet plugs into the modem port. To use it, you have to run an installation routine, which modifies the System file on your startup disk, informing it that the modem port is being used by the tablet. If you want to sometimes use the tablet and sometimes use a modem (or other serial device), you have to rerun the installation

routine and reboot each time you want to go back and forth.

A future release of the software promises overcome this problem by putting the installation routine on the Apple menu as a desk accessory. As of press time, Kurta had no projected date for the release of this software upgrade.

The PenMouse+ is a potentially great product but it needs some work. With a few improvements, it could be an exceptional graphics tool. — Henry Bortman

DISK EXPRESS

List Price: \$29.95. Published by ALSoft, Inc., Box 927, Spring, TX 77383. (713) 353-4090. Requires 512k+. Not copy protected.

Just like humans, the older computer disks get, the more they slow down. Computer gurus have dubbed this electronic hardening of the arteries "disk fragmentation." Fortunately, there's a program that can restore your disks to their youthful vigor. It's called *DiskExpress*.

When you copy a file to a fresh disk, the data occupies continuous sectors on the disk's surface. That means the disk drive can read the data efficiently in a single pass. That's good. As you repeatedly delete old files and add new ones to the disk, however, the data begins to get fragmented. That's bad.

The beginning of a fragmented file might be in one place, its middle in another, and the end somewhere else altogether. This can really bog down the disk drive because the read head has to scurry all over the surface of the disk just to read a single file. The problem isn't very noticeable on a floppy disk, but it can cause a hard disk to slow down by as much as 50 percent, although usually the effect is nowhere near that dramatic.

The simplest cure for disk fragmentation is to make a backup copy of all the hard disk's files onto floppies, reformat the hard disk, then restore the data. If the backup program you use is file oriented, as most diskette backup programs are, the data from each newly restored file will occupy continuous disk sectors.

DiskExpress is a quicker (usually) and more elegant solution to the sluggish hard disk syndrome. It automatically reorganizes the data on your hard disk into continuous sectors. It also arranges the files in such a way as to slow down further fragmentation. *DiskExpress* won't save you from having to backup your data (in fact, ALSoft recommends you do so before using the program), but it should help keep your hard disk humming along at a nice even pace.

Like any good mechanic, while *DiskExpress* has the hood up it also checks your disk's allocation table to make sure you're not wasting space, and it compacts your Desktop file to remove old, unused resources. For the security minded, *DiskExpress* will zero out areas of the disk where deleted files used to be stored.

All this maintenance takes time. *DiskExpress* took an hour and a half of grinding and wheezing to optimize 13 megabytes of files stored on a 20-megabyte hard disk. During the run it complained four times that

the hard disk's allocation table was out of whack. But, despite the nagging, *DiskExpress* managed to finish the job. The resulting speed improvement was impressive.



DiskExpress comes on a single, 400K diskette with a simple, no-frills instruction pamphlet. The pamphlet lists a Texas number for technical assistance. ALSoft's support staff are friendly and responsive to questions. They pointed out that *DiskExpress* shouldn't be used on a disk volume that has been damaged and that some copy protection schemes are also incompatible with *DiskExpress*.

DiskExpress works with MacServe, all standard disk drives, all normal SCSI and serial hard drives and the Macintosh XL. — Léo Laporte

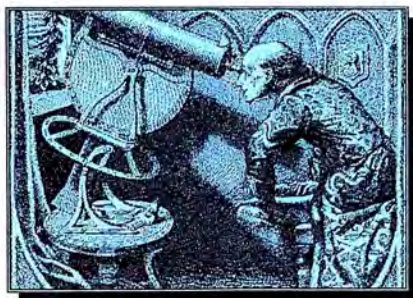
SUNSHINE GRAPHICS LIBRARY



List Price: \$20 per disk, discounted for multiple disks. Published by SunShine, Box 4351, Austin, TX 78765. (512) 453-2334. MacPaint files. Not copy protected.

Since not every Macintosh user is a Macintosh artist, clip art has taken on a very big role for general word processing, graphics and page layout applications. Quite a few small companies and individual developers have seen clip art as a creative and inexpensive way to get into the Macintosh software market. This published clip art has taken many forms, from disks filled with original Mac artwork to large collec-

tions of digitized images. One collection of high-quality digitized images is the *SunShine Graphics Library*.



Steve Schwartzman of Austin, Texas, spends an extraordinary amount of time finding interesting graphic images, digitiz-

ing them, then working over the results in FatBits to clean them up. He has to date generated 36 400K *SunShine Graphics* disks with images ranging from Baroque-style borders to fanciful animals to full-page bookplate graphics, and many more are planned.

Each volume in the *SunShine Graphics Library* comes with a laser printout of all the images on that disk and guidelines for using the images effectively. The disks are priced on a sliding scale for people who want to buy more than four, with prices ranging from \$20 for a single disk to \$13 per disk for 20 or more. A catalog showing all of the pictures is available for \$20, and comes with one "sampler" disk of images.

The images in the *SunShine Library* are fun and of very high quality, and are worth looking at for anyone who makes extensive use of clip art. —MDW

HIGH PERFORMANCE FOR INTROVERTS.



THE HYPERDRIVE INTERNAL HARD DISK.

If you're among the inner-directed, we can mold a Macintosh in your own image.

Through HyperDrive 10 and 20—the first hard disks to be installed *inside* the Macintosh and connected directly to its microprocessor.

The resulting Macintosh can, in its own quiet and unobtrusive manner, outperform any other Mac in its class.

It can not only store as much information as 25 or 50 diskettes. But it will also reduce power-up time by 66% over a Mac Plus. Load Aldus' PageMaker 150% faster. Microsoft's Excel 250% faster. And so on.

Which should more than satisfy anyone's need for speed. Unless, of course, you need something "lightning fast," which is how Macworld described HyperDrive 2000.

This internal hard disk system also includes an additional microprocessor and a floating-point processor—turning the Macintosh into an authentic number-cruncher. In fact, a Mac with HyperDrive 2000 can perform computations from 10 to an astonishing 250 times faster than a Mac Plus.

All these HyperDrives can be networked with regular Macintoshes through our HyperNet software. And since they're installed inside the Macintosh, all three preserve the Mac's portability and take up no additional desk space.

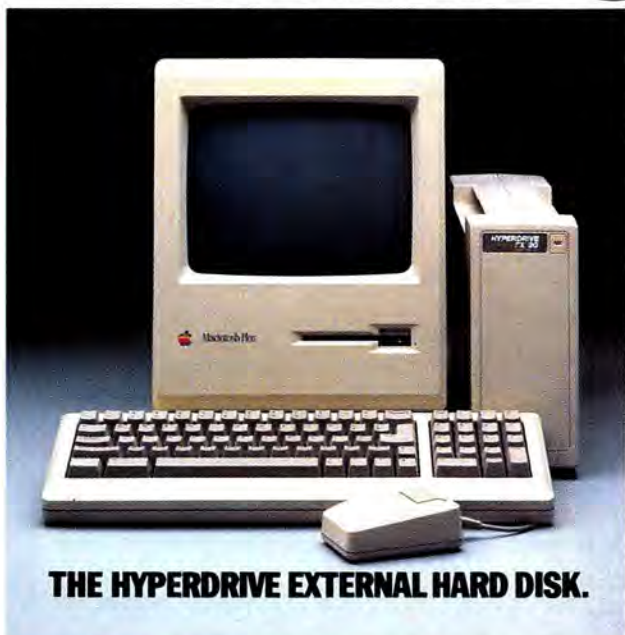
But sheer speed aside, what distinguishes all HyperDrives is the software they're equipped with. Which you can learn more about by consulting the ad on the right.



*In Illinois, call (800) 854-9737. In Canada, (800) 263-1405. © 1986 General Computer. HyperDrive, HyperNet, and the General Computer logo are trademarks of General Computer. PageMaker is a trademark of Aldus Corp. Microsoft and Excel

Please circle 81 on reader service card.

HIGH PERFORMANCE FOR EXTROVERTS.



THE HYPERDRIVE EXTERNAL HARD DISK.

The FX/20 and FX/40 are the most outgoing members of the HyperDrive family.

They spend their time on desktops, in the company of other office tools, and connect directly to the Macintosh's SCSI port.

The resulting Macintosh is extremely fast, which will come as no surprise to anyone familiar with HyperDrives. (If you aren't familiar, see the fourth paragraph of the ad to the left.)

Nor is it surprising that our FX series is extremely accommodating, providing a vast 20 or 40 megabytes of storage.

The real surprise, at least for those familiar with external hard disks, is all the software the FX comes with.

Such as a program that protects your documents by making back-up copies of them onto diskettes.

Another program protects your documents from certain excesses of sociability—denying access to anyone who doesn't know the password you choose.

Still another program automatically queues up documents for your printer. So you can proceed on to other jobs without having to wait for the printer to catch up.

In short, no other external hard disk does everything that HyperDrive FX/20 or FX/40 does. Which is a distinction it shares with the internal HyperDrives on the left.

Over 1200 authorized General Computer dealers will be happy to help you establish a meaningful relationship with either. For the dealer nearest you, call (800) 634-9737.*



**GENERAL
COMPUTER**

are trademarks of Microsoft Corp. Macintosh is a trademark licensed to Apple Computer, Inc.

THE MORE YOU GIVE, THE MORE YOU GET

LIVING VIDEOTEXT'S *MORE* IS SO rich in features that you'll discover a little more about it almost everytime you use it. It's a good program to explore. *MORE* is well behaved. It doesn't mind (too much) being poked, explored and tested. There are lots of little undocumented treasures waiting to be discovered. And it's always nice to find something not in the manual.

TREE CHART STUFF

Although *MORE*'s manual shows how to turn a tree chart into an underline style chart (see sidebar "Fine Print"), what it doesn't mention is that anytime you define a font size for the chart that is too big to fit into the boxes you've designed, the text appears on *top* of the box in the tree chart. This means you can label empty boxes in an organizational or tournament chart. By using empty headlines as well as filled ones, the "labels" can look like they're labeling more than one box.

To really jazz up a tree chart, put it into a program that can handle object-oriented art, like *MacDraw* or *SuperPaint*. You can export the tree chart in PICT format, but it's even easier to set yourself up in *Switcher* or just transfer by the Clipboard.

Once you're in the art you can address some of *MORE*'s tree chart

There's always more.

The best documenta-

tion in the

world can't tell you

everything about a

program. Here, an

expert reveals more

about MORE.

design limitations because each connecting line, box and text entry is a separate object; a shadowed box reveals itself to be an empty rectangle laid over an offset gray rectangle of the same shape.

There are simple things you can do to polish the chart, such as: differentiate the connecting line thickness from the box frame thickness, change the font size from one level of the chart to another, or the shape of the box from one level to

another. Fancier opportunities also present themselves: put pictures inside the boxes, or use a large picture as a graphic.

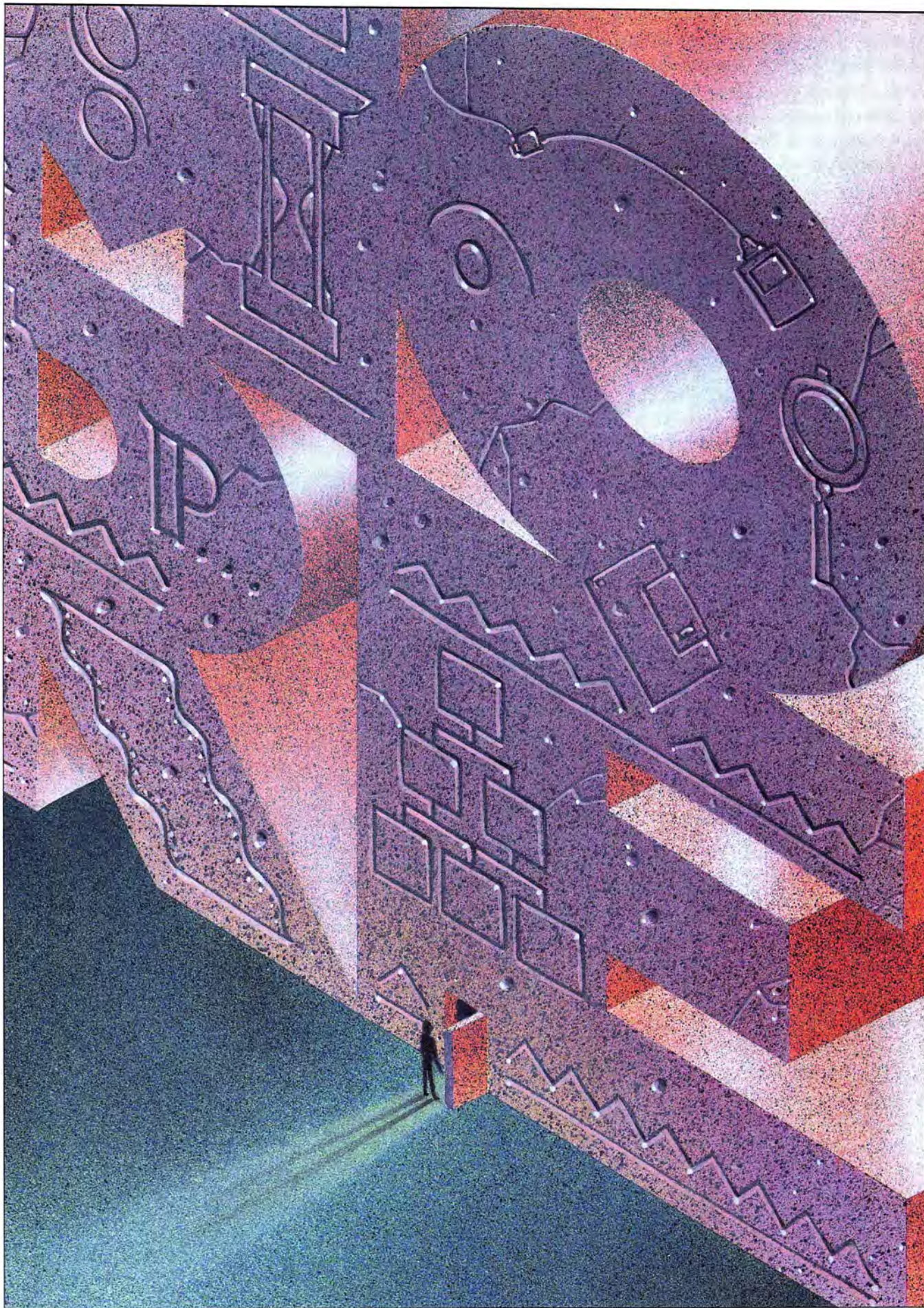
Bullet charts are also composed of object-oriented art. They can also be pasted into art programs and modified. Then paste the altered chart back into one of *MORE*'s graphic windows and view it in slide shows.

SEARCH AND YE SHALL FIND

The search utilities built into word and idea processors are too often taken for granted. They're used, but rarely to their limits. *MORE*'s are particularly versatile; let's see how far we can take them.

Because the wild card and range options in *MORE*'s search function are so sophisticated, you can do some tricks with it that are not immediately obvious, but can be very useful. The Calendar function, for instance, specifies the selected range of dates in any of three formats, but every format includes the year. If you seldom need the year in your date headline, Search with Replace is an easy way to get rid of it. Simply put "1987" in the Search field, leave the Replace field empty, and click the Replace All button. This takes out 1987 and replaces it with nothing, which is exactly what you want. Your search string might

BY SHARON ZARDETTO AKER



THE MORE YOU GIVE, THE MORE YOU GET

also be "/87" or "/1987" if either is the format you've defined for dates in your outline.

MORE lacks the ability to automatically indent paragraphs in its document windows, but a simple two-step search and replace can add indents semiautomatically. First, set up a search and replace that will find every paragraph marker and replace it with a paragraph marker plus a tab character. The tab character will indent the paragraph following the marker. Since this would also add a tab after the final paragraph, specify every paragraph except the final one:

¶~¶\$

The paragraph character is obtained by typing Option-Return. The tilde is the exclusion character, telling *MORE* to search for everything except the character that follows it. The dollar sign specifies a string that appears at the end of a headline or document window, so this search string tells *MORE* to look

for every paragraph marker except those at the end of the document window. Simply use this replacement screen:

¶0

with the diamond tab character, obtained by typing Option-Tab. Click the Change All button and your paragraphs will be indented — except for the first one in each document window.

To indent the first paragraph in each document window, use the search string:

%?

which will find the first character in each document window. Use the replacement string:

0&

which adds the tab character in front of the first character, the ampersand standing for the "found string." Use the Change All button to affect the replacement. There's one problem with this: it also adds a tab character in front of every headline. You won't

To jazz up a tree chart, put it into a program that can handle object-oriented art, like MacDraw or SuperPaint.

see the diamond, but the tabbed space is there.

One more round of Search and Replace: Double-click on the home headline to collapse the whole document (which closes all open document windows) and press COMMAND-E to expand all headlines. Select Expanded Only in the Search box and use the search string:

%0

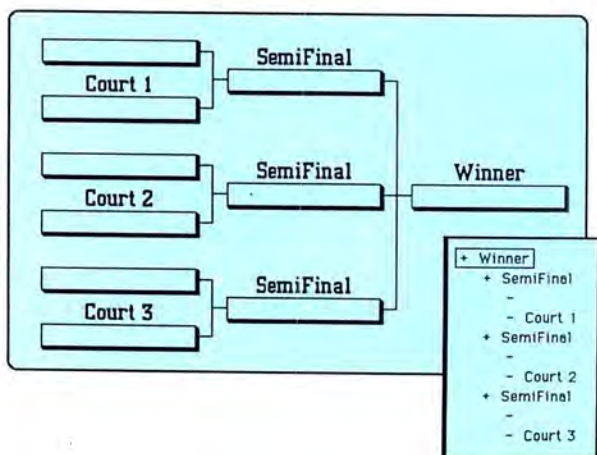
press Change All; this will take out all the leading tabs.

This three-step process may sound like a long work around, but it's speedy even with a sizeable document. A word of warning is in order here. If you have a document that uses tabs to indent some items or has a table with a leading tab, this process will wipe them all out. In those cases you'll have to manually remove tabs.

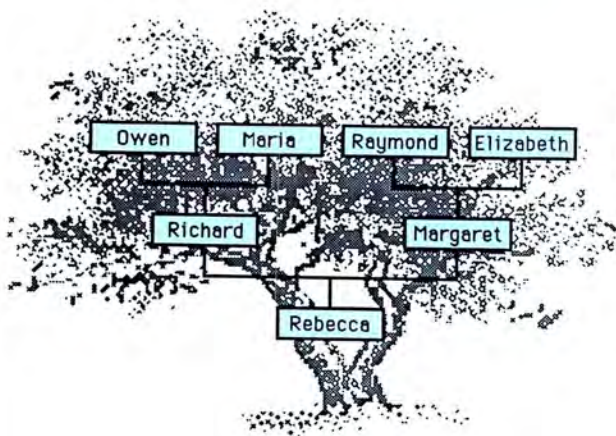
SORT OF

My favorite Search and Replace trick is one that lets you do a true numeric sort. *MORE* actually sorts numbers alphabetically so that 10 comes before 2; for a true sort, all the numbers must have the same number of digits.

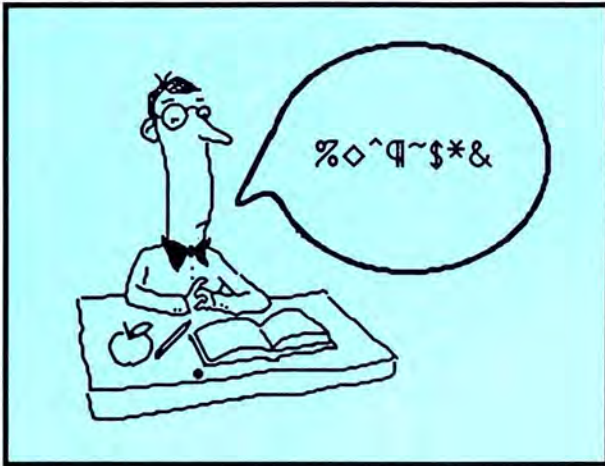
The first step is to select the headline that contains the list of numbers and decide how many digits are needed to make a true sort — the number of digits in the longest number in the list. Adding leading zeros is done a few quick stages; first all the single-digit numbers are changed into double-digits, then the double-digits (both original and new ones) are changed into three-digit numbers, and so on. If your list has 1, 2 and 3 digit numbers, the first



By using a font size larger than the tree chart box, you can label empty boxes. This tournament chart was created from the outline shown in the inset.



Transferring tree charts to a graphics program lets you artistically enhance them.



MORE's special search characters sometimes look like cartoon curses.

search string is:

[0-9]

with the replace string:

0&

to put in a leading 0.

With the Match Pattern, Barcursor and, most importantly, Whole Word options checked, click Change All.

The next round use [0-9][0-9] as the search string, with the same replace string. Now all the numbers have three digits and you can sort them. If you need longer numbers, use "[0-9][0-9][0-9]" next to four digits, and so on.

After the numbers are sorted, you can strip all the leading zeros in one fell swoop. Use %0 as the search string and nothing as the replace string. Make sure you *uncheck* the Whole Word option, and click Change All. All the zeros are stripped, and the numbers are in the right numeric order.

If you have decimals, you can use the same procedure to add leading and trailing zeros to make the number of digits correct.

AND COUNTING

Because using Find All in the Search box gives a dialog that reports how many matches were found, you can use the Search... to do character, word, sentence and paragraph counts. You can even count the number of headlines in the document.

With the Match Pattern option checked, you can get a character count with the simple search string "?" which looks for every character. Clicking Find All will count the characters for you. You can count the characters in the entire document by selecting the home headline, or in a single document window by opening it and clicking the cursor at the beginning of the window. Any portion of the document can be counted by selecting the headline and using the Barcursor (invert).

To count words, use the search string:

[a-z][a-z][a-z][a-z]*

This will count words of three letters or more when you click the Find All button; make sure the Match Pattern is on. The Whole

Original List	First Pass	Second Pass	Sort	Final Pass	MORE's Sort
102	102	102	004	4	102
4	04	004	009	9	17
17	17	017	017	17	4
9	09	009	072	72	72
72	72	072	102	102	9

By adding, and later stripping, leading zeros to numbers in **MORE's** headlines, you can get a true numeric sort. The gray box shows **MORE's** normal method of sorting numbers.

☐

Calendar

Dates

From: 2/2/87
To: 2/6/87

Time

From: 9:00 AM
To: 9:00 AM
Interval: 30 min

February 1987

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

Jan Feb Mar Apr May Jun 86

Jul Aug Sep Oct Nov Dec 88

Make Calendar Outline

Specifying the same "To" and "From" times in **MORE's** Calendar results in a list of dates that are not segmented into appointments.

FINE PRINT

You may not have read **MORE's** manual other than to familiarize yourself with the overall operation of the program; even if you read it from front to back (does anyone ever do that?), you may have missed a few items that were only mentioned in passing, but are very convenient, such as:

- If a document window is open when you select Document from the Format menu and choose a font and/or size, the selections will apply only to the current document window. This means you can format each document window separately.

- By defining a very flat box in the Tree chart options, you can turn the tree chart into an underline tree chart instead of boxes.

- By using Return and entering no text, you can have an empty box in the tree chart to fill in later.

- If you hit COMMAND-K to bring up the search box when text is selected in a headline or document window, the highlighted text is automatically entered into the Search box.

- Option-Return and Option-Tab place, respectively, the paragraph marker and the tab character in the Search or Replace field of the Search dialog.

- Pressing the first letter of a button in a dialog box selects that button; so, in a dialog with Yes, No and Cancel buttons, Y selects the Yes button. If a dialog has text fields, use the Command key and the first letter of the button to do the selection.

THE MORE YOU GIVE, THE MORE YOU GET

MORE is well behaved. It doesn't mind being poked, explored and tested.

Word option is not necessary, since spaces are *not* part of the search string.

To count sentences, use the search string:
with Match Pattern on [!:].

This will find the sentences that end in a period, exclamation point or question mark. You can do a quick paragraph count by searching for the paragraph marker (Match Pattern).

Another thing you can count is the number of headlines in the outline or under any head or subhead. The search string:

%?

looks for any character that is at the beginning of a headline or document window. With the headlines expanded and the Expanded Only option-/

Barcursor / Match Pattern on, the number of matches found will be the same as the number of headlines in the selected area.

SMALL STUFF

Other small but helpful hints: If you're using Symmetry's *Acta* desk accessory outliner and want to put it into *MORE* for some heavy-duty work or charting, you can do a direct paste of the material. *Acta*'s topics become *MORE*'s headlines. Each headline will be preceded by a bullet (space) which can easily be erased by doing a quick Search and Replace, replacing the bullet with nothing.

If you want to transfer a section of one outline to another, while still preserving material previously on the Clipboard, use the Send To command. That will save the desired segment into its own file. Then use the Receive From command to incorporate the section into the second outline.

When you are working in a document window and need to refer to the subheads beneath, open a second copy of the same outline and tile them.

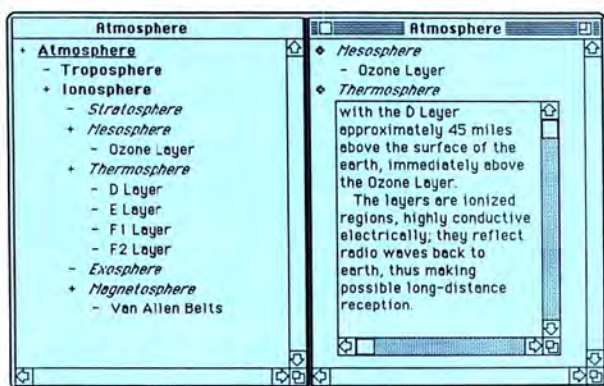
Even if you save a *MORE* outline in *Word* format, you won't get what you want; the paragraphs that were in document windows are separated not by carriage returns, but by the "new line" character that starts a new line, but not a new paragraph with its defined indent.

Do a Search and Replace in *Word* that changes the new line character to a carriage return. The string ^n finds the new line character (shown by a bullet) and the string ^p represents the paragraph marker.

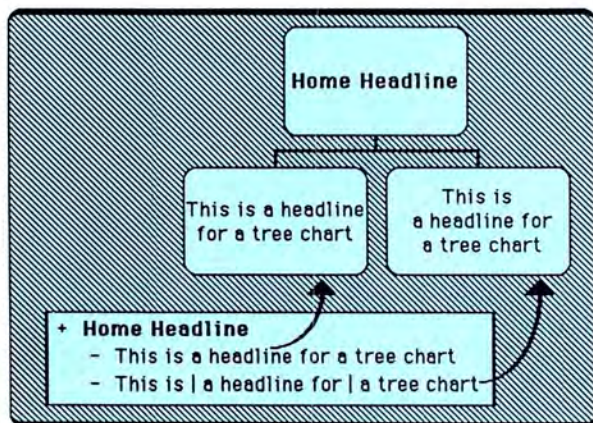
If you want to use the Calendar function to enter a list of dates under a headline for a to do list, but you don't want subheads of appointment slots, put the same time in the From and To fields in the Calendar dialog.

In closing, remember that Command W closes any *MORE* window: including the Calendar and Search windows, for instance. ☒

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



Opening a second copy of the same outline while you're working in a document allows you to view the outline while you're working in a document window, or to view two different parts of the same outline.



Using the straight line character forces a line break in the tree chart box.

TROUBLESHOOTING

OK, so you selected Clear by mistake and you lost a headline that had umpteen subheads with pictures and document windows attached. If the document had been saved previously, you could use Revert...but then you'd lose all that stuff you added since you opened the document. (How often do you do interim saves?) All is not lost. Simply select OPEN and open the saved version of the document; you'll be asked if you want to open a second copy.

Say "yes" (or YES!!) and a second copy is opened. Copy the portion you need from the stored version and paste it into the current working copy. (And then, for heaven's sake, save a copy of the working copy.)

Drive Smart

With Quality Drives from Mirror Technologies™

At Mirror Technologies we are driven by quality and service. Quality is designed into our products from our experience as leaders in developing Macintosh™ storage devices. We deliver service through our full time technical staff; trained to support you, our customer.

Drive Fast, with Insurance

The Magnum Tape 20™ will backup and restore data on practically any Mac-compatible hard disk. It's quiet because there's no cooling fan. It's compact because we designed it to fit on your desktop with the smallest possible footprint. And it's accurate simply because it has to be.



Our software update policy allows you to keep up with our latest utilities. When we improve our Magnum Tape 20 software, you can improve yours... Free.

The MagNet 30X™ with 30 meg of storage, backup software (including volume, file-by-file and incremental) and optional MacServe™ software is the perfect choice for users who feel their storage needs will grow (that covers about all of us... right). Priced at \$1195.00 the 30X gives you 50% more storage than the higher priced 20 meg hard drives. With our FastPort™ option the 30X will allow you to get "Plus" performance out of your 512 Mac.

The features, performance and standard one year warranty makes the Magnum Tape 20 or the MagNet 30X very smart driving.

Drive Inexpensively

When we first introduced our Magnum 800™, Mac owners understandably snapped it up. After all, it was not only the first 800K for the Mac, it was also very affordable. The Magnum 800 is fully compatible with your 128, 512 or Mac Plus. It will recognize 400k or 800k formatted disks and write to them accordingly. And it's priced far less than the comparable Apple drive. *Now with our slim line cabinet!*



One Year Warranty. We warrant all our drives for one full year. That kind of buyer protection is usually available only in extended warranties costing you extra. It's Mirror Technologies standard warranty and it doesn't cost a penny more. We wouldn't offer it if we didn't have complete confidence in everything we make. We have, so we do.

A Power Package for the Serious User

The MagNet 40/40™ hard drive with tape backup offers speed, dependability, multiuser software plus peace of mind. Perfect for big applications like desktop publishing, CAD/CAM and financial modeling where large storage and integrity are crucial.



We based the MagNet 40/40 on the NEC hard drive and the 3M tape 40, two giants in the industry (it pays to work with the best). We added MacServe from Infosphere to give you multiuser, multitasking along with more features than ad space. The MagNet offers all this power at a smart price. Designed to fit under your Mac and into your budget.

Drive Forever

The MagNet 85 meg™ and 172 meg™ hard drives combine blistering speed and enormous capacity with tape backup and multi-user/multitasking software to make your Macintosh office an incredibly productive reality. Using voice coil technology, these high capacity drives are three times faster than standard hard drives. Now an entire office of Macs can share data and peripherals for maximum performance and efficiency. With the Mirror Technologies standard one year warranty you can drive with confidence.



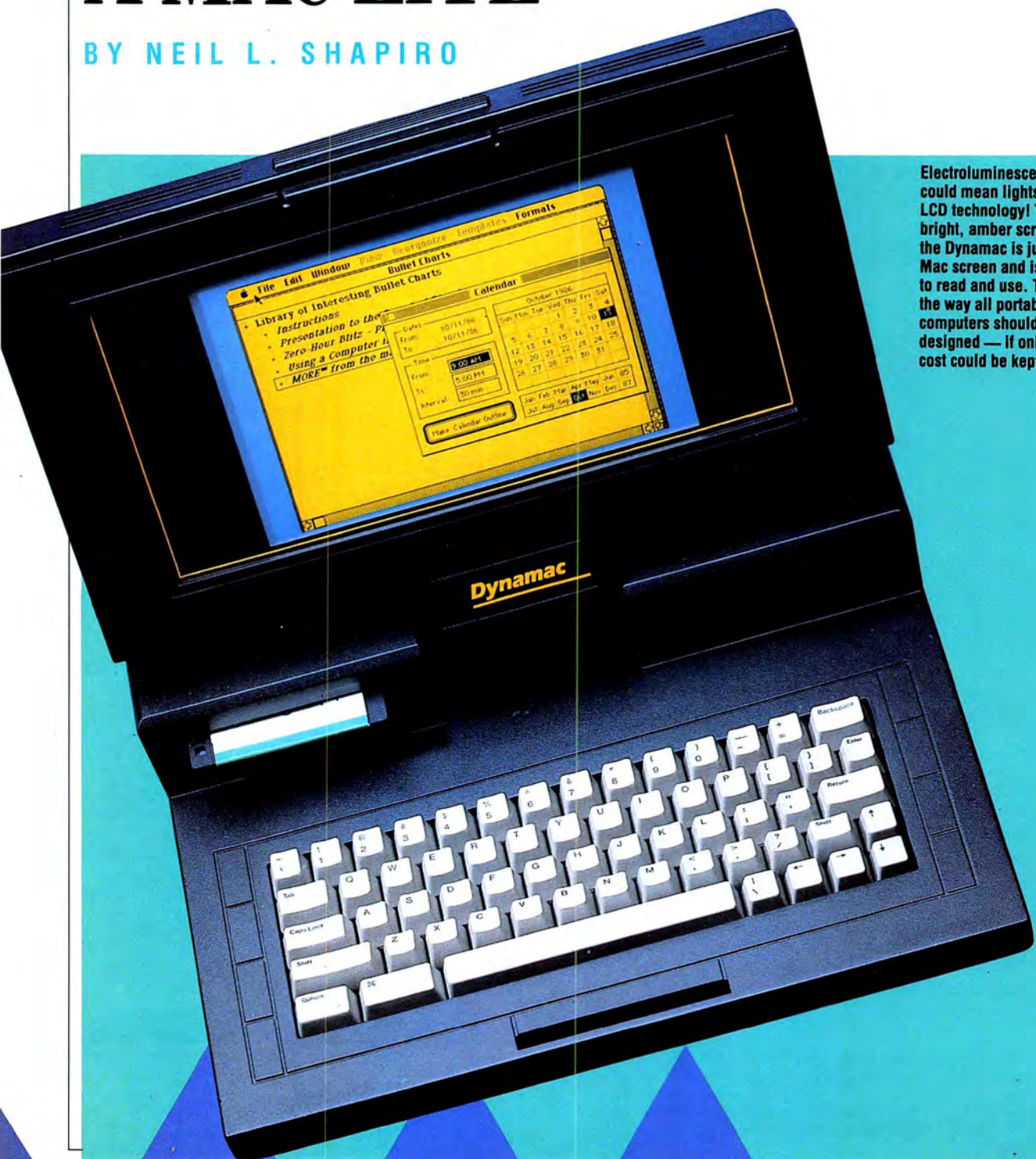
Using the 3M 40 meg tape drive the MagNet 85X and 172X give you peace of mind knowing your data is secure. Our software update policy allows you to keep up with our latest utilities. When we improve our MagNet software you can improve yours... Free. The MagNet 85X and 172X will satisfy your hunger for power, no matter how big your appetite.

MIRROR TECHNOLOGIES

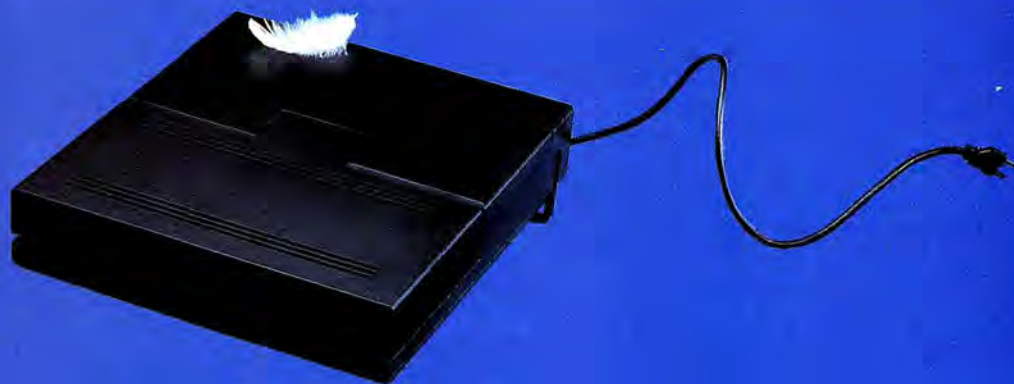
2209 Phelps Road
Hugo, Minnesota 55038
1-800-328-6795 ext. 428

GIVE ME A LITE— A MAC LITE

BY NEIL L. SHAPIRO



Electroluminescence could mean lights out for LCD technology! The bright, amber screen of the Dynamac is just like a Mac screen and is easy to read and use. This is the way all portable computers should be designed — if only the cost could be kept down.



The exact dimensions and weight of the production Dynamac are still a mystery. But the prototype shows that the rearrangement of Mac componentry and the addition of new internals has resulted in a compact design. The steel case shown will be replaced by a Cyclocac case of light, but durable, plastic.

The dawning of the age of the flat Mac is a black box called Dynamac. It's powerful, portable — and pricey.

I HAVE A TRIP PLANNED TO Disney World, Florida next month, but I've already been to Tomorrowland. Thanks to the Dynamac Corporation I've been able to spend the past couple weeks using a prototype "flat Mac." It's been an eye-opening as well as a futuristic experience.

"FLAT" AS IN "SQUASHED"?

The term "flat Mac" is slang for a Macintosh computer designed as a laptop or desktop portable machine. Laptops are the kind of computer you've probably seen busy, important-looking people typing away upon the last time you took a commercial air shuttle; or you may know a journalist who swears by one; or a salesperson who carries one around to help in on-the-spot presentations.

Most laptop computers (such as the Tandy 200 and the Bondwell 2) feature a keyboard unit with an LCD screen hinged just above the keyboard. The LCD screen may be a full 80-character across display or only

40 characters. No matter what, it is probably difficult to read under anything but almost ideal lighting conditions and will have nowhere near the resolution of a Macintosh display. As we'll see, Dynamac totally solved this problem.

Laptops are very exciting. The portability is obvious. But what may not be obvious right away is the whole new dimension they can add to how a person computes and does business. The laptop is really a mobile connection to your home and office computers that will allow you to swap data, to do work when you want to rather than when you have to. And it can prove to be the kind of added luxury that quickly turns into a necessity.

But it didn't look like us Macintosh owners would be likely to see such a machine very soon. While there have always been rumors of Apple working on something "flat," no real word has ever come from Cupertino.

But by bypassing LCD displays entirely and going to a startlingly vivid electroluminescent display, by some interesting design techniques and general manufacturer's bravery, Dynamac will soon be offering the Macintosh world the option of going flat. (As will Colby Corp.; see sidebar.)

The good news is that, even in prototype, it's a wonderful machine. The bad news is that it's probably not going to be cheap — or even what most of us could consider reasonable. But there is some hope for that too as we'll see below.

Meanwhile, if you are a well-heeled (and we are talking a possible price point of from six to seven thousand dollars here) Macconnoisseur here is what you have to look forward to.

IT TAKES GUTS

Only God can make a tree, and only Apple can build a Mac. The Dynamac company does not so much manufacture Dynamacs as they re-engineer Apple components and add components from other manufacturers.

The Macintosh digital and analog boards, the power supply, disk drive and other components are simply removed from Mac Pluses and utilized in their new configuration. This, of course, means that Dynamac must purchase Macintoshes the same as you or I in order to make them over into this new image. They are presently negotiating with Apple Computer to buy the boards and materials directly at a lower cost. But for now, this strange process of manufacture by sea change is one of the factors affecting the final cost.

Right as we went to press, we learned that Dynamac was given VAR (value added reseller) status by Apple. While this doesn't necessarily mean they'll get loose parts from Apple, it does mean their per unit Mac costs will lower.

So, as you would expect now that you know there is a Mac inside, the Dynamac operates exactly like a Macintosh. Period. It will run any application that a Mac Plus will run. It will do anything that a Macintosh

GIVE ME A LITE — MAC LITE

The good news is that, even in prototype, it's a wonderful machine. The bad news is that it's probably not going to be cheap.

can do. If you know how to use a Macintosh, you'll know how to use a Dynamac.

Of course, there are some additional little fillips inside the case — such things as your choice of a 20- or a 40-megabyte internal hard disk drive and/or a 2400-baud modem!

SOME WELL-ROUNDED FEATURES

The first thing you will definitely notice about the Dynamac is its bright, amber display. It's an electroluminescent screen that will make you forget the gray, dingy world of LCD technology the minute your eyes are riveted by it.

The prototype that we worked with featured a resolution of 512 by 342 — the same as the Mac's own screen. The finished version is promised to have 640 by 500 resolution.

But even the prototype was a knock-out.

The screen dimensions will be proportionally the same as on the Macintosh. So if you bring up a *MacPaint* graphic or a *PageMaker* document you will see exactly what you would see on a Mac, except in a bright orangey yellow.

Indeed, the only fault we could find with the new display is that there is no brightness control. In dark rooms I did wish that it could be turned down, although it never caused eyestrain even after hours and hours of use.

Unfortunately, such technology does not come cheaply. One of the main factors that make the Dynamac expensive is the cost even to a manufacturer of this new technological achievement. But one glance and you know there was no choice. It was either this or the even more expensive gas plasma screen used in the Colby. This is the only way to show a Mac screen on a laptop portable. And, when you start up the Dynamac and begin computing, the additional features will take you into a Macintosh Wonderland.

The 40-megabyte internal hard disk in the review prototype worked fine with every major (and minor, for that matter) application that I loaded and tried. The disk seemed exceedingly reliable. Attempts to make it fail by jostling the computer as it was accessing the disk never succeeded. Still, I would heartily

recommend that everyone back up their hard disk, and in a laptop situation that advice is even more valid.

The prototype unit featured a built-in 1200-baud modem, although Dynamac tells us that production units will have a 2400-baud unit. Telecommunications connections are exceedingly simple to make as the back of the case features modular phone-in and phone-out jacks. This is one laptop that fulfills the promise of telecommunications. We used it extensively with *Red Ryder*, *MicroPhone* and *Smartcom II* on CompuServe and found it to be one of the best modems we've used, even on one notoriously "noisy" network node. We also connected the Dynamac's serial port to a "standard" Mac via a null modem cable and sent data at 19,200 baud, with no problems at all.

If you have a Mac at the office and want to take work home, or you want to have a remote terminal to your Mac — this is the way to go.

While I couldn't test it, there is also an "E-machine" connector on the back of the machine which will allow the Dynamac to connect to that large screen monitor. The resolution in that mode is said to be 1024 by 808.

The "usual" connectors are also all present: serial ports, SCSI port, external disk and mouse port. We even hooked up an Apple HD-20 to the external disk port and had both the



The Dynamac keyboard is the same as a Mac Plus, indeed, it is simply a repositioned Mac Plus keyboard. The prototype shown here was a bit difficult to type on but Dynamac assures us that the production version will feature a more ergonomic tilt.



The back of the prototype Dynamac shows that it's a Mac Plus, plus more! All of the usual ports are joined by new ones. The phone in and phone out jacks support the internal modem (2400 baud in the production version). The "E-machine" jack supports a large screen monitor and a RCA jack puts out normal NTSC video. An external keypad may be attached and the programmer's switch is built in.

When you start up the Dynamac and begin computing, the additional features will take you into a Macintosh Wonderland.

internal 40-megabyte hard disk and the external 20-megabytes on the desktop. Talk about a power trip!

IT'S ALMOST READY. . .

The Dynamac prototype that we used was a more or less final design cut at a machine which is scheduled to be generally available around the time you read this. Some details will certainly differ between the machine we are previewing here and what will be finally released. But we felt the advent of a flat Mac was important enough for us to preview rather than review.

One thing that we have been told will be fixed is the weight of the unit. The review unit was housed in a black, steel enclosure. Using it as an actual laptop, after about an hour, would cut off all circulation to your lower extremities. The Dynamac corporation assures us that the release model will be housed in a light,

Cyclac (plastic) type of cabinet that will actually be stronger than a Mac's original skin. But the case was awaiting FCC approval (the FCC, which totally ignores such things as foul-mouthed disc jockeys, TV stations that do not grant equal time, and most international treaties, is the organization that interferes most with the smooth manufacture of computer appliances.)

Ergonomically, the Dynamac we used suffered from being too flat — in the realm of the keyboard. Almost all keyboards, including the Mac's, are sloped so that typing movements mirror the way people's fingers are jointed. This complaint was made known and Dynamac told me that the final keyboard will, indeed, feature more of a tilt.

The prototype machine featured a normal, everyday mouse. I wound up mousing on the backs of magazines, on easy chair armrests and on assorted flat surfaces all over the house. Dynamac says they are inves-

tigating an attached trackball option. Still, the mouse isn't that bad; it sounds inconvenient, but wasn't really much of a drawback.

All in all, if you drive a Mercedes, vacation on the St. Moritz, and don't need to ask what a thing costs — the Dynamac is absolutely, definitely for you. But those of us in lower tax brackets will have to carefully weigh the value against the price point. Perhaps Dynamac will reach an agreement with Apple as an OEM (original equipment manufacturer) and succeed in lowering the price. I hope so because everyone who loves his or her Mac, or who simply depends on it day after day, will want such a machine as this.

One final hint: If you do get a Dynamac and you are married never, never, NEVER take it to bed with you. You have been warned. ☞

NEIL L. SHAPIRO IS MACUSER'S EDITOR AT LARGE AND CHIEF SYSOP OF COMPUTERSERVE MAUG.

NOT THE ONLY GAME IN TOWN

The Dynamac isn't the only flat Mac out there. The Colby Corporation, best known in the Mac community for their earlier ruggedized, portable Mac, have also created a prototype flat Mac.

The units appear to be similar in many respects. We were not able to check out the prototype Colby, but it should be a solid unit. The feature list offers more options than the Dynamac. Included are internal batteries and various sizes of hard disks up to 60 megabytes.

A major difference is in the screen. The Colby will have a 10-inch (diagonal) gas plasma display, while the Dynamac uses a slightly smaller electroluminescent screen. The cases will also be different: the Colby's will be aluminum, the Dynamac's will be high-impact plastic (Cyclac).

One important plus for the Colby is that Colby Corp. already has a federal government contract to supply 120 flat Macs. The Colby is expected to be about the same as that of the Dynamac. — SB

We're devoted

SOFTWARE

Affinity Microsystems

Tempo (power user's macro utility) \$69.

Altsys

Fontastic (create your own fonts) 27.

Ann Arbor

FullPaint (open four documents at once) . . 55.

Arrays

Home Accountant (req. external drive) . . . 52.

ATI

Teach Yourself Multiplan 39.

Excel Training 39.

Batteries Included

The Mac BatteryPak (9 desk accessories) . 27.

Home Pak (telecommunications, filer) . . . 29.

Time Link (time management system) . . . 29.

Borland International

Sidekick w/Phonelink 59.

Reflex (information management analysis) . 59.

BPI Systems

General Accounting (full-featured) 229.

BrainPower

Think Fast (improves recall) 23.

StatView (statistics package) 59.

Graphadex (DA graphics organizer) 75.

Designscope (electronic circuit design) . . 129.

StatView 512+ (req. external drive, 512k) . 179.

Broderbund

Print Shop (create cards and memos) 49.

Geometry (over 350 problems!) 69.

CAMDE

Nutricalc (diet & nutrition analysis) 49.

Casady Company

Fluent Fonts (two-disk set) 29.

Fluent Laser Fonts (Bodoni, Calligraphy, Monterey, Prelude, Ritz, & Sans Serif) each 49.

Central Point Software

Copy II Mac (includes MacTools) 20.

Challenger Software

Mac3D (3D graphics, CAD features) 129.

Chang Labs

Rags to Riches Ledger 125.

Rags to Riches Receivables (req. 512k) . . 125.

Rags to Riches Payables (req. 512k) . . . 125.

Rags to Riches Three Pak 299.

Inventory Control 245.

Professional Billing 245.

Cortland

TopDesk (7 new desk accessories) 39.

Creighton Development

MacSpell+ (spell checker, req. 512k) 55.

Cricket Software

Statworks (statistical package) 79.

Cricket Graph (multiple windows) 129.

DataViz

MacLink (transfer Mac/IBM data) 89.

Desktop Graphics

DrawArt (MacDraw artwork, req. 512k) . . . 29.

DrawForms (requires MacDraw) 30.

Digital, etc.

Maccountant (integrated accounting) . . . 99.

Turbo Maccountant 299.

Includes GL, AR, AP, Payroll, & Invoicing.

Don Jones

Straight Talk (access News/Retrieval) 62.

Spreadsheet Link 65.

Market Manager PLUS 129.

Dreams of the Phoenix

Day Keeper Calendar 35.

Quick & Dirty Utilities Vol. 1 or Vol. 2 . . . \$35.

Twelve-C Financial Desk Accessory 35.

Phoenix 3D (3D graphics) 65.

Dubl-Click Software

World-Class Fonts! Vol. One or Vol. Two . . 29.

Calculator Construction Set 39.

EDO Communications

Laserworks (requires 512k, Laserwriter) . . 229.

Electronic Arts

Deluxe Music Construction Set 32.

Enabling Technologies

Easy3D (create solid 3D objects) 79.

Enterest

Quickpaint (find Paint files fast) 27.

Quickset (icon-driven desk accessories) . . 27.

Quickword (word processing tool) 32.

MacGAS (spell checker, 512k, ext. drive) . . 55.

1st Byte

First Shapes (preschool learning tool) . . . 32.

Speller Bee, KidTalk, or Mathtalk 42.

Smoothtalker (speech synthesis) 52.

Forethought

Factfinder (free-form info organizer) 49.

FileMaker (custom forms & reports) 79.

FileMaker Plus (feature-packed database) . 159.

Fortnum/Southern

MacInooga Choo-Choo (train set, 512k) . . . 21.

MacChemistry 89.

FWB Software

Hard Disk Backup (protect hard disk info) . 39.

Hard Disk Partition (speeds up hard disk) . 39.

Hard Disk Util (program backup) 59.

Great Wave Software

The Art of Fugue (Bach) 12.

KidsTime (educational, ages 3-8) 29.

LOC (strategy game) 29.

ConcertWare+ (music composition) 29.

ConcertWare+ MIDI 75.

Greene, Johnson

Spellswell (60,000 word dictionary) 45.

Hayden Software

I Know It's Here Somewhere (handy filer) . . 20.

Hayden:Speller (for Word & MacWrite) . . . 27.

MusicWorks (songs for your Mac) 32.

DaVinci Building Blocks (req. Paint program) 46.

Home Design (home planning tool) 49.

Score Improvement System for the SAT . . . 59.

VideoWorks & MusicWorks Bundle 59.

DaVinci Commercial Interiors 114.

Ideaform

MacLabeler (print disk labels) 29.

Imagine

Smart Alarms (DA reminder system) 39.

Industrial Computations

Powermath (equation solving tool) 52.

Infosphere

LaserServe (network software) 125.

MacServe (network software) 250.

Innovative Data Design

Paste-Ease (requires Paint program) 35.

MacDraft (new updated version, 512k) . . . 179.

Kensington

Graphic Accents (req. Paint program) 29.

Type Fonts for Text (16 new fonts) 29.

Type Fonts for Headlines (req. 512k) . . . 42.

Layered

Notes...For Excel 42.

Front Desk

75.

Legisoft/Nolo Press

WillWriter 2.0 (prepare your own will) . . . 32.

Linguist's Software

Tech (1000 different symbols) \$59.

FOREIGN LANGUAGE FONTS

MacCyrillic 39.

SuperFrench/German/Spanish 39.

MacHieroglyphics, MacKana/Basic Kanji,

MacSemitic/Coptic/Devanagari, MacKorean,

MacArabic, MacGreek, MacHebrew each 59.

SuperGreek New Testament 79.

LaserFrench/Greek/German/Spanish 79.

MacGreek/Hebrew/Phonetics 89.

Living Videotext

ThinkTank 512k (outline processor) 99.

More (outlines, windows, & tree charts) . . 159.

MacMemory

MaxRam & MaxPrint (Ramdisk, spooler) . . 39.

MacroMind

M.U.D. (Art Grabber+, CheapPaint) 32.

Magnum

Natural Sound Effects 27.

Natural Sound Cable & Editor Disk 89.

McPic - Volume 1 or Volume 2 29.

The Slide Show Magician 1.3 35.

Manhattan Graphics

Desk Design (2 volume set) 37.

Ready, Set, Go!3 (desktop publishing) . . . 175.

Microsoft

Flight Simulator (the Mac takes flight) . . . 33.

Learning Multiplan and Chart (2 disks) . . 39.

Basic 3.0 (Basic language interpreter) . . . 59.

Chart 1.0 (42 chart styles) 72.

Multiplan 1.1 (63 columns by 255 rows) . . 105.

File 1.04 (flexible data manager) 111.

Word 1.05 (word processor, mail merge) . . 111.

Fortran 2.2 (compiler) 169.

Works 1.0 (integrated productivity tool) . . 189.

Excel 1.03 (power spreadsheet) 225.

Miles Computing

Mac the Ripper (req. Paint program) 27.

Mindscape

The Lusher Profile (personality profile) . . 24.

The Perfect Score: SAT 47.

ComicWorks (create your own comics) . . . 49.

GraphicWorks (newsletters, ads, posters) . . 49.

Monogram

Forecast (tax planning) 41.

Dollars & Sense (home, small business) . . 81.

Nevins Microsystems

Turbocharger (disk cache, req. 512k) 39.

New Canaan MicroCode

MDCFinder (requires 512k) 20.

Mac Disk Catalog II (requires 512k) 32.

Odesta

Helix (req. 512k, external drive) 105.

Double Helix (relational, custom menus) . . 289.

Palantir

MacType, MathFlash or WordPlay 26.

Inventory Control, GL, or AR each 69.

inTalk (communication to emulation) 79.

PBI Software

Icon Switcher (customized icons) 14.

Icon Fun & Games or Business Libraries . . 14.

HFS Locator (DA organizer for HFS) 27.

Hard Disk Backup (supports MFS, HFS) . . . 29.

Peachtree

Back to Basics GL, AP, or AR each 89.

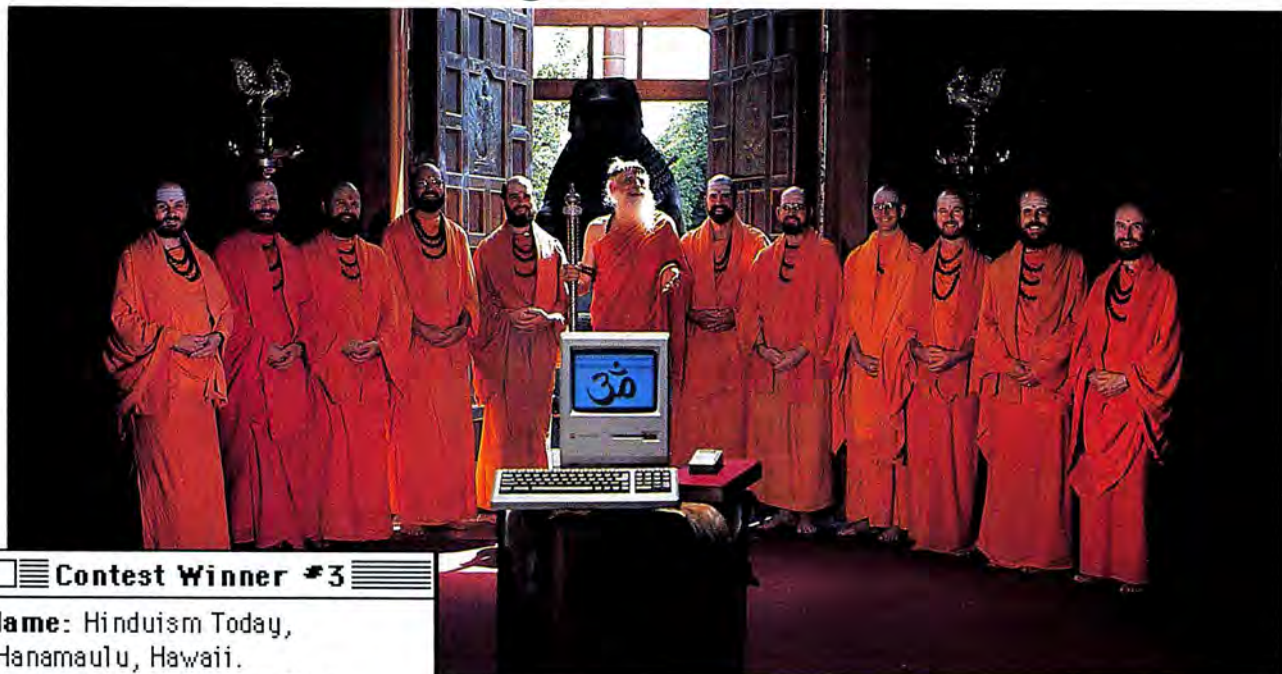
Personal Computer Peripherals

HFS Backup (hard disk backup utility) . . . 39.

Polarware

Graphics Magician (animation) 39.

Holy Icons!



Contest Winner #3

Name: Hinduism Today,
Hanamaulu, Hawaii.

System: An eight Mac Plus
system with a Hayes InterBridge
and a whole lot more.

Applications: Publishing and
beekeeping.

The monks at Saiva Siddhanta Church Monastery meditated long and hard before selecting the perfect micro.

oldest religion merging with the world's newest technology too much to handle? Ah, the dharma sure do its thing in mysterious ways, no? Score one for Shiva.

Hawaii Five-Om.

This Macintosh marvel — one of the first systems of its kind anywhere in the world — is located on the paradisaical Hawaiian island of Kauai, where you'll find the editorial and production offices of *Hinduism Today*.

The monks also run the Wailua Farm and Apiary. That's right, apiary. You see, they raise a few bees there. Just 200,000,000 or so. Their honey is used exclu-

sively by all the commercial bakers in Hawaii.

How, you may ask, do they keep track of all these bees? One guess. They use their Macs to make harvest projections, schedule crews, keep track of genetics (wouldn't want a drone to be Queen For A Day), plot their 80 different sites, pay bills, design labels, and log notes about weather, pollen, and production.

So maybe you don't wear orange robes and use one of the most sophisticated Mac setups in the world. You may still have an intriguing enough story to win \$500 in Mac add-ons and software. Write us soon!

The true soul of a new machine.

Did you know that one out of every six people on this planet is Hindu? Or, that it's the world's oldest faith? Or, that there's an 8-year-old bi-monthly international Hindu newspaper which is written, edited, designed, and typeset on an 8-Mac Plus network, two 40MB Bernoullis, an Abaton 300 dpi scanner, LaserWriter Plus, two Imagewriters, and assorted software?

Are we going too fast for you? Is the vision of the world's

MacConnection

"Our Connection."

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

©Copyright 1986 PC Connection, Inc. MacConnection is a division of, and trademark of, PC Connection, Inc., Marlow, NH.

to our customers are

ProVUE Development

OverVUE 2.0 (power-packed database)	\$149.
Mail Manager Template	29.
Personal Finance Template	29.

QED Information Sciences

Typing Made Easy (instruction)	35.
--------------------------------	-----

Rubicon Publishing

Silver Palate Collection (NY's finest!)	29.
Dinner At Eight (recipes to wines)	35.
Dinner At Eight-Silver Palate Bundle	59.

Satori

BulkMailer (mailing lists)	75.
----------------------------	-----

Sierra On-Line

MacOneWrite CD, AR, or GL	each 79.
---------------------------	----------

Silicon Beach Software

Accessory Pak 1 (useful utilities)	21.
Silicon Press (printer utility, 512k)	42.

Simon & Schuster

Mac Art Department (req. Paint program)	24.
Paper Airplane Construction Kit	24.
Typing Tutor III (learn to type!)	35.

SoftStyle

Colormate Art (Colormate images)	29.
Colormate (color printing utility)	49.
Bluestart (IBM printer driver)	29.
Epstart (Epson printer driver)	29.
Laserstart (Hewlett-Packard Laserjet)	59.
Decision Map (make better decisions!)	85.

Software Discoveries

Record Holder (data manager)	45.
------------------------------	-----

Software Ventures

Microphone (communications)	65.
-----------------------------	-----

Solutions, Inc.

Glue (creates "print to disk" capability)	35.
---	-----

Springboard

Art a la Mac Vol. 1-People and Places	23.
Art a la Mac Vol. 2-Variety Pack	23.
Easy as ABC (ages 3-6, letters)	29.
Early Games (ages 2-6, shapes, counting)	29.

State of the Art

Electric Checkbook (print checks)	29.
-----------------------------------	-----

Survivor Software

MacMoney (financial planner)	49.
------------------------------	-----

Symmetry

Acta (outline/writing desk accessory)	39.
PictureBase (clip art manager, 512k)	45.

T/Maker

ClickArt Personal Graphics, Effects	each 29.
ClickArt Letters, Publications	each 29.
ClickArt Holidays (Valentine's Day, Easter)	29.
Write Now (word processor)	119.

Target Software

Merriam Webster's Thesaurus	29.
MacLightning (interactive spell checker)	53.
Medical Dictionary	53.
Legal Dictionary	53.

MacConnection Special of the Month through February 28, 1987

ERGOTRON

MacBuffer

The print buffer solution for your Mac. No need to wait for your printer. MacBuffer transfers data and frees you and your Mac for other tasks. Available in either 512k or one Megabyte of memory.

- Two Macs can share MacBuffer & printer
- Local copy & single sheet modes
- Comes complete with all cables

MacBuffer 512k	\$359.
MacBuffer 1024k	\$549.

Telos Software

Business Filevision (512k, external drive)	199.
--	------

Think Educational

MacEdge II (math & reading)	28.
Mind Over Mac (5 challenging games)	28.

Think Technologies

Lightspeed Pascal (includes debugger)	89.
Lightspeed C (top-rated C Compiler)	129.

TML Systems

TML Source Code Library	59.
TML Pascal (compiler, req. 512k)	69.

TrueBasic

True BASIC (fast, flexible & portable)	89.
Algebra, Pre-calculus, Calculus, Trigonometry, 3D Graphics, Discrete Math, Probability & Chippendale utilities	each 36.
TrueSTAT (statistics)	59.
Runtime (create stand-alone applications)	59.

Unicorn

Animal Kingdom (ages 6-12)	29.
Decimal Dungeon (math, ages 9 and up)	29.
Fraction Action (arcade style math game)	29.
Mac Robots (pre-school program)	29.
Math Wizard (math games, ages 5-10)	29.
Read-A-Rama (reading, ages 5-8)	35.

William & Macias

myDiskLabeler (design & print labels)	25.
myDiskLabeler w/Color (req. Imagewriter II)	34.
myDiskLabeler w/Laserwriter option	39.

GAMES

Accolade

Hardball (baseball simulation)	27.
--------------------------------	-----

Activision

Hacker (you're on your own!)	27.
Hacker II (breach Russian computer)	30.

Mind Shadow (Who am I?)	\$27.
Borrowed Time (murder mystery)	27.
Shanghai (Mah Jongg strategy)	27.
Alter Ego (male or female version)	36.

Ann Arbor Softworks

Grid Wars (3D graphic arcade)	22.
-------------------------------	-----

Artworx

Bridge 4.0 (sharpen your skills)	21.
----------------------------------	-----

Avalon Hill

MacPro Football (req. 512k)	32.
-----------------------------	-----

Blue Chip

Millionaire (stock market)	35.
Tycoon (commodities)	35.
Baron (real estate)	35.
Squire (personal finance, req. 512k)	35.

Broderbund Software

Lode Runner (over 150 levels)	24.
Ancient Art of War (military strategy)	27.
Toy Shop (create working models)	39.

Bullseye

Ferrari Grand Prix (Formula One racing)	35.
Fokker TriPlane Flight Simulator	35.

Electronic Arts

Archon (arcade strategy, req. 512k)	27.
Skyfox (3D graphics)	27.
One on One/Dr J vs Larry Bird (req. 512k)	27.
Patton-vs-Rommel (req. 512k)	27.
Pinball Construction Set	27.

Epyx

Rogue (strategy dungeon classic!)	24.
Temple of Apsai (4 levels)	24.
Winter Games (Olympic events)	24.

Hayden Software

Perplexx (scrabble-type game)	24.
Sargon III (9 levels of chess)	29.

Infinity Software

Grand Slam (tennis, req. 512k)	28.
--------------------------------	-----

Infocom

Leather Goddesses of Phobos, Moonmist, Ballyhoo, Cutthroats, Hitchhiker's Guide, Planetfall, Wishbringer, Enchanter, Trinity, Zork 1, The Witness (standard)	each 24.
Zork II, Zork III, Sorcerer, Suspect, Mind Forever Voyaging (advanced)	each 26.
Spellbreaker (expert)	29.
Invisiclues (hint booklets)	each 6.

MacroMind

Maze Wars+ (play via modem or network)	32.
--	-----

Miles Computing

Fusillade (arcade maze)	21.
MacAttack (3D tank simulation)	27.
Harrier Strike Mission (3D flight simulation)	27.
MacWars (3D space simulation)	27.

Mindscape

Rambo: First Blood Part II	24.
James Bond 007: "A View to a Kill"	24.

1-800/Mac&Lisa 670U

MacConnection™

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

©Copyright 1986 Micro Connection, Inc. MacConnection is a division of Micro Connection, Inc. MacConnection and Micro Connection are trademarks of Micro Connection, Inc.

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

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

Please circle 82 on reader service card.



and their Macs.

James Bond 007: "Goldfinger"	\$24.
Stephen King's "The Mist"	24.
Racter (<i>converse with your Mac!</i>)	27.
Balance of Power (<i>world politics</i>)	30.
King of Chicago (<i>murder mystery</i>)	30.
Brataccus (<i>great graphics, req. 512k</i>)	30.
Uninvited (<i>mystery adventure</i>)	30.
Deja Vu (<i>murder mystery</i>)	33.
Origin Systems	
Exodus: Ultima III (<i>fantasy adventure</i>)	38.
PBI Software	
Strategic Conquest (<i>multi-user</i>)	35.
Polarware	
Transylvania, Sword of Kadash,	
Crimson Crown or Xyphus.	each 15.
Psion	
Psion Chess (<i>3D and multi-lingual</i>)	31.
QWare	
Orb Quest (<i>graphic fantasy adventure</i>)	29.
Scarborough	
Make Millions (<i>business simulation</i>)	29.
Sierra On-Line	
Championship Boxing (<i>knock 'em out!</i>)	25.
Ultima II (<i>role playing adventure</i>)	25.
Silicon Beach Software	
Airborne! (<i>digitized-sound war game</i>)	20.
Enchanted Scepters (<i>sound & graphics</i>)	21.
Dark Castle (<i>digitized arcade game</i>)	28.
World Builder (<i>create adventure games</i>)	42.
Simon & Schuster	
Star Trek—The Kobayashi Adventure	24.
Sir-Tech	
Mac Wizardry (<i>high-rated fantasy</i>)	36.
Spectrum Holobyte	
GATO (<i>submarine simulation</i>)	26.
Orbiter (<i>space shuttle simulation</i>)	27.
Tellstar II (<i>No. & So. hemispheres, req. 512k</i>)	45.

HARDWARE

Apricorn	
ApriCord Mac (<i>Mac Plus parallel interface</i>)	75.
Cambridge Automation	
MIDI Conductor.	69.
Curtis Manufacturing	
Diamond (6 outlets)	29.
Emerald (6 outlets; 6 ft cord)	36.
Sapphire (3 outlets; EMI/RFI filtered)	47.
Ruby (6 outlets; EMI/RFI filtered; 6 ft cord)	55.
Dove Computer	
<i>Memory Expansion Units</i>	
Mac Snap 524 (512k to 1 Meg).	159.
Mac Snap Plus 2 (<i>Mac Plus to 2 Meg</i>)	309.
Mac Snap 548 (512k to 2 Meg)	469.
Ehman Engineering	
800k External Disk Drive	225.
Ergotron	
MacTilt (<i>includes external drive bracket</i>)	75.
MacBuffer 512k.	special
MacBuffer 1024k.	special
Hayes	
Smartcom II (<i>communications software</i>)	89.
Smartmodem 1200 or 2400.	call
IOMEGA	
Bernoulli Box (<i>dual 10 MB w/SCSI</i>)	1869.
Bernoulli Box (<i>dual 10 MB, Appletalk</i>)	2195.
Bernoulli Box (<i>dual 20 MB w/SCSI</i>)	2369.
Kensington	
Mouseway (<i>mouse tracking pad</i>)	8.
Mouse Pocket (<i>for your idle mouse</i>)	8.
Mac (Plus), HD, System Saver Cover	each 9.

Imagewriter (II) Dust Cover	\$9.
AppleTalk Clips	11.
Mouse Cleaning Kit w/Mouse Pocket	17.
Disk Case (<i>holds 36 Mac disks</i>)	19.
Disk Drive Cleaning Kit	20.
Tilt/Swivel	22.
Universal Copy Stand	24.
Polarizing Filter	34.
Surge Suppressor	35.
A-B Box (<i>specify Mac or Mac Plus</i>)	65.
Control Center.	65.
System Saver Mac (<i>complete with fan</i>)	65.
Koala Technologies	
KAT Graphics Tablet.	139.
MacVision (<i>digitizer</i>)	175.
Kraft	
3 Button QuickStick	49.
Mirror Technologies	
FastPort ("SCSI" for your 512k Mac)	139.
MagNet 20x (w/MacServe)	849.
Magnum 20 Tape Backup	929.
MagNet 30x (w/MacServe)	995.
MagNet 40/40 (40MB, 40MB tape)	2695.
Personal Computer Peripherals	
MacBottom Hard Disk 20MB (SCSI)	879.
Summagraphics	
MacTablet 6" x 9" (<i>stylus driven</i>)	299.
MacTablet 12" x 12" (<i>sketching</i>)	399.
Systems Control	
MacGard (<i>surge protection</i>)	55.
Thunderware	
Thunderscan (<i>high-resolution digitizer</i>)	175.
Power Port (<i>for use w/Mac Plus</i>)	29.
Western Automation	
DASCH RAMdisk 1000k	349.
DASCH RAMdisk 2000k	399.

DISKS

Single-sided Diskettes	
Sony 3 1/2" Disks (<i>box of 10</i>)	16.
Verbatim 3 1/2" Disks (<i>box of 10</i>)	16.
MAXELL 3 1/2" Disks (<i>box of 10</i>)	16.
Fuji 3 1/2" Disks (<i>box of 10</i>)	16.
3M 3 1/2" Disks (<i>box of 10</i>)	18.
Double-sided Diskettes	
Sony 3 1/2" Double-sided Disks (10)	25.
Verbatim 3 1/2" Double-sided Disks (10)	25.
MAXELL 3 1/2" Double-sided Disks (10)	25.
Fuji 3 1/2" Double-sided Disks (10)	25.
3M 3 1/2" Double-sided Disks (10)	26.

INFORMATION SERVICES

Compuserve	
Compuserve Information Service.	27.
Dow Jones	
Dow Jones News/Retrieval Membership Kit	24.
Source Telecomputing	
The Source (<i>subscription & manual</i>)	30.

ACCESSORIES

Automation Facilities	
Floppyclene Drive Care Kit	15.
Floppyclene Refill (<i>ten cleaning disks</i>)	10.
MacPak Complete Care System	29.
Clean Image Ribbon Co.	
Clean Image Ribbon Kit.	12.

Computer Coverup

External Disk Drive Cover	\$4.
Imagewriter (II) Cover	8.
Mac (Plus) & Keyboard (<i>two covers</i>)	10.

Diversions

Underware Ribbon (<i>iron-on black transfer</i>)	9.
Multi-color Transfer Ribbon	19.
ColorPack (<i>includes Colorpens</i>)	19.

Environmental Software Company

External Drive Cover (400k or 800k)	7.
Imagewriter (II) Cover	11.
Mac (Plus) & Keyboard Cover	15.
Laserwriter Cover.	17.
Mac Plus & HD20 & Keyboard Cover	18.

I/O Design

Imagewriter II (<i>Imagewriter II carry case</i>)	59.
Macinware Plus (<i>Mac Plus carry case</i>)	69.

Innovative Concepts

Flip & File Micro (<i>holds 25 disks</i>)	9.
Flip & File (<i>holds 40 disks</i>)	18.

Innovative Technologies

The Pocket Pak (<i>holds 6 disks</i>)	10.
The Easel (<i>holds 20 disks</i>)	14.
The Disk Directory (<i>holds 32 disks</i>)	18.
The Library (<i>carousel, holds 80 disks</i>)	29.

Kalmar Designs

Teakwood Roll-top Case (<i>holds 45 disks</i>)	15.
Teakwood Roll-top Case (<i>holds 90 disks</i>)	22.

Magnum

Mouse Mover (<i>let your mouse ride!</i>)	14.
---	-----

Moustrak

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

Ribbons Unlimited

Imagewriter Color Ribbons	5.
Imagewriter Ribbons Six Pack	25.
Imagewriter Rainbow Six Pack.	25.

Smith & Bellows

Mahogany Disk Case (<i>holds 90 disks</i>)	28.
Mac Plus Pack (<i>covers & disk case</i>)	39.

OUR POLICY

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

SHIPPING

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



IT'S DRAW, IT'S PAINT, IT'S SUPERPAINT!

**Bit-mapped image meets object-oriented
graphics. Object: matrimony.**

FASTER THAN A SPEEDING mouse. More powerful than the old *MacPaint*. Able to draw tall buildings in a single drag. Look! It's a bird...it's a plane...it's....*SuperPaint*. Catchy openings aside, is *SuperPaint* really super? Absolutely. It's missing a few minor basics, and you might wish for a some additional advanced features, but *SuperPaint*'s two-layer approach gives you the artistic freedom of *MacPaint* and the manipulative accuracy of *MacDraw*, all in one smooth package.

THE PAINT LAYER

SuperPaint's Paint layer is similar enough to *MacPaint* that you can find your way around without much reference to the manual. A major difference in the tool palette is the absence of filled shapes: only hollow shapes are there. Whether a shape is filled or not depends on the pattern you choose; you can choose "None" from the pattern palette to get "empty" shapes. Then, there are a few new shape tools: a circle tool, a straight line tool, and a welcome arc tool that draws a quarter circle when filled, or a simple arc when "None" is the pattern. The "Grabber" hand is gone; instead, you can get it any

time by pressing the space bar, which is very convenient. Since the Grabber is missing, you don't have a "Show Page" command available from the tool palette; the substitute is called "Reduced View" and is available as a menu selection with a Command-key equivalent, which is not always so convenient.

Almost all the other tools and "standard" procedures have been souped up since you last saw them in *MacPaint*. For instance:

- There are 40 standard paint brush shapes, and you can easily edit any of them.

- You can choose to have paint from the Paint Can pour beyond the edge of the window.

- Keyboard options make the Selection Rectangle shrink down to the smallest rectangle that encloses an item, or make it actually lasso a section of the drawing.

- Paint can be defined by menu choice as opaque, transparent or "paint on black" which gives interesting special effects.

- The first click of a shape tool can define the shape's corner or center.

- The *SuperPaint* equivalent of FatBits provides three levels of magnification: twice normal, four times

BY SHARON ZARDETTO AKER



IT'S DRAW, IT'S PAINT, IT'S SUPERPAINT

normal, and the standard FatBit eight times normal.

•The line width palette lets you define different thicknesses for the horizontal and vertical bars of the line tool.

With all these special features (and then some), it's almost a disappointment that the pencil, spray can and eraser work exactly as you'd expect. The pattern palette has two major improvements: you can define separate "frame" and "fill" patterns by clicking on the appropriate icon and then selecting the pattern, and there are multiple palettes available by clicking on the arrows in the palette.

THE WORKING ENVIRONMENT

After you've worked in *SuperPaint* for a while, you'll realize that you've been straightjacketed in *MacPaint* all this time. There are, of course, multiple windows available. The zoom box toggles the window between full and user-defined sizes, full-size in this case being the size of the screen less the palette bars. The windows have vertical and horizontal scroll bars that disappear when you switch to really full size: you can get rid of the palette bars and enlarge the window to the size of the screen. You also have the option of making the menu bar disappear in this mode.

Handling multiple windows is simple: each open window is listed in the Windows menu, and you can select it to bring it to the top. Stack and Tile commands help you stay a little organized. When you get to the edge of a *SuperPaint* window — if you're drawing a line, for instance — the window automatically scrolls. This automatic (although optional) scrolling means you can make selections that are bigger than the window. You can also paste a larger-than-window item into a document without its edges getting chopped off.

Then there's Reduced View, which is a good news/bad news kind of feature. The good news is that you can view the full page on the left of the screen while your regular or magnified view is on the right, and watch the changes that you make. The bad news is that there's no way to shift the "paper" in the full page

COLOR PRINTING

Did you think the people that put out *Silicon Press* would make a graphics program that couldn't print in color on the ImageWriter II? *SuperPaint*'s color capabilities go a step beyond what was expected, though: not only can you select an object and define its color, but you can define its foreground and background colors.

Black parts of the object are foreground, while the white is considered background. When you select SHOW COLOR PALETTE, the pattern palette changes to boxes that contain the seven available colors, plus white. You select foreground colors from the top row, and background colors from the bottom row. And frame and fill foreground/background colors are assigned separately, for a total of up to four different colors for any one object.

There's no on-screen indication of the chosen colors for any object, as there is in *Silicon Press*, but when you select an object the color palette shows you what colors have been selected previously.

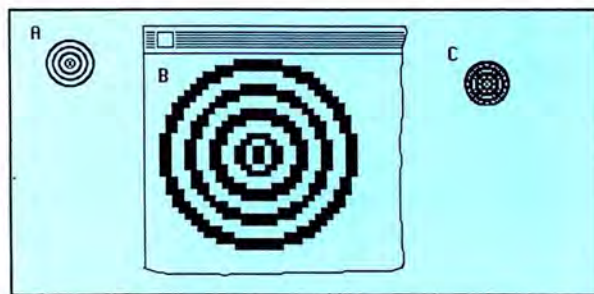
view the way you can center artwork in *MacPaint*. Although you can shift selected areas, and a selected area can be as big as the page, you can only select one layer at a time. You can work around the problem by cutting one layer, shifting the other, and pasting the first layer back down, but that's a time-consuming workaround that shouldn't be necessary. And it's disappointing to find that you can't do anything in the Reduced View itself; everything else is so advanced, you expect something here, too.

Other expected (but no less appreciated) features are the *ClickArt Ef-*

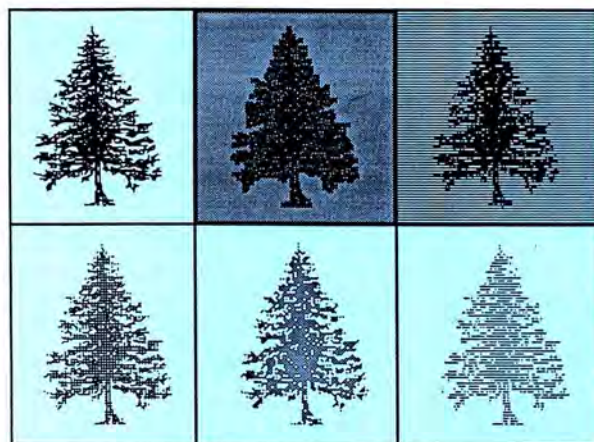
fects-style effects of Slant, Distort, Free Rotate and Perspective. In *SuperPaint*, though, they're built-ins instead of add-ons. Some unexpected pleasures are the Scale command that lets you specify the percentage of shrinkage or expansion of a selection, and Nudge commands that shift a selection one pixel in the specified direction. Both these features work in both layers.

THE DRAW LAYER

The thing that makes *SuperPaint* really super is its second layer, the Draw layer. If you've worked with



The stages of LaserBits: A is the original bit-mapped target. B is the bit map pasted into a LaserBit document, where it is automatically enlarged by a factor of 8. C is how the LaserBits object looks when it is pasted back into the *SuperPaint* document.

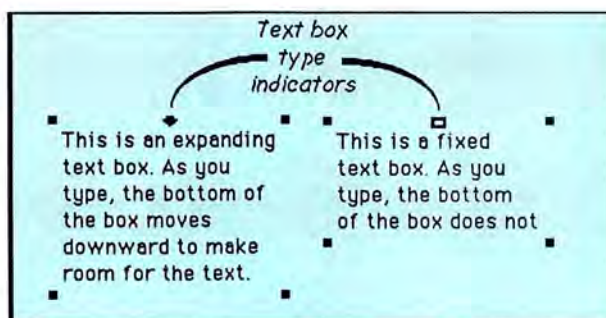


The original picture (upper left) was painted over in two different shades of gray with transparent paint to get the effects in the top row. The Paint on Black option was used for the trees in the lower row.

MacDraw, you'll know right away what kind of power this gives you; if you haven't used *MacDraw*, you might want to take a brief detour to the sidebar "An Object Lesson." When you switch into the Draw layer, the tool palette changes — in fact, it looks pretty bare. Basically, you're left with the shape tools and the line widths, two selection tools, the magnifier and the text tool. But, you're not limited to only shapes in the Draw layer. You can paste in any bit-mapped item of artwork and it turns into an object. Although you won't be able to change its attributes as you can with geometric primitives (see "An Object Lesson"), there are advantages to being able to treat an item as an object no matter how it started out in life. In fact, you'll probably find yourself working almost exclusively in the Draw layer, with quick trips to the Paint layer for occasional detail work.

As in *MacDraw*, you can Group and Ungroup objects to make it easier to manipulate segments easily. Objects created with the shape tools can be defined as opaque or transparent, sent to the front or back of a pile of overlaid objects, and flipped, rotated or reshaped. The Align command works on any selected group of objects, lining up the horizontal or vertical edges or centers. You can even Lock an object into its position in the document to keep it from being moved without an explicit Unlock command.

It's easy to shift between the Paint and Draw layers; appropriate icons are at the top of the tool palette, and a click in that section switches you back and forth. You can hide the back layer at any time so only the current layer shows; the background icon is dimmed when its layer is hidden from view. Anything pasted from the Clipboard takes on the "identity" of the current layer: bit-mapped or object. If the Clipboard item is already object-oriented, its components are separate objects in the object layer. An item can be selected in the Paint layer and turned into an object; a selected item in the Draw layer can be transformed into a bit map. A special selection tool lets you select an area for copying to the



SuperPaint's Draw layer offers two types of text boxes; you can switch from one to the other by clicking on the indicator.



You can define a text pattern to get effects like these without having to fill hollow letters with paint.

AN OBJECT LESSON

What's all the fuss about object-oriented art? Working in a bit-map is like drawing with a pen: each time you sketch on the paper, the latest line merges with the overall design. Working with objects is like cutting out dozens of little pictures to make a collage: you can rearrange them at any time because each is a separate item.

Here's an example. If you start with an image of a cup and saucer in a bit map, you can lasso the cup and place it on the saucer; but, if you try to take the cup off the saucer, even the most careful lasso job will result in only a good cup — part of the saucer will be missing. If the cup and saucer are both objects, you can drag the cup off any time and find the whole saucer still there.

Although any item can be an "object" in *SuperPaint* (like the cup or saucer) the objects that give you the most freedom of design are the "geometric primitives" — the things you make with the shape tools. A geometric primitive has only one intrinsic definition: the shape itself (an oval or a rounded rectangle for instance.) All its other attributes can be changed at the click of a mouse: size, position, frame thickness and pattern, fill pattern, screen orientation. So, you can draw a rectangle with a thin black frame filled with stripes, but later change anything except its "rectangleness" simply by selecting the object and clicking on the new attribute choice. Working with objects is a cinch. Once you create an object, you can select it with the arrow tool. When an object is selected, you can drag it around on the screen, assign new "attributes" of frame or fill pattern, or grab one of its corner handles and drag to shrink or stretch it. When you start to manipulate objects, you begin to see the power of object art.

Even these basics of object art are a pleasure to use, but the power comes with some of the other commands. You can Group selected objects, which glues them together so you can move them around as a unit — the cup and saucer could be grouped so they could be dragged onto a table; later, you can Ungroup if you have to. Although each new object you create is "on top" of previous objects, you can change their relative positions with Send to Back and Bring to Front commands.

Then there's the fun "Reshape" command for polygon objects that lets you change the shape by dragging on one of its corners, or even add an extra corner if you want to.

And, if fun isn't a good enough reason to start getting objective in your art work, consider the "power" possibilities. Programs like *Excel*, *Works*, and *MORE* generate charts that are object-oriented. Pasting one of these charts into *SuperPaint's* object layer means you can manipulate the separate components of the chart. *Microsoft Works'* pie charts, for instance, are plain whole pies — but, put them in *SuperPaint* and you can pull out the slices, change the patterns, and so on.

IT'S DRAW, IT'S PAINT, IT'S SUPERPAINT

Clipboard that will include both layers; normally, you can select only one layer at a time.

TEXT

Text in the Paint layer works as it does in *MacPaint*, except that you are given more typing options. I guarantee, however, you'll never work with text in the Paint layer, because working with it in the Draw layer is so much better. Text in the Draw layer is typed in a text box. This box can be selected at any time for formatting purposes, or to move it. The text in the box is editable at a click of the familiar Text tool, and standard Mac editing features work (double-clicking, dragging and so on). There are two types of text boxes in the object layer: fixed and expanding. A fixed box keeps its defined vertical size no matter how much you type in it, lending itself to simple page layout purposes; the expanding box stretches as you type. Switching a text box from one type to another is a simple matter of clicking on the box or arrow at its top edge.

SuperPaint provides more than the standard font, style, size and justification options for a text box (of course). You can also: specify single, space and a half or double spacing; define any size even if it does not appear in the Size menu; and, you

LASERBITS

Move over, FatBits — LaserBits is here! *SuperPaint* lets you edit in 300 dots per inch, the resolution of the LaserWriter. This is no mean feat, since the screen matches the ImageWriter's 72 dots per inch. A LaserBits document is a full-sized bit-mapped document in which you can use all the Paint layer tools. You can begin with a bare page, or paste something in from a regular document. A pasted item is enlarged eight times in the LaserBits window; the final product is placed as an object in any *SuperPaint* document. (LaserBit objects have hollow handles to differentiate them from regular ones; you can move them around, but you can't alter them.) The advantage to LaserBiting is that you can smooth out all the "jaggies" that would otherwise appear in some parts of the document. It can be confusing to be able to see the original item in three different magnifications in the main document, have it enlarged in a LaserBits document in which you can get three further magnifications; and it can be tedious to edit on the 300 dpi level (how many dots in an 8 x 10 picture at 300 dots per inch?) Despite a little confusion, *SuperPaint* is the perfect vehicle for designing items like logos and letterheads that just don't quite work when edited at a FatBits level.

can define a pattern for text. This final option means you can type in stripes, plaid, or gray — or even white on black. Since a text box can also be assigned frame and fill patterns like other rectangles, the possibilities are endless.

SuperPaint cannot rotate text the way it can other objects. You have to change the block of text to a bit map and then rotate it in the Paint layer. This means it's no longer editable, and, more importantly, it won't print as text on the LaserWriter.

SuperPaint isn't perfect, but who cares? The first of a new generation of graphics programs doesn't have to be perfect. *SuperPaint* deserves a rave review (and is getting it), but it also deserves some criticism. There are

two frustrating problems. First, as mentioned before, you can't directly shift the contents of the page when you have items in both layers.

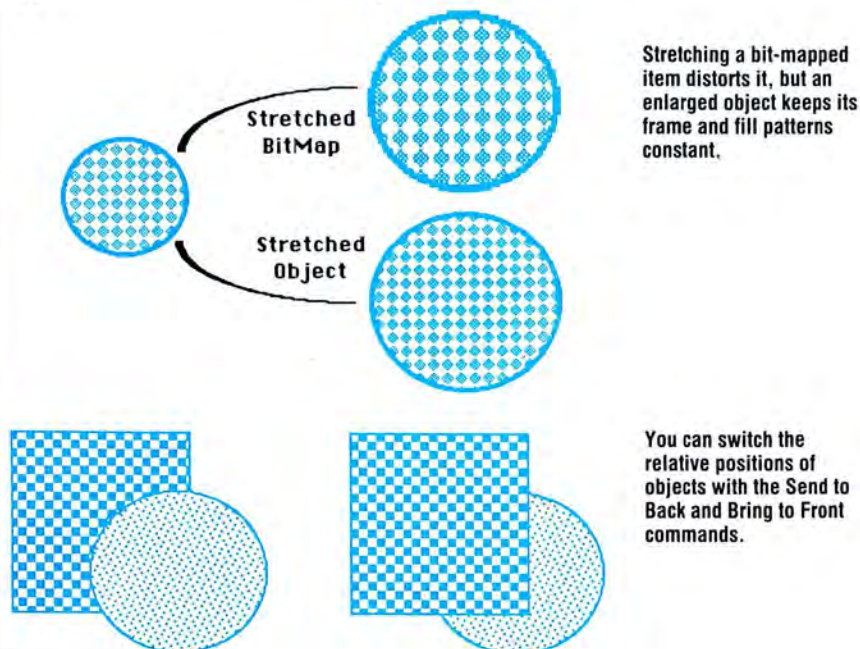
Another, and potentially more serious problem, is that you can slide a selection past the edge of the window and right off the edge of the page without knowing it. The window doesn't scroll unless the mouse cursor reaches the edge; the far edge of the selection might be off the edge of the paper. You have to use Reduced View to keep an eye on things. The "window frame" of *MacPaint*'s Show Page is missing in *SuperPaint*'s Reduced View; you'll really miss the easy way of jumping to a different portion of the document.

The lack of rotating text in the Draw layer will be a serious drawback (get it?) for some people. The Draw layer also needs a keyboard option that will turn the current cursor into the selection arrow for quick dragging of objects, much the way the Grabber is always available with the space bar.

There are also some finer details in the "interface" category that would make working with *SuperPaint* even more pleasurable, such as Command-key equivalents for the open windows listed in the Windows menu, and a little more attention to active menu selections: Rotate, for instance, is not dimmed when an unrotatable text box is selected.

Then there's the list of things that are not criticisms, but the beginning of a wish list for the next release.

(continued on page 174)



See what you've been missing.

Full page views of your documents, for example. Unobstructed displays of several windows simultaneously. And dozens of other applications for which the Macintosh™ has been able to give you only part of the story. Until now, that is.

Introducing the Radius Full Page Display.

The Radius FPD™ works side by side with your Macintosh to make creating, editing, and laying out documents easier than ever — by letting you see a full 8½" by 11" page.

That means less scrolling. Less enlarging and reducing. And, because your Macintosh doesn't sit idle, a much more useful way to work.



The FPD extends your investment in the Macintosh.

Lay out a page on the FPD, for example, while the Macintosh holds tools, palettes, desk accessories, and other windows. Or treat the two screens as a single, contiguous display, viewing large, horizontal documents. Even drag text or graphics between the two.

The FPD is in every way an extension of your Macintosh, from the electronics to the aesthetics. But then, there's a good reason for that.

The team that developed the Radius FPD is the same group of experts that designed and built the original Macintosh. Which means you're assured of the highest-quality product, from top to bottom.

Want to find out more? Contact your nearest authorized Radius dealer to get the full story. (Or call us at 408-732-1010 for the name of the dealer nearest you.)

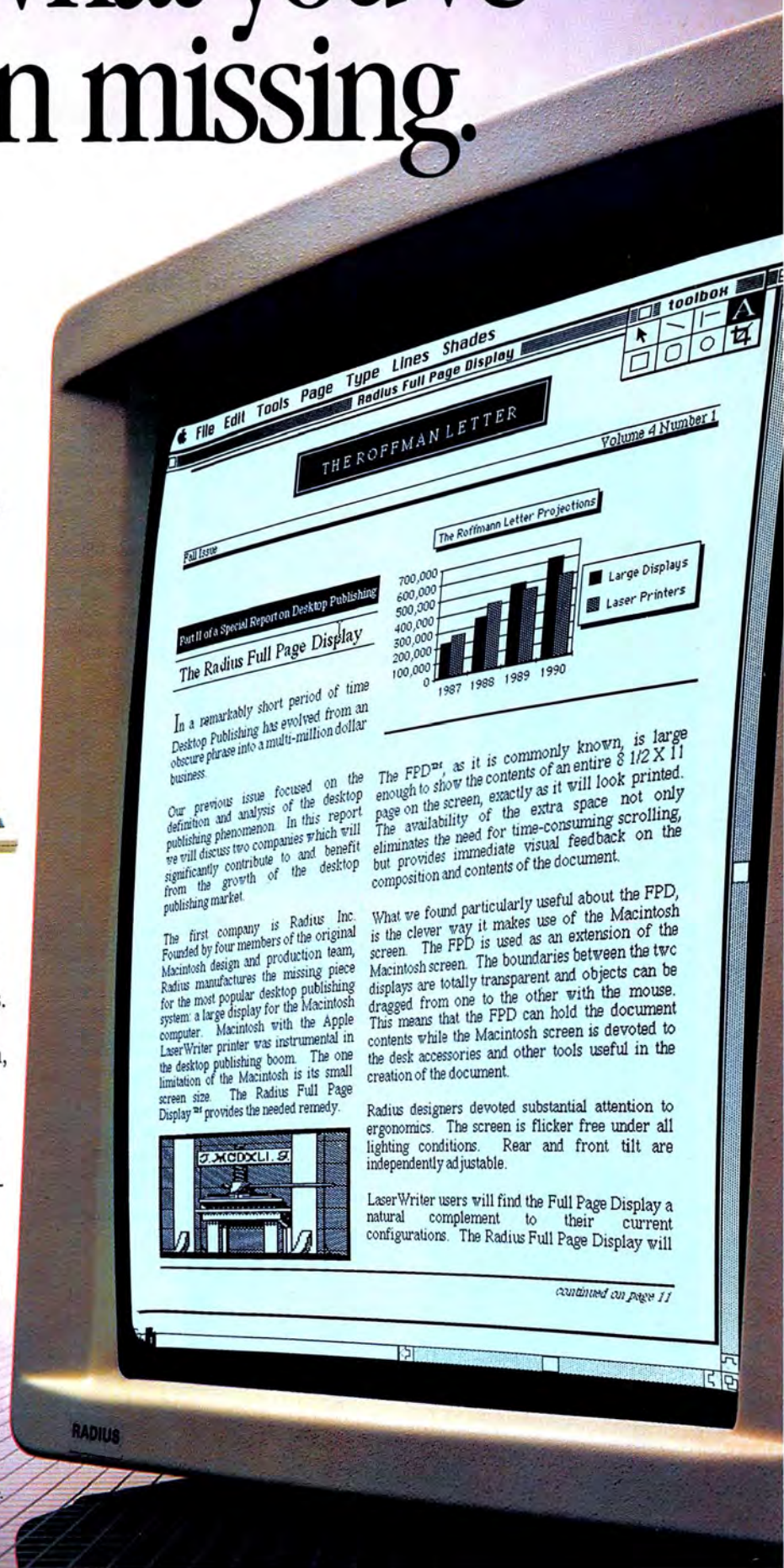
And see what you've been missing.

RADIUS

Radius, Inc.
1050 East Duane Avenue, Suite F
Sunnyvale, CA 94086

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

Please circle 154 on reader service card.



TEST DRIVE

Ten new SCSI hard drives evaluated. Bring order out of the hard drive chaos and choose the right unit for you.



The MacBottom HD-21 (left) is the best of the drives we tested, although it's relatively expensive, even given a discount. The ProApp 20 is a good choice if you plan to share with an Apple II or another Mac. However, we could not chain it to another Mac SCSI drive.



The HyperDrive FX/20 gets high marks in performance, being both quiet and reliable. It comes with an excellent backup program and a spooler that runs on both Laser- and ImageWriter. Its rather odd shape, which has given rise the the nickname "Lunchbox," was designed to leave room for future additions and enhancements.

BY DAVID SCHARGEL, DAVID BIEDNY AND STEVEN BOBKER

IF YOU STILL NEED TO BE CONVINCED that the Mac Plus is a success and making it as a business computer, take a look at the SCSI (scuzzy) hard drive market. It seems that everyone wants in. Companies are literally springing up to market hard drives to Mac Plus owners. And then remember back to the pre-Mac Plus days, when a good hard disk was truly hard to find.

We've selected ten recent 20- and 30-meg external units and run them through extensive, in-office evaluations. Here are the results of those test drives.

We don't put much weight on benchmark tests. Unless your disk has the same information arranged in the same order on the disk, you won't get the same results (except by chance). All of these units work, and they work faster than anything but another SCSI hard disk.

The table has some further information for those who want it, but a couple of caveats are in order. First, both hardware and software change, sometimes too fast to keep up with it. While we might state that the Foo Machine has a Lapine drive, the current batch might be shipping with Rodime or NEC or Miniscribe drives. The only way to be sure is to ask the manufacturer or look yourself. Changing drives may indicate the manufacturer got a better price or simply manufacturing convenience (we couldn't get Zappo Drive, they were backordered, so we used Zippos). Changing the drive usually does not mean a perceptible change in performance or reliability, though.

Software, particularly SCSI software, tends to improve over time. Nearly every machine we've tested here has had new software come out during our test period. And it's always been better than the previous version.

Finally, a word about the *Disk-Timer II* results: As its author, programming wiz Steve Brecher, says, they're just numbers. They can tell a pro, a SCSI programmer, some things about how the drive works, but they don't relate to any real world performance. They just measure how the unit performs on this

one standard test. So please don't go out and buy the machine with the fastest *DiskTimer* times. Buy the unit that best meets your needs.

MACBOTTOM HD-21

The MacBottom HD-21 is the best of the drives covered in this review. That's not to say it stands head and shoulders above the pack, but it is the best. That superiority does carry a price, however. It's a relatively expensive unit. Even with the deep discounts commonly available, an HD-21 will cost you between \$800 and \$900.

There are several factors that make the HD-21 our choice. It is very quiet. In fact, it's the only drive on which all samples have been very quiet. One of the major complaints about the MacBottom serial drive was excessive fan noise. That's been cured here, and if it weren't for the light on the front of the case you wouldn't know the unit was on.

The HD-21 is also fast. While it's not the fastest unit tested, it is near the top. In particular, it seems very fast transferring files to other hard disks. It's also very reliable. We've had no problems with our units, and we haven't heard of any failures in the field. The manufacturer was one of the first Mac hard disk manufacturers and appears substantial enough for you not to have to worry about them going out of business, leaving the product unsupported.

The documentation is excellent. If further help is needed, telephone support is available and adequate. An 800 number would be nice, however. The manufacturer is on the East Coast and thus support hours are more oriented to easterners.

The HD-21 now supports software tags which will make recovery from the rare problems much easier. The utility software on the disk includes PCPC's superb (4 1/2 mouse) *HFS Backup*, and an excellent ImageWriter spooler DA.

The unit comes set to SCSI address 5, but that can be changed via a neat mechanical switch visible on the bottom of the unit. This is by far the best addressing setting solution seen thus far.

It also has a very short built-in



The Warp 20 is an average unit, but delivers good value for a low price. The MagNet 30X is a larger version of the MagNet 20X next to it. The two machines are similar in performance, although overall the 30X is the better value for your money.



The unit to the left is a serial Apple HD 20. We are showing it only so that you can compare it physically to the newer units. The Apple 20SC was something of a disappointment. It's fast and reliable, but noisy, and cable and terminator must be bought separately.

cable to connect it to the Mac Plus. The unit *must* sit under the Mac or you must provide your own extension cable. In fact, the built-in cable is so short that it will not reach a SCSI connector mounted on the back of the battery compartment. That's the worst feature of the HD-21. The chaining connector is a DB25 type rather than the more common Centronics 50-pin connector. *[Just as we went to press, we learned that the short cable will be replaced by an 18-inch cable. That will solve that problem.]*

HYPERDRIVE FX/20

General Computer's HyperDrive FX/20 is big, somewhat oddly

shaped box that sits beside the Mac. It offers superb performance. The units we've seen have both been quiet and reliable.

When we asked GCC about the shape and large size of the unit (the handlelike moldings at the top have led to the FX/20 being called the "Lunchbox"), they hinted that there are enhancements and additions that are planned to fit inside the case.

GCC support has been more than adequate (although we have heard the occasional complaint), and the company is a well-established Mac hard disk manufacturer. The documentation is thorough and professional; it should answer all your questions.

TEST DRIVE

Utility software includes a fine backup program, a spooler that runs on both the LaserWriter and the ImageWriter (hallelujah!), efficient security software and the ability to create subvolumes using HyperDrive software. The SCSI address is completely software controlled. A separate cable and terminator are included. The two connectors on the back are 50-pin Centronics type.

The FX/20's software package makes it a standout in this crowded field. But be sure its physical size fits your plans before you purchase one.

WARP 20

The Warp 20 is an average unit.



It's long and low and somewhat awkwardly shaped for use with a Mac. Since there are no vents on the top, it can be placed next to the Mac and other components (such as an 800K external drive) placed on it.

Performance was more than acceptable. The unit ran reliably and support from the manufacturer was very good. The documentation was brief, but also adequate. The necessary cables were provided. Two 50-pin Centronics-type connectors are provided on the back along with a built-in power cable. A copy of Infosphere's MacServe is included.

The Warp 20, especially if it is to be your only SCSI hard disk, delivers

excellent value in relation to its low price. However, if you plan to use it in a chain, you may have difficulties. The unit must be opened to reset the SCSI address and the instructions in the manual are not adequate for that. You'll need, and get, telephone support (unless, of course, you have done it before).

[Special note: Current Warp Nine ads refer to the Warp 20 as an internal drive and call the external drive the Photon 20. The ad photos show a unit that fits under the Mac.]

PROAPP 20

The ProApp 20 is an unusual Mac hard disk. A look at the back reveals some interesting connectors. There's a DB25 SCSI connector, a DB19 and a DB9. The white case color is also different from the others reviewed (all are beige). This unit is made to work with Apple IIs as well as Macs. In fact, it can be partitioned to work with both Macs and Apple IIs at the same time. The manual is clear on how to set it up for whatever use you want.

One major drawback is that while the unit itself is compact, it requires a bulky external power supply. Another drawback was that we were not able to chain this unit to another Mac SCSI hard disk.

If the power supply and inability to chain don't bother you, this is a good unit. It ran acceptably fast and

Another disappointment, the AST 2000, is a combination 20-meg hard disk and 20-meg tape backup. It runs efficiently only as a standalone or with others of its own kind. However, many users are happy with it if it's used as the only SCSI device attached to a Mac Plus, with the tape used only for periodic full backups and restores.

HOW THEY STACK UP

Drive	Manufacturer	Price	Config. (megabytes)	Dimensions (WxLxH)
MacBottom 20	Personal Computer Peripherals Corporation	\$1,195	20	9 5/8 x 9 3/8 x 2 1/4
Apple SCSI 20	Apple	\$1,299	20	9.75 x 10.5 x 3
MagNet 20X	Mirror Technologies	\$1,195	20	5.5 x 9 x 3
MagNet 30X	Mirror Technologies	\$1,295	30	3 x 13.5 x 7
Hyperdrive FX/20	General Computer	\$1,195	20	3.5 x 12.5 x 8
Warp 20	Warp Nine Engineering	\$695	20	5.25 x 13 x 3
ProApp 20	ProApp	\$995	20	7 x 10.5 x 3
S20+	Peachtree Technologies	\$1,399	20	9.5 x 10.5 x 3
AST 2000	AST Research	\$2,495	20/20 Tape Backup	9.5 x 13.25 x 3.75
WhisperDrive	Palo Alto Microsystems	\$889	20	4.75 x 8 x 4.5
DataFrame 40XP	SuperMac Technologies	\$1,995	40	3 x 9.5 x 8

very reliably. ProApp has been making hard disks for a long time and their experience shows in this well-constructed, reasonably quiet unit. If you want to use it with an Apple II or share it between Macs and Apple IIs, it's a good buy.

APPLE HARD DISK 20SC

There's nothing seriously wrong with this unit and yet it was one of the biggest disappointments of the units reviewed here. You're paying a lot for the name. The 20SC was consistently the noisiest of the hard disks reviewed. It may well be too noisy for some applications. Apple is supposed to be fixing the problem (a loud fan), but reports from the field at press time indicate that noise is still a problem.

Speed is fine, and reliability and support are superb. The SCSI address is set by both mechanical and software means, an excellent solution. The mechanical switch is on the back and is easily accessible. Also on the back are two 50-pin Centronics-type connectors. This unit works well with other hard drives.

Early units did not include the necessary cable and terminator, making the 20SC even more expensive. Current Apple plans are to include the cable and terminator.

Unless Apple improves this under-the-Mac unit or you must have an Apple brand hard disk, you can do



The unit on the left, the Peachtree S20+, has no standout features and no serious flaws. It's a reliable, high-performance drive. The WhisperDrive performed better than average and is sturdy and reliable, despite manufacturer's warnings to the contrary.

much better in today's market than the 20SC.

MAGNET 20X

This small unit offers average performance at a very reasonable price. It sits next to the Mac, not under it.

We experienced no problems with our review unit. The manufacturer is a large, experienced hard disk company and the support they provided was excellent.

The MagNet 20X is noisier than average, especially when doing disk accesses. Still, it is quiet enough.

The MagNet uses 50-pin Centronics-type connectors. The unit proved difficult to chain to other

units. The case must be opened and we needed help from the manufacturer to get everything working. We'd recommend not chaining this drive except to other MagNets. The necessary cables are included, as is a copy of Infosphere's *MacServe*.

MAGNET 30X

This larger version of the MagNet 20X is not substantially different than its smaller relative. It does hold 50 percent more data and is much bigger physically (it fits comfortably under the Mac). But in terms of performance it is very similar. The power supply is no longer separate,

(continued on page 182)

Drive Mechanism	Spooler Software	Backup Software	DiskTimer II Results		
			Reads	Writes	Seeks
Rodime 3.5	ImageWriter	Yes	79	77	49
Seagate 5.25	None	No	158	158	39
Lapine 3.5	None	No	153	455	38
MiniScribe 5.25	None	No	150	435	39
Seagate 5.25	ImageWriter, LaserWriter	Yes	203	310	37
Lapine 3.5	None	No	235	293	39
Tandon 3.5	None	No	133	240	33
Rodime 3.5	None	No	210	214	48
Rodime 3.5	None	Tape Backup	148	443	49
Lapine 3.5	None	No	102	217	39
NEC 5.25	ImageWriter	Yes	53	55	18

CONSTANT
COMMITMENT

JAZZ -



MORE

THAN A SPREADSHEET!

CONTINUOUS
INNOVATION

You do more than spreadsheet calculations. Jazz® does more than that, too. Five times more than that. More than any other single piece of software made for your Apple® Macintosh™ personal computer.

Five powerful functions—not just a smattering of this and that—but five functions deep enough to stand alone: spreadsheet, database, word processing, graphics and communications.

All five so thoroughly integrated that they work beautifully together through a unique Jazz feature called HotView.

With Jazz you can direct your attention to many projects—or many parts of the same project—without changing programs. With Jazz you can revise or update information in one document or several documents instantly. With Jazz you can work the way you work best.

All of which simply means this: you can be more productive, more effective—you can do more, with Jazz, than you can with any other piece of software.

Go ahead. Get a demonstration at a Lotus authorized dealer.

Your Macintosh is capable of doing a lot more than spreadsheets. For that matter, so are you.

Lotus Jazz

Business software for the Apple Macintosh integrating spreadsheet, graphics, word processing, database and communications.

© 1986 Lotus Development Corporation. Lotus and Jazz are registered trademarks of Lotus Development Corporation. Macintosh is a trademark of McIntosh Laboratory, Inc. and is used with expressed permission of its owner. Apple is a registered trademark of Apple Computer, Inc.

THE POWER DESK

**JAZZ
+
MAC**



GRAPHIC DESCRIPTIONS

MacDraft plus PageMaker add up to far more than the sum of their parts. Together, they can form a truly professional illustrator's package.

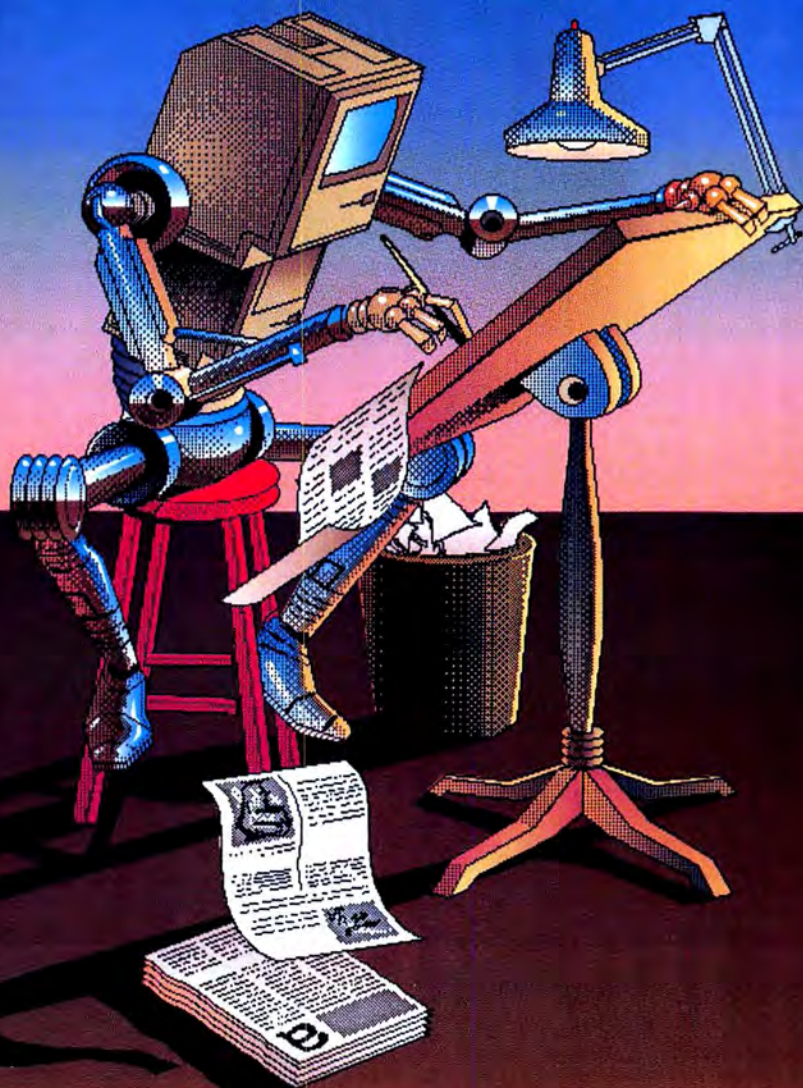
IT'S THE OLD ADAGE OF CLOUDS and silver linings applied to software. You find a program that's more powerful than the one you're using and immediately start to use it. Then you have to get used to its whole new set of quirks and features. For example, *MacDraft* (from Innovative Design) seems to give more of what you want from a graphics program than the old standby *MacDraw*. However, *MacDraft* also has a less than pristine reputation. It still has some quirks, bugs and missing features. Some professional technical writers have abandoned *MacDraw* for *MacDraft* anyway — but they don't try to use it alone; they use it in conjunction with Aldus' *PageMaker*.

That might work for you, too. If you've given up on *MacDraft*, now's the time to give it another look. Let's look first at *MacDraft*'s shortcomings, and then at some fairly simple workarounds.

WHAT'S MISSING HERE?

From the professional's viewpoint, *MacDraft*'s inability to do reductions or perspective drawings is quite serious. However, reductions can be worked around by using *MacDraft* with *PageMaker*, and perspective drawings can be worked around within *MacDraft* itself.

MacDraft objects can be reduced by transferring them to *PageMaker* files. Objects reduced, or enlarged, in *PageMaker* are changed proportionally, including line thickness and text size, regardless of whether the object is enlarged, reduced or stretched. Precise reductions can be accomplished by using "Show rul-





ers" from the *PageMaker* Tools menu.

Before transferring objects from *MacDraft* to *PageMaker*, remember that *MacDraft* files must be converted to PICT format. Fortunately, the Scrapbook automatically converts *MacDraft* files into PICT format. Save the object in the Scrapbook, then copy and paste into the *PageMaker* file.

When working with a lot of illustrations, however, the Scrapbook is cumbersome to use. Selecting an object requires scrolling through the Scrapbook until the desired object appears. This can be tedious. *MultiScrap-2*, a public domain desk accessory ("Open to the Public", *MacUser*, February 1986), offers an effective solution. Each object is assigned and identified with a separate Scrapbook file. Then the object you want is selected from the *MultiScrap* catalog.

Perspective drawings can be readily created inside *MacDraft*. A basic understanding of perspective art is sufficient to produce professional quality perspective drawings.

Set up a separate perspective drawing file as follows (menu references are to *MacDraft* menus):

1. Set up the work area. Select DRAWING SIZE from the Layout menu. Select a three by three layout; that is, three sheets across and three sheets down.

2. Position your horizontal vanishing points.

- a. Select ZOOM OUT from the View menu until all nine sheets are visible on the screen.

- b. Select the smallest line from the Line menu.

- c. Select the vertical/horizontal line from the Tools menu.

- d. Draw a horizontal line from the top left corner of sheet 1 to the top right corner of sheet 3.

- e. Make vertical lines cross the horizontal line one quarter inch from each end. These vertical lines locate the horizontal vanishing points.

3. Position the vertical vanishing point. Make a cross at the bottom of sheet 8. This cross locates the vertical vanishing point.

4. Set up guide lines from the vanishing points.

- a. Select the broken line from the Line menu.

- b. Select the diagonal line from the Tools menu.

- c. Draw separate broken lines from each vanishing point to sheet 2. Zoom in as necessary to position the end of each broken line exactly on the appropriate vanishing point.

Each of these guide lines can swing in either direction by grabbing the nearest end of the guide line. The other end is the vanishing point.

5. Set up the foremost object line.

- a. Select the second smallest solid line from the Line menu.

- b. Select the vertical/horizontal line from the Tools menu.

- c. Draw a vertical line toward the bottom of sheet 2.

This is the foremost edge of the object.

After the perspective drawing is set up, save it in a separate *MacDraft* file. That way, the perspective layout can be reused without repeating the setup. Remember to Save As . . . , not Save, after opening this document.

Draw an object in perspective by grabbing the end of a guide line and positioning it where the line is to be drawn. Then select the diagonal line from the Tools menu and draw the line along the guide line. Repeat this process for each additional line, using the appropriate guide line for positioning. Arcs, circles, and ellipses are positioned to the guide lines using ROTATE from the Arrange menu.

When the object is finished, save the whole drawing, guide lines and all. Modifications can then be made without another setup.

Then save the drawing again by selecting just the object with the lasso. Copy and paste the object into a separate *MacDraft* or *MultiScrap* file. The object can be used as often as desired using Copy and Paste from the Edit menu.

QUIRKS

Several quirks occur in the *MacDraft* program. Though annoying at first, most can be worked around. *MacDraft* quirks include: edge clipping; random element movement; slow movement of complex objects; difficult element selection; and extraneous lines.

After some practice, most of these quirks can be manipulated to reduce, or eliminate, their effects.

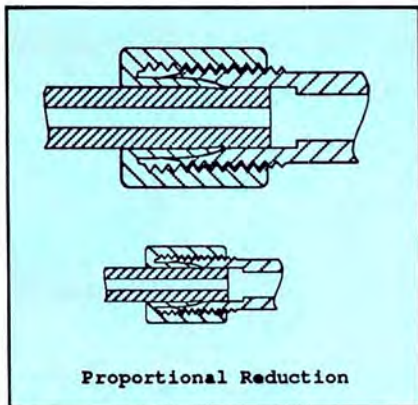
EDGE CLIPPING

Edge clipping occurs when moving *MacDraft* objects into the Scrapbook, *MacDraw* or *PageMaker*. The outside line, right or left, is cropped.

Work around this quirk by making a "halo" behind the object. While still in the *MacDraft* file, draw

BY DAN C. DAVIS

GRAPHIC DESCRIPTIONS



You can reduce *MacDraft* objects by converting them to PICT format and transferring them to *PageMaker*. Reductions and enlargements are made proportionally in *PageMaker*.

a rectangle slightly larger than the object. Send the rectangle to the back of the object by selecting **SEND TO BACK** from the **Arrange** menu. Position and adjust the rectangle so all object elements are well within the rectangle. Select the white pattern from the **Fill** menu. Then hold the **OPTION** key down and simultaneously select the white fill pattern again. The line around the rectangle turns white and disappears, creating an invisible "halo" around the object. When the object is moved to the Scrapbook, or another location, the halo is clipped instead of the object.

Always remember that the halo

must be selected along with the object. Since the halo cannot be seen, it is easy to forget.

RANDOM ELEMENT MOVEMENT

Grouped objects, when moved frequently, can experience random element movement. Generally, this movement occurs less frequently when moving ungrouped objects. As a rule, then, ungroup completed objects. When moving the object, use the lasso to make sure all elements are selected.

Dimension arrows can also experience random element movement. Sometimes, when using a thick line, the shaft prints off-center. This is especially true when using the LaserWriter printer. Work around this quirk by grabbing the shaft end and shortening it until only the arrowhead remains. Then select the vertical/horizontal line and make a new shaft. Position the new shaft to the arrowhead as desired.

SLOW MOVEMENT OF COMPLEX OBJECTS

Even relatively simple objects include many lines, curves, arcs and polygons. As object complexity increases, more time is required for object selection and release. The result is very slow movement of complex objects.

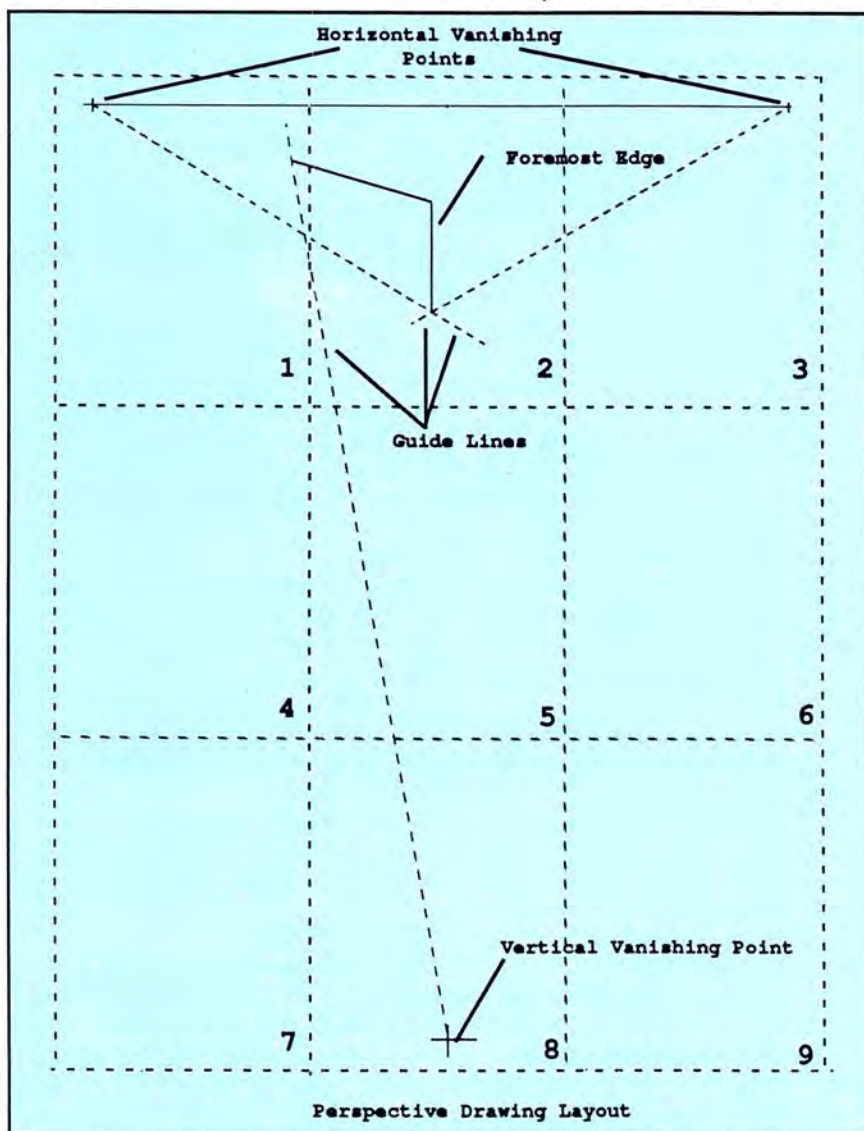
Notice that the selecting and releasing is slow; not the actual movement. Therefore, when moving a complex object, do not let go until it is exactly in place. As a rule, select and release a complex object as infrequently as possible.

DIFFICULT ELEMENT SELECTION

When working with complex objects, selecting specific elements can be difficult. A simple element movement can be disastrous when everything, except the desired element, moves.

Solve this problem by first making sure the element can be seen. Zoom in or out until the element can be easily identified. Then carefully select the element.

If the zoom feature does not help, try the lasso. Position the cursor off the object, near the element. Press the mouse and encircle the desired



Perspective drawings can be created within *MacDraft*, by establishing guide lines and vanishing points in the layout setup. If the drawing is saved in a separate *MacDraft* file, the layout can be reused without having to repeat the setup.

GRAPHIC DESCRIPTIONS

element. Include as little of the other elements as possible. Release the mouse to select the element.

If the lasso by itself does not work, lasso the element and bring it to the front. Lasso as little of the object as possible, but include the entire desired element. Select BRING TO FRONT from the Arrange menu. Click the mouse outside the object to release the selection. Then zoom in or out to identify the element. Finally, select the desired element.

Sometimes, an element is impossible to select. In this case, delete the smallest part of the object that includes the desired element. Then replace the deleted elements.

EXTRANEOUS LINES

Extraneous lines periodically appear in *MacDraft* text. Usually, they appear only on the printed copy and not on the screen. Sometimes the lines are caused by using the "no fill" background pattern. Sometimes extraneous lines just appear.

Moving *MacDraft* text with a "no fill" background into *PageMaker* results in extraneous horizontal and vertical lines. Selecting the same fill pattern for the text background and the general background solves the problem.

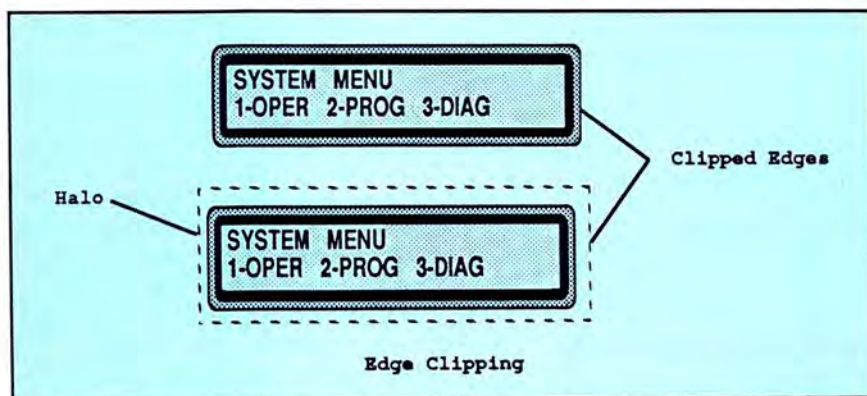
Occasionally, extraneous lines appear in *MacDraft* text for no apparent reason. When this occurs, first check that the text background is not "no fill." If that is not the problem, delete the entire text block and make a new block.

Creating the text in *PageMaker* also solves the extraneous line problem. However, if the text must be reduced proportionally with the object, the text must be created in *MacDraft*.

DRAWING TECHNIQUES

There are a few drawing techniques that can add a professional touch to *MacDraft* illustrations. These techniques involve hexagonal shapes, filled polygons and illustration callouts.

Many fasteners, used in technical illustration, incorporate six-sided hexagonal shapes. Six equal angles, however, are difficult to create. *MacDraft* makes easy work of hexagonal



Moving *MacDraw* objects into other contexts — such as *PageMaker* — can cause edge clipping. You can get around this by giving the object a "halo." Then when the object is moved, the halo will be clipped instead.

shapes, though. Here's how:

1. Make one vertical line of the desired side length by selecting the vertical/horizontal line from the Tools menu.

2. Rotate the line to the right 60 degrees by selecting ROTATE from the Arrange menu.

3. Duplicate the line by selecting DUPLICATE from the Tools menu.

4. Flip the line horizontally by selecting FLIP HORIZONTAL from the Arrange menu.

5. Duplicate the line.

6. Rotate the line to 0 degrees.

7. Grab the horizontal line and place the left end to the top of the line that slopes to the right.

8. Grab the line that slopes to the left and place its top end to the right end of the horizontal line.

9. Group the three lines by lassoing all three lines and selecting GROUP from the Arrange menu.

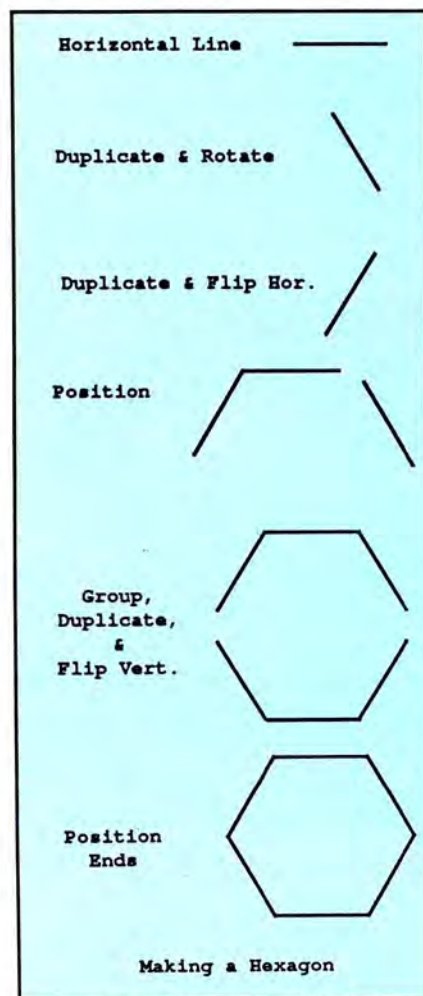
10. Duplicate the three lines.

11. Flip the duplicated lines vertically by selecting FLIP VERTICAL from the Arrange menu.

12. Position the right and left unconnected ends of one set of grouped lines to the unconnected lines of the other grouped set.

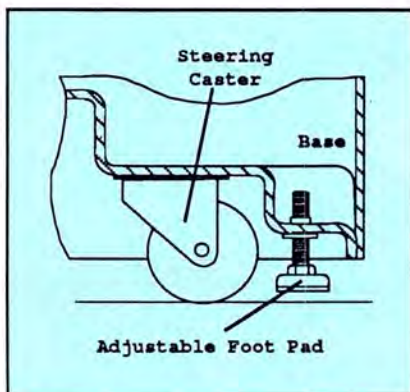
When the unconnected ends of the two objects are brought together, an equilateral hexagonal object results. The entire object can now be grouped and moved.

A convenient way to make multi-shaped polygons is to stack various shapes together. Unfortunately, lines

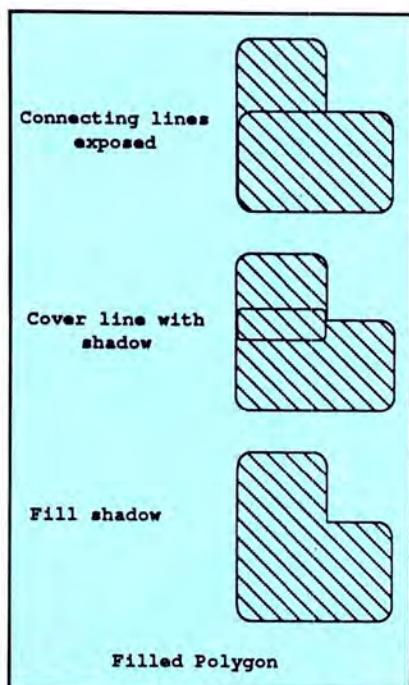


MacDraft makes short work of creating hexagonal shapes. You duplicate parts of the object, FLIP and ROTATE until you have all the pieces you need, then put it all together.

GRAPHIC DESCRIPTIONS



If you add callouts to drawings in *MacDraft* and then move them to *PageMaker*, you may find the callouts and drawing dimensions are inconsistently sized. Adding the callouts and dimensions in *PageMaker* allows you to manipulate drawing dimensions without affecting the size of callouts.



One of the easier ways to make multi-shaped polygons is to stack shapes together. Use "shadow" objects to cover overlap lines.

are always left where the shapes overlap.

Solve this problem by making "shadow" objects. Select a standard shape from the Tools menu. Form the shape to exactly cover the unwanted line. Next, fill the shadow object with the same fill pattern as the polygon. Finally, hold the OPTION key down and select the same fill pattern again. The shadow object outline adopts the pattern and the unwanted connecting line disappears.

The shadow object also makes a very effective eraser because it can adopt any background fill pattern.

Callouts and dimensions can be readily included in *MacDraft* objects. However, when reducing the objects in *PageMaker*, callouts and dimensions can be reduced to an unreadable size. A variety of reductions can also result in callouts and dimensions that are inconsistently sized.

Adding callouts and dimensions using *PageMaker* solves both problems. Illustrations can be reduced or enlarged without affecting callout size. Also, one letter size can be selected for all callouts and dimensions.

Creating a *PageMaker* Drawings file provides a good work area for adding callouts as well as a systematic order for illustrations. A separate *PageMaker* file is set up to store all the illustrations for one document. Each object can then be copied and pasted into the file using *MultiScrap*. The object is reduced, enlarged, and/or cropped as desired. Limit each page to three or four illustrations to allow ample working space.

Select ACTUAL SIZE from the *PageMaker* Page menu to give the most accurate representation of the text and illustrations.

Create the callouts and dimensions as follows (menu references are to *PageMaker* menus):

1. Check that the document is set up with column guides. Select the Master Sheet. Select COLUMN GUIDES from the Tools menu. Make sure that the columns number one or more.

2. Move the column guides close together. Select the desired page. Grab one column guide (right or

left) and move it close to the opposite column.

3. Set up the type specifications. Select "Type specs..." from the Type menu. Select the desired letter font, letter characteristics, and letter point size.

4. Select text by selecting "A" from the Toolbox.

5. Place the cursor between the column guides and create the callouts. Repeat for each callout and dimension. Make sure the cursor is placed at the beginning of each callout. Otherwise, one callout with many lines will result.

After the callouts and dimensions are created, select the arrow from the Toolbox. Each item can then be selected and positioned to its correct place.

Connecting lines are created by selecting a fine line from the Line menu, followed by selecting the diagonal line from the Toolbox. Select 200% SIZE from the Page menu for precision line positioning.

When placing the illustrations into the text, use Copy and Paste from the Edit menu. This leaves the original in the drawing file in case another illustration is required.

Using these simple tricks allows *MacDraft*, when coupled with *PageMaker*, to become a powerful program for technical illustrations. Both novice and trained technical illustrator can produce professional quality illustrations. Few programs on the market combine power and cost to equal *MacDraft* and *PageMaker*.

DAN C. DAVIS IS A FREELANCE TECHNICAL WRITER FROM WEBSTER, NY.

PAGEMAKER

Overall Rating



List Price: \$495. Published by Aldus, 411 First Avenue South, Seattle, WA 98104. (206) 622-5500. Copy protected.

MACDRAFT

Overall Rating



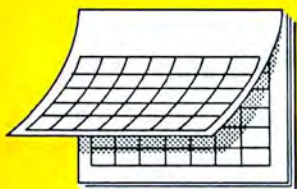
List Price: \$239. Published by Innovative Data Design, 1975 Willow Pass Rd., Concord, CA 94520. (415) 680-6818. Copy protected.



Analog Time



Digital Time



Calendar

From the publishers of KidsTime™ and ConcertWare™

TimeMasters™

TimeMasters is a fun and educational program for young children. This entertaining Macintosh™ program allows children to explore time in many different ways. Children can learn and progress at their own speed. They can manipulate clocks and calendars on the screen or review different lessons about time. Tests and rewards provide encouragement and motivation. Time of day and seasons are emphasized by entertaining graphics. This program teaches about clocks and calendars, hours and minutes, days and weeks, months and years. Some holidays are included on the calendar and children will especially enjoy adding their own birthdays. Recommended for children 4 years and older. Requires 512K.



Great Wave
Software™

Only **\$49⁹⁵** suggested retail

Contact your local software dealer or
Great Wave Software at
104 Gilbert Ave, Menlo Park, CA 94025
or call (415) 325-2202.

Macintosh is a trademark of Apple Computer Inc.
TimeMasters and KidsTime are trademarks licensed to Great Wave Software.
ConcertWare is a trademark of Great Wave Software.

Please circle 113 on reader service card.

The MacGolf™ Challenge.

Sit down, boot up and find yourself surrounded by the sights and sounds of the fairway – with MacGolf, the premier simulation golf game for Macintosh™ users.

MacGolf challenges beginners and experts with 3-dimensional animated

golfers and graphics, realistic (digitized) sound effects, and two 18 hole golf courses. Up to four people can play.

MacGolf works on a 512K or Macintosh Plus and costs only \$59.95. Get MacGolf at your nearest dealer

Please circle 101 on reader service card.

today. Or call Practical Computer Applications at (612) 427-4789.

MacGolf™

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





PLAY BALL!

Boot up *HardBall* and the boys of summer can become men for all of seasons.

BASEBALL AND I GO WAY BACK. Back to the early 1950s, when a dime bought a stack of trading cards and a slab of bubble gum the size of a Mac diskette. Well, it tasted that big, anyway, and the flavor lasted until I had memorized the player stats on each card. Numbers were critical to all the boys (and girls) of summer: they explained the mysteries of managerial strategy and justified our hero worship; they provided the backdrop for the game's most dramatic moments and enriched countless backyard reenactments.

Those days are gone, but the game hasn't lost its appeal for me, except on rare occasions when the Yankees don't make it to the World Series. Then October is the cruelest month.

The creators of *HardBall* undoubtedly love baseball, too, for they have fashioned a computer simulation so realistic it's like watching NBC's *Game of the Week* and playing it at the same time. What's more, the action isn't halted every half inning by a downpour of beer and 4x4 truck commercials.

Originally developed in the Commodore 64/128 format, *HardBall* has also been adapted for the Atari 800 and Apple II series of computers. With its stunning animation, MacNifty-digitized sound, and added options, the Macintosh version of the Accolade classic is the most satisfying yet. So grab your glove and head for the ball park.

SPRING TRAINING

Once past the title screen and opening music, *HardBall* displays its Game Options screen. This is where

you choose up sides (All-Stars or Champs), pick home team or visitors, and decide whether to invoke the Designated Hitter rule, an American League anomaly allowing a tenth player to bat for the pitcher (traditionally a poor hitter) for the entire game. In real life, this job is frequently assumed by a fading superstar whose legs make him a defensive liability, but whose bat still has some pop. *HardBall* doesn't indicate player age or fielding ability (errors are committed only when a player plays out of his normal position), but its two DHs are genuine offensive threats: slugger "Maury Craven" and the ever-dangerous, switchhitting "Al Nyden." The game just isn't the same without 'em.

This is also where you specify the number of players. To play against the Mac, click on the box marked "Computer," to play against another human, make sure neither box is checked. Clicking on both "Computer" boxes sends the Mac off to play against itself—OK for really compulsive spectators, but not much fun for anyone else.

To use the keyboard instead of the mouse, click on the Game menu and highlight Control Options. This opens a window displaying the keys

each team uses to move players, select pitches, throw, swing the bat, and run the bases. Deselecting "Use Mouse" and clicking OK uses the default settings, but you can change them. Once you've selected all game and control options, press the space bar to play ball.

Next, the Manager's Decision screen comes into view, displaying both lineups—the one in the box is up at bat—and the scoreboard. This screen also identifies the current batter and anyone on base. To flex your managerial muscles, open your team's menu at the top of the screen. Defensive options include substituting players, exchanging positions, shifting the outfield left or right, moving the infielders to double-play depth, and walking the current batter intentionally. Offensive choices are limited to player substitution (that is, pinch hitters and pinch runners) and exchange of position.

SCOUTING REPORT

Good skippers know their players' strengths and weaknesses, and you should, too. Both teams are rich in pitching, from starters to relievers, flamethrowers to junkballers. Eight pitches comprise the *HardBall* arsenal (Fastball!, Fastball, Curve, Slid-

BY WAYNE J. SASSANO

er, Screwball, Sinker, Offspeed, and Changeup), but each pitcher has only four in his repertoire. That's plenty, though, for each pitch can be thrown to any of nine different locations. And since a batter has nine hitting zones to choose from, virtually every pitch is a new adventure.

HardBall selects both starting pitches each time a new game begins, but you can pick your own either by exercising the Substitute Player option on the Manager's Decision screen, or by repeatedly pressing COMMAND-R (restart) until the Mac inserts the pitcher you want. All-Star lefthanders Billy Prince and Carl Cook have good stuff and don't appear to tire easily; Denny Estrada is the team's best relief pitcher (great fastball, decent sinker). If your team is the Champs, you'd do well to have

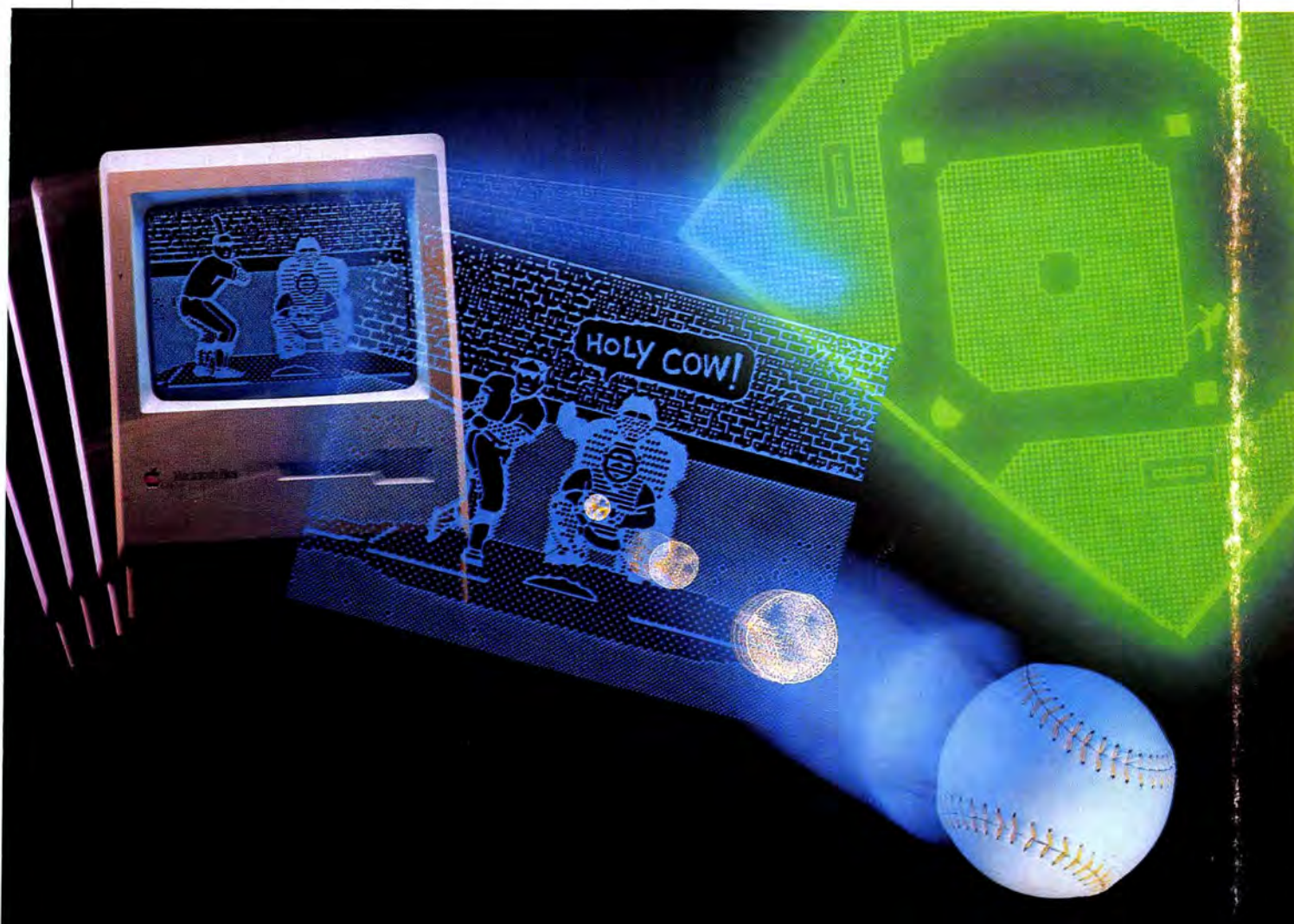
either Barry Ross or Tommy Euler on the mound. Ross is sneaky and fast, with a good slider; Euler's screwball is his out pitch, providing he keeps it low. Bullpen ace Jimmy Morlini mixes a blinding fastball with a tantalizing curve.

Both teams are capable of scoring a lot of runs. Leadoff men Bobby Allen (All-Stars) and Jerry McCall (Champs) are not only good hitters, but speedsters as well. Use them to break up double plays, bunt for a base hit, and steal their way into scoring position. All-Star catcher Ricky Miller has socked a team-leading 35 homers, and teammates Moose Lorenzen and Louis Laws are both good in the clutch. The heart of the Champs lineup, on the other hand, is a veritable Murderers' Row. Sluggers Hank Contos, Willie

Barnes, and Al Nyden have combined for 83 homers and 280 runs batted in, so you should pitch them very carefully, especially in the late innings.

OPENING DAY

Play begins with a view from center field. The player controlling the team in the field selects a pitch from the menu at the lower left; the options available to the player at bat vary according to the situation. As the illustration depicts a runner at first (inset), the options include "Steal 2nd." To execute the "run and bunt," for example, the batter would click on "Steal 2nd," "Bunt," and "Batter Ready." To swing away without sending the runner, simply click on "Batter Ready." Needless to say, neither player's choice is re-



PLAY BALL!!!

Game All-Stars Champs

Substitute Player Exchange Positions

Outfield Normal
Shift Outfield Left
Shift Outfield Right

All-Stars: Champs:

Intentional Walk

Allen, G	83	3b	McCell, Jerry	RT	CF	308
Jose, G	79	2b	DeSoto, Kyle	LF	RF	317
Miller, Ricky	305	✓	Contos, Hank	SW	LF	319
Craven, Maury	RT	DH	Barnes, Willie	LF	3b	270
✓ Lorenzen, Moose	RT	1b	Nyden, Al	SW	DH	277
Lewis, Louis	RT	3b	Rawlings, Chuck	LF	1b	269
Bautista, Monte	RT	RF	Morre, Jackie	RT	C	211
Mettrick, Donny	LF	LF	Mills, Franky	LF	SS	256
Doggett, Mickey	RT	SS	Darien, Freddie	SW	2b	243
P: Peers, Jessy	RT	P	P: James, Dusty	LF	P	

Press Space Bar to Play Ball

The wheels are turning. Execute strategy by going first to the Manager's Decision screen (via the space bar), then to your team's menu. Hmm, Contos up with two men in scoring position. Better put him on.

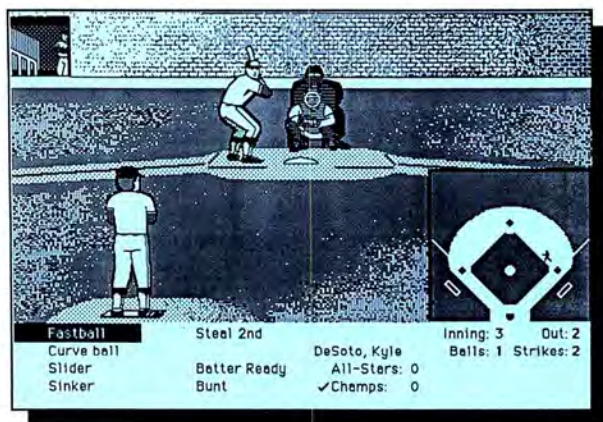
Of course, putting the ball in play is what baseball is all about. Say a batter has singled to right and decides to stretch it into a double. Using the diagram at the bottom of the screen, you would move the mouse to highlight second base (2) and click. Throws are made using a similar direction indicator when a team is in the field.

STRATEGY AND TIPS

When asked to explain the secret of good managing, Earl Weaver said, "Get the guy up there to do what you want." Truer words were never spoken. Your success in *HardBall* will depend on how well you get your players to perform. And sometimes this means changing your lineup. Choosing SUBSTITUTE PLAYER opens two windows you can scroll independently, as you would two sections of a spreadsheet. The top window displays the current lineup, the bottom one shows the players on the bench and the pitchers in the bullpen. Both windows display player stats to help you make your choice(s), but the information varies according to player type. With non-pitchers, you see batting average, number of at-bats, home runs, runs batted in, and stolen bases, plus batting stance (left-handed, right-handed or switchhitter) and defensive position.

With the pitchers, on the other hand, you see whether he throws left- or right-handed, the number of wins, losses, saves, innings pitched, and earned run average; batting statistics are not provided. This presents a problem in situations where a pitcher is used offensively, either as a pinch hitter or pinch runner. Why? Because *HardBall* is like real baseball: batting averages are fairly reliable indicators of a player's chances of hitting safely, home runs signify power, and stolen bases measure base running speed. Not having this information could cost you a ball game.

Exchanging positions must be done carefully. The illustration shows Maury Craven about to swap positions with Monte Bautista. This would be a mistake, for although Craven is currently the DH, his



The center field view. Where pitchers pitch and hitters hit. Pitch selection varies from player to player, unless you're foolish enough to put a non-pitcher on the mound. All he'll be able to throw is a Fat Pitch.

vealed on-screen during two-player games.

Once these decisions have been made, a new set of choices is presented. The pitcher picks a location, the batter decides where to swing. In both cases, the nine available locations are presented as a tic-tac-toe grid, whose center corresponds to an area over the heart of the plate, belt-high. Assume the players make the following selections:

Pitch:

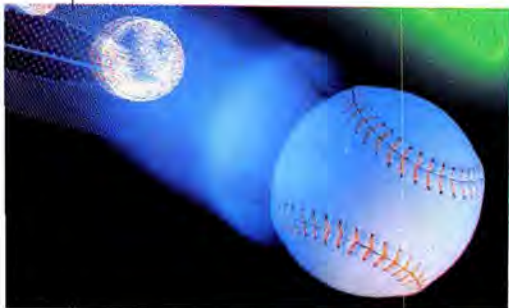


Swing:



The pitcher is aiming inside, the batter guesses outside. If the batter does not swing, the pitch may be called a strike, depending on how "tired" the pitcher is and where the pitch was thrown: down the middle is always a strike; up, down, left, and right will probably be a strike; a pitch thrown to one of the grid's four corners will seldom be a strike. In this case, the pitch looked pretty good to DeSoto, but he couldn't quite catch up with Frisina's Number One. "Strike three! Outta there!" the ump bellows. Grab some bench, Kyle.

Strike three! Outta there!" the ump bellows. Grab some bench Kyle.



Peripheral Land, the SCSI Experts



Peripheral Land
3677 Enochs Street
Santa Clara, CA 95051
(408) 733-7600

Please circle 254 on reader service card.

*RANKED #1 IN SEPT. ISSUE OF *MacUser*

*"THE PERIPHERAL LAND DISK SATISFIES BOTH THE PRICE-CONSCIOUS AND THE SECURITY-CONSCIOUS USER"

Macworld Sept. issue.

*BACK-UP PROGRAM TO BACKUP THE HARD DISK TO FLOPPIES BY FILE, FOLDER, VOLUME, OR INCREMENTAL FILES.

*IT ALSO COMES WITH A COMPLETE SET OF FLEXIBLE UTILITIES TO FORMAT AND PARK THE DRIVE.

*ALL PERIPHERAL LAND HARD DISK DRIVES RUN AS A SINGLE HFS VOLUME, OR CAN SUPPORT HFS AND MFS VOLUMES SIMULTANEOUSLY WHEN FORMATTED.

*ALL UNITS COME WITH FULL YEAR WARRANTY.

PL SERIES SCSI HARD DISK

These are the fastest SCSI hard disks available for Macintosh Plus or Macintosh 512. The main features include plated media hard disks for long reliable use, which are 100 times harder than oxide media. The PL hard disk auto-boots either from the Macintosh Plus or the Macintosh 512/E with our Macport Plus.

PL 20, 21meg formatted drive/**PL 30**, 32meg formatted drive/**PL 80**, 80meg unformatted drive/**PL 172**, 172meg unformatted drive

MacBack Plus SCSI TAPE BACK-UP

Say goodbye to floppies and hello to 22 megabyte tape cartridges. The MacBack Plus can either back-up or restore 20 megabytes in minutes. The back-up criteria can be selected by file, folder, volume, or incremental files. The MacBack Plus is available in either 22 or 60 megabytes of awesome capacities.

MacBack Plus 20/MacBack Plus 60

The MacFast High performance Series SCSI Hard Disk

The MacFast SCSI series is our top of the line hard disk for the ultimate Macintosh power user who demands speed from the hard disk. What makes the MacFast hard disk superior? An 8k buffer used for caching that maximizes raw data transfer

on the SCSI bus to its fullest potential. A Turbo Stream intelligent disk/tape controller that has its

own Zilog Z-8 micro processor with DMA that optimizes data transfer at a phenomenal 5 megabytes nonstop per minute between the MacFast disk and MacBack tape unit.

MacFast 20, Formatted/**MacFast 30** Formatted
MacFast 80, unformatted/**MacFast 172**, unformatted

MacBack

(QIC-02) High-performance Tape Back-up Unit

Our companion tape back-up system for the MacFast. Our exclusive Turbo-Stream Technique has the ability to back-up and restore 20 megabytes of data in a blistering 4 minutes. In the 5 megabyte volume mode, MacBack will back-up or restore in exactly one minute, incredible but true. This is the fastest tape back-up unit available today for the Macintosh.

MacBack 20/MacBack 60

MACSTOR Series

a 10 or 15 megabyte removable SCSI hard disk subsystem for the Macintosh Plus and the Macintosh 512K. This reliable removable Winchester cartridge provides unlimited capacity while providing complete data security. It can also be used as a back-up device instead of a tape. MACSTOR, When security and unlimited capacity is a must.

MACSTOR 10 a 10meg removable drive.

MACSTOR 15 a 15meg removable drive.

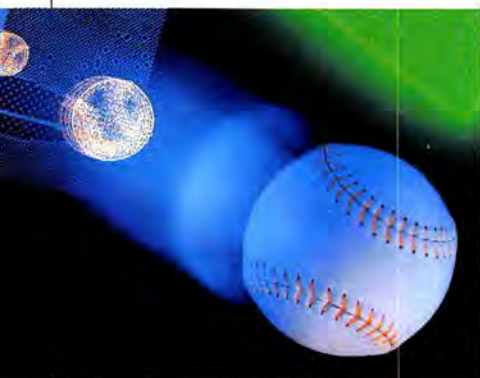
MACPORT Plus Auto-booting SCSI Adaptor for the Macintosh 512 and 512/E

Here's where Peripheral Land expertise really shines. An auto-booting SCSI adaptor for the Macintosh 512 or 512/E requires the new 128k rom. This easy, convenient upgrade provides full SCSI compatibility with our hard disk or any other SCSI hard disk. Now, you can boot directly from the hard disk, just like the Macintosh Plus without the expensive price tag.

Macintosh Plus, Macintosh 512, and Macintosh 512/E are trademarks of Apple Computer, Inc.



PLAY BALL!!!



Don't be afraid to take a pitch now and then; the Mac doesn't always throw strikes.

"normal" position is first base, not the outfield. Clicking on the Exchange button would produce a "Player Out of Position" message and cause an error on any ball hit to right field. Swapping Craven and Lorenzen, who both play first, is a smarter move.

Here are some other winning tips: Don't be afraid to take a pitch now and then; the Mac doesn't always throw strikes. If the pitch isn't a strike you won't be able to hit it anyway, no matter where or when you swing. When bunting, use an

inside or outside swing; the ball will roll down the baseline and the pitcher will have a harder time fielding it.

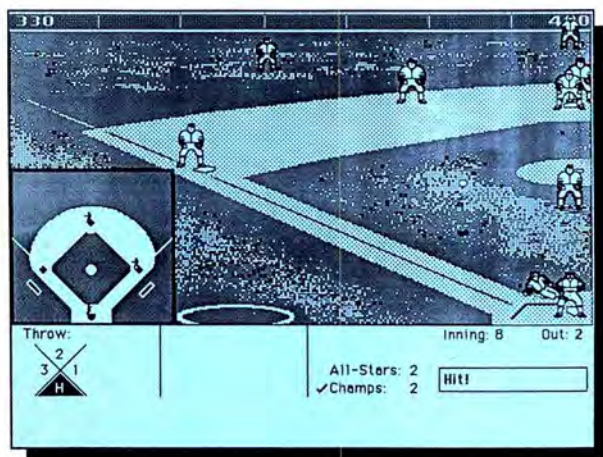
On balls hit to the outfield, always throw to the cutoff man when there is a play at the plate. The second baseman can throw home very quickly, so he's the one I'd use. And here's a way to turn a double play quickly. Say there's a man on first and a ground ball is hit to shortstop. Click/throw to second as soon as he fields it, then click again (to first) while the ball is still traveling to second. The infielder will make the

throw as soon as he catches the ball.

In sum, *HardBall* is great fun. The animation is smooth and full of realistic touches, from the gum-chewing coach in the dugout to the way the catcher moves from his crouch to throw the ball back to the pitcher. The sound effects are also terrific: the crack of the bat, the catch, the slide, umpire yelling "Strike!" and, of course, the cheering fans and music between innings.

My criticisms are few: the action slows down noticeably with men on base, and there is no way to save a game to disk. A bug carried over from the Apple II version has the Mac continuing to throw runners out after the third out has been made. Another is the computer's tendency to go for the lead runner all the time. On a ground ball to first with two outs and a man on second, for example, sending the runner to third will draw a throw to that base. As any rookie knows, the correct play is to step on first. More serious, however, is the system crash encountered whenever the visiting team scores a run in extra innings. Accolade is aware of the problem and has promised to correct it. Let's hope everything is OK by the time you read this. ☹

WAYNE J. SASSANO IS A CONNECTICUT-BASED WRITER AND CONSULTANT. HIS COMPU SERVE ID IS 73247,3703.



Next time, hit the cutoff man. It takes longer for the ball to arrive home if the outfielder throws it all the way. Better to throw to an infielder who will relay it to the catcher.

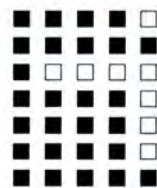


Change a player's defensive position via the EXCHANGE POSITIONS option on your team's menu. As in real baseball, batting order is unaffected by such a move.

HARDBALL

Overall Rating

Follows Mac Interface
On-screen Help
Printed Documentation
Performance
Support
Consumer Value



Comments: Easy to play baseball simulation that will have you blowing on your fingers to get a better grip on the mouse. **Best Feature:** Highly addictive — baseball lovers beware! **Worst Feature:** Every version tested bombed when the visiting team scored in extra innings. **List Price:** \$44.95. Published by Accolade, 20833 Stevens Creek Blvd., Cupertino, CA 95014, (408) 446-5757. Copy protected.



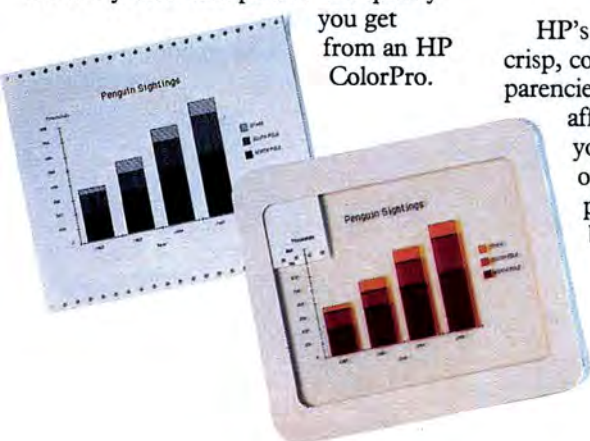
You, too, can stand out in a crowd!

Get noticed, applauded — maybe even promoted — when you break away from boring black and white and start using quality, multicolor graphics for your presentations. Team your Mac with Plotstart software and a Hewlett-Packard ColorPro plotter for colorful, professional-quality overhead transparencies. It's quick, easy, and some people even say it's fun!

Your graphics represent you.

The image you project onto that larger-than-life screen makes an instant first impression. Improvised overheads imply a quick and dirty job. Black and white printer-produced overheads lack the lively color and precise line quality

you get
from an HP
ColorPro.



Plotstart makes it easy!

Now you can print and plot from your favorite applications software — Apple's MacDraw, Microsoft's Chart or Excel, Lotus' Jazz. Plotstart actually adds a new plotter driver to your software so you can plot directly onto an HP ColorPro. Plotstart automatically defines pen colors and fill patterns based on your graphics. Or when you're feeling creative, you can custom-tailor your graphics.

Hewlett-Packard's ColorPro makes you look good!

HP's ColorPro plotter provides the crisp, colorful, quality overhead transparencies you need — at a price you can afford! Ten vibrant pen colors let you create exciting, impressive overheads in minutes. Truly a professional presentation you'll be proud of!

Free help from your friends...

See the difference! Fill in the coupon below for your free MacPacket, including a colorful sample overhead. With Plotstart utility software, an HP ColorPro plotter, and your Mac, it's easy to make professional-quality overheads.

You, too, can stand out in a crowd!

Solve it with
SoftStyle®
Solutions

YES! Send my FREE MacPacket with sample charts today!

Please print.

Name

Address

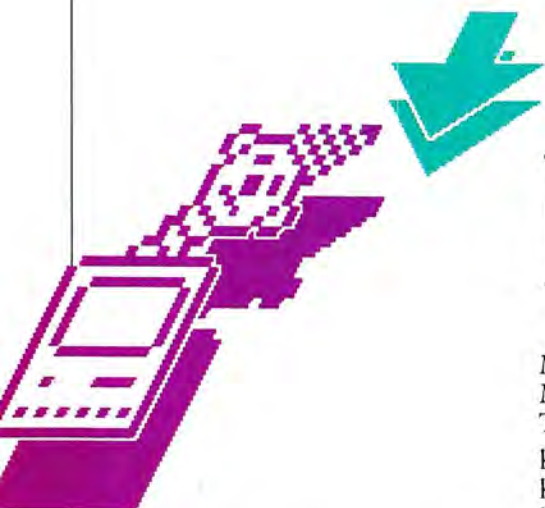
City State Zip

My interest is: presentations ☐ engineering ☐ design ☐

Mail to:
SoftStyle, Inc.
7192 Kalanianaʻole Highway
Suite 205
Honolulu, Hawaii 96825

MU287





DRESSING YOUR

**Tired of the same old
screens and icons
staring you in the face
day after day? Maybe
it's time for a change.**

YOUR MOST FAMILIAR SCENE AS A Macintosh owner is "Welcome to Macintosh" staring you in the face. The Welcome window soon disappears, leaving you with that plain 50 percent gray desktop. In the upper right corner are one or two plain disk icons with Geneva 9 point titles beneath them.

Everything is plain, plain, plain. But it doesn't have to be that way.

You can customize the Welcome message or you can replace it with a *MacPaint* picture of your choice. And, if you choose, that picture can remain on the desktop, replacing the gray one. The disk icons can be personalized. You can even have your Mac speak to you as it boots up.

Mine says "Hi!" in a breathy Marilyn Monroe voice as Marilyn sprawls across the screen. When MacWidow (or MacWidower, you know — the one who won't let you buy a hard disk or a 2-meg upgrade) is watching, I can boot up with an innocent mountain lake scene. Marilyn still says "Hi!"

If you are afraid of using tools like *Fedit* and *Resource Editor (ResEdit)*, don't worry. Each simple step will be carefully explained.

CHANGING THE WELCOME MESSAGE

Let's start with the Welcome message. To change it, prepare a copy of the System disk you want to operate on. (As long as you are using a copy of everything, you can be as fearless as you like.) Call it Target Disk. Place a copy of *Fedit* 3.1 (a shareware version), *Fedit Plus* or any other tool that lets you edit the

Macintosh ASCII characters. Since *Fedit* 3.1 is widely available, we'll use it in our example.

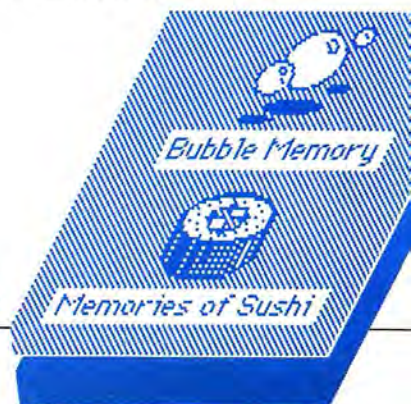
Sit down with paper and pencil and write W-e-l-c-o-m-e- -t-o- -M-a-c-i-n-t-o-s-h-. down the left side of a sheet of paper. Don't forget the spaces and the period. Now make up a start-up message no longer than those 21 characters (including spaces). If yours is shorter, fill in with spaces. But 22 characters or more will not fit. Example: "This is Phil's disk!!" That is 21 characters. But "Hands off my Macintosh" is 22 characters — one too many.

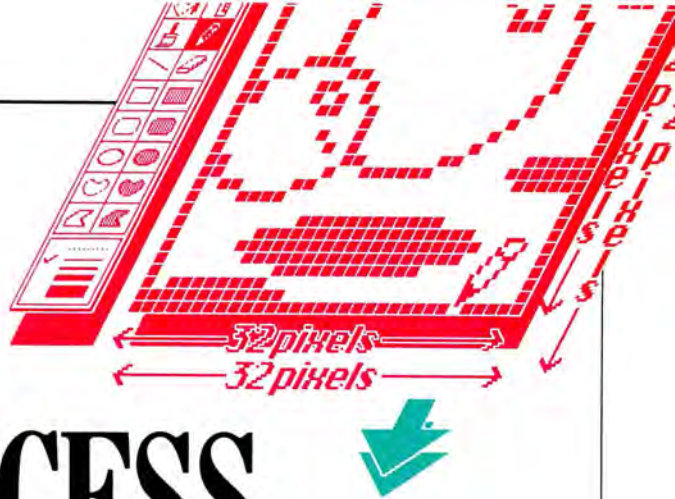
Now boot up Target Disk. Double click on *Fedit*. Choose OPEN VOLUME under the File menu. Select TARGET DISK in the dialog box and open it. Now go to the Display menu and see if it says Display in Hex. If it does, you are looking at ASCII. If you are displaying in Hex, you will see the menu choice, DISPLAY IN ASCII. If you see this, choose it to see ASCII on the screen. You must be looking at ASCII.

Now go to the Option menu and select ASCII SEARCH. Type in "Welcome to Macintosh." Click on FIND STRING. *Fedit* will take some time and then display the Welcome message with a small black bar under the W.

Look under the Edit menu and select ASCII MODIFY. The cursor will

BY PHILIP C. RUSSELL





MAC FOR SUCCESS

still be blinking under the W. Now carefully type in your 21 characters and spaces. If you make a mistake, there is always an Undo command in the Edit menu.

If you think you can cheat and put in a couple of extra characters where the two following zeros are, wrong! Those are not zeros. They are special characters. Unless you want to get into a discussion of hex characters, just take my word for it. Twenty-one characters. No more, no less. If you have less, add some spaces or exclamation points, but use all 21 exactly.

Now we have modified the ASCII code, but we have not saved it, so go to the Edit menu and select WRITE SECTOR. You will be asked if you really mean it. If you do, click on YES.

Now select QUIT and go back to the desktop. Shutdown. Push the disk back in and there it is! Your customized message in glorious black and white.

As always, there's another way, without using *Fedit*, or messing with ASCII code. Go into *MacPaint* and create a dialog box. Use a one-pixel-wide line for the outside line, two pixels of space, then a two-pixel-wide line for the inside line. Type in your message in Chicago 12 (you don't have to use Chicago if you don't want to). One of mine is in authentic Chicago 12 point saying "Erase Startup Disk?" with a single button which says "Yes." It has terrified a lot of my victims. Now provide a realistic 50 percent gray background large enough to cover more than a Mac-screenful.

Save this *MacPaint* picture. If you use this method, there is no restriction on message length, and you can add any art you like. When you have

saved this dialog box as a *MacPaint* document, hold onto it. We are going to tell you how to install it in a minute.

FULL SCREEN STARTUPSCREEN

Lets get used to that word, Start-UpScreen. Notice how there are three capital letters and no spaces? That's what your Macintosh looks for to see if you want a special Start-UpScreen to replace the "Welcome to Macintosh" message. It won't find Start Up Screen, or Start-UpScreen Number 54. Just Start-UpScreen. The secret is to name any Start-UpScreen you want activated Start-UpScreen and add some other characters to the names of any others you have hanging around.

How do you get your own startup screen to actually appear? First find appropriate *MacPaint* material. To do the job it must be 512 x 342 pixels. If you have Bill Atkinson's old public domain *ScreenMaker*, it includes a *MacPaint* template exactly the right size. You just place your artwork within a Save As copy of the template (you weren't going to ruin the template by working on it, were you?). Be sure to fill the entire template for a neat Start-UpScreen.

There's always an easier way. If you have a piece of art which is at least as large as 512 x 342 pixels, you can use the shareware utility *ViewPaint* (\$5.00). It can be found in most MUG software collections and on most bulletin boards. It has built in instructions which you can read on screen.

If you double click *ViewPaint*, you will get a choice of reading the instructions or going right to work. Let's go to work. A dialog box will appear. Select the picture of your

choice. If it does not fill the screen, press the space bar once, and it will. If you click the cursor in the middle of the screen, the dialog box appears. However, click the cursor near the screen edges and the picture will scroll.

When you see exactly what you want for your Start-UpScreen in the window, press the letter S. *ViewPaint* now asks you what you want to name your Start-UpScreen. Humor me and call it something like My Screen (anything but Start-UpScreen). Be sure you can identify it later.

Click in the middle of the picture and exit *ViewPaint*. Now you have a folded corner document on the desktop called My Screen. This is how you store Start-UpScreens until you are ready to use them.

Since we are ready, highlight My Screen, slide the cursor down over the name and rename it Start-UpScreen. Drag it into the System Folder. Shutdown. Push the disk back in, and you will see your personalized *MacPaint* Start-UpScreen.

PERMANENCE

Like the Welcome to Macintosh message, it will disappear in a few moments. Awww, too bad! It was so beautiful. Why not let it stay around? Not to worry, that comes next.

But don't forget our secret. You can store dozens of Start-UpScreens with distinctive names and choose the one to use by renaming it Start-UpScreen. Don't forget to rename the old one you are removing with a distinctive name first.

If you would like your Start-UpScreen to stay on the desktop, replacing the gray one, that can be

DRESSING YOUR MAC FOR SUCCESS

Search String **Welcome to Macintosh!**



Finding the Welcome message...
Finding the Welcome message...

.....+...4.....5.....
2...1...Welcome to Macintosh...4.2.1...
sk is not usable...5...*.MacBug i
20 Startup...7.....V.8.y.X
...this is how it looks in ASCII before...
...this is how it looks in ASCII before...

.....+...4.....5.....
2...1...Oh no not again John...4.2.1...
sk is not usable...5...*.MacBug i
20 Startup...7.....V.8.y.X
...and after.
...and after.

1 Use *Fedit*'s search capacity to find the message that's to be changed.

2 This is exactly what the screen looks like when ASCII display is selected.

3 Replace the message with your own. Remember that you are limited to 21 characters.

If you use *MacPaint* to design your welcome message, there is no restriction on message length and you can add any art you like.

with *ResEdit* and Cut or Clear the *StartupDesk* INIT. That takes your Mac back to normal.

If you are not using a *StartupScreen*, you can still change the gray pattern by using the bottom panel of patterns on the *MacPaint* screen. Select *CONTROL PANEL* from the Apple menu. Click in the top bar of the small desktop there until you see a pattern you like. Now click in the center of the small desktop and the pattern is changed. You can do this as often as you like. Or, create your own pattern in *MacPaint*. Leave a swatch of it at the far right of the *MacPaint* screen. Double click on an unused pattern. An editing panel appears. Click on your swatch to change the old pattern to your swatch design. Now go to the *Control Panel* and this pattern will be available to you for a desktop pattern change.

A final option is to actually design your own pattern in the small desktop work area. It's just like working in *FatBits*.

WAYS OF MAKING IT TALK

Not only can your Mac have a distinctive *StartupScreen*, but it can also talk to you. The "Hi" resource that I use is a common one. You need the public domain *SoundInit* program. The "Hi" sound is incorporated in it. Double clicking on *SoundInit* installs the "Hi" into your System (and removes it when you are tired of it). To hear it though, you must have a copy of *MacInTalk* in your System folder. Reboot and your Mac says "Hi" as the *Startup-*

done, too. For this, there are (naturally) two methods.

One way is to use *DeskScene*, a commercial utility by PBI Software. If you already have a *StartupScreen* which you wish to use for this purpose, *ViewPaint* and *DeskScene* can do it for you. Open *ViewPaint*, and this time select the *StartupScreen* you want to use (it can have any name, just so it is a *StartupScreen* document). When it appears on screen (notice you can't scroll a *StartupScreen* in *ViewPaint*), click the letter S and a *MacPaint* document is created.

Exit *ViewPaint* and click *DeskScene*, choose the *MacPaint* document you made from the *StartupScreen* document. *DeskScene* will ask if you wish to have it as your desk scene. Click on YES. Shutdown and slide the disk in again. Your scene will now stay on the desktop.

DeskScene only takes the upper left section of the *MacPaint* picture, so it is not good at selecting a specific part of a large *MacPaint* document for use as a desk scene.

If you want to use a very specific portion of a very specific *MacPaint* document, use the INIT resource called *StartupDesk*. It is public do-

main and is floating around many MUGs and bulletin boards. It appears on the desktop as a folded corner document.

To use *StartupDesk*, open *ResEdit* by double clicking on it. Find *StartupDesk*. Open it. Open INIT and you will see it's INIT listing. Click on it to highlight it.

Go to the Edit menu and COPY. Now click windows until you find the Target Disk's System folder. Open it. Open the System. Open INIT and you will see a list of INITs.

Now simply select PASTE. The *StartupDesk* INIT will be added to the list. Exit, saying YES when asked if you wish to save the System.

When you reboot, whatever *StartupScreen* you have in the System folder will be permanently displayed as your desktop. To change it, swap *StartupScreens*, as described above.

Removing the custom *StartupScreen* from your System folder will cause the Macintosh to revert to the "Welcome to Macintosh" message. Since this isn't your best permanent desktop design, you may want to create a *StartupScreen* of 50 percent gray, for a more buttoned down look. Or you can go into the System

What if this happens to you?



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

Restart

Resume

ID = 2

DiskEnsure™ will let you survive it and give you "peace of mind"

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

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

Of course, DiskEnsure can restore backup files to the hard disk. It can completely restore the hard disk or only specific folders and files. And to further guard against loss, DiskEnsure can rejuvenate your hard disk.

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

\$39.95

plus \$3 s/h add \$2 for COD. Texas add 6 1/4 %.
Sorry, no P.O.s can be accepted for DiskEnsure

Keep your drives at peak performance with DiskExpress™

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

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

Bonus Features: Finds media and directory errors, recovers missing blocks, compacts the desktop file, and secures deleted data.

\$39.95

plus \$3 s/h add \$2 for COD. Texas add 6 1/4 %.
Sorry, no P.O.s can be accepted for DiskExpress

ProLink™ copies text files to and from Apple // 3.5" ProDOS disks

Want to use your AppleWorks and other Apple // files on your Macintosh or Macintosh files on your Apple // ? With ProLink you simply insert a 3.5" ProDOS disk directly into a Macintosh 800K disk drive and select the files you want copied to or from any directory on the ProDOS disk.

- Use data from AppleWorks, PFS, MacWrite, Word, Excel, Microsoft Works and others on either your Apple // or Macintosh.
- Supports any Macintosh floppy or hard disk in either MFS or HFS formats.
- Supports 3.5" ProDOS 8 and ProDOS 16 disks from the Apple //e, //c, and //GS.
- No need for complicated transfers using communications programs, protocols, cables, etc.

Requires a Macintosh 512, 512E, or Plus with internal or external Apple 800K disk drive.

\$39.95

plus \$3 s/h add \$2 for COD. Texas add 6 1/4 %.
Sorry, no P.O.s can be accepted for ProLink



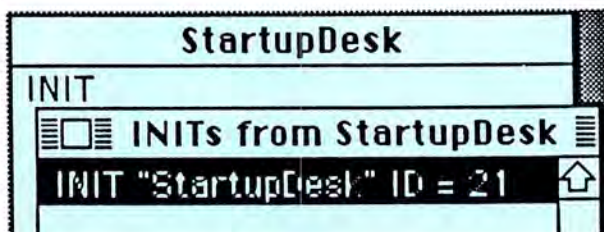
ALSoft, Inc.

(713) 353-4090 P.O. Box 927, Spring, Tx 77383-0927

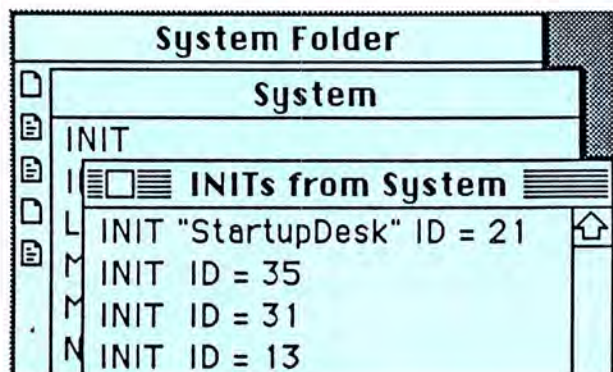
Please circle 240 on reader service card.

Dealer Inquiries Invited

DRESSING YOUR MAC FOR SUCCESS



Once in *ResEdit*, open the Startup Desk file. Highlight the INIT shown and copy it to the Clipboard.



Now open the *System* file on the target disk. Open (by double clicking) the INIT resources. PASTE, SAVE, and QUIT. That's it!

Screen appears. Another public domain utility, *BeepInit* replaces the "beep" sound with a human voice saying "beep."

The voice in these sound utilities is digitized and very human. It is unlike the voice produced by programs like *SmoothTalker* and Apple's speech utilities. Other installers for different pieces of speech and music will undoubtedly appear before this appears in print. I have heard of, but not seen, one that plays a bit of "Money for Nothin'" as played by Mark Knofler and Dire Straits.

CHANGING THE DISK ICON

The final step to personalize your desktop is to have your own System disk icon. Each System disk can have its own. Each data disk can have its own. The disk icon of the *System* in control of your Mac controls the other disk icons unless you have given them their own distinctive icons.

There are lots of ways to personalize disk icons. Here's one easy way.

On a System disk with *MacPaint* and the public domain desk accessory *IconMaker*, create an icon 32 pixels by 32 pixels in size. This is where *FullPaint* comes in handy, because it

lets you see all 32 vertical pixels at one time. *MacPaint* only lets you see 30, so the top and bottom borders are not visible. But this is no big deal. Use either one.

Go into *FatBits* and draw a 32 x 32 pixel box. Now create your icon within this space. You can Copy and Paste artwork into this box if it is the right size. Otherwise, create your own using *FatBits*.

When you are satisfied, select *IconMaker* from the Apple menu. A square will appear. This square is 34 x 34 pixels, so when you center it over your 32 x 32 pixel picture, it will exactly fit. Fit it over your picture and click the mouse. A dialog box will appear.

Since we are making a new icon, Choose NEW. Name your icon distinctively. Let's call this one My Mac Icon. Go back to the desktop and there is your icon in a folded corner plain document.

Now place *ResEdit* and My Mac Icon on your Target Disk. If it all won't fit, work with *ResEdit* in the other drive (or do a lot of disk swapping). Double click *ResEdit*. Find My Mac Icon and double click it. You will see ICN#s from My Mac Icon.

One of my startup screens says, "Erase Startup Disk?" with one button which says "Yes." It has terrified a lot of my victims.

Click once on the picture of your icon. It will be surrounded by a box. Go to the File menu and GET INFO. Find the ID: box, remove whatever number's there and replace it with 129.

That's all. Just change the ID number to 129. You may want to check this later, because 129 is the secret number that lets an icon replace the generic blank disk icon you usually see. An icon with the number 129 within a disk's desktop file will be sought out by the Macintosh system and used when it is found there.

Next, double click on the small picture of your icon. This gives you the editing window. Grab the title bar and pull the window up where you can see it all, including the six small icon pictures at the bottom of the screen.

To get the mask made, go to the menu bar and select ICN>MASK. The right hand side of the editing screen will fill in with pixels. Now play with the pixels in either screen until you are satisfied with at least the first two left hand small icon pictures. It takes a lot of patience and experience to make really complicated icons, like the clown that springs out of the box in the *ResEdit* icon. Just start out with a simple icon and a black mask for starters. You can get fancy later on — on your own time.

When you are satisfied, close the editing window. Keep on closing windows until you are asked if you want to save the icon. Say YES.

Now go back to the small picture

FIRST CLASS MAIL

It's here. It's called *intermail*. And it's the first truly first-class electronic mail software the Appletalk network has ever seen.

A large claim, admittedly. But not an idle one.

For one thing, *intermail* doesn't demand its own dedicated Mac. It runs totally in the background on a Mac you already have, while you work in the foreground on whatever you like.

Sending and receiving messages couldn't be easier. With *intermail's* desk accessory, a click of a button can send a message to anyone, everyone, any group you select—immediately, or at a specified future date and time. And of course you can transfer files along with your messages, even to remote locations.

Yes, I've waited long enough for electronic mail.

- ☐ Here's \$10—send me the *intermail* demo disk and more info.
- ☐ I could use *intermail* right now. Here's a check or money order for (check one)
- ☐ 1-4 users/\$299.95 ☐ 5-10 users/\$499.95
☐ 11-20 users/\$749.95 ☐ 21-250 users/\$949.95

Name _____

Company _____

Address _____

City _____

State _____

Zip _____

Phone _____

Mail to:

internet, 20 Amy Circle, Waban, MA 02168,
617-965-5239. Mass. residents add 5% sales tax.

Not copy protected; one copy required per network.

A demonstration version is available on the CompuServe and GENie networks.

intermail is secure—server configuration and mailboxes are all password protected. It's bulletproof, writing all messages to disk immediately. It fully supports internetworks, bridges and multiple zones.

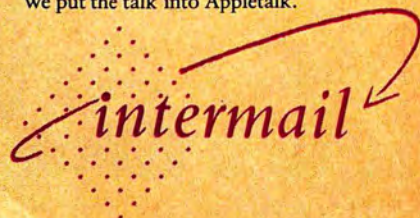
And the cost?

As much as 40%, 60%, even 95% less than our not-very-nearest competition.

intermail. From *internet*, the oldest Macintosh systems house around.

No wonder it's the only electronic mail system that delivers.

We put the talk into Appletalk.



See us at Macworld Exposition booth number 532.

internet and *intermail* are trademarks of Interactive Network Technologies, Inc. Macintosh is a trademark licensed to and AppleTalk is a trademark of Apple Computer, Inc.

Please circle 73 on reader service card

DRESSING YOUR MAC FOR SUCCESS



4 Start by launching *MacPaint*.

5 Enter *FatBits*. Draw a box 32 pixels long on each side. Now create your custom icon inside this box.

6 Now open the *IconMaker DA*. (You did install it with *Font/DA Mover*?) Choose **NEW** and save your icon.

7 Now open *ResEdit*.

8 Find your icon and open it. Double click the **ICN#** you find there. Select **GET INFO** from the **File** menu and change the ID number from whatever it is to 129. Close **GET INFO**. Create a mask in the editing window and save.

9 Paste your new icon in the target disk's Desktop file. Save that too.

10 Custom disk icons take just a few minutes of work. And you can have all you want.

Not only can your Mac have a distinctive *Startup screen*, but it can also talk to you.

of your icon. Click once on it to surround it with a square. Go to the **Edit** menu and **COPY**.

Don't leave *ResEdit* yet! The icon is not installed. Find **Target Disk**. Double click on **Desktop**. Double click on **ICN#** in this window. Your icon won't be in this window until you **PASTE**. Do it now. The result will be that your icon is added to any others in the window. Close this window, and keep closing until you are asked if you want to **Save the Desktop**. Say **YES**.

Now go to the **File** menu and **QUIT**. Back on the desktop, your new icon now appears. Notice that you can have a different personalized icon for each disk. For example, look at the **Tool Disk** icon in this example. This proves that system disks let you have a personalized icon on a target disk. If the target disk is "in charge" its icon will control, unless the "other" disk has its own icon.

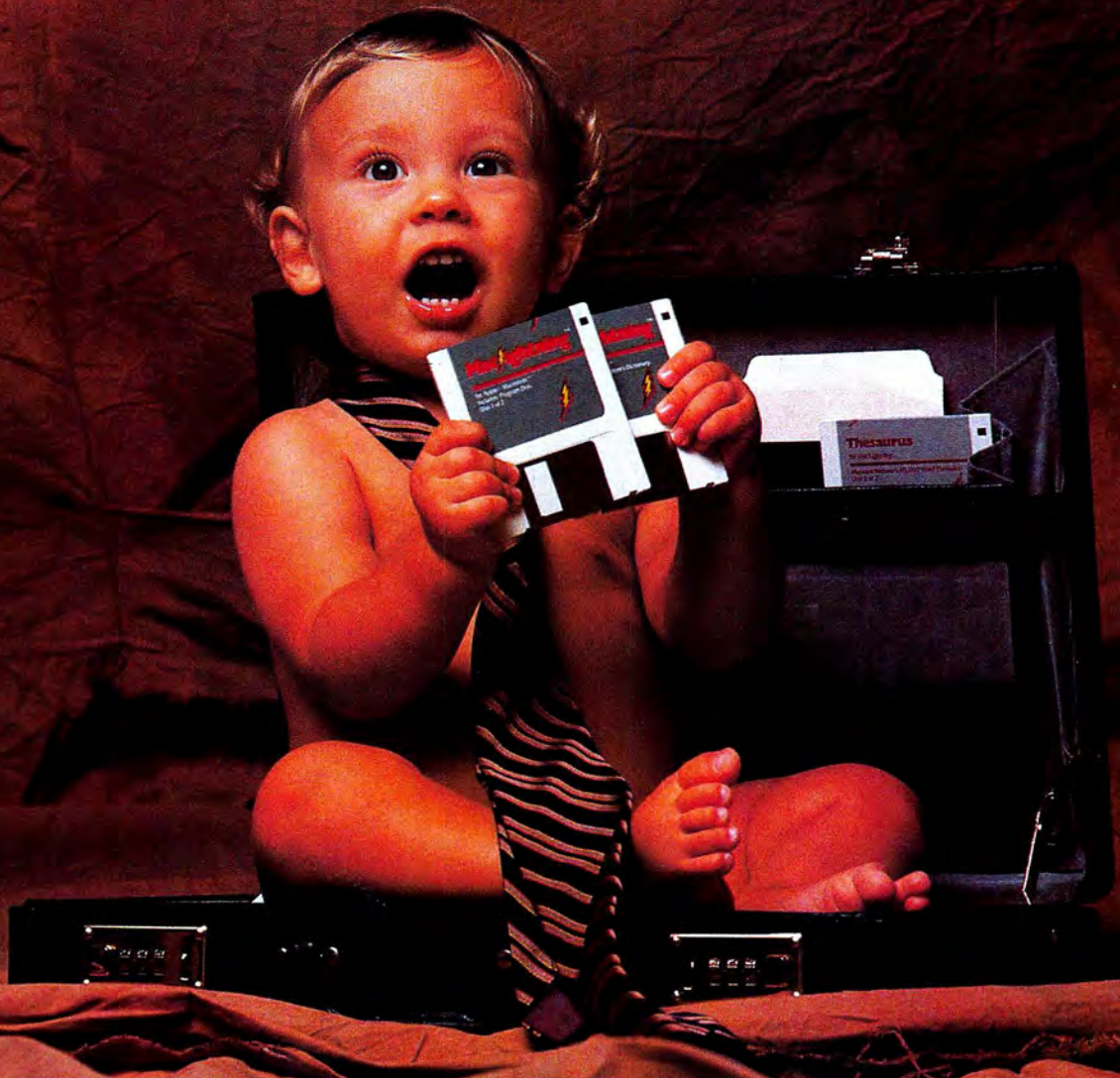
This is really only a starter. The combinations of *StartUpScreens*, digitized *StartUpSounds*, permanent custom desktops and custom disk icons is limitless. The various customized *systems* can be used just for fun, to surprise a MacFriend, or to identify business applications at a glance.

All you need to customize your Mac is a copy of your system disk and a few widely available public domain and shareware tools. It doesn't take a programmer to dress your Mac for success. ☺

PHILIP C. RUSSELL IS A RETIRED NAVY PUBLIC AFFAIRS OFFICER AND EDITOR OF *MOUSEDROPPINGS*, THE NEWSLETTER OF *MUG OF CORVALIS, OR*.

This is the Only Aspiring Young Professional We Could Find That Had a Legitimate Excuse for Not Using MacLightning.

To those of you who have made MacLightning™ the nation's best-selling spell checker in just six short months, we say *thanks!*



To those of you who, for one reason or another, have not yet joined the ranks of our satisfied users we introduce **MacLightning version 2.0**. Now there can be no excuse!

When MacLightning made its debut early this year it was the **only** "interactive" spelling checker for the Macintosh. Thanks to Merriam Webster's Ninth New Collegiate Dictionary, a 45,000-word Thesaurus and a long list of upgrades, **it still is**.

Operating in either the interactive or non-interactive mode, MacLightning spell checks your work at a blazing 75 + words per second.

This puts it light years ahead of the competition.

Also available from Target Software are

extensive dictionaries covering medicine, law and a host of other technical fields.

So if you'd like more information, or the name of a dealer near you, call Target Software toll-free. You'll never go wrong again.

MacLightning Version 2.0 – \$99.95

Merriam Webster Thesaurus – \$49.95

Merriam Webster Medical Dictionary – \$99.95

Merriam Webster Legal Dictionary – \$99.95

Target Software

National: 1-800-MAC-LITE (800-622-5483)

In Fla. (305) 252-0892

Target Software Inc. 14206 Southwest 136th Street, Miami, Florida 33186

The Saving ONE

Accessories

AMERICAN COVERS	
MOUSE MAT BLUE,RED,GRAY	7.00
C- ENTERPRISES	
Custom Made Cables	11.00-22.00
CAMBRIDGE AUTOMATION	
MAC PORT ADAPTER	62.90
MAC TURBO TOLC	86.75
MACMERIC TURBO	118.50
CURTIS	
Surge Suppers	7.50-51.25
DISC	
MAGEWRITER RIBBONS	4.50
LP WRITE	
PRINTER STAND 12X1	26.50
PRINTER STAND 12X24	38.00
ENVIRONMENTAL SOFT CO	
Covers to fit anything	7.00-20.00
ERGOTRON	
MACHIT	64.00
HONEYWELL	
QUADLYNX TRACKBALL	129.00
INNOVATIVE TEC	
DISC DIRECTORY	
HOLDS 32 DISKS	
WINE,GRAY,LIGHT, BLUE	
NAVY, BLUE, RED, TAN	EACH 9.00
THE EASEL HOLDS 20 DISKS	
BLACK,NAVY,BLUE,WINE,GRAY	
LIGHTBLUE,RED	EACH 13.00
KENSINGTON MICROWARE	
We carry all products	
CONTROL CENTER	65.00
System Saver	Call
KETTE GROUP	
MAC MITY AB SWITCH	24.00
ABCD SWITCH	40.00
JOYSTICK CONVERTER	39.75
MAC PACKS	
Colors in Wine,Blue,Gray	
Mac 512K Bag	55.00
Mac Plus Bag	60.00
Image Writer I&II Bags	45.00
MAGNA	
MACSTATION II	75.00
MAGNUM	
MOUSE MOVER	13.50
RING KING	
.050 TRAY HOLDS	
50 DISKS WITH KEY LOCK	26.00
SAVING ZONE	
6 OUTLET SURGE NOISE PROTECTOR	24.50
Smith & Bellows	
MAHOGANY CHEST HOLDS 96-DISKS	27.00
Basswood	19.00
Saving Zone	
The Snatch Box...	
Electronically Protects Your	
Mac from Thieves	59.00
SONY	
DOUBLE SIDED DISKS BOX OF 10	26.00
SINGLE SIDED DISKS BOX OF 10	16.50
C.ITOH	
BOX OF TEN	
SINGLE SIDED	14.75
DOUBLE SIDED	19.75
SINGLE SIDED 10 COLORS	21.00
DOUBLE SIDED 10 COLORS	28.00
BLK DISKS IN QUANTITY OF 50	
SINGLE SIDED 1.25 PER DISK	
DOUBLE SIDED 1.50 PER DISK	
RAINBOW DISKS	
SINGLE SIDED 10 colors	21.00
DOUBLE SIDED 10 colors	28.00
Business	
ADVANCED LOGIC SYSTEMS	
NEW HANDLER	68.75
NIGHTY MAC	55.00
WORD HANDLER	55.00
BLYTHE SOFTWARE..	
OMNIS 3+	297.00
MULTI USER OMNIS 3+FOR ALL	
NET WORKING SYSTEMS	CALL
BORLAND	
REFLEX	69.00
TURBO PASCAL	60.00
BRAIN POWER	
STATVIEW 512+	210.20
DESIGN SCOPE	129.00
THINKFAST	23.50
BRAVO	

MACCASC	59.97
BUTTON DOWN SOFTWARE	
PROFIT TALKER II	150.10
COMPSERVO	
MACCAD Over 10 Layouts to use	
With Mac Draw or Mac Draft	Call
STARTER KIT	22.75
CREIGHTON DEVELOPMENT	
MAC SPELL +	55.00
CRICKET SOFTWARE	
CRICKET GRAPH	124.00
STAT WORKS	77.00
DATA VIZ	
MAC LINK	75.25
MAC LINK W CABLE	88.25
DATAPAK	
EXECUTIVE OFFICE	238.75
DIGITAL ETC SOFTWARE PRODUCTS	
TURBO MACCOUTANT	315.25
MACCOUTANT 2.0	90.25
DILITHIUM PRESS	
PC TO MAC & BACK	97.25
DOW JONES & COMPANY	
MARKET MANAGER PLUS	135.75
SPREADSHEET LINK	67.75
STRAIGHT TALK	65.80
DREAMS OF PHOENIX	
DAY KEEPER CALENDAR	27.50
MOUSE EXCHANGE BBS.TERMINAL	27.50
ELECTRONIC ARTS	
FINANCIAL CKBK	32.40
FORETHOUGHT	
FACTFINDER	85.25
FILEMAKER	112.00
FILEMAKER PLUS	195.00
TYPING INTRIGUE	34.25
FORMAT	
DMAC III	380.00
FUTURE DESIGN SOFTWARE	
STRICTLY BUSINESS	249.75
GREEN JOHNSON INC	
SPELLSWELL	42.50
HAYES ..	
SMARTCOM II	86.00
INFOSPHERE	
MAC SERVE	225.00
LEGISOFT/NOLO PRESS	
WILL WRITER	28.00
LIVING VIDEO ..	
..THINK TANK 512	140.87
MAINSTAY	
TYPEXOW	27.00
MICROSOFT	
CHART	71.25
EXCEL	224.50
LEARNING M CHART	34.47
LOGO MACINTOSH	71.25
MAC ENHANCER	142.50
WORD...FILE...MULTIPLAN	111.00
WORD V.3.0 WITH BUILT IN	
SPELLING CHECKER	CALL
WORKS	194.00
MONOGRAM	
DOLLARS & SENSE	86.22
FORECAST	40.20
ODESTA	
DOUBLE HELIX	283.00
OPEN SYSTEMS	
OPEN FOR BUSINESS II	495.00
OWL	
GUIDE	68.00
PERIPHERALS, SUPPLIES, & C	
VERSA TERM	85.00
PERSONAL BIBLIOGRAPHIC	
PRO. BIBLIOGRAPHIC SYT	209.00
PROVEE	
OVERVIEW	169.75
SIERRA ON-LINE	
MAC ONE WRITE	140.87
SIMON & SCHUSTER	
TYPING TUTOR III	34.47
SOFTVIEW	
MACINTAX FEDERAL	43.12

BUSINESS SUPPLEMENT	17.25
STATE SUPPLEMENTS	17.25
SOFTWARE VENTURES	
MICROPHONE	61.00
STATSOFT	
DATAFAST	49.00
STONEWARE	
D B MASTER	112.12
TARGET SOFTWARE	
MAC LIGHTING 2.0	57.00
THESAURUS	33.00
LEGAL OR MEDICAL DICTIONARY	57.00
TELOS	
BUSINESS FILEVISION	227.00
FILEVISION	112.25
T MAKER	
CLICK ON WORK SHEET	45.90

Creative Education

ALTSYS	
FONTASTIC	30.10
FOVTTOPHAPER	237.20
ELECTRONIC ARTS	
CUSTOM CALC CONSTRUCTION SET	32.40
ESOFIT ENTERPRISES	
CHRISTMAS CARD CONST SET	18.25
FIRST BYTE..	
SMOOTH TALKER	56.75
SPELLER BEE	45.50
HAYDEN	
SAT. COMPLETE	57.47
TURBO TURTLE	28.72
MINDSCAPE	
S.A.T.	47.00

Childrens

DAVIDSON & ASSOC.	
SPEED READER II	40.22
MATH BLASTER	28.50
FIRST BYTE	
KID TALK	45.75
GREAT WAVE SOFTWARE	
KIDS TIME	30.00
SIMON & SCHUSTER	
GREAT INTL PAPER AIRPLANE	22.97
TIMWORKS	
EVELYN WOOD DYNAMIC READER	40.22
UNICORN SOFTWARE, KIDS EDUCATIONAL	
FUTURA .A..UTOPIA.each	25.00
MAC ROBOTS. & ANIMAL KINGDOM	27.00
FRACTION ACTION & MATH WIZARD	27.00
DECIMAL DUNGEON	27.00
READ A RAMA	35.00

Games

WE CARRY THE LATEST
AND BEST GAMES BY

ARTWORX	
BRIDGE 4.0	22.00
MACSTRIP	22.97
BRODERBUND	
ANCIENT ART OF WAR	25.85
CYBORG	22.97
LODE RUNNER	22.97
BULLSEYE	
FERRARI G PX	35.00
FOKKER TRIPLANE	35.00
EPYX TEMPLE OF APSHAL	
TRILOGY	23.00
WINTER GAMES	23.00
INFINITY	
GRAND SLAM TENNIS	28.00
INFOCOM	
ALL GAMES	CALL
MICROSOFT	
FLIGHT SIMULATOR	32.00
MILES COMPUTING	
DOWN HILL RACER	28.75
HARRIER	
STRIKE MISSION	28.72
MAC ATTACK	28.17
MAC WORKS	28.75
MINDSCAPE	
A VIEW TO A KILL	23.00
BALANCE OF POWER	31.00
BRATACUS	28.00
DEJA VU	31.60

DICK FRANCIS	
HIGH STAKES	23.50
FORBIDEX	
CASTLE	23.50
INDY JONES REVENGE OF ANCIENTS	23.50
JAMES BOND GOLDFINGER	23.50
RACER	25.85
RAMBO FIST BLOOD 2	23.50
THE MIST	23.50
THE LUSCHER PROFILE	23.50
UNINVITED	31.75
VOODOO ISLAND	23.50

PBI SOFTWARE	
STRATEGIC CONQUEST	
MULT USER VERSION	39.00
POLARWARE	
CRIMSON CROWN	23.00
PRACTICAL COMPUTER APPLICATION	
MAC GOLF	36.00
QWARE	
ORBQUEST	32.00
SCARBOROUGH	
MAKE MILLIONS	28.72
MASTERTYPE	28.72
RUN FOR MONEY	28.72
SILICON BEACH SOFTWARE	
AIRBORN	20.10
DARK CASTLE	30.00
WORLD BUILDER	48.00
SIMON & SCHUSTER	
GREAT INTL AIRPLANE	22.97
STARTREK KOBAYASHI ALT.	28.95

SIR TECH	
WIZARDRY	34.47
SPECTRUM HOLOBYTE	
GATO	26.00
FALCOV	CALL
ORBITER	26.00
TELLSTAR	26.00
TELLSTAR II	54.95
STRATEGIC GEMSTONE	
WARRIOR	20.10
STRIDER SOFTWARE	
POSTER MAKER	29.00
POSTER MAKER TEMPLATE 1	16.00
POSTER MAKER TEMPLATE 2	16.50
THE SAVING ZONE	
TOOL KIT TO OPEN MAC	29.00
X-10 POWERHOUSE	
COMPUTER INTERFACE W/ SOFTWARE	
& CABLE RS-232	54.36

HANDS ON TRAINING SEMINAR

Training Resources United -- CALL

Graphics & Design

ANN ARBOR SOFTWARES	
FULL PAINT	60.00
CASADY	
FLUENT FONTS	30.25
VOL 1 BODONI	42.30
VOL 2 SANSERIF	42.30
VOL 3 RITZARIGHT BANK	42.30
VOL 4 MONTEREY	42.30
VOL 5 CALLIGRAPHY & REGENCY	42.30
CENTURY LASER FONTS-	
10 PACK	140.00
4 PAK W:Sc:T	57.25
SYMBOLS, CONGO, CUMBERLAND, DEVOLL.	
MAINSTEE. MICROFONTS, XEOSH.	
SHADOW EFFECTS, SPOKANE, STYX.	
THAMES	
TRENT. WILLAMETTE. TECHNICAL &	
BUSINESS FONTS	EACH 18.25
COMPU CRAFT	
FULL LIBRARY	98.00
COMPU CRAFT	
INDIVIDUAL DISKS	21.00
DREAMS OF THE PHOENIX	
3D	27.50
DRUID	
CLASSIC FONTS	24.50
ENABLING TECHNOLOGIES	
EASY 3D	56.50
COMPUTER SHOPPE	
MAC PLOT 2	250.00
CRICKET SOFTWARE	

CRICKET DRAW	177.00
DOUBLE CLICK SOFTWARE	
WORLD CLASS FONTS VOL 1	23.00
WORLD CLASS FONTS VOL 2	23.00
GTCO	
CURSOR STYLIST	89.00
DIGITIZER	367.00
HAYDEN	
ART GRABBER BODY SHOP	28.72
INNOVATIVE DATA DESIGN	
PASTE EASE VOL 2	30.00
JAM SOFTWARE	
PROFONTS	18.25
KOALA	
MAC .K.A.T.	135.67
MAC VISION	171.92
MAGNUM SOFTWARE	
MCPIK	28.72
MCPIK VOLUME 2	28.72
SLIDE SHOW MAGICIAN	34.47
MANHATTAN GRAPHICS	
READY SET GO V.2.0	98.50
READY SET GO V.3.0 CALL	
MILES COMPUTING	
MAC THE RIPPER	28.00
MINDSCAPE	
GRAPHIC & COMIC WORKS	49.00
NEW IMAGE TECHNOLOGY	
MAGIC VIDEO DIGITIZER	275.00
MAGIC VIDEO DIGITIZER CAMERA	185.50
POLARWARE GRAPHICS	
MAGICIAN	45.75
SILICON BEACH SOFTWARE	
ACCESSARY PACK #1	23.00
SILICON PRESS	46.0
SIMON & SCHUSTER	
MAC ART DEPT	22.97
SOFTSTYLE	
COLORMATE	54.75
T-MAKER	
CLICK ART	28.72
CLICK ART EFFECTS	28.72
CLICK ART LETTERS	28.72
CLICK ART PUBLICATIONS	28.72
WILLIAMS&MACIALS	
MY DISKABLER	34.50
MY DISKABLER BLACK WHITE	29.00

Hardware

BIZCOMP	
1200 BAUD MODEM	299.00
CAPETRONICS	
ADC 1200 MODEM STAND ALONE	220.00
CIE TERMINALS	
TRI PRINTER 40	1452.00
CORVUS DISK SERVERS	
MAC-CORVUS CABLE	40.00
OMNI CARD	259.00
OMNI DRIVE 11MEG	1550.00
OMNI DRIVE 126 MEG	6600.00
OMNI DRIVE 21 MEG	2300.00
OMNI DRIVE 45 MEG	3800.00
OMNI MULTI USER	
SOFTWARE	280.00
OMNINET CABLE 100 FT.	137.00
OMNI TAP BOX	30.00
CUZIN	
STRIP READER	175.00
EHMAX	
800K DRIVE WITH LED	260.00
THE MOST COMPACT EXTERNAL SCSI DRIVE AVAILABLE	
20MEG SCSI	830.00
40 MEG SCSI	CALL
60 MEG SCSI	CALL
ERGOTRON LASER WRITER BUFFERS	
MACBUFFER LW 2MEG	2399.00
MACBUFFER LW 1MEG	1950.00
HAYES	
SMART MODEM 1200	400.00
SMART MODEM 2400	575.00
TRANSIT 1000 5 12K MEMORY	410.00
TRANSIT 1000 MAC UTILITY KIT	29.00
IOmega	
BERNOULLI BOX 10MG SCSI	1765.00
BERNOULLI BOX 20MG SCSI	2345.00
BERNOULLI BOX 2-10MG SCSI	2475.00
BERNOULLI BOX 2-20MG SCSI	2650.00
BERNOULLI 10MG FILE SERVER	2455.00
LODO WA	
20MG SCSI	890.00



THE SAVING ZONE IS COMPLETELY NETWORKED ON THE MAC, & SPECIALIZES IN NETWORKING NEEDS FOR CORPORATIONS, & SMALL BUSINESSES.

SPECIALS

MORE.....	\$175.00
SUPERPAINT.....	\$ 60.00
DRESSING YOUR MAC FOR SUCCESS DESK SCENE..	\$ 23.00
ICON SWITCHER.....	\$ 15.25
HARD BALL.....	\$ 28.00
LIGHT SPEED PASCAL.....	CALL
MAC DRAFT.....	\$160.00
MACBOTTOM.....	\$869.00
AST 2000.....	\$2290.00
AST 4000.....	\$4865.00

40MG SCSI	1790.00
80MG SCSI	3490.00
TAPE BACKUP 20MG	790.00
TAPE BACKUP 50MG	1025.00

MICAH	
30 MEG. INTERNAL HD	1165.00
30 MEG. EXTERNAL HD	CALL
MICROGRAPHIC IMAGES	
MEGASCREEN VIDEO SYSTEM	2688.00

PCPC	
MAC BOTTOM 20 MEG 512K	900.00

RELAX TECHNOLOGIES,	
SCSI COMES WITH BUILT IN MASTER CONTROL SYSTEM	
HARD 20+ W MASTER CONT	825.00
HARD 30+ W MASTER CONT	1062.50
HARD 40+ W MASTER CONT	1312.50
HARD 60+ W MASTER CONT	1743.00
HARD 80+ W MASTER CONT	2243.75
HARD 120+ W MASTER CONT	3250.00
HARD 150+ W MASTER CONT	3988.00
MAC CONTROL	68.00
QUITE CONVECTION COOLING	
MAC MATE 20 MEG SCSI	795.00
MAC MATE 40 MEG SCSI	1025.00
MAC MATE 60 MEG SCSI	1275.00

SAVING ZONE	
FABULOUS 800K DRIVE	220.00

Languages

CONSULAR	
MAC C W TOOLKIT AND SMART LINKER	261.50
MICROSOFT	
FORTRAN COMPILER	182.00
BASIC	85.50
MAXX C AZTEC C 68K-C COMMERCIAL C AZTEC 68K-DEVELOPERS	425.00
250.00	
CAZTEC 68K-P PERSONAL	165.00
C.TREE DATA BASE9W SOURCE	330.00
LISA KIT	80.00
TML	
MINI EDIT SOURCE CODE DISK	17.00
DATA BASE TOOL KIT	62.50
PASCAL	69.00
SOURCE CODE LIBRARY	39.00
MAC EXPRESS	176.00
ZEDCOR INC	
Z BASIC	72.00

ORDERING INFORMATION

We accept VISA, MASTERCARD, and AMERICAN EXPRESS. For quickest service call us. If ordering by mail, send cashier's check, certified check or money order, or credit card number and expiration date for fast service. Except Fortune 500 and Governmental checks, allow two weeks for check to clear. WA. residents please add 8.1% sales tax.

OUR POLICY
Software: Due to Federal regulations, all sales are final. Defective software will be replaced with like item. Any other return will be subject to 20% restocking fee, against credit. All returns must have an authorization number. Call 206 883 1975.

Shipping Charges: Standard is UPS ground. \$3.00 minimum. COD, for US Corporations only add \$2.50. MAIL: Air, Insured. US Postal, APO, FPO add 3%, \$5.00 min. Alaska or Hawaii, add 6%, \$10.00 min. Canada, add 10%, \$15.00 min. Foreign: \$25.00 1 pound, plus \$15.00 each add. pound. All prices are subject to change without notice Ad published for your convenience only.



7102 180TH AVE. NE REDMOND, WA 98052

WE CARRY OVER 780 PRODUCTS FOR THE MAC

FOR ORDERS ONLY:

IN WA. STATE:

FOR INFORMATION OR ORDER STATUS

1-800-248-0800

1-800-243-4200

1-206-883-1975

MONDAY THRU FRIDAY, 6AM TO 8PM PST,

SATURDAY 9AM TO 3PM PST

THE SAVING ZONE BULLETIN BOARD: 2400, 1200, 300 baud modems. CALL 206 881 3421, 8PM to 6 P

LAYOUT WAS DONE IN READY SET GO

THE SAVING ZONE IS NOT ASSOCIATED WITH C.B.S.

Music

ELECTRONIC ARTS	
DELUXE MUSIC CONST SET	32.50
GREAT WAVE SOFTWARE	
CONCERT WARE +	39.95
CONCERT WARE + MIDI	79.75
CONCERT WARE + MIDI CABLE	47.75
MUSIC VOL 1-5 EACH	9.00
HAYDEN	
MUSIC WORKS	45.97
KETTE GROUP	
MAC NIFTY STEREO SYSTEM	70.00
MAC NIFTY AUDIO DIGITIZER	105.00
STUDIO SESSION	56.25
MARK OF THE UNICORN	
PROFESSIONAL COMPOSER	395.00
PROFESSIONAL PERFORMER	245.00
MINDSCAPE	
BANK STREET MUSIC WRITER	22.97
OPCODE	
512K INTERFACE	120.00
CASIO C2 EDITOR LIBRARIAN	120.00
DX TX T8B6 PATCH LIBRARIAN	95.00
YAMAHA DX TX EDITOR LIBRARIAN	190.00
MAC+ INTERFACE	175.00
SEQUENCER II	190.00

Utilities

AFFINITY	
TEMPO	78.00
ALSOFT	
DISK EXPRESS	28.25
BATTERIES INCLUDED	
MAC BATTERY PAK	28.72
BORLAND	
SIDKICK WITH PHONE LINK	36.80
CENTRAL POINT SOFTWARE	
COPY II MAC LATEST VERSION	23.00
DREAMS OF THE PHOENIX	
QUICK & DIRTY UTIL. VOL #1 OR #2	27.50
TWELVE -C FINANCIAL DISK ACCESS.	27.50
FWB SOFTWARE	
HARD DISK BACK UP	41.25
HARD DISK PARTITION	41.25
HARD DISK UTIL	66.50
HAYDEN	
M.L.D. MACROMIND UTILITY DISC	28.50
IMAGINE SOFTWARE	
SMART ALARMS	38.75
ICON COLLECTOR	18.25
MAINSTAY	
XCRIPTOR	27.75
MAC BOOSTER	34.50
MACASM	86.25
TELESCAPE	86.25
TURBO DOWN LOAD	27.00
MAC SPOOL	34.25
DISK RANGER	34.25
MICRO ANALYST	
MACZAP	41.50
NEVINS MICROSYSTEMS	
TURBO CHARGER 2.0	54.50
PARAGON COURSEWARE	
QUED	48.75
PBI SOFTWARE	
HARD DISK BACKUP	31.00
HIS LOCATOR	23.00
SOFT STYLE	
JET START	26.00
LASER START	54.75
EPSTART	26.00
PIOTSTART	72.00
PRINTWORKS	43.25



THE SPEED OF PASCAL

LightSpeed Pascal

offers programmers a
chance to escape the
earthly bounds of most
computers.

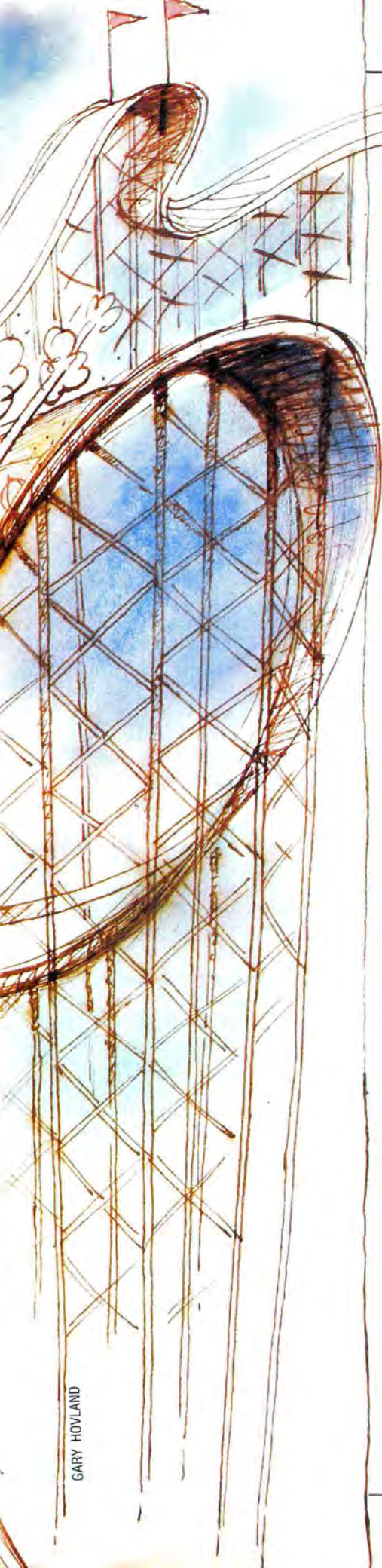
MACINTOSH PASCAL, THE PREDECESSOR of *LightSpeed Pascal* (both were written at Think Technologies), has been widely acknowledged as a tour-de-force for its superb high-level debugging facilities and rapid development cycle. But most serious programmers, while acknowledging *Macintosh Pascal's* great value for students and for prototyping, wouldn't touch an interpretive system for their serious work. All that development power, they say, is great, but the costs are too high: programs run too slowly, and you can't build standalone applications. Yep, if you want a standalone program that the 68000 can directly execute you've got to accept the time-honored (if not time-worn) edit, compile, link and test development cycle.

Then, last spring, Think Technologies came out with *LightSpeedC*. *LightSpeedC* is a C programming language development system that has some of the integration virtues of *Macintosh Pascal*, but it generates compiled (not interpreted) code, and it creates that code with jaw-dropping speed.

Now Think Technologies has introduced *LightSpeed Pascal*, which combines the development and debugging amenities of *Macintosh Pascal* with an extremely fast compiler.

BY STEVE BRECHER





LightSpeed Pascal (LSP) gives the programmer a cozy test bed in which to develop Pascal programs with an extremely rapid development cycle; yet it also builds those programs into machine language standalone ("double-clickable") applications — or desk accessories, FKEYs, etc. *LSP* isn't perfect, but we've come a long way, baby. Let's take a look.

THE PROJECT

LightSpeed Pascal manages your program as a *Project*. A project is a document that incorporates the names and locations of source files that you create using *LSP*'s built-in editor, or that you convert from text files created with another editor. The project also includes the object code created by the compiler and the settings of any options that you have chosen for the individual components or for the Project as a whole.

Each source module describes a separately compiled *unit*. The unit concept is an extension to the Pascal language; standard Pascal requires that the entire program be contained in one source module. The unit approach was introduced long ago in *UCSD Pascal*, and has since become a feature of all Pascal implementations for the Macintosh. Each unit consists of an interface part which declares constants, types, variables, procedures and functions which are "public" or usable by other units; and an implementation part which is "private" to the unit and which contains the code for the procedures and functions, plus any other declarations that are not to be known outside the unit.

The Project window on the *LSP* desktop lists the units and libraries that go into the making of your program. The format of the project window and the items of information it lists for each line can be altered by choosing VIEW OPTIONS in the Project menu. And there's a small icon in the window that lets you toggle between listing by *build* order — the order in which the units will be compiled — and *segment* order, which groups the units by code segment. You can change the build order or move a unit from one segment to another by simply drag-

ging it with the mouse to a new location within the Project window.

LSP keeps track of what modules have been changed since the last time they were compiled. It also knows which units *use* — are dependent on — which other modules. So after you edit one or more source modules you just tell *LSP* to run your program, and it will automatically recompile only those modules which have changed or which use modules which have changed.

THE ENVIRONMENT

LSP provides an integrated development environment: source editing, compiling and debugging are all accomplished within the *LSP* application.

Let's assume we're in the middle of developing a program — that is, we have an *LSP* project which includes our several Pascal source files. We've built the program and tried to run it, but it doesn't work the way it should. We need to make a change to one of the source files and try again.

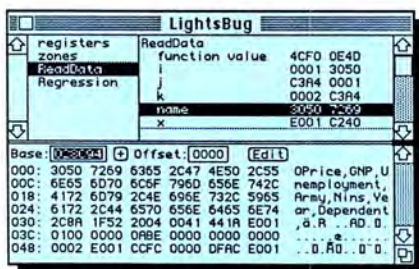
THE EDITOR

If the source file is not already open in a window, double-click on its name in the Project window to open it. Using standard Mac editing features (except, alas, Undo) make a change to the source file. As you edit, each time you end a statement or click on a new line *LSP* automatically checks for correct Pascal syntax; if it finds an error, it highlights the offending text with an outline typeface. Sometimes, though, this behavior is not quite consistent. For example, occasionally two clicks in a location away from the edit are necessary to invoke the syntax check.

The editor notices only some kinds of errors, however. For example, it will complain about the incorrect use of the equal sign instead of ":= " for assignment when the right side is an arithmetic expression, but the same error when the right side is a constant or identifier.

When the editor points out a syntax error and you don't know what the error is, choose the CHECK from the Run menu, which performs a syntax check on the entire source

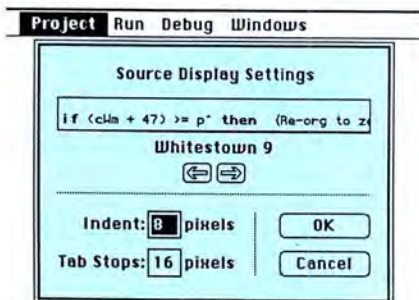
THE SPEED OF PASCAL



The LightsBug debugger window. The user selects from the upper left pane what is to be displayed in the upper right pane. Here, the stack context for the procedure ReadData is displayed. The memory dump in the bottom pane is by default anchored to the item selected in the upper right pane — in this case, the address on the stack of the local variable "Name." When "Zones" is selected from the upper left pane, the upper right pane displays one line of information for each block in a heap zone; selecting a heap block dumps its contents in hex in the bottom pane.



The resource file, if specified, is automatically opened when the user's program is run within the LSP environment; its contents are also included in the standalone application that results from choosing BUILT & SAVE AS... from the Project menu. The memory configuration applies to the special heap zone that LSP creates for the user program within the LSP environment.



Dialog window resulting from choosing SOURCE OPTIONS... from the Project menu. The options selected affect the display in source module windows.

file. The first error found is pointed to with a thumbs-down symbol, and an error message alert is displayed. Too often, though, the error message is an unhelpful one such as "This doesn't make sense as a statement."

Of course, building (compiling) your program automatically invokes syntax checking on each source file that's been changed.

The editor also automatically "pretty prints" — formats — your source code in a conventional Pascal coding style. Reserved words are shown in bold, and source elements are arranged in a format that many Pascal programmers use. However, if, like me, you prefer a different style, you're out of luck. While you can change the font, font size and unit of indentation, you can't change the basic format imposed by the editor. Composing with this editor sometimes gives me the feeling of writing on horseback — a subtle feeling of apprehension about what surprising movement of text might occur at any instant.

The editor provides the same two-step Find process as *Macintosh Pascal* — specify what to find, then invoke the search — as well as a replacement capability. Find and/or replace work on strings or on (Pascal) words. You can double-click on a word or triple-click on a line to select it.

The editor is not particularly speedy, but it is adequate for making changes. It lacks a facility for easily enlarging a window to full-screen size and restoring it to its original size. For creating sizeable source texts from scratch, you might want to use another editor outside the LSP environment.

DEBUGGING

OK, one of the source files has been changed, and we're ready to see the program work correctly — after all, that was the last bug, right? We choose GO from the Run menu. LSP compiles the source file we just changed, providing a progress indicator as it does so. Typically, the progress indicator is on the screen for all of 5 seconds or so. The link step — resolution of inter-unit and library references — is transparent

and imperceptibly fast. Then LSP's windows disappear and the menu bar clears except for a bug spray-can symbol on the extreme right side. The program begins execution; its menus appear. Then... nothing. Where's the program's window? Well, maybe there's one more bug after all; the program is hanging somewhere. But where?

Move the mouse pointer to the bug spray-can and click. LSP wakes up, takes control away from our program, and a pointing finger accuses the line of source code that was about to be executed when the bug spray-can was clicked. The program's in a loop under control of a "While Lines < Limit do" statement. Why aren't we getting out of this loop? What are the values of Lines and Limit? We open an Observe window, and type "Lines" and "Limit." Hmm, Limit has a reasonable value, but Lines is zero — why isn't it getting incremented?

Continue execution, one statement at a time, while watching the value of Lines. Choose STEP from the Run menu (or more likely, type its Command-key equivalent) several times, watching to see which statements are executed and how the value of Lines is affected. Aha! There it is! "Lines := GetMoreLines(MyFile)" Our function GetMoreLines must return 0 when it shouldn't.

Well, you can take care of that later. For now, continue execution by changing the value of Lines so the loop will terminate. Open the Instant window, type "Lines := Limit" and click DO IT. Then we choose GO from the Run menu. Yay! The rest of the program seems to work.

Now it's time to go back to the wayward GetMoreLines function. It's in another source file, so double-click the source file's name in the Project window, and locate the function's source code in the window that appears. We want to watch GetMoreLines execute in slow motion, but without slowing down the rest of the program. Choose STOPS IN from the Debug menu, and move a Stop sign symbol to the first statement in the GetMoreLines function. You have, in conventional parlance, set a breakpoint on that statement.

IS GETTING THE ANSWER TO SOFTWARE PROBLEMS A BIGGER PROBLEM THAN THE PROBLEM?

Don't stay on hold when there's help online from CompuServe® Software Forums.



The new upgraded version of your software locks up. And every time you reboot, you get stuck in the same place in the program.

You've chucked the manual, because you've done exactly what it tells you to do six times already. So you call the software company.

Now you spend half a day beating your head against a brick wall of busy signals, ranting at recorded messages, hanging around on hold. And you still don't get the solution to your problem.

Meanwhile, progress is stopped and your profits are dribbling away. But wait. There's help...

Several prominent, progressive software publishers recognize this problem, and working with CompuServe, have developed a solution—CompuServe Software Forums.

Now you can go online with experts from the companies that produced your software and get



prompt, written answers to your specific problems. You can even talk with the actual software developers.



Aldus®, Ashton-Tate®, Autodesk®, Borland International®, Creative Solutions®, Digital Research®, Living Videotext®, Lotus® Inc., Microsoft®, MicroPro®, Misosys Inc. and Software Publishing® all have CompuServe Software Forums. And we keep adding more.



CompuServe's large subscriber base also puts you in touch with thousands of other, often more experienced, users of the same software. You'll find they can give you lots of creative ways to get the most out of your software.

And software forums are the best way to learn about product updates, new product announcements, new ways to expand the uses of your software, and offer free uploads of your own programs.

Our online electronic magazines

frequently publish software reviews. And you can find help for many other software products in our other computer-related forums for IBM®, Tandy®, Atari®, Apple®, Commodore®, TI® and others.

The last thing you need when you've got a software problem is a bigger problem getting answers.

So, from now on, get prompt, informed answers on CompuServe Software Forums.

To buy your CompuServe Subscription Kit, see your nearest computer dealer. Suggested retail price is \$39.95.

To order direct or for more information, call 800-848-8199 (in Ohio, 614-457-0802).

If you're already a CompuServe subscriber, just type **GO SOFTWARE** at any ! prompt.

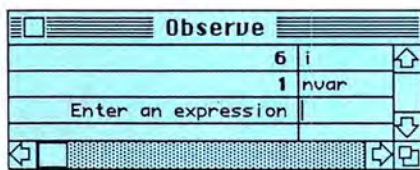


CompuServe®

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

An H&R Block Company
Please circle 208 on reader service card.

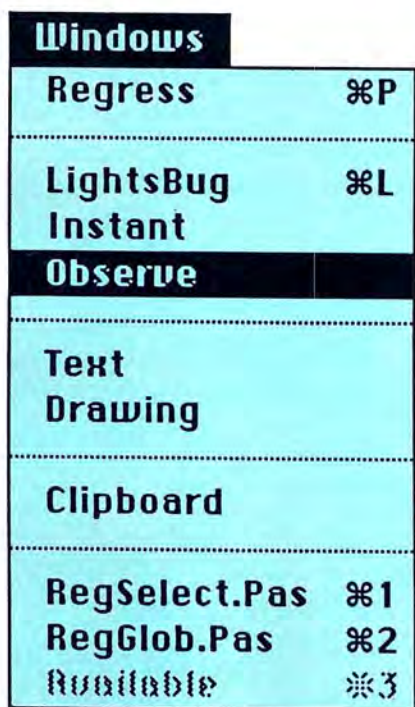
THE SPEED OF PASCAL



The Observe window accepts any Pascal expressions that are legal in the current context of the user program; it shows the value of the expressions. An expression, of course, may consist of a single variable identifier. The values are automatically updated whenever the user program is halted or pauses due to a Stop (breakpoint), Trace (slow-motion execution), etc.



The Instant window. Any Pascal statement that is legal in the current context of the user program can be entered into this window and executed immediately by pressing do it.



The Windows menu opens or brings to the front the selected window.

Now choose GO from the Run menu. Once again the *LSP* windows disappear and the program's menus enter the menu bar — along with the bug spray-can. Our program executes until the first statement in the *GetNewLines* function is encountered; then *LSP* takes control again, and shows the source code for the function with a finger pointing to the line about to be executed.

Open an Observe window and type in the name of some salient local variables, including the variable that will become the function's result. It should never be zero, but the function was returning zero. It's a rather long function, and we don't want to issue an explicit command to execute each statement. Further, we don't want to see the execution of procedures and functions called by *GetNewLines*, so uncheck STEP INTO CALLS on the Debug menu. Then we choose TRACE. The function executes, but pauses briefly after each statement: we can follow the locus of control by watching the pointing finger, and we can see when the variables in the Observe window change their values.

I've omitted some of the details of the high-level debugging commands and facilities, but I hope you can get an idea of the powerful facilities *LSP* provides for tracking down errors.

GETTING DOWN

But wait, there's more: *LSP* has more programming features than late-night TV has carving knives. For lower-level debugging, there is *LightsBug*. *LightsBug* offers a view of the Mac's operation that combines the context of your program — including the values of variables and the history of procedure and function execution — with a view of the machine's registers, memory and heap blocks. It provides a flexible and powerful hex memory editor. *LightsBug* doesn't provide disassembly nor the control functions of machine-level debuggers such as breakpoint and step, but it's a powerful observation platform when your program has been halted by one of the high-level debugging control functions.

To dive further still into the guts

of the machine, use *Macsbug* or *TMON*. An *LSP* command is provided to drop you into such a debugger, if one is installed, to examine the disassembled code for any Pascal statement in the program. (*TMON* users note: the *LSP* manual, p. 12-10, assumes *Macsbug*; for *TMON*, you must pop a long from the stack before executing the RTS.)

As long as we're at the level of bits and registers, this is a good place to mention that assembly language routines and libraries created with the Apple *MDS* system can be integrated with your Pascal program. A conversion utility is provided which takes *MDS* .REL files as input and outputs modules compatible with *LSP*. I hope that Think will consider providing a similar utility for object files created by Apple's *MPW*.

If your program uses resources, as most do, you can create a resource file — typically with *RMaker* or *ResEdit*, which are supplied with *LSP* — and tell *LSP* to open your resource file when your program starts execution in the *LSP* environment.

GRADUATION DAY

When you're ready to send your program out from under the skirts of *LSP* to make its way as a standalone, you choose BUILD and SAVE AS from the Project menu. Merely supply a filename, and *LSP* will automatically recompile to remove its debugging hooks (assuming that you'd requested their presence in the *LSP* environment), combine the resulting code segments with the resource file you specified previously, and create an application for you. *LSP* will set the application's bundle bit if a BNDL resource is in your file, but you'll still need to separately set the file's creator code if your application has a custom *Finder* icon or creates "owned" document files.

LSP programs can also be saved as desk accessories, device drivers, or code resources (such as FKEYs or CDEFs). This feature was evidently added to *LSP* too late to make the manual, but an example desk accessory and FKEY are provided on the *LSP* disks. Desk accessories can be tested within the *LSP* environment

INTRODUCING RAGTIME™

Integrated Page Processing

Highlight areas with eight levels of screens, including white print on black background

Easily import and size graphics within any document

Draw lines for accent

Mix type fonts, styles and sizes within any format

Copy automatically flows from column to column or page to page

Generate forms for usage as often as needed

Powerful spreadsheet for independent usage or use within other documents

Create frames of various shapes, sizes and border thicknesses

THE RAGTIME REVIEW

We've taken the four most wanted page processing applications and integrated them into a single, simple, easy to use package - Ragtime. Because they are integrated, you never have to leave the program to build your document. All the software modules are right at your fingertips.

Whether you're a secretary just starting to learn word processing, or a top-flight graphic designer, Ragtime delivers a complete set of tools that allow any user to create documents which will impress even the most critical of publishers.

You could be the college student preparing a thesis. Or, you might be a businessman developing a crucial proposal complete with spreadsheet, text, and graphic presentations. Perhaps you own a self-service typography, layout, and graphic design studio. Could you be an executive secretary who has typical word-processing needs, but would like to grow to real page processing? Whatever your

need, large or small, Ragtime is the solution.

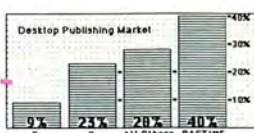
From memos to magazines, Ragtime's Word Processor is the complete answer for creation of text. As a stand-alone word processor, users can

begin with a familiar item like a letter, and quickly grow to complex documents.

Building multiple pages at a time with headlines, multiple columns, variable margins and with optional justification is what we mean by Page Layout,

known formally as Desktop Publishing. Ragtime easily integrates your word processing text into formatted pages. Without limits, you can grow into a highly sophisticated set of tools for the professional graphic designer.

Since Ragtime is fully integrated, it is a simple process to create a form or master, save it for repeated use, or change it at will. You can quickly create any format of any length with ease.



RAGTIME SALES

	QUARTER 1	QUARTER 2	QUARTER 3	QUARTER 4	FY86
USA	5000	4250	5275	6500	21025
AUSTRALIA	240	220	265	300	1025
CANADA	350	335	425	500	1610
ENGLAND	120	100	145	160	525
OTHER	75	75	75	75	300
TOTAL	5785	4980	6185	7535	24485

NOTICE

Ragtime may be previewed at the following trade shows:

Seybold DTP Conference	9/3/86	San Francisco
COMDEX	11/10/86	Las Vegas
MacWorld Expo	1/8/87	San Francisco
Computer Pub Expo	3/26/87	Chicago

Finally... professional results from an easy to use, fully integrated package! **Ragtime** delivers on the promise of personal computing with a complete set of powerful tools for **Desktop Publishing, Forms Generation, Word Processing, and Spreadsheet**, all from one package. And, we have remained faithful to the concept of the Macintosh, so that you are truly productive quickly and painlessly.

If **Desktop Publishing** is your application, **Ragtime** delivers like no other software. With **Ragtime**, you will be creating professional materials immediately. And although you have sophisticated tools at your fingertips, no publishing or graphic arts background is required.

Powerful **Word Processing** is included as a

natural element of **Ragtime**. This not only eliminates the need for a separate piece of software, but means that you need not re-edit your copy as you try to make it fit into your format. And, the word processor is so complete and capable that it will quickly become your standard.

Ragtime's integrated **Spreadsheet** delivers exceptional capabilities. Now you will not only use spreadsheets for financial data, but effortlessly incorporate numeric data into reports, or written copy into spreadsheets. You will easily design spreadsheets with complete flexibility in layout. Or use **Ragtime's** spreadsheet to create standard forms, such as invoices, requisitions, or reports.

A standard **Forms Generator** allows you to design and save any form, of any length, and

Please circle 16 on reader service card.

to change it as you require. You will see the complete form on the screen, ensuring that what you design is exactly what you need. From letterhead to complete financial reports, you can quickly create any format for professional appearance with significant time and cost savings.

Productivity, ease of use, and power. **Ragtime Integrated Page Processing** delivers, in one complete package, the next generation in software. Today, **Ragtime**, the complete solution. See your local computer dealer today for a demonstration.



Orange Micro Inc.

1400 N. Lakeview Ave., Anaheim, CA 92807
(714) 779-2772 Telex: 5101001014 ORANGE MICRO
© Orange Micro, Inc., 1986

THE SPEED OF PASCAL

Debug

Show Finger

Pull Stops

✓Auto-Show Finger

✓Stops In

✓Step Into Calls

Break at A-Traps

Macsbug

⌘M

The Debug menu. "Show Finger" does not invoke an insulting gesture; rather, it causes the next line to be executed to be made visible by automatic scrolling, if the relevant source file's window is open. Otherwise, the finger will point to the currently executing source module in the Project window.

Run

Check

⌘K

Build

⌘D

Check Link

Reset

Go

⌘G

Go-Go

Step

⌘S

Trace

⌘T

Auto-Save

• Confirm Saves

Don't Save

The Run menu. Go-Go causes the user program to pause briefly rather than suspend at Stops (breakpoints).

before they are installed in the *System* file; the LSP DA Shell even simulates the "goodbye kiss" control call that is given to DAs when an application quits while the DA is open.

The Build and Save As facility can also be used to save an object library of routines that can be used in future projects, or by other programmers. And can save a "compressed" project which omits all object code.

COMPLEX INTERNALS

The achievements of *LSP* require considerable internal complexity to implement. To run your program in the *LSP* environment, the program creates a simulation of the usual standalone Macintosh environment and then steps behind the curtains, ready to spring out should your program trigger a debugging hook. It does this by creating a heap zone for your program within *LSP*'s own application heap zone, by patching several traps, and by switching the contents of low-memory system global variables. For some applications — those that do tricky low-level things with the system — this somewhat impure environment may cause problems. However, the simulation is pretty thorough, even to the extent of taking care of such things as queuing and dequeuing any VBL tasks your program creates and executing your IAZNotify routine. The set of low-memory globals that are switched can be expanded or changed, if necessary, by editing a resource in the *LSP* application file.

LIKE FATHER, LIKE SON

The language features of *LSP* are very similar to those of its ancestor, *Macintosh Pascal*. Hence it stands slightly apart in the family of Pascals for the Macintosh, since the others — *MPW Pascal*, (based on the feature list; I haven't seen it yet) *TML Pascal*, and *Turbo Pascal* — take their language features from *Lisa Pascal*.

Converting *Macintosh Pascal* programs to *LSP* should be very easy in almost all cases. I took a sizeable *Macintosh Pascal* program that used many of the unique language and library features of that language and got it running with *LSP* with no changes save one: I had to split up

what had been one source file into multiple units. *LSP* has a limit of approximately 2500 lines (the exact number depending on the "density" of the source code) in any one source file. My program, though, did not depend on the *Macintosh Pascal* "feature" of initializing all variables to zero, which *LSP* does not provide. Nor did it depend on *Macintosh Pascal*'s "0+0" trick for passing a long zero to an Inline (ROM) routine.

Converting *Lisa-family Pascal* programs to *LSP* may present some problems, but usually not insurmountable ones. Some of the issues that may need attention are:

- *LSP* does not pack boolean arrays into bits

- *LSP* predeclares ROM routines and Mac types and constants, so the standard "Uses" clauses in *Lisa-type* programs must be removed

- *LSP* does not support computed constant declarations

- *LSP* does not allow dereferencing or subscripting of extended function results

- *LSP* does not allow type casting of the left side of an assignment

- *LSP* does not provide short-circuit boolean evaluation

- *LSP* considers all characters of identifiers as significant

COMPILER PERFORMANCE

The compiler is blazingly fast (or perhaps Blaisingly fast, in honor of the language's namesake, Blaise Pascal). Typical turnaround time from source file edit to test is seconds.

The generated code is of medium to good quality — not highly optimized, but quite respectable. Bcc instructions are not optimized — which is as expected in a one-pass compiler — but DBcc is generated for counted loops, which is a nice touch. By any measure of code quality which takes compilation time into account, the compiler is astounding.

I compiled the same small program — about 200 lines — with both *LSP* and *MPW Pascal*, which has a reputation for good code quality. No library routines were used; only calls to ROM Toolbox routines and integer calculations were involved. The code segment generated

KNOWLEDGE + INFERENCE = INTELLIGENCE



Knowledge is a strategic resource of individuals and of corporations. Properly managed the impact can be tremendous. The substantial investment in developing expert systems has paid off in corporate savings of many millions of dollars to such companies as Digital Equipment, Westinghouse Corporation and Texas Instruments.

MacSMARTS™, the Intelligence Amplifying Software for the Apple Macintosh, was designed to facilitate similar successes in a wide range of businesses and professions using the new knowledge management techniques but with a much reduced investment.

EASY TO USE

The innovative Logic Worksheet of MacSMARTS is laid out like a spreadsheet, with columns for FACTS, RULES and CONCLUSIONS. In its operations, users of Excel, Jazz or other Macintosh spreadsheet processors will feel quite at home. You don't need to master a complex syntax just to get started. And with the click of a mouse and a menu selection you can link graphics and text to rules and conclusions to elaborate and advise with geological maps, engine diagrams, or architectural plans; key contract paragraphs, laboratory protocols or balance sheets.

PRODUCTIVE

By making it easy to construct a knowledge base—consisting of facts, rules and examples—in the Logic Worksheet you can use deductive and inductive inferencing techniques to diagnose and advise, plan or trouble-shoot.

Some typical applications include:

- A partner in a major law firm is using MacSMARTS to advise a junior associate on the finer points of corporate law.
- A real estate developer used a MacSMARTS program to make certain no considerations were missed in the decision to build a new office complex.
- A medical laboratory director found that a MacSMARTS program could assist new technicians in performing diagnostic tests.
- A marketing director will use a MacSMARTS program to configure the best components to meet a customer's requirements.



Cognition Technology™

The Intelligence Amplifying Software™
55 Wheeler Street, Cambridge, MA 02138

Copyright © 1986 Cognition Technology Corporation
Apple is a registered trademark of; and Macintosh is a trademark licensed to Apple Computer, Inc. Jazz is a trademark of Lotus Development Corporation. MacSMARTS, the MacSMARTS icon, the Cognition Technology logo and Intelligence Amplifying Software are trademarks of Cognition Technology Corporation, 55 Wheeler Street, Cambridge, MA 02138, (617) 492-0246.

**Step-By-Step Tutorial
And Examples Included**



Technical Specifications and Features

- Prolog Inference engine
- Integrates both logical rules and examples
- Up to 4000 rules per knowledge base
- Up to 1000 examples per schematic rule
- Linkage of multiple knowledge bases
- Editor for easy revision of knowledge bases
- Context-sensitive help screens available at all times
- Import/export gateways
- Modular compilation of knowledge bases

**See Us at
Mac/Expo
Booth #843**



- Password protection of sensitive knowledge
- Query-the-user facility linked to text and graphics files
- Works on hard disks for faster operation
- Compatible with HFS and the Macintosh Plus

- A financial consultant saw that a MacSMARTS program could assist him in strategic portfolio planning for more clients.
- An MIS director uses a MacSMARTS program to assist programmers to track down problems in systems software.
- A doctor is using a MacSMARTS program to analyze the implications of tests on his visually-impaired patients.
- The possibilities are bounded only by logic and human imagination. Our customer base spans two continents and a wide range of professions and businesses from individual consultants to the Fortune 500.

AFFORDABLE

Artificial intelligence is one of the most significant developments in the history of computer technology. Now you can access the power of this new technology and put it to work with MacSMARTS. MacSMARTS has the features of programs costing hundreds or even thousands of dollars more yet costs only \$149.95. As a limited introductory offer order MacSMARTS direct risk-free now for only \$99.95. A small price to put you ahead of the competition and into the 21st Century. If MacSMARTS does not boost your personal productivity over the first 60 days, send it back for a full refund—no questions asked. We guarantee your satisfaction!

YES, I want to innovate today. Please send me MacSMARTS™!

MacSMARTS Not Copy-Protected Quantity: _____ @ **\$99.95** = _____
60-Day Money-Back Guarantee Shipping and Handling MA res. add \$5.00 sales tax per copy = _____
Canada \$ 5.00 per copy = _____
Other \$10.00 per copy = _____
Payment: _____ Total Amount = _____
☐ Check ☐ Money Order ☐ MC ☐ VISA

To order by Credit Card call toll-free (800) 255-5550, Ext. 353

Credit Card Expiration Date ____/____/____
Card # _____
Signature: _____

Name: _____

Shipping Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____

CODs and Purchase Orders WILL NOT be accepted. **For the 512K Mac, MacXL and Macintosh Plus.**

THE SPEED OF PASCAL

Project

New Project...
Open Project...
Close Project

Add Window
Add File...
Remove

Build & Save As...

View Options...
Run Options...
Source Options...

The Project menu. BUILD & SAVE AS... creates a standalone application file from the user's program and the contents of the resource file, if any, specified in the Run Options... dialog window.

by MPW Pascal was 2,026 bytes long; LSP generated 2,710 bytes. For this program, the development turnaround time to compile, link, and build a standalone application on a Mac Plus with hard disk was 31 seconds for MPW, and 13 seconds for LSP. For "real" programs with several modules and/or segments of significant size, I'm sure the turnaround time ratio would move much further in LSP's favor.

YOUR PAPERS, PLEASE

LSP comes with an 8½ x 11 perfect-bound, inch-thick manual. It is complete and well-written. (I was particularly taken with the clarity of the section on the Generic built-in function — included for Macintosh Pascal compatibility — and then I realized that I had written that description about 18 months ago in a column for MacTutor, the Macintosh programming magazine.)

The manual includes the usual menu item documentation, as well as tutorials and examples on the debugging features. It also includes a complete language specification (but not a language tutorial — you'll want to

get a separate tutorial book if you're just learning Pascal). Several hefty appendices include the QuickDraw chapter of *Inside Macintosh*; *Macsbug*, *RMaker* and *ResEdit* reference manuals; interface declarations to all the Toolbox and OS routines (these are all predeclared in LSP); a discussion of porting programs from ANSI (standard) Pascal and other Macintosh Pascals; error message explanations; and a SANE (floating point numeric) specification.

The manual describes the internal operation of LSP with respect to switching back and forth between the explicit LSP environment and the user's program during test runs. And there is a good-sized index.

The warranty states that the product will perform substantially as described in the User's Manual — none of the usual "sold as-is, if it doesn't work, tough" stuff. Distribution of software created using LSP does not require license fees, although Think's copyright notice is required if their library routines are included.

WHAT YOU GET, WHAT YOU NEED

LSP comes on three 400K diskettes. Also included are the *Macsbug* family of debuggers; the *REL Converter* program for using *MDS Assembler* object files; *Font/DAMover*; *RMaker*; *ResEdit*; *MacInTalk*; and *SERD* (serial driver resource).

There are also LSP libraries for printing, speech, AppleTalk, SANE, HFS, etc. — whatever you might need to make a complete application.

LSP requires at least 512K of RAM. 800K of disk storage (at least two single-sided drives) is advised, although the manual says that you can squeeze by with one 400K drive. And LSP is not copy-protected.

LOOK AND FEEL

LSP as a product gives the impression of quality that bespeaks a lot of hard work and careful thought on the part of its implementers. The manual, as mentioned, is excellent. The "About LightSpeed Pascal..." menu item produces an entertaining graphics show. The LightsBug window is packed with convenience features, including custom controls and resizable panes.

BOTTOM LINE

LightSpeed Pascal is the development system of choice for anyone who is new to Macintosh programming or to programming in general. In my opinion, Pascal is the best language for novices (note, please, that there is no implication that Pascal is therefore inappropriate for journeymen or experts). LSP, with its superb debugging facilities combined with the incentive it provides in generating real, working, full-speed applications.

For more experienced programmers it will usually, but not always, be an excellent choice, depending on individual requirements and tastes. Some may find the editor somewhat irksome. In a minority of cases, the complex internal interaction between the LSP host environment and the target program may provide problems. LSP lacks MPW's facility for creating custom editing and file manipulation tools. But surely every Macintosh programmer who is using Pascal or considering its use should take a look at LSP. Its ultrafast turnaround cycle and formidable debugging tools can outweigh a lot of minor inconveniences. *LightSpeed Pascal* is a well-crafted, powerful system which has advanced the state of the art in Macintosh program development. ☐

STEVE BRECHER IS A PROFESSIONAL PROGRAMMER. HE LIVES IN SUNNYVALE, CALIFORNIA WITH ONE CAT AND TWO MACS.

LIGHTSPEED PASCAL

Overall Rating

Follows Mac Interface

On-Screen Help

Performance

Support

Consumer Value

■ ■ ■ ■ ■
■ ■ ■ ■ □
None
■ ■ ■ ■ ■
Not tested
■ ■ ■ ■ ■

Comments: Complete, fast, powerful Pascal program development system. **Best Features:** Compilation speed, high-level debugging facilities. **Worst Feature:** Built-in source code text editor (may be a matter of taste). **List Price:** \$125. Requires 512K; external drive advised but not absolutely necessary. HFS compatible. Published by Think Technologies, Inc., 420 Bedford St., Lexington, MA 02173. Not copy protected.

For Programmers. The Most Productive Development Utility Ever Created.

Say, for example, you have three possible solutions to the same problem. With Prototyper™, you can quickly build all three. From menus, to buttons, to the shape of the cursor.

In a matter of hours, you're interacting with each of your options – as if they were real Macintosh applications. Soon, you are able to decide on the best solution.

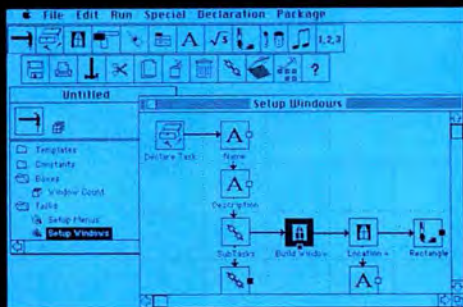
Without writing a line of code.

Without cracking open *Inside Macintosh*.

Prototyper™ saves your most precious resource – time. Before Prototyper™, it took months to produce a working user interface. New ideas often meant code was scrapped.

Details you have to monitor when programming are managed for you by Prototyper™. Even mouse tracking and event loops are handled automatically.

So whether you're a sophisticated developer or new to programming, you'll be amazed at how Prototyper™ increases your productivity.



Prototyper™



SmethersBarnes

For more information, call 1-800-237-3611
In Oregon call 503-245-7270

TIP SHEET

compiled by Ellen Hiramé

Found a trick, shortcut or smarter way to get something done with a program? Share your hints (and maybe make a few bucks) by sending them to The Tip Sheet, c/o MacUser, 25 West 39th St., New York, NY 10018. We pay at least \$25 for every hint we publish, plus we'll print your name and hometown (so you get all local bragging rights).

WRITENOW

[Editor's Note: The following tips were discovered by T/Maker staff and WriteNow users after the manual was printed. We'd like to thank T/Maker for sending them to us, so that we could share them with you.]



Scrolling for Speed: Automatic scrolling will be proportionally faster the further you move the pointer away from the text. When dragging beyond the bottom of the window, for example, notice that scrolling is faster when you move the pointer completely outside the window rather than just into the horizontal scroll bar.



Selective Font Characteristic Changes: Holding down the Shift key while making a font change (font, font size or



Selective Ruler Changes: Generally a ruler change will effect all selected paragraphs. However, if you hold down the Shift key (note the appearance of "Identical" in the lower left of the ruler window) when making a ruler change to several selected paragraphs, the change will be made only to paragraphs

style) will only effect those characters with the identical characteristics as the first character in the selected area. To italicize only headlines that are currently bold, for example, simply select all text from the first bold headline to the end, hold down the Shift key and select italic from the Style menu. All of the bold text will become bold *and* italic. The selection criteria are independent of one another, therefore, a selective size change will effect all those characters of the same size regardless of style or face.



Dictionary Learn/Forget in Bulk: All words currently selected in a document will be appended to the main dictionary when the Learn button is clicked or deleted when the Forget button is chosen.



Formatting Headers, Footers and Footnotes: To use the same format in the Header, Footer or Footnote area as in the rest of your document, use Copy Ruler from the Edit menu to copy the format before going into Header/Footer or Footnote view, and then Paste Ruler in Header/Footer or Footnote view to apply the format there.

that have the identical ruler settings as those in the first selected paragraph. Used in



Searching for Headers/Footers and Footnotes: If you want to check the locations of all the header and footer markers in the document, click at the beginning of the document and then choose these commands from the View menu to go to the next marker:

1. View Headers/Footers
2. View Page
3. Go to Selection.

Notice that each of the items has a keyboard equivalent, which can further expedite the procedure. The same procedure applies to footnotes, simply substitute View Footnotes for View Headers/Footers in step 1 above.



Printing on an ImageWriter: When printing on an ImageWriter, set up your pages to be Tall Adjusted. Line breaks will be the same as when you print on a LaserWriter; more text will fit on the screen horizontally; and you'll be able to do medium (or Better) quality printing in the background.

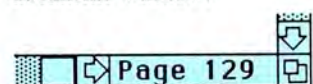


Enlarged Display — Reduced Printing: Page and ruler reduction enables you to use a larger font on the screen than

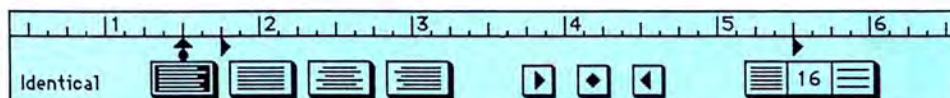
in the printed document. For example, if you want 6-point characters in the printed document but would rather work in 12-point on the screen, you can set the page and ruler reduction to 50%; this will cause the 12-point characters to be reduced when printed, to 6-point.



Go to Page: Scrolling Through Long Documents: To move quickly to any given page in the document, drag the vertical scroll box until the desired page number is displayed at the bottom of the document window.

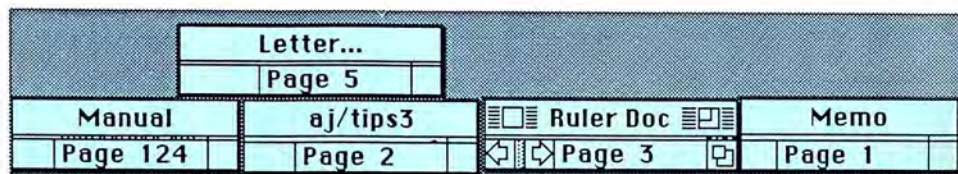


Translation of Many Documents: For maximum efficiency in translating MacWrite or Word documents to WriteNow, convert them in one operation, not individually. The Translator has a Transfer to WriteNow option that, when selected, will automatically open WriteNow and all of the documents that have just been translated.





Speedy Spell Checking: The dictionary remains in memory as long as the Check Spelling window is on the desktop. If you're using the dictionary from another disk because of space limitations on your startup disk, and you're checking spelling intermittently or over several documents, keep the Check Spelling window on the desktop the entire time to avoid extra disk accesses.



Multiple Documents: When working with a lot of documents at a time, it's often handy to use the Send Behind command in the View menu

to switch between windows. Further, if the windows have zoom boxes you can use the size box to make each window very small; line them up along the bottom of the

screen; use the zoom box to expand a window to full size when you want to work with it; and finally use the zoom box again to make the window small when you're done.

MACINTAX



When using *MacIntax* with just the internal and external floppy drives, it is often necessary to insert the State or Business Forms disks. Less swapping will be required if you leave the disk with the System inserted and swap the data disks.

ROBERT ART MORGAN
JULIAN, CA

GAMES



Lots of Macintosh games (*Balance of Power*, *Gato* and text adventures are good examples) frequently access the disk during play. This can add up to a significant amount of drive wear for addicted gamers. You can save your drives by placing the games and System files on a RAM-disk. This will speed up response times, often by a startlingly large amount. In most cases it will still be necessary

to leave the original disk in the drive so that the program can verify its copy protection.

PETER S. MULLEN
SEATTLE, WA

DASCH EXTERNAL RAMDISK



Be sure to keep your DASCH resting on its right edge, so that the power cord comes out of the top of the back. Also be sure to put the four little rubber feet they send you on the right edge (which will be the bottom) to give it enough clearance for air to get in the cooling slot. This configuration puts the cooling vents on the top and bottom (instead of the sides) and puts the hottest part of the DASCH (near where the power cord comes in) at the top, where the heat can escape instead of harming the RAM.

DAN HENDERSON
HOUSTON, TX

DISK STORAGE



Go to your local dime/drug/discount store and get a Sterling plastic check file. It's about 9 inches wide, 8 inches deep and 4 1/2 inches high (closed). It holds 100 disks. Keep your original 10-pack as dividers to keep things neat. The check box will hold eight 10-pack boxes in two rows of four each. The whole thing has a lid that closes snugly and a handle for toting it around. Mine cost \$4.29.

DOUG MOENCH
CHEYENNE, WY

MULTIPLAN



Here's an easier way to recover protected spreadsheets than the one given in the November *Tip Sheet*. You don't need *Fedit* or *ResEdit* at all. There's no problem *opening* protected worksheets; they just can't be changed without the password. All you need do is open

the affected document and Save As. Choose a different filename, Save, Close the protected document and Open the Saved As copy and go about your business. Protection doesn't get copied.

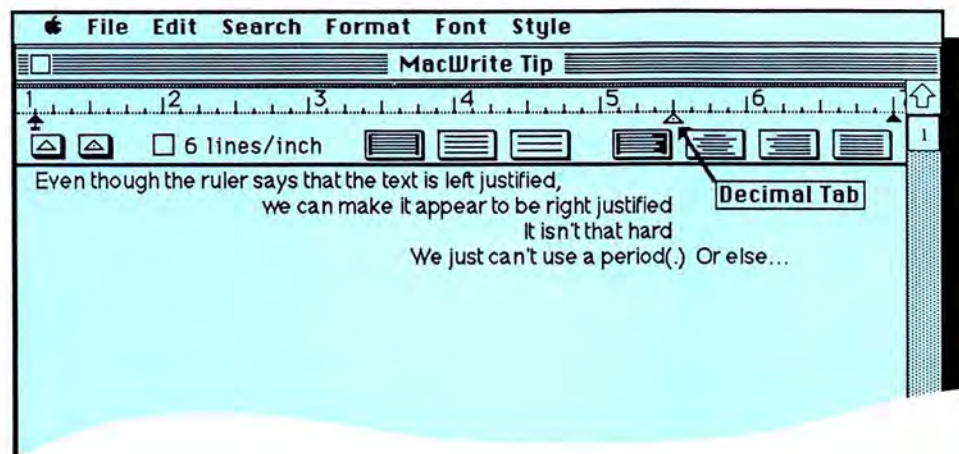
JIM PLANTE
SELMER, TN

WORD



To remove the last word you typed, hold down the Option key and then press Backspace. This feature delimits on punctuation and other special characters so to delete something like *typed?*, you would have to press Option-Backspace twice, once for the question mark and once for the word. You'll also remove the space in front of the word, just like a cut or like Shift-Backspace does. Note that the removal is permanent; the removed is *not* transferred to the Clipboard.

TOM COCKLIN
FORT COLLINS, CO



MACWRITE



If you need to right justify just a part of a line, use a decimal tab. For example, to place a numbered response blank at the far right side of a page of a questionnaire, simply set a decimal tab where you want the rightmost character to appear. As long as there is no period in whatever you type after pressing tab, those characters (underlines or whatever you want) will appear right justified at the tab point.

TOM ROCKLIN
IOWA CITY, IA

MORE

[Editor's Note: The following power tips were provided by the staff of Living Videotext, the developers and publishers of MORE. We'd like to thank Dave and Peter Winer, Kandes Bregman and the rest of the jolly crew at LVT for sending them to us so that we could share them with you.]

LVT

Displaying Multiple
Headline Levels in
Bullet Charts:

Sometimes it's advantageous to display more than one level of headline in a single bullet chart slide. Here's how to do just that. Cut or Copy to the Clipboard each outline section you wish to appear on one bullet chart slide. Open a Document window and Paste in the contents of the Clipboard. Notice that the indentations remain intact. Edit the leader characters however you like. Now go to the Bullet Options dialog box, turn off Subheads and leave on Documents. That's it — when you do a bullet chart presentation your slides will show multiple levels.

PACKIT III



To pack a group of files, without going through the file selection window for each one, move all the files you want in the packed file and PackIt to the desktop. Then select them all, using either the Shift key, the selection rectangle or a combination.

Now either double-click on the application (not a document!) or select OPEN from the File menu. PackIt will

LVT

Centering Bullet
Charts on a Printed

Page: To center a bullet chart on a page when printing, be sure to turn on As Shown When Printed in the Bullet Options dialog box. Otherwise, the chart will be printed as it is shown on-screen.

LVT

"Hiding" Numbers
from the Calculate

Command: MORE considers numbers containing a slash (/) to be dates and numbers containing a colon (:) to be times. Thus, any figures that contain such characters will be ignored by the Calculate command. Simply embed these characters in any numbers that should not be included in a calculation.

If a headline contains both a dollar figure and a nondollar figure in the same headline, the dollar figure takes precedence, and the other figure is ignored. For example, if you put both an expense amount and the date of an expense in the same headline, you should put a dollar sign in front of the expense and

then request options and a destination filename and pack all the documents selected into a single PackIt file.

When you return to the desktop, reselect all the documents and the application. Put them back by using the Put Away command on the File menu. This will work no matter how many files you have and how many folders they were pulled out of.

JON PUGH
LIVERMORE, CA

the date will be ignored in all calculations.

LVT

Calculate Command: Positioning

the Sum Total in the Headline: The Calculate command normally positions the sum total at the beginning of the headline, although if there is already a number in the headline, the sum total will replace that number. If you want to exactly indicate where the sum total is to go, place a "\$0.00" in that location.

LVT

Short Cuts in Tree
Chart Dialog Boxes:

A quick way to access the Tree Size dialog box is to double-click on any of the orientation icons — the first four icons at the top of the Tree Chart palette. This dialog box lets you alter the exact dimensions of the boxes in the tree.

Similarly, a quick way to open the Tree Options dialog box is to double-click on any of the box shape icons in the Tree Chart palette. This dialog box lets you adjust the patterns of the lines and boxes in the Tree, and also allows adjustment of grid lines, rulers and page lines.

LVT

"Hiding" Head-
lines: Reorganize an

outline by dragging a headline under another headline that has collapsed subheadlines and "hiding" it there. This lets you "clean up" an outline and concentrate on main details.

To move a headline under another and hide it:

1. Select the headline you want to move.
2. Place the pointer to the right or left of the headline (or on the headline if the Recognizes preference is set).
3. Click. The pointer will change to a right arrow.
4. Hold down the mouse button and the Option key and drag the pointer underneath and to the right of a headline with collapsed subheadlines.
5. Release the mouse button. The chosen headline will now be "hidden" at the end of the collapsed subheadlines.

EXCEL



To center a table with a border, increase or decrease the left margin. Check your centering by viewing the page with the Preview option (on the Print dialog). Both left and right margins will appear if the table is centered. Only the left hand margin will appear in the reduced view if the table isn't centered.

JACK BURKE
AUSTIN, TX

FINDER



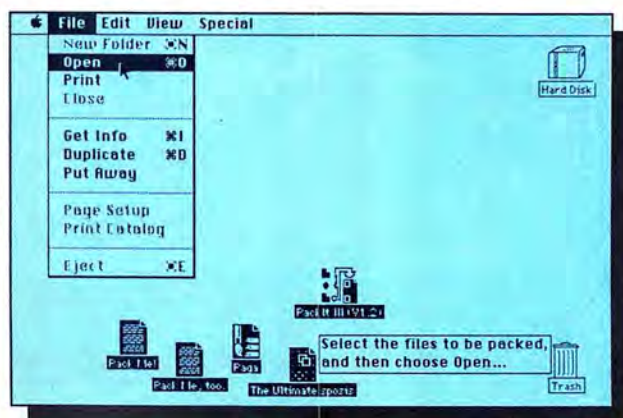
Some applications (like Word and FullPaint) allow several windows to be open simultaneously, although you can only work in the selected or active one. You can start those applications with specific windows already open by selecting multiple documents in the Finder and then clicking OPEN on the File menu.

MICHELE CHABOT
HANOVER, NH



If you get an immediate ID = 26 bomb when launching an application, there's a good chance that the application is damaged. Use your master copy (you only work on backups — right?) to replace it and try again.

STEVE SAMPSEN
CHICAGO, IL



Don't just sit there waiting for us to get around to your problem or question. If it's Mac-related, there's a very good chance you'll find the answer in our new book: *The Power User's Manual: Over 1,000 Hints and Tips for the Macintosh*. Copies of the deluxe, wire-bound edition are now available for \$19.95, which includes shipping and handling. The Manual has two cross-referenced indexes to help find tips fast and covers over 100 of the most popular Mac programs and peripherals. It's worth its weight in gold mice, and is, naturally enough, published by MacUser. Make your check payable to MacUser Publications, Inc., and send your order to: Power User's Manual Offer, MacUser Magazine, 831 Federal Road, Brookfield, CT 06804. (CT residents, please include 7.5% sales tax.) Bulk rates for clubs, organizations and schools are available from the same address. The manual is currently available only from MacUser.

Our Apples are Cherry.

A sweet deal makes anything better.
And that's what makes our Apples so cherry.
You get two ways to bring Macintosh Plus and
LaserWriter Plus back to the office.

You can rent. Or lease. At Leasametric.

You'll find finance plans that fit your tax plans.
Long- and short-term rentals. Fair-
market-value and
finance leases.



And Leasametric service sweetens the deal even more. You get
installation, on-site maintenance, return-to-depot programs, time-
and-materials, plus a toll-free number for on-line diagnostics.

So no more excuses. Get Macintosh Plus. The larger memory
gives you instant access to intensive applications such as lengthy
word processing documents, spreadsheets, and more. You even
get faster file loading and less disk swapping, which helps you work
even faster.

Next, LaserWriter Plus. A breakthrough in office printing.
Near-typeset quality output adds professional polish to brochures,
letters, price lists or other documents. You get more type styles. More
computer-compatibility. High-resolution graphics. Plus networking
capability.



So don't wait. Get a
sweet deal on Macintosh
Plus and LaserWriter Plus.
From Leasametric, where
you can rent or lease.

Which makes
even Apple a lot
more appetizing.



 **LEASAMETRIC**
Data Communications Division

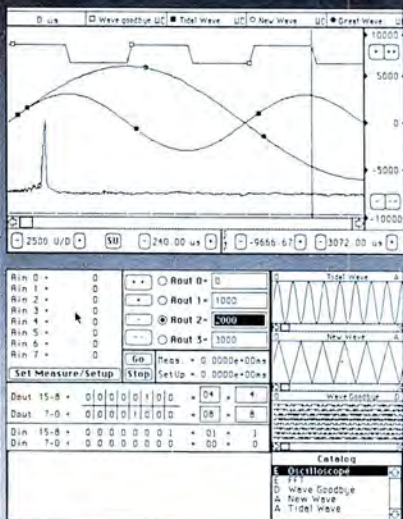
Northern California & Pacific Northwest (415) 574-5797 • Southern California 1-800-638-8574
Rocky Mountains 1-800-638-7854 • Southeast 1-800-241-5841 • Central 1-800-323-4823 • Northeast 1-800-221-0246

© Leasametric, Inc., 1986. Apple and the Apple logo are registered trademarks of Apple Computer Inc. Macintosh and LaserWriter are trademarks of Apple Computer Inc.

Please circle 83 on reader service card.

Data Acquisition

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



Hardware

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

Software

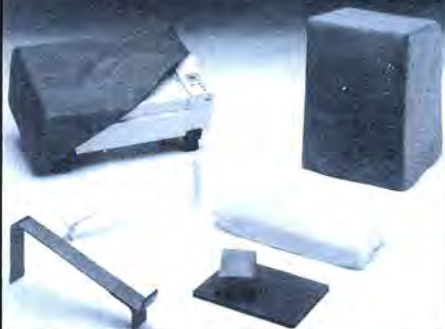
- Speech Analysis
- Oscilloscope
- XY Recorder
- Spectrum Analyzer
- MacADIOS Manager™
- Control from BASIC
- Control from C
- Sonogram
- Spectrogram

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



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

IT ISN'T OVER 'TIL IT'S COVERED



Your Macintosh is a very special computer, therefore, it deserves the best dust covers available. **Computer Cover Company** designs these covers specifically for each Macintosh component. Our workmanship and quality has been acknowledged by thousands of our discerning customers.

If you have tried vinyl, naugahyde or cloth dust covers, you will have already discovered for yourself why our covers are made of first quality 400 denier rip stop nylon. Our covers are water resistant and anti-static, they will not tear, crack or create lint problems. All seams and hems are double stitched to insure you years of lasting quality and worry free protection for your Macintosh.

MACINTOSH COVER SETS
(SEPARATE COVERS FOR EACH COMPONENT) (See below)
#M1B... Macintosh, keyboard, and mouse \$19.95
#M1... Macintosh, keyboard, printer, and mouse \$27.95
#M2... Macintosh, keyboard, printer, external drive, and mouse \$29.95

STAND UPS:
Universal printer stands designed to raise your printer for easy viewing and provide ample space below for paper storage.
Regularly \$18.95 w/Purchase of Cover Set Only \$10.95

IMAGEWRIER RIBBONS: Box of Six 5 or Less
Black \$21.95/\$3.66 ea. \$4.50 ea.
Solid Colors \$26.95/\$4.50 ea. \$6.00 ea.
Multicolored I/W II \$52.50/\$8.75 ea. \$10.00 ea.

SLIP UPS:
Our own special mouse pad measures 8" x 9 1/2". Help keep your mouse clean and rolling easy. Now four colors to choose from to accent your covers: Bone, Blue, Gray and Red. Regularly \$9.95 Direct Orders \$6.95

*** FREE — SLIP UP w/Purchase of COVER SET. ***

ORDER FORM — Complete and Mail To:
Computer Cover Co., P.O. Box 3080, Laguna Hills, CA 92654
Orders Only (800) 235-5330 — Calif. & Inquiries (714) 380-0085

Macintosh set number		Base Price		Quantity		Price		Subtotal		Exp.	
Monitor:		[No Additional Charge]									
[] 128/512 Plus [NAC]											
[] Keyboard PLUS [NAC]											
Printer:											
[] Laserwriter [NAC]											
[] Laserwriter (add \$5.00) [] 15" Laserwriter (add \$2.00) [] I/W II worksheet feed (add \$5.00)											
Disk Drive:											
[] 400K [NAC]											
[] 800K [NAC]											
Color Choice:											
[] Bone (similar to the Mac)											
[] Blue (royal) [] Tan [] Brown [] Platinum											
Additional Items Ordered (description)											
Name											
Address											
Daytime Phone ()											
Zip											
Bill my Visa [] M/C []											
Payment enclosed []											
Card #											
Signature											

Please circle 202 on reader service card.



1 - 800 - Mac User

Moving? If you're moving house soon and you're a subscriber, please try to let our subscriptions department know six weeks in advance so that we can ensure you don't miss a single copy of MacUser. Just dial ...

1 - 800 - Mac User

Call us! It's a toll-free call and a real live MacUser human being will answer between the hours of 9:00 a.m. and 5:30 p.m. (Eastern Standard Time) to process your new information and confirm the details.

1 - 800 - Mac User

Subscribe! You can also dial this number to order a subscription to MacUser. You'll get a whopping 48% discount off the newsstand price as described in our regular subscription card.

1 - 800 - Mac User

Subscription query? And if you have a query or complaint relating to your subscription, we'll do our best to solve it for you while you're on-line. If you call outside of "human hours," an answering machine will take details.

1 - 800 - Mac User

Last, please help us to help you by not calling our editorial offices on the East or West Coast with subscription inquiries. We do not have the records available on screen there and can't give you any sensible answers to questions about subscriptions. Conversely, our subscription people aren't set up to handle editorial brickbats and roses. You'll find our editorial telephone numbers listed under the masthead on page 4. Thank you for subscribing to MacUser!

1 - 800 - Mac User

*Connecticut and Canadian residents only, please call (203) 853-1858 for all subscription inquiries.

Please circle 203 on reader service card.



PREMIER
Jazz vs. Excel - Balance of Power - Terminal programs - Making Mac music - Icon Cookbook Pt. 1 - DA's with assembly language listing - The front DA juggling act



NOVEMBER '85
Hard Disks - Mastering MacDraw - PageMaker review - OverVUE an overview - Animating with VideoWorks - Basic Pt. 1 - Delivering a Fat Mac - Icon Cookbook Pt. 2



DECEMBER '85
Accounting software - Excel Macros - Is it Just Text? - Novels of the Mind - Beginners guide to telecommunications - MIDI to the Macs - Basic Pt. 2 - QuickSet, Sidekick & BatteryPak reviewed



JANUARY '86
Best products of 1985 - ThinkTank the creative way - Deja Vu review - The Great Language Face-Off - MUG Line—users group - Crunch - Beyond the ImageWriter - Basic Pt. 3



FEBRUARY '86
Power User's Manual - The Laser-Writer Revealed - Function Keys - Apple's HD20 & HFS - MacDraft vs. MacDraw - Business Filevision - Rogue - 3 flight simulators reviewed - Basic Pt. 4



MARCH '86
The Mac Plus - Helix - Sargon III vs. Pision Chess - Omnis 3 - MacProject and Micro Planner review - Multiplan - C Pt. 1 - Clipboard, Note Pad and Scribblebook revelations



APRIL '86
Softstrip reader - ReadySetGo 2.0 - Astronomy software roundup - The Home Accountant - The Cheat Sheet - The Ancient Art of War - Interlace—a relational Bargain - C Pt. 2



MAY '86
Upgrading your Mac - Secrets of Word - StatWorks & StatView - Easy 3D - Tee off with MacGolf - Borrowed Time - Kids games with Slide Show - Magician and VideoWorks - C Pt. 3



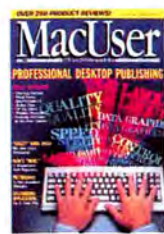
JUNE '86
Special Desktop Publishing Issue - Newsletters - Fontographer and Laser-Writer fonts - PageMaker 1.2 - Directory - MacSpin - Switcher and RAM disks - TML Pascal - Wizardry - C Pt. 4



JULY '86
Tempo - MicroPhone, Smartcom and Red Ryder - CLR Libraries - Games that let you make games - Quartet and Ensemble - Mac-a-Mug - Pascal Pt. 1



AUGUST '86
Mac systems in the office - Your First Utilities - Radio Shack Model 100 and Mac - Software print spoolers - The colors of Silicon Press - On-line services - Pascal Pt. 2



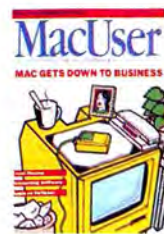
SEPTEMBER '86
Professional Desktop Publishing Issue - Effective Charting - Power Word Processing - The Linotronic Connection - MacPublisher II - SCSI hard disk roundup - MORE - Uninvited



OCTOBER '86
Microsoft Works - As the Double Helix twists - Nine spell checkers reviewed - Archon - Word games galore - Exploring MAUG - Full-Painting - Finder basics - Pascal Pt. 3



NOVEMBER '86
Radius monitor - Works - Power PageMaker techniques - Beginners telecommunications - Cricket Graphing - Flight Simulator Orbiter - StoryBoarder - Shanghai surprise - Pascal Pt. 4



DECEMBER '86
MacUser looks at the IIGS - InBox - AppleTalk Electronic Mail - Inside Insight - Studio Session - PhoneNET - OrbQuest - Secrets of Pascal - ZBasic - StatView 512K+ - Smart Games



JANUARY '87
Special Desktop Productivity Issue - Jazz vs. Microsoft Works - 2nd Annual Editor's Awards - Desktop Publisher of the Year - MapMaker - GrayPaint - Dungeon of Doom

MacUser Back Issues!

Now you can finally round out your necessary Macintosh documentation with those missing issues of **MacUser**. Order soon, because once these back issues are gone, they're MacHistory, and quantities are limited.

If you order any 6 issues or more, you'll receive a free **MacUser** Binder, a \$6.95 value. The Binder protects 12 issues of **MacUser** with a classy brown leatherette covering, and the **MacUser** logo stamped in gold. What better way to keep your precious **MacUsers** safe from jelly-coated fingers?

For more "hands-on" Macintosh information, get your hands on the entire **MacUser** collection. At \$4 each, they're probably the best investment you can make for your Mac.

HOW TO ORDER

Send \$4.00 for each back issue, plus \$2.00 shipping for the first issue, \$1.00 for each additional issue. Payment must accompany your order. Check the free binder box for orders of six or more issues.

MacUser Back Issues
831 Federal Road
Brookfield, CT 06084

NAME _____
ADDRESS _____
CITY _____
STATE _____ ZIP _____

☐ October 85 (Premiere) ☐ July 86
☐ November 85 ☐ September 86
☐ December 85 ☐ October 86
☐ February 86 ☐ November 86
☐ April 86 ☐ December 86
☐ May 86 ☐ January 87

☐ Yes, I've ordered 6 or more issues, so send me my **FREE** MacUser binder.

Sub Total _____

Shipping _____

Total _____

I'd like to pay with:

☐ Check ☐ Money Order ☐ Credit Card

Charge to:

☐ Visa ☐ MasterCard

Interbank No. _____ Exp. Date _____

Mo. _____ Yr. _____

Signature _____

Please allow 6-8 weeks for delivery

B1027

See What You've Been Missing!

**NOW AVAILABLE
FOR THE Apple IIgs**

Object Pascal for the Mac!

And now for the Apple //GS...

TML Pascal and TML Source Code Library!

New TML Pascal v2.0 Language Features

Separate compilation of Units

Object Pascal language features for object-oriented programming
Complete support for Lisa Pascal style type casting and qualification
Complete access to all extended SANE operations
Universal parameter types, and much much more...

DEVELOP

Stand-alone double-clickable applications with their own icon
Desk accessories that can be installed in the "apple" menu
Menu, window, control and list definitions, function keys, etc.

COMPLETE ACCESS TO MAC ROM

Every ROM routine is available exactly as defined by Inside Macintosh

- Quickdraw
- Operating System
- Packages
- AppleTalk Local Area Network
- MacinTalk speech synthesis
- SCSI Manager
- Toolbox
- Printing
- Serial Drivers
- 3D Graphics
- List Manager

Floating point operations uses the built in Standard Apple Numerics Environment (SANE)

TWO COMPILATION MODES

Compile to relocatable object code (MDS .Rel files)
Compile to assembly source code with Pascal source inserted as comments (MDS .Asm files)

FAST AND EFFICIENT

Compile up to 4,000 lines per minute and up to 5,500 on a RAM disk

Execution benchmarks for Sieve:

TML Pascal v2.0:	5.7 seconds
MPW v1.0b2:	6.9 seconds
Lightspeed Pascal v1.0:	9.1 seconds

... AND THE FUTURE

MC68881 floating point co-processor support
Symbolic Debugging

Suggested retail price

Only \$99.95

Other TML Systems Development Tools

TML Source Code Library \$79.95



GrafMDEF

- 18 source code examples (over 1Mb on 3 disks)
- Complete User Manual documenting each example

Example programs demonstrate how to program...

- Print Manager
- Standard File Dialog
- MacinTalk Speech
- Serial Drivers
- Split-scrollable windows
- Pop-up Menus
- Menu Definitions
- Window Definitions
- Function Keys
- Control Definitions
- List Definitions
- Desk Accessories

Database Toolkit \$89.95

- Complete library of Pascal procedures that allow you to quickly sort, search and manage your data to build applications.
- It is a complete and very powerful ISAM package.
- Comes with free source code to several example applications including a complete Name and Address database.
- Includes a 80+ page user manual.

MiniEdit Source Code Disk \$19.95

MacExpress \$195.00

Enclose \$5.00 shipping and handling with all orders.
For orders outside of North America enclose \$10.00

TML Systems

4241 Baymeadows Rd. Suite 23
Jacksonville, FL 32217

To order by VISA, Mastercard or COD call
(904) 636-8592

Please circle 149 on reader service card.



by Dan Cochran

"LET A HUNDRED FLOWERS BLOOM...."

[Editor's note: Dan's regular column, "Answers from the Mac Team," has been pre-empted this month. Dan and a group of Apple people have recently returned from Apple's first foray into the People's Republic of China, where they introduced the Macintosh at a series of forums conducted at several major Chinese universities. Here is Dan's first-hand report on his working "vacation."]

Check out the movie *A Great Wall*. In this, the first independently made American movie from China, a Silicon Valley computer executive of Chinese origin returns to his native land to visit his family and renew cultural ties. You've got the obvious scenes where the old conflicts with the new. His Chinese mother is aghast that his American wife speaks no Chinese and dresses in modern western fashions. In this respect the movie could have worked just as well with a transplanted Midwesterner returning from California to attend his grade-school reunion in Cleveland. Or an American Jew returning to visit her family in Israel. Some things know no international boundaries.

In one very striking scene, the U.S. executive and his hosts visit the computing facilities of a large company in Beijing. After a walk down a long and well-guarded hallway, they are greeted at the entrance to the computing facilities and are required to don white laboratory coats and gloves. They finally pass through two sets of doors and there on a table, in all its technological glory, sits a single VT-52 terminal. In another room, walled off by glass from the terminal

room, sits an ancient PDP-8 minicomputer. His Chinese hosts beam proudly as the executive tentatively issues a command from the VT-52 keyboard.

So when the Apple Hong Kong office asked me to participate in a series of Macintosh forums to be conducted at several major universities within the People's Republic of China I jumped at the chance.

Now there is nothing I like less than the prospect of a 15-hour plane flight, with the possible exception of eating glass. But I figured that, if VT-52s, PDP-8s (or even worse, IBM PCs) were the best computing technology the United States had to offer to a country of one billion people, we'd better do something about it. And fast. I know what you're thinking but there is no Chinese word for boondoggle.

So armed with several suitcases, a set of slides, a thousand notes, and a million expectations I set off for the People's Republic with a group of several other Apple people from Cupertino, including

There is nothing I like less than the prospect of a 15-hour plane flight, with the possible exception of eating glass.

Scott Knaster, Harlan Felt, Doug Thom, and Jan Davis. San Francisco to Tokyo nonstop, a night in Narita, and on the next day to Beijing. We arrived in several pieces and were immediately hustled off to the Chinese equivalent of an American press conference.

Now for some reason most foreign countries (and even parts of the United States) insist on deviating from Pacific Standard Time. So even though they claimed that the press conference was taking place at 2:00 PM it was really 6 o'clock in the morning. The press representatives listened politely to our story, who we were, why we were there, and then proceeded to devour mass quantities of the food and drink provided them. Again, some things know no international boundaries.

I had dinner that evening with Liu

Xiuying, a charming woman who's the editor of a Chinese microcomputer journal. We both complained about senior editors, deadlines, and she discreetly prevented me from dipping my prawns in a finger-wash bowl, most likely averting an international incident of no small consequence. I gave her a copy of *MacUser* (don't leave home without one), and she gave me a whole set of her publication's back issues. She was most fascinated by the software ads because there is no Chinese software industry as we know it in the West. Nor are there any Chinese software copyright laws on the books. Perhaps these facts are related?

Our game plan was fairly straightforward. You can't sell hardware without software, so they say. So just like our U.S. developer tours back in 1984, we were off to conduct a series of two-day Macintosh development technical seminars to convince the university decision



makers, the software engineers, the influencers, and the educators to develop Chinese software for the Macintosh. This was no small feat for a number of reasons:

(1) Apple IIs are rampant throughout China. Only they aren't real Apple IIs and the unreliability of these pervasive clones reflects back on Apple Computer. Of course they think we're the manufacturer.

(2) China is not a wealthy country and the street price for a Macintosh Plus and an HD-20 is pretty steep for most potential buyers.

(3) Language differences are significant. The U.S. computer industry, with the possible exception of U.S. lawyers, has done more to corrupt and mystify the English language than any other single demographic group. How does

one translate "The Window Manager" into Mandarin? "He Who Washes the Windows?" You tell me. Dave Barry, the humorist, once wrote that Coca-Cola translated into Chinese means "bite the wax tadpole." Would they consider *Inside Macintosh* subversive?

We did have a number of things on our side, however.

(1) The Apple success story is well-known and admired in China (the two kids in a garage). This is an entrepreneurial tale which holds as much fascination for the Chinese as it does for Stanford MBAs. As a matter of fact, it could probably happen again today a lot easier in China than it could in the United States. And they don't even have garages.

(2) Language differences become less significant given the visual feel and graphics orientation of the Macintosh. I can't speak Chinese but the visual "language" of the Macintosh is universal. I felt an incredible sense of déjà vu watching the reactions of the first-time Macintosh viewers in China.

(3) We had serious Macintosh fans at each of the three major universities that we attended. At each school there was at least one highly influential person who was convinced that Macintosh was the greatest thing around.

(4) The Apple Hong Kong office, under the direction of Mike Rashkin and Louis Woo, had orchestrated an amazingly tight schedule of conferences and logistics, all of which went off without a hitch. It's hard enough to coordinate a series of forums in the United States, let alone in China.

Our first seminar took place at Qing Hua University in Beijing. Qing Hua is the MIT of China. An audience of over 250 people saw the Macintosh for the first time. And they liked what they saw. In the formal sessions we demonstrated *FullPaint*, *Pson Chess*, and *Switcher* with *Excel*, *MacWrite*, *MacDraw* and *Studio Session*. Our attire for the Beijing sessions consisted of formal down jackets and gloves. Apparently under no circumstances does the heat come on south of the Yellow River until November 15th. However, the cold weather did at least ensure that our beer stayed cold without refrigeration. A significant tradeoff.

The scene in the hands-on room could only be described as Eastern chaotic as hundreds of Chinese tried their hand at the Macintosh for the first time. Russ Baker from Adobe attracted lots of attention showing *PageMaker*. The techies flocked around the development tools station where Scott and I were showing the *LightSpeed* languages and *MPW*.

Ken Krugler and Joe Ternasky demonstrated an alpha version of Apple's *Hanzi Script Interface System* for Chinese character program input.

Professor Li San-Li, Macintosh fanatic and Chairman of the Microcomputer Department at Qing Hua, gave us a thorough tour of the engineering division's computer facilities. We had to take off our shoes each time we entered a computer room. We saw everything from IBM-PCs to Apollo Workstations, Dual multiuser systems, Apple II clones, DEC and Honeywell timesharing systems, and even "Great Wall" computers (IBM PC-clones manufactured in China). I did not see a single VT-52 or



PDP-8. Nor did I see a single Macintosh.

Jiao Tong University in Shanghai was our next stop. After the morning session I met a gentleman who identified himself as a visiting Russian professor from Moscow. He approached Scott Knaster and myself, "Please to geeve me all your technical informashuns on the Macintosh." OK. In Shanghai I met at least three students who wanted to come to the United States and develop software. They also wanted to live in my house. For the sake of marital relations and international diplomacy I made no commitments. However, if any *MacUser* readers would like to sponsor a Chinese student in the United States I'll be happy to forward you their names.

The last stop was South China Normal University in Guangzhou. Like the other two universities our reception was warm and the people enthusiastic. However, on the second day of the Guangzhou forum all the electricity in a 10 square kilometer section of town, including the university, was turned off as part of a regular rotating energy conservation

program. My first thoughts were that IBM was behind this sudden power outage. Our Chinese hosts, who are well-equipped to deal with these regular occurrences, were soon to the rescue (with a 2000-watt gasoline-powered generator). And we were soon back on line with the Yamaha generator providing enough juice to power ten Macintoshes, ten HD-20s, and even one LaserWriter.

Whether or not Apple can successfully do business in China will in large part be dependent upon both U.S. and Chinese government restrictions on import, export and usage. Unfortunately, within the government of China (just like the

We had to take off our shoes each time we entered a computer room.

U.S. government and U.S. corporations), the people who decide which computers to buy are usually not the people who will ultimately use them. Once again, some things know no international boundaries.

The well known and popular phrase "Let a hundred flowers bloom..." is a quote from Chairman Mao who said it within the context of a 1950's speech that encouraged people to criticize and dissent from official government views. Mao believed that there was room for many different schools of thought. The people in China who heeded this advice, however, were severely punished during the later Cultural Revolution.

This phrase has also been a motto for the Apple Software Evangelists in their never-ending quest to ensure that Apple has the most and the best application software. Macintosh will be successful in China only if Apple can successfully foster and encourage the development of native Chinese Macintosh software. This is the single most important thing we can do to grow and nurture this exciting market.

A few parting observations....

Best Part of Trip —The Chinese people themselves. We all could learn some lessons in humility, patience and generosity from this country which has nearly

Still making presentations the hard way?



Finally.
Desktop
Publishing
Software
Created for
Professional
Communicators

STORYBOARDER™ — Doing film, television, advertising or A/V communications? Plan on-screen with Storyboarder. View output as real-time animatics with zooms, wipes and dissolves, or print out *superb* storyboards. Fast, friendly and inexpensive. Like having a design studio, animation house and video editor on your desktop!

SCRIPTWRITER™ — A superlative single- and dual-column word processor which complements Storyboarder, and stands on its own to support the professional writer. Does your intelligent page-breaking or dual-column alignments on the fly. Terrific!

INTERACTIVE TEACHER™ —

Create dynamic, great-looking courseware without any programming. All materials you create with Interactive Teacher will become part of your own learning system for presentation, testing or publication!



American Intelliware
The Professional Choice

350 S. Crenshaw Blvd.
P.O. Box 6980 □ Torrance, CA 90504
(213) 533-4040 / (800) 222-SOFT

a third of the world's population.

Worst Part of Trip—For me, leaving. For Scott, dying from influenza and dysentery on the Great Wall with a wind chill factor of 20 degrees below zero while "Auld Lang Syne" blared from a hidden speaker somewhere on the wall (And yes, in the immortal words of Richard Nixon, "It is a Great Wall.") For the women, going to the bathroom.

Most Terrifying Part of Trip—Toss up between riding in a car through the streets of Beijing and travelling CAAC, the national airline of China. The Beijing taxi drivers, in large part because of the many additional pedestrian and bicycle targets along the roadside, make the New York hacks look like angels.

The CAAC flights are often punctuated with reassuring messages such as, "Due to air flow, now the plane is bumping."

Things To Do If You Go To China—Bring small gifts to hand out. I came supplied with a handful of Apple pins, pendants, T-shirts and miscellaneous baubles from our company store. As monetary tipping is still strongly discouraged throughout China, it's still permissible to offer a small present to some-



one who has been particularly helpful or to someone you think might be able to help you out of a significant jam.

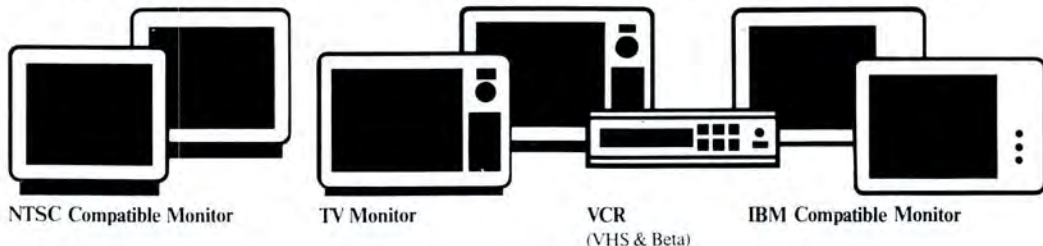
Things Not To Do If You Go To China—Don't wear Spandex outfits. If

We saw everything from IBM-PCs to Apollo Workstations, Dual multiuser systems, Apple II clones, DEC and Honeywell timesharing systems, and even "Great Wall" computers.

you insist on jogging be prepared to be looked at like you were a crazy person (as you most likely are). Bring plenty of Vitamin-C, lower your expectations, and you'll be pleasantly surprised. ☞

TONY LIMUACO

Turn Your Mac Into A Presentation Center



At a surprisingly low cost, the Mac Video Converter enables video data from the Mac or Mac Plus to be simultaneously presented on NTSC or IBM monitors, TVs and VCRs.

It is intended for use in audio/visual displays such as classroom demos or to provide a convenient portable demo by storing the presentation on a video tape for use with a VCR.

An easy installation kit is available and requires no soldering. Installation will not void Apple Warranty.

The unit features:

- Freeze-frame screen memory
- Video frame advance
- Inverse video
- Compatibility with all Mac Software

Display Device	Video Output	Typical number of devices per output*
NTSC Compatible Monitor	Composite/NTSC Video	10 Monitors
TV Monitor**	Composite/NTSC Video	10 Monitors
VCR** (VHS & Beta)	Composite/NTSC Video	1 VCR
IBM-RGB Monochrome (Switchable)	IBM Compatible Video	1 Monitor
High Speed Compatible Monitor (22.25 KHZ Horizontal scan rate)	High Speed Composite Video	5 Monitors
Color Monitor (RGB)	RGB Video	1 Monitor

See us at MacWorld Expo in San Francisco at Booth #1116

*Maximum number of devices per output is a function of device type and impedance.

**May require use of RF Modulator.

Note: The two Composite/NTSC outputs are identical.

Each output will drive a number of specific display types (please see chart on the left) and will operate simultaneously.

Distributor and Dealer inquiries invited.

For further information please call:

N² PRODUCTS, INC.
15345 Bonanza Road
Victorville, CA 92392-2401
619 243-3632

Please circle 109 on reader service card.

Manx Aztec C

The C for the Macintosh

Frees the Genius in You

You want results. You want to solve a problem or create something no one has ever done before. You don't want to get bogged down in administrative details, or waste time chasing elusive problems. You don't want to wait for slow compilations, or spend days shaving bytes and milliseconds from programs.

Manx **Aztec C** produces the results you want, minus these distractions and hassles. This comprehensive development system is loaded with features that cut through the non-creative tedious tasks, giving you the time and freedom to put your genius to work.

With Manx **Aztec C**, you quickly produce fast-executing compact code every time. **Aztec C** has a built-in optimizer which does the squeezing and trimming for you. Whether at the compile or assemble phase, **Aztec C** will give you the efficient, professional results you expect.

And **Aztec C** includes many of the timesavers which you previously enjoyed on larger computers only.

You'll wonder how you ever handled a large project on a microcomputer without the ingenious **make** utility to coordinate the changes for you. **Make** follows the project "blue



Manx **Aztec C** turns un"bear"able programming tasks into child's play.

print" and quickly and accurately executes only the required compilations and utilities in just the right sequence.

With **sdb**, Manx's Source Debugger, you'll be able to create complex macro breakpoint routines, display variables, records, and structures by name or even change source code on the C language level.

As a final check, you can use the **Profiler** to quickly and accurately find any possible program "hot spots." You can change an algorithm, redesign a subroutine, and your program will soar.

You Be The Judge

All **Aztec C** systems purchased directly from Manx have a 30-day satisfaction guarantee. If you don't like it, send it back.

Find out today, why Manx **Aztec C** has one of the highest user satisfaction ratings in the industry.

Portability

Moving software to new systems is a breeze with Manx **Aztec C**. Only **Aztec C** is available for PC/MS-DOS, CP/M-86, Amiga, Macintosh, Apple II, TRSDOS, and CP/M-80. New systems are added on a regular basis.

Reviews

"An excellent effort . . . blows away the competition for pure compile speed, code size and run time."

Computer Languages April '85

"Aztec C is the most comprehensive and professional package of the five in our test group . . . Aztec C offers features and advantages that the others cannot begin to touch."

BYTE November '85

" . . . the best C compiler / assembler / linker available for developers."

MacUser May '86

MANX

Manx Software Systems
One Industrial Way
Eatontown, NJ 07724

Features: excellent HFS and Mac Plus support • Source Debugger • Optimized C MDS Support • MPW Support • 68881 support • 68k Asm • Overlay Linker • UNIX make • create clickable applications and desk accessories • 32 character variable names • unlimited data size • RAM disk • Resource maker • many source examples including RAM and Terminal emulator • Z (vi) editor -c • Library Source -c • One year of updates -c

Items marked -c are supplied only with Aztec C68k-c.

Prices

Aztec C68k-c	\$ 499
Aztec C68k-d	\$ 299
C' Prime (C + Asm + Linker + Lib + Shell)	\$ 99

To order, or, for information

Call Today

1-800-221-0440 Telex: 4995812

In NJ or outside the USA call (201) 542-2121

MS is a registered TM of Microsoft, Inc. CP M TM DRI HALO TM Media Cybernetics, PANEL TM Roundhill Computer Systems, Ltd. PHACT TM PHACT Assoc. PRE C Plink-86 TM Phoenix, db Vista TM Rama Corp. C-terp. PC-Int. TM Gimpel Software. C-free TM Faircom, Inc. Windows for C TM Creative Solutions. Apple II, Macintosh TM Apple, Inc. TRS-80 TM Radio Shack, Amiga TM Commodore Int'l

MindWrite™ The Po With Integr

Now there's MindWrite, the new standard in Macintosh word processing that liberates you to write the way you think.

Works The Way You Do

MindWrite is a powerful word processor with totally integrated outlining that lets you write the way you think. Because now you can outline while you write. Write while you outline. Jump back and forth between topics and text, move easily around your document, put ideas on hold, change your mind, or advance to new thoughts without losing your concentration. Or your patience.

Organizes Creativity

MindWrite makes it easier to organize your thoughts on paper. You can now spend more time being creative and less time word processing. Arrange and rearrange text intuitively without awkward organizational problems. You'll see your work flow smoothly from concept to final document.

Gives You Total Control

What you see is what you get (WYSIWYG) through MindWrite's powerful, flexible and easy-to-use integrated operation. Display multiple views of the

Word processing and outlining features are totally integrated and always available — in every window, in every document.

MindWrite's multi-level rulers (one shown) make it easier to create complex documents.

Pick up and move text with the hand cursor — easier than cut and paste. And renumbering is automatic.







Multi-Selection lets you act on many headings and/or paragraphs simultaneously. Change font or style, move, copy, etc.

Collapse or expand outlines to any level of detail. To reorder, drag with hand cursor. Renumbering is automatic — on screen and in print.

Reads/writes MacWrite files and reads Think Tank files.

Click zoom buttons to resize windows instantly. Convenient "Windows" menu activates hidden windows.

Display a collapsed outline in one window with detail expanded in another.

	File	Edit	Search	Arrange	Format	Font	Style
Rough Draft #4							MindWrite
0  		1  		2		♦ Innovative Fe	
<p>WHAT YOU SEE IS WHAT YOU GET MindWrite sets a new standard in and enhance the writing process — polished communications. In addition from a Mac word processor, MindW</p>						<p>♦ Multi-Select ♦ Drag Text ♦ Auto-Numb ♦ Multi-Wind ♦ Accumulati ♦ Word Count ♦ Instantly co words, and p when you m</p>	
<p><u>Innovative Features:</u></p> <p>1. Multi-Selection Select then act on an unlimited number of te size. Or drag all selected items elsewhere a</p> <p>2. Drag Text Dragging is easier than cutting and pasting. hand cursor and drag to a new location</p> <p>3. Auto-Numbering When you update a list or outline (like this</p>						<p>♦ Mark ♦ Sort ♦ Organize lis alphabetical</p> <p>♦ Preference ♦ File Conver</p>	

30-Day Money Back Guarantee. If within 30 days of purchase you find that this product does not perform in accordance with our claims, call our customer service department and we will gladly arrange a refund.

MindWrite works with Mac 512K, Mac Plus, ImageWriter I & II, LaserWriter & LaserWriter Plus.

ver Word Processor ed Outlining.

same document, automatically number headings, collapse and expand text, sort lists, import graphics, change fonts and style, and rearrange text easier than ever before.

You'll find that MindWrite far surpasses other word processors in helping you to not only better organize your written communications, but do it in less time as well. And if you already know MacWrite, you can start using MindWrite right away.

Retail Price \$125.

MindWrite

New Standard In Word Processing

MindWork Software
P.O. Box 222280
Carmel, CA 93922 (408) 625-2720
Please circle 78 on reader service card.

What You See Is What You Get

MindWrite sets a new standard in word processing. It's designed to facilitate and enhance the writing process — to help you creatively organize ideas into polished communications. MindWrite can save you time and help you write more effectively — whether you're dashing off a memo or letter, creating an ad campaign, or laboring over a book or detailed technical specifications. Organize your rough ideas into polished prose with MindWrite — you no longer need to buy one expensive software program for word processing and another for outlining.

In addition to the standard features you expect from a Mac word processor, MindWrite offers many innovations. Here are just a few:

1. Multi-Selection

Select then act on an unlimited number of text segments, adjacent or not. Change point size. Or drag all selected items elsewhere and see them instantly reordered as you chose them.

2. Drag Text

Dragging is easier than cutting and pasting. Pick up any number of headings the hand cursor and drag to a new location.

3. Auto-Numbering

When you update a list or outline (like this one), or even rearrange entire sections of a document, MindWrite instantly renumbers for you — on screen and in print.

4. Multi-Windows

The number of document windows you can display is unlimited. Convenient window management tools working with many windows easy.

5. Accumulating Clipboard

All your cut and copied text is accumulated in the clipboard. Extensive Undo feature to protect you from most mistakes.

6. Word Count

Instantly counts characters, words, and paragraphs. In addition, it counts the number of words in each paragraph.

7. Mark

Identifies paragraphs that have been revised within a document. Easily find and review recent changes to your document.

8. Sort

Organize lists or outlines alphabetically.

9. Preference

Customize MindWrite to fit your personal needs with preference sets you create and save. Default font and size for new documents, enable/disable Quick key shortcuts, automatic numbering, show/hide rulers and pagination, choose search options, and more.

10. File Conversion

No need to start over. MindWrite can save MindWrite documents as PageMaker documents, or as other formats.



Order Today

Please send _____ copies of MindWrite at \$125 each. Include \$3 handling/shipping for each copy (in the continental U.S.). Calif. residents please add 6% sales tax.

To order today, use this coupon or call our Toll Free number: **800/367-4334** and, California only **800/654-5599** with your credit card number.

☐ VISA ☐ MasterCard ☐ Check ☐ Money Order

Card Number _____ Expires _____

Signature _____

Name _____

Address _____

City/State/Zip _____

Dealer Inquiries Invited. Call For Details.

MINIFINDERS

Have you often wished for a personal assistant to help in picking software? These MiniFinders may not breathe and move, but they do tell you what products are hot and, better, what these products do. Each of these items has been carefully reviewed and selected by the MacUser editorial staff. Each has been rated from 1 to 5 mice. Ratings are relative within categories, and they can change as categories expand and new products advance the state of the art. You won't see many low ratings or bombs, since we're telling you about the cream of the crop, but we will warn you about the really bad products so that you don't spend your money on them. **Red names indicate this month's additions.** The letters at the end of the entries indicate whether a product is copy protected (CP) or not (NCP). CP? indicates that we don't know. If a product has been reviewed or QuickClicked in MacUser, the date of the review is shown. Next time you have to find products you can count on, count on MacUser!

MINIFINDER INDEX

BUSINESS ACCOUNTING	142
COMMUNICATIONS	146
DATABASES	143
DESK MANAGERS.....	152
EDUCATION.....	160
ENTERTAINMENT	162
GRAPHICS & DESIGN	144
HARDWARE & ACCESSORIES.....	168
INTEGRATED SOFTWARE.....	142
LANGUAGES.....	157
MUSIC	166
NUMBER CRUNCHING.....	143
ORGANIZATIONAL TOOLS.....	150
PERSONAL FINANCE	142
UTILITIES.....	153
WORD PROCESSING.....	150

INTEGRATED SOFTWARE

Crunch is an icon-driven relational spreadsheet that features **|||||** versatile charting and database capabilities. Strong financial logic, date and mathematical functions. Spreadsheets can be linked. The manual is clear and concisely written. Macros are not supported. \$195. Paladin, 2895 Zanker Rd., San Jose, CA 95134. CP (Jan 86)

Ensemble lets users create a database of words, pictures, and/or **|||||** numbers; graph data; generate custom forms and link files for applications such as mail merge. Capacity limited by RAM and disk size. \$299.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

Excel is THE power spreadsheet. Of the Mac, of the world. Has **|||||** 256-column by 16,384-row capability. Features include a powerful macro function (with a recorder to make creation simple) and elaborate charting facilities. 512K+ Mac and external drive required. \$395. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. CP (Prem)

Jazz provides well integrated modules for word processing, graphs, **|||||** worksheets, databases and communications. HotView, is best feature. Requires 512K+ and external drive. Version 1A requires 800K drive. \$595. Lotus, 55 Cambridge Parkway, Cambridge, MA 02142. CP (Prem)

Microsoft Works is an integrated application that includes word **|||||** processing, database, spreadsheet and telecommunications functions. The telecommunications module includes



background uploading and downloading. \$295. Microsoft, 16011 NE 36th Way, Redmond, WA 98052. NCP (Oct 86)

Quartet is an integrated program that works on a 128K Mac, built **|||||** around a powerful spreadsheet with a full range of functions. It can also be used as a database and provides good quality charts from spreadsheet data. Documentation is adequate, but not too well organized. \$199. Haba Systems, 6711 Valjean Ave., Van Nuys, CA 91406. CP

BUSINESS ACCOUNTING

BPI General Accounting is an easy to use system. Six journals, **|||||** AR, AP, Payroll and GL on one disk. Offset amounts automatically post to ledgers. Up to 8000 accounts. Detailed records, wide range of reports. Switcher and HFS compatible. \$425. Requires 512K+. BPI Systems, 3001 Bee Cave Rd., Austin, TX 78746. NCP (Aug 86)

CheckMark is a Ledger with five preset journals: Cash Disbursements, Receipts, General, Sales, and Purchases. Menus and data entry are very straightforward. Flexible summary reports are built in, but customer and vendor information is very minimal. \$295. CheckMark Software, PO Box 860, Fort Collins, CO 80522. CP

Gallery Finance is a one-write system with General Ledger, Cash **|||||** Disbursements, Payables and Receivables in a single package. Data entered in a journal is automatically posted to appropriate records. Excellent manual includes tutorial on basic accounting principles. Requires 512K+, printer and external drive. \$795. Micromax Systems, 6868 Nancy Ridge Dr., San Diego, CA 92121. CP (Dec 85)

Hardisk is a complex integrated hard disk system that does not **|||||** use Mac interface. Manual is detailed but complicated, with a few pages that make it Mac-specific. Requires hard disk and printer. \$695 per module. Great Plains, Box 9739, Fargo, ND 58109. CP (Dec 85)

Insight is a high-powered accounting program for the small to **|||||** medium size business. At present, two modules are available: Accounts Receivable and General Ledger; others are in the works. Requires 512K and hard disk. \$595. Layered, 85 Merrimac St., Boston, MA 02114. NCP (Dec 86)

Rags to Riches integrated accounting modules (General Ledger **|||||** and Accounts Receivable) uses Mac interface to the hilt. Information entered in one window automatically transfers. No detailed or flexible reporting. Very easy to use, but it can be confusing with several windows on screen. Requires 512K+ and printer. \$199.95 per module. Chang Labs, 5300 Stevens Creek Blvd., San Jose, CA 95129. CP (Dec 85)

Rags to Riches Professional Billing tracks and bills professional **|||||** services. Batches activities for individual timekeepers. Use as standalone, or integrate with R to R modules. \$399.95. Chang Labs, 5300 Stevens Creek Blvd., San Jose, CA 95129. 512K+, printer, 2 disk drives required. HFS compatible. NCP (Feb 87)

Strictly Business General Ledger features clear, well-outlined **|||||** set-up procedures and operations. Very flexible, up to 99 profit centers with up to 100 departments each; and customized reports. Program print spools. Requires 512K+, printer and external drive. \$395. Future Design, 13681 Williamette Dr., Westminster, CA 92683. NCP (Dec 85)

PERSONAL FINANCE

Dollars & Sense is a bookkeeping program. Easy to use, with a **|||||** good manual and excellent on-screen help. Will handle up to 120 separate accounts or money categories. Uses standard double-entry accounting techniques. \$149.95. Monogram, 8295 S. La Cienega Blvd., Inglewood, CA 90301. CP

Electric Checkbook keeps a running account of checkbook **|||||** transactions, balances checkbook to bank statements, tracks bills, and prints out checks. Provides detailed financial statements, calculates net worth, lists expenses by



category and tracks personal cash flow. \$79.95. State of the Art, 3191-C Airport Loop, Costa Mesa, CA 92626. CP

Financial Cookbook provides nearly 3 dozen "recipes" to help users figure out financial formulas (i.e., mortgage costs at different percentage rates) by inputting pertinent data. Very user-friendly. \$44.95. Monogram Arts, 2755 Campus Dr., San Mateo, CA 94403. CP

Financial Utilities Pack is a set of applications that allow users to figure annuities, compound and simple interest, depreciation and amortization. Simple and well documented. \$69. Cognitive Software, PO Box 26948, Austin, TX 78755. NCP

Forecast is a tax estimating and what-if program designed to work with and use *Dollars & Sense* files. Straightforward, easy to use program. \$69.95. Monogram, 8295 S. La Cienega Blvd., Inglewood, CA 90301. CP

Market Pro is a comprehensive portfolio management program for the generation of fundamental data as well as technical charts and graphs. Requires 512K+, external drive and Hayes-compatible modem. \$395. Pro Plus Software, 2830 E. Brown Rd., Mesa, AZ 85203. NCP (Nov 86)

Profit Stalker II is a program for the generation of charts in order to organize data on stocks, mutual funds and commodities. Data is downloaded to the program or manually entered. Free upgrades and excellent support. Requires 512K+ and a Hayes-compatible modem. \$250. ButtonDown Software, PO Box 19493, San Diego, CA 92119. NCP (Aug 86)

DATABASES

Business Filevision is a masterpiece of Macintosh programming, the only true graphic database on any micro. Much more powerful than the original, accepts *MacPaint* graphics. \$395. Telos Software, 3420 Ocean Park Blvd, Santa Monica, CA 90405. CP (Feb 86)

dMacIII is a dBase compatible data base. It's semi-useful for converting already existing PC dBase files, not recommended for creating Mac data bases from scratch. Documentation is lacking, program is buggy. \$495. Format, 11770 Bernardo Plaza Ct., San Diego, CA 92128. CP (Nov 86)

Double Helix is an environment to generate custom applications built around a data base-type framework. Contains enhancements to *Helix* 2.0. Includes custom menus, sub form windows, password protection, and a universal dump and load parser. Ability to store pictures as data fields. \$495. Odesta, 4084 Commercial Blvd., Northbrook, IL 60062. NCP (Oct 86)

File is a flexible data manager. Creates files for a variety of data, including simple graphics. Files are created in simple row/column format, but reports and forms are easily customized by moving field names around on a blank form. \$195. Microsoft, 16011 NE 36th Way, Redmond, WA 98052. CP

FileMaker is a nonrelational database that combines lots of power with ease of use. 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, 250 Sobrante Way, Sunnyvale, CA 94086. NCP

FileMaker Plus retains features of *FileMaker* and reads *FileMaker* data, also displays up to 8 files, uses "lookup" to retrieve data from other files. Enhanced calculation with many additional functions. Scripts automate a sequence of actions. \$295. Requires 512K+. Forethought, 250 Sobrante Way, Sunnyvale, CA 94086. NCP (Nov 86)

Filevision is a simple database that can change the way you think about data and data organization. Records are based around user created graphics screens. Screens and records can be linked in complex ways. \$195. Telos Software, 3420 Ocean Park Blvd., Santa Monica, CA 90405. CP

Helix is a relational database that makes extensive use of icons. Setup is easy due to adherence to the Mac interface. The manual is clear, thorough and well-indexed. Complicated for

simple database applications, excellent where a relational power is needed. Requires 512K+ and external drive. \$395. Odesta, 4084 Commercial Blvd., Northbrook, IL 60062. NCP (Mar 86)

MacBase is a forms-oriented relational database. Unfortunately, precise forms are hard to create. Allows calculated fields and has quick and powerful search capabilities. Best when much data is to be looked up, but not frequently entered. Requires 512K+. \$195. Eqtron Corp., 330 Bay St., Toronto, Ont. M5H 2S8, Canada. NCP (Jul 86)

MacRelax is a relational list manager that stores data in a column format. Files can be related by sharing a common field. Flexible design for reports. Screen display is sometimes strange. Easy to use but not obvious to learn. \$99.95. 512K required. Arrays, 6711 Valjean Ave., Van Nuys, CA 91406. NCP (Jan 87)

MegaFiler is a simple file manager. Its limited capabilities have been far surpassed by cheaper and easier to use programs. Valuable only in conjunction with *MegaForm*. \$195. MegaHaus, 5703 Oberlin Dr., San Diego, CA 92121. CP

Omnis 3 is a power database, featuring concurrent multiple file management. Can handle 24 files, 12 at a time, and is fully relational. Create custom environments including user-defined menus, commands and dialogs. \$495. Blyth, 2655 Campus Dr., San Mateo, CA 94403. CP (Mar 86)

OverVUE is a power-packed relational database that has extensive sorting, summarizing and report generation capacity. Has macros and a charting function. Good manual. It can exchange files with a very wide variety of other programs (including IBM software). \$295. ProVUE, 222 22nd St., Huntington Beach, CA 92648. NCP (Nov 85)

Professional Bibliographic System is a specialized data base storing and retrieving bibliographies. Redesigned templates (20) simplify creation or modification. Version 2.6 offers improved speed, flexible formatting. \$295. Personal Bibliographic Software, Box 4250, Ann Arbor, MI 48106. CP (Feb 87)

Record Holder is a flexible, easy-to-use form-oriented data manager. Set up is particularly simple and the search features are powerful. \$49.95. Software Discoveries, 99 Crestwood Rd., Tolland, CT 06084. NCP (Apr 86)

Reflex For The Mac is a flexible relational database. Excellent report generator gives full control over appearance, style of output. Requires 512K+, second drive or hard disk highly recommended. \$99.95. Borland International, 4585 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Nov 86)

NUMBER CRUNCHING

DesignScope is a construction kit for digital and analog circuits. Up to 254 components can be utilized in a single circuit, and the equivalent of a dual trace oscilloscope plots output in real-time. Good for testing basic (and not-so-basic) circuitry without touching a breadboard. \$249.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP

MacCalc is a fast, competent, full-featured spreadsheet with impressive built-in functions, font control, on-line help, ability to expand columns and rows and read/write SYLK or WKS files. The worksheet is 125 columns by 999 rows. Cell names, printing power make *MacCalc* a very flexible pure spreadsheet. \$99.95. Bravo Technologies, c/o DPAS, PO Box T, Gilroy, CA 95021. NCP (Sep 86)

Multipan, the first Mac product from someone other than Apple is beginning to show age. Still a very capable basic spreadsheet with simple sorting, 63 columns by 255 rows, many built-in functions, other standard spreadsheet features. \$199.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. CP (Mar 86)

ProAnalysis is a powerful real estate investment analysis program. This program uses the Mac interface as well as any program yet published. Analytic power is combined with

MINIFINDERS



report generating so good you have to see it. Requires 512K+. \$295. Technalysis Services, 14555 DeBell Rd., Los Altos Hills, CA 94022. CP

StatView is a high-powered statistical calculation package. Easily and efficiently handles all the common statistical techniques and many uncommon tests. Has a user-definable area as well. Easy to use and well documented. \$199.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP (May 86)

StatView 512+ is a very intuitive statistical analysis program with tools needed to understand any set of data. Holds data in a spreadsheet-like form. Full-featured, fast and accurate. Extremely wide range of analyses possible. Requires a minimum of 512K of RAM & 800K of disk space to operate. \$349.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP (Dec 86)

StatWorks is a general-purpose statistics package that is both powerful and easy to use. Handles all standard tests and procedures. Single variable and multivariate statistics are supported. \$125. Cricket Software, 3508 Market St., Philadelphia, PA 19104. NCP (May 86)

GRAPHICS & DESIGN

Animation Toolkit I lets users prepare "film clips" of moving objects which play back at varying speeds, like old-fashioned flip books. Each film clip plays repetitiously as it is being constructed. A limited animation tool, but a lot of fun. \$49.95. Ann Arbor Softworks, 308½ S. State St., Ann Arbor, MI 48104. CP

Art Grabber with Body Shop is a desk accessory that lets users browse MacPaint documents, selecting and copying as they choose. Selections can be larger than screen size. Also included are MacPaint documents and templates to allow the creation of people in your art. \$49.95. Hayden, 600 Suffolk St., Lowell, MA 01853. NCP

CalendarMaker creates monthly calendars in a variety of formats. Users can incorporate their art and daily notes. Note files can be imported from a variety of DA calendars and outliners. Available as shareware and prelicensed. \$30. CE Software, 801 73rd St., Des Moines, IA 50312. NCP (Dec 86)

Chart can easily create area, bar, column, line, pie, scatter and combination charts. A total of 42 styles are provided. Limited to 100 data items (64 in a series) on a 128K Mac, approximately twice that on a 512K Mac. \$125. Microsoft, 16011 NE 36th WAY, Redmond, WA 98052-6399. CP

ClickArt Special Effects is a MacPaint enhancement desk accessory. Allows the user to distort, stretch, rotate and use perspective on MacPaint documents. A necessary addition for all serious users of MacPaint. \$49.95. T/Maker, 2115 Landings Dr., Mountain View, CA 94043. NCP (Apr 86)

ColorPrint facilitates color printing on the standard ImageWriter. MacPaint files set up as overlays are read into ColorPrint, and the program controls proper positioning registration and colored ribbon switching. Good results require lots of hard work, but it's cheaper than an ImageWriter II. \$49.95. Esoft Enterprises, PO Box 179, Owasso, OK 74055. NCP (Mar 86)

ComicWorks is a graphics wonder. Manipulate bit mapped graphics as independent objects, with up to 64 layers of matting. An airbrush, multiple page capacity, full-screen drawing, and two disks of gorgeous artwork round out this package. Needs better LaserWriter support. \$79.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. NCP (Nov 86)

Cricket Graph easily generates 12 graph types. Multiple windows can be displayed. Graph prints in up to 8 colors with up to 16 patterns. Self-generating macro formatting. Switcher, HFS, LaserWriter and plotter compatible. \$195. Cricket Software, 3508 Market St., Philadelphia, PA 19104. NCP (Jun 86)

DaVinci Building Blocks features predrawn blocks of brown, stone, garden, and skyscraper portions that can be cut and pasted together to form landscape and architectural draw-

ings. Fun for even non-pro's. \$79.95. Hayden, 600 Suffolk St., Lowell, MA 01853. NCP

DrawArt is the first MacDraw clip-art disk. Unfortunately, the assortment of graphics is too ragtag and the quality of images ranges from great to terrible. No image index. \$49.95. Desktop Graphics, 400 Country Dr., Dover, DE 19901. NCP (Oct 86)

Easy3D is a three-dimensional, solid modeling masterpiece. Four variable light sources, powerful sculpting tools and an exquisite user interface make this a must-have for graphics enthusiasts. Requires 512K+. Enabling Technologies, 600 S. Dearborn, Chicago, IL 60605. NCP (May 86)

Fluent Fonts is a two-disk collection of fonts. Forty-nine different items are included. All install easily in user Systems. Most are well executed and some are extraordinarily nice. This is a real bargain for font lovers. \$49.95. Casady, PO Box 223779, Carmel, CA 93922. NCP

Fantastic is the best font editor now available for the Mac. Features a large editing window with a grid to make positioning easy. Select letters to edit by clicking on a matrix of the font. Allows scaling of existing fonts and previewing the various styles (italic, bold, etc.). \$49.95. Altsys, PO Box 865410, Plano, TX 75086. NCP (Dec 85)

Fontographer is a complex, but excellent laser font creator. The fonts created have 300 bits per inch resolution. The fonts are actually downloadable PostScript files. \$395. Altsys, PO Box 865410, Plano, TX 75086. CP

FullPaint is an expanded version of MacPaint. Features include full-screen drawing, multiple documents open simultaneously, brush editing, movable tool palettes, special text effects and much more. It fills the gaps left by MacPaint. \$99.95. Ann Arbor Softworks, 308½ State St., Ann Arbor, MI 48104. NCP (Jun 86)

GrayPaint is a graphics system for creating gray-level pictures. At the time of review, program was unfinished with some non-working functions. What did work was impressive. \$59.95. MacNifty Central, 6860 Shingle Creek Pkwy., Minneapolis, MN 55430. NCP (Dec 86)

GridMaker is a tool for artists who use perspective. The program automatically generates a series of three-dimensional plane sets that can be pasted into MacDraw. Sizes and viewing vantage point are easily modified. \$49. FolkStone Design, Inc., PO Box 86982, North Vancouver, BC V7L 4P6, Canada. NCP (Nov 86)

Home Design is a home planning tool that includes three disks full of MacPaint files of household items needed to design a home. Art Grabber Installer is included for easy maneuvering of items. The professional home designer, as well as the amateur will feel at ease using this program. \$79.95. Hayden, 600 Suffolk St., Lowell, MA 01854. NCP (Jun 86)

Human Forms allows users to create perfectly proportioned humans in any posture or position. Contains over 1000 separate body parts. Tiny X marks make limb, head and detail placement perfect. Requires MacPaint. \$59.95. Bert Monroy, 205 Luquer St., Brooklyn, NY 11231. NCP

Icon Switcher changes icons for applications and the documents they generate, permitting you to customize icons for personal work. New icons can be built pixel by pixel in the program or created in MacPaint and pasted in. \$19.95. PBI Software, 1111 Triton Dr., Foster City, CA 94404. NCP

LaserFonts are new fonts for the LaserWriter. Users download them to their machines. Very high quality and very simple to use. Willamette looks like Avant Garde. MicroFonts provides tiny, expanded and condensed versions of the LaserWriter's own fonts. \$29.95 each. Century Software, 2306 Cotner Ave., Los Angeles, CA 90064. NCP

LaserWorks is a high-resolution font and graphics editor, producing LaserWriter-compatible end products. Its numerous well-designed features make it suitable for users of all levels, from beginners to pros. Requires 512K+ and external drive or hard disk. \$299. EDO Communications, 63 Arnold Wayh, W. Hartford, CT 06119. CP (Sep 86)

LOOKING FOR A GREAT IDEA?

BrainstormTM

THE LAST MEMORY UPGRADE YOUR MAC WILL EVER NEED

Finally, the unprecedented power of an open architecture Mac. The ultimate Mac enhancement, now made possible by second generation memory technology, Brainstorm is the 1, 2, and 4 meg memory upgrade for your 128K or 512K Mac. Brainstorm, multi-meg power for your Macintosh.

Productivity Plus

Revolutionize your productivity with Brainstorm. Run all your favorite applications on a RAM disk up to ten times faster. Create your own integrated software and work with multiple applications simultaneously. Free yourself from disk swaps and needless restrictions on document size. Achieve full performance from high-flying software like Excel, Jazz, or PageMaker. Brainstorm, versatile power for your Macintosh.

Total Compatibility

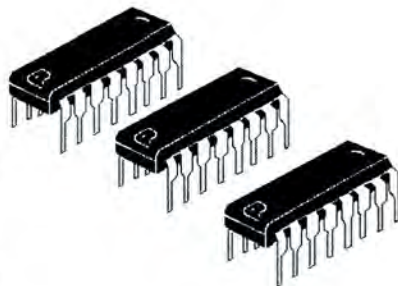
Brainstorm is accommodating. It runs 128K, 512K and Mac Plus software. With no awkward boot-up disk. Brainstorm is extraordinarily tiny. So it even fits beneath HyperDrive, unlike any other multi-meg upgrade. The built-in ROM EnhancerTM allows you to switch back to 512K at the click of a mouse. And Brainstorm works with all Apple ROMs and the new 800K drive. Brainstorm, universal power for your Macintosh.

A Real PowerSaver

Brainstorm's innovative design incorporates a custom PowerSaver chip. This allows the two meg, for instance, to run cooler than a 128K. Less heat and no overloading of your power supply. And without a noisy fan. Brainstorm, safe power for your Macintosh.

Power Within Reach

State of the art manufacturing allows Mac Doctor to deliver Brainstorm at absurdly low prices. \$379 for 1 meg from 512K, or \$428 from 128K, for example. Fully installed and ready to perform, with a one year warranty, optional Performance Software, and a readable user's guide. Brainstorm, value for your Macintosh.



... AND SOME MORE GREAT IDEAS

The Mac Doctor 512

An industry standard 512K upgrade with a built-in future. Upgrade later to a BrainStorm and get an \$89 discount. Gold sockets are standard as well as a complete 120 day warranty. Compatible with all Mac software and with internal hard disks. Performance Software included free \$169

20 Meg Internal Drive

Imagine having 20,000K available on your disk. Convert your Mac into a power work station with this superfast name brand internal 20. 800K external also available.

Mac Doctoring

Mac sick? Mac Doctor is the digital service specialist. Component level repair at honest prices. Many common problems repaired for under \$50. Call for estimates.

- **For information call (415) 964-2131**
- **Ask about our No Down-time Service**

Mac Doctor Electronics

1145 Terra Bella Ave • Mountain View, CA 94043 • (415) 964-2131

Trademarks: Macintosh, Mac Plus, Apple, of Apple Computer, Inc.; Excel of Microsoft Corp.; Jazz of Lotus Development Corp.; PageMaker of Aldus Corp.; HyperDrive of General Computer, Inc.; BrainStorm, PowerSaver, Rom Enhancer of Mac Doctor Electronics

Please circle 162 on reader service card.

MINIFINDERS



The Mac Art Dept. is a collection of over 150 graphic images ranging from foods to hands holding signs to borders. Best suited for letterheads, memos, other business use. \$39.95. Simon & Schuster, Computer Software Div., 1230 Ave. of the Americas, New York, NY 10020. NCP (Mar 86)

MacDraft is an object-oriented graphics program. It sports advanced features such as variable scaling, single degree rotation, complex arcs and a FatBits-like magnification mode. Best used to complement MacDraw, not replace it. \$239. Innovative Data Design, 1975 Willow Pass Rd., Concord, CA 94520. CP (Feb 86)

MacDraw is an object-oriented structured graphics program. Can be used to design forms, create presentation materials and do technical illustrations. Drawing sizes up to 8 feet by 10 feet are possible. Text can be easily generated and integrated in the graphics. \$195. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Nov 85)

MacModel is an economical 3D package with shading. Somewhat sketchy Mac interface, shading speed slow (but acceptable), grainy image resolution. On-line help screens are a welcome addition. Frequent updates and low price make this a reasonably good buy. \$40. A.P.P.L.E. CO-OP, 290 SW 43rd St., Renton, WA 98055. NCP (Aug 86)

MacPaint is the graphics program that started a whole new genre. Still the best freehand graphics tool. Version 1.5 supports 512K+ Macs and the LaserWriter. Multiple tools, patterns and features too numerous to describe. A work of art for artists. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Nov 85)

MacPublisher II is the souped-up version of MacPublisher. Allows MacWrite and Word files to be imported and edited; allows up to 96 pages; supports kerning, borders, cropping, and it runs on 128K Macs. \$195. Boston Software Publishers, 1260 Boylston St., Boston, MA 02215. CP (Sep 86)

Mac3D 2.0 is a feature-laden 3D program with a MacDraw-like interface. PostScript-resolution shading with six variable light sources and user-definable tools make this a graphic powerhouse. \$249.95. Challenger Software, 18350 Kedzie Ave., Homewood, IL 40430. NCP (Jan 87)

MapMaker produces maps and analyses of related geographical data. Additional data disks available. Documentation could be better. Requires 512K; second drive recommended. \$295. Select Micro Systems, 2717 Crescent Dr., Yorktown Heights, NY 10598. NCP (Jan 87)

PageMaker is an advanced layout and makeup program. Can easily create multiple page documents. Output is optimized for LaserWriter. Good documentation. \$495. Aldus, 411 First Avenue South, Seattle, WA 98104. CP (Jun 86)

Phoenix 3D is an economical 3D drawing package, with features that belong in a more expensive program. Multiple light sources, fine object placement and orientation control, and a good selection of shapes. \$39.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP (Oct 86)

PictureBase is a program and accompanying desk accessory for organizing MacPaint and MacDraw files. Graphics are organized into libraries, and can be searched for by keywords. \$69.95. Symmetry Corporation, 761 E. University, Mesa, AZ 85203. NCP (Jun 86)

PosterMaker can enlarge MacPaint drawings by up to 3200 percent. Full-screen cut and copy are supported, so any portion of a Paint document can be selected and scaled. Borders can be added automatically. Includes some nice digitized graphics files. \$39.95. Strider Software, Beecher Lake Rd., Pembine, WI 54156. NCP (Jul 86)

The Print Shop makes it easy to create greeting cards, banners, letterhead and signs in minutes. Offers full access to fonts, styles, graphics. Can pull images from MacPaint files or off the Clipboard. Fun and easy to use. \$79.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP (Dec 86)

Ragtime is an "Integrated Page Processor" with text, graphics and built-in spreadsheet. Flow text automatically from one frame to another. Spreadsheet has a full set of functions. Excel-

lent, easy to use program. Requires 512K+. \$395. Orange Micro, 1400 North Lakeview, Anaheim, CA 92807. CP (Feb 87)

ReadySetGo is a page makeup program for 512K+ Macs. Users build up pages from blocks of text, graphics and rules. Text and art may be pasted in from another source or created within the program. Good LaserWriter support. \$195. Manhattan Graphics, 401 Columbus Avenue, Valhalla, NY 10013. NCP (Apr 86)

Slide Show Magician 1.3 is useful for creating full screen audio-visual presentations on the Mac. Frame branching, improved editing capabilities, external cassette recorder synchronization and digitized sound capabilities make this much more powerful than the original. \$59.95. Magnum, 21115 Devonshire St., Chatsworth, CA 91311. CP (Mar 86)

Storyboarder produces working animated storyboards for use in film and video production. Imports graphics from MacPaint; allows screen masking to simulate television, 35mm or 70mm screen widths; allows limited animation and special effects. Storyboards can be printed in several formats. \$495. American Intellware, PO Box 6980, Torrance, CA 90504. CP (Nov 86)

Sunshine Graphics Library is a collection of 36 400K disks (to date) with a wide variety of high-quality digitized images stored as MacPaint files. Each disk comes with a laser catalog. \$20/disk; discounts scale for multiple purchases. SunShine, Box 4351, Austin, TX. NCP (Feb 87)

SuperPaint is a powerful, easy-to-use graphics program with all the best features of MacPaint and MacDraw — and then some. Among the new features, LaserBits provides three levels of magnification and there are 40 editable brush shapes. Requires 512K+. \$99. Silicon Beach, 9580 Black Mountain Rd., PO Box 261430, San Diego, CA 92126. NCP (Feb 87)

VideoWorks is a full-featured animation package. Professional quality animations are easily accomplished using the tools provided. Features frame-by-frame and real-time modes. Comes with Art Grabber. \$99.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP (Nov 85)

World-Class Fonts! comes in two volumes of three disks each. Includes all the Mac Knife fonts and a lot more, including 2 useful utilities. This is now the best collection of ImageWriter fonts available. Each volume: \$39; both volumes: \$59. Dubl-Click Software, 18201 Gresham St., Northridge, CA 91325. NCP (Dec 86)

COMMUNICATIONS

HomePak is a package consisting of HomeTerm, an excellent simple telecommunications program with strong macro features; HomeFind, an electronic filer as bad as HomeTerm is good; and Apple's Edit, a simple, non-HFS-compatible text-file editor. \$49.95. Batteries Included, 30 Mural St., Richmond Hill, Ontario L4B 1B5, Canada. NCP (Aug 86)

InTalk comes with its own communications command language able to do unattended sessions. Supports Xmodem and MacBinary. Has a macro key function. Many sample set up documents and command language files provided. \$145. Palantir, 12777 Jones Rd., Houston, TX 77070. CP (Prem)

MacTerminal provides basic telecommunications and terminal emulation for the Mac user. Doesn't have macros nor any sort of auto redial/auto logon capability. Best for those needing faithful VT100 or IBM 3278 emulation — it is superb at those. \$99. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Prem)

Microphone is a high-powered terminal program that's easy enough for novices. Very powerful command language allows full automation of communications, if desired. \$74.95. Software Ventures, 2907 Claremont Ave., Berkeley, CA 94705. NCP (Jun 86)

Red Ryder is a full-featured telecommunications program that supports MacBinary, Xmodem and Kermit. Remote service

1-800-MAC-DISK

Hardware

SCSI Hard Drives

Magic20	\$ 699.00
Magic30	899.00
Magic65	1399.00
Magic235	3399.00

The Keeper

20 MB	2395.00
40 MB	3395.00

Laser Writer Spooler

Dataspace 800K (call) 229.00

Avatex 1200 Baud Modem 109.00

MagicModem (1200 Baud) 149.00

Numeric Turbo 109.00

Turbo Touch 78.00

Ehman 800K 219.00

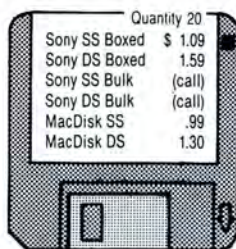
Magic 800K 199.00

Ribbons

	1-5	6+
Black	2.95	2.75
Colored	4.50	3.75
Multicolored	13.00	12.00



1-800-MAC-DISK



Upgrades

128K to 512K	\$ 129.00
512K to 1024K	159.00
128K to 1024K	269.00
SCSI Port	89.00

Dove Upgrades:

MacPlus 2MB	269.00
128K to 1024K	299.00
512K to 1024K	179.00
512K to 2048K	449.00
2.5 Meg Hyperdrive Compatible	745.00
4 Meg Hyperdrive Compatible	1395.00

180 Day Warranty on All Upgrades
Over 3000 Upgrades Completed

1-800-MAC-DISK

Software

dBaseIII (Mac)	\$ 395.00
Dark Castle	35.00
GraphicWorks	52.00
More	156.00
MS Works	185.00
Mac3D	129.00
Super-Paint	58.00
Uninvited	32.00
Mac Lightning 2.0	54.00
Hard Disk Utilities	66.00
Laserspool	65.00
LaserServe	99.00
Smart Alarms	29.00

Accessories

Magic Pad - The Ultimate	
Speed Pad	\$ 10.95
Mac Tote - Optimum	69.00
MacPlus Bag - I/O Designs	59.00
Image II Bag - I/O Designs	55.00
Phone Net - Apple Talk Alternative	38.00
Disk File/30	7.95
Laser Writer Toner	50.00

Vision Technologies

2200 Guadalupe Street, Austin, Texas 78705

Dealer Inquiries Welcome

Quantity discounts available upon request

Ordering Information Call 1-800-MAC-DISK In Texas or for information, call 1-800-2MAC-TEX

Hours: 8am-8pm CST \$25 minimum on all orders, Shipping minimum \$3 additional

Visa, MC, C.O.D., PO's, Checks Texas residents add 6 1/2% sales tax

Magical Speeds



MagicDrive

Ultra-fast data transfer rate

Automatic error detection and correction

1 Year Warranty and 30-day guarantee

Magic20	\$ 699.00
Magic30	899.00
Magic65	1399.00
Magic235	3499.00

Magical Prices



MagicModem

1200/300 baud wall mount modem

Fully Hayes compatible

Works with most personal computers

\$149.00

MagicProducts



Magic 800K

800K external disk drive

Fully compatible

\$199.00

MagicProducts



4505 Spicewood Springs Road

Suite 304

Austin, Texas 78759

512-343-0781

MacCalc

Speed, Style, Simplicity

To be fast is not enough — the speed must be easy to use. We set out to make MacCalc fastest in this fullest sense ... and succeeded. MacCalc is blindingly fast — and that speed is available to the novice as well as the power user. And not only is MacCalc easy, we also included the most important "wish list" features, like cell notes, database search/sort commands, complete formatting with variable fonts/styles/sizes for any cell, variable row height and variable column width, and more. With full desk accessory support and Switcher-compatibility,

Complete formatting
for any cell



MacCalc provides access to your favorite graph and keystroke macro programs. MacCalc is focused — simply the easiest and the fastest spreadsheet available...and if that's not enough, MacCalc is also the lowest cost! Ease, speed, style and simplicity. MacCalc.

*MacUser Editor's Choice Award
"The Best Spreadsheet"*

- ☐ On-Line Help
- ☐ Full Undo for all operations
- ☐ Notes for any cell: create an audit trail or remember key assumptions
- ☐ Not copy-protected
- ☐ Reads/writes Lotus 1-2-3 files and SYLK data

- ☐ Supports Desktop Publishing: print publication-quality output or paste formatted tables directly into your page layout program
- ☐ Full choice of Format, Font, Style, & Size for any cell
- ☐ Variable row height & column width

"...[MacCalc] actually runs faster than Excel; and it clearly surpasses Multiplan in both speed and features... MacCalc is the clear value leader in the Macintosh spreadsheet market... it is difficult to rate [MacCalc] anything but excellent."

— *Infoworld* software review, 3 November 1986

"MacCalc's one of the best programs I've ever bought... It has an excellent manual... [Bravo] did a terrific job."

— a Financial Analyst in New York

"MacCalc is a well-designed and powerful product for those who require a full-featured spreadsheet... It is easy to learn, fast and efficient, and is a very good buy..."

— *MacWorld*, December 1986

\$139

(CA add sales tax)

Call to order, 8AM to 5PM P.S.T.

800 345-2888

c/o DPAS P.O. Box T Gilroy, CA 95021-2249

BRAVO

Bravo Technologies, Inc.

Dealer & Corporate Inquiries: (415) 841-8552

Trademarks: MacCalc/Bravo; 1-2-3/Lotus; SYLK/Multiplan/Excel/Microsoft/Macintosh/Apple

Please circle 234 on reader service card.



1 - 800 - MacUser

Moving? If you're moving house soon and you're a subscriber, please try to let our subscriptions department know six weeks in advance so that we can ensure you don't miss a single copy of MacUser. Just dial ...

1 - 800 - MacUser

Call us! It's a toll-free call and a real live MacUser human being will answer between the hours of 9:00 a.m. and 5:30 p.m. (Eastern Standard Time) to process your new information and confirm the details.

1 - 800 - MacUser

Subscribe! You can also dial this number to order a subscription to MacUser. You'll get a whopping 48% discount off the newsstand price as described in our regular subscription card.

1 - 800 - MacUser

Subscription query? And if you have a query or complaint relating to your subscription, we'll do our best to solve it for you while you're on-line. If you call outside of "human hours," an answering machine will take details.

1 - 800 - MacUser

Last, please help us to help you by not calling our editorial offices on the East or West Coast with subscription inquiries. We do not have the records available on screen there and can't give you any sensible answers to questions about subscriptions. Conversely, our subscription people aren't set up to handle editorial brickbats and roses. You'll find our editorial telephone numbers listed under the masthead on page 4. Thank you for subscribing to MacUser!

1 - 800 - MacUser

**Connecticut and Canadian residents only, please call (203) 853-1858 for all subscription inquiries.*

GET YOUR NEXT 12 ISSUES OF

MacUser FOR JUST \$21.84

(TURN PAGE
FOR
SUBSCRIPTION
ORDER FORM)



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT 88 NORWALK, CT

Postage will be paid by addressee

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

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT 88 NORWALK, CT

Postage will be paid by addressee

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

SAVE MORE THAN \$25 OFF THE COVER PRICE

OUR SPECIAL CHARTER SUBSCRIPTION OFFER ALSO SAVES YOU \$5.16 OFF THE BASIC SUBSCRIPTION RATE

MacUser

* Savings Certificate *

Enter my subscription for 12 monthly issues of MacUser at the Special Charter Subscription rate of \$21.84. That's a saving of \$5.16 over the basic subscription rate and more than twenty-five dollars off the newsstand price.

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

Card No. _____ Expires _____

Signature _____

Name _____

Company _____

Address _____

City, State, Zip _____

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

Your subscription may be tax-deductible

Offer expires June 30th, 1987

3026

Special
Charter
Subscriber
Rate

\$1.82
per copy

Basic
Subscriber
Rate

\$2.25
per copy

Cover
Price

\$3.95

MacUser

* Savings Certificate *

Enter my subscription for 12 monthly issues of MacUser at the Special Charter Subscription rate of \$21.84. That's a saving of \$5.16 over the basic subscription rate and more than twenty-five dollars off the newsstand price.

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

Card No. _____ Expires _____

Signature _____

Name _____

Company _____

Address _____

City, State, Zip _____

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

Your subscription may be tax-deductible

Offer expires June 30th, 1987

3026

Strength in Numbers.

- 1 Customize delivered reports
 - 2 Create your own reports
 - 3 Extract report data from up to 10 files
 - 4 Create calculated fields on reports
 - 5 Mask record selection with your own criteria
 - 6 Create your own data files
 - 7 Use the File Editor to edit any file including your own
 - 8 Work on multiple files in multiple windows
 - 9 Print any report to screen, printer, or text file
 - 10 Text files can be read into most Mac applications
 - 11 Data records can be physically or logically deleted
 - 12 Make a mass change to any selected group of records
 - 13 Make a mass change from another data file
 - 14 Move data from one file to another
 - 15 Print a description of any data file
 - 16 Optional password protection
 - 17 Fiscal year can be defined starting with any month
 - 18 Same expression syntax in Mass Change, Report Builder, etc.
 - 19 Expressions encompass full if/and/or logic plus wild carding
 - 20 When prompted for a file, just click and a selection box will appear
 - 21 Up to 50 fields per file
 - 22 Multiple indexes per file
 - 23 File Dump allows for printing of contents of specific fields
 - 24 Date created and last modified tracked for every record
 - 25 All System Manager functions work with your own data files
 - 26 Customize your Financial Statements
 - 27 Create new Financial Statements
 - 28 Print Statements at any time during the month
 - 29 Have as many different statements as you like
 - 30 Both comparative and standard statements
 - 31 Compare against either last year or a budget
 - 32 Have as many different budgets as you wish
 - 33 Print statements for a specific department
 - 34 Or print statements for a range of departments
 - 35 Standard, recurring and accrual-type journals
 - 36 Post journals to previous closed months in same year
 - 37 Post journals to next month even if current month is open
 - 38 Year-end audit adjustments
 - 39 Allocate balance in one account to other accounts automatically
 - 40 Allocate either as a fixed amount or on a percentage basis
 - 41 Complete General Ledger-Trial Balance reports
 - 42 Inquire into all transactions for a specific account
 - 43 Inquire into the balances of any account
 - 44 Define multiple profit centers besides multiple departments
 - 45 Inquire into account transaction for entire year
 - 46 No limits on number of accounts, departments, budgets, etc.
 - 47 Accounts can be declared inactive to stop future use
 - 48 Account numbers can be alpha or numeric
 - 49 Delivered with predefined chart of accounts and statements
 - 50 Complete pre-closing month-end reconciliation
 - 51 Customize your own check forms
 - 52 Delivered with predefined check form
 - 53 Unlimited number of check forms allowed
 - 54 Unlimited number of banks and checking accounts allowed
 - 55 Complete bank statement reconciliation
 - 56 Complete processing of stop payments
 - 57 Void a single check or a range of checks
 - 58 Inquire into a specific vendor or range of vendors
 - 59 Complete check generation
 - 60 Also, posting of handwritten checks
 - 61 Miscellaneous cash disbursements
 - 62 Vendor and voucher info available by just pointing and clicking
 - 63 Complete voucher entry
 - 64 Unlimited number of terms codes
 - 65 Complete debit-memo processing
 - 66 Multiple payments allowed
 - 67 Complete discount handling and calculating
 - 68 Both Aging and Past Due Reports
 - 69 Custom aging periods
 - 70 1099 Form Reporting
 - 71 Project Cost Reporting
 - 72 Complete cash requirements reporting
 - 73 Both standard and recurring vouchers allowed
 - 74 Unlimited number of vendors, transactions, etc.
 - 75 Complete month-end processing
 - 76 All modules run under one program
 - 77 Specifically written for the Macintosh
 - 78 All functions operate in separate windows
 - 79 Multiple windows may be on the screen at one time
 - 80 All open windows appear in the windows menu
 - 81 Works with all standard desk accessories
 - 82 All modules and functions are separate icons on disk
 - 83 Full cut, copy and paste capabilities
 - 84 Data from your own files may be transferred into General Ledger
 - 85 Defaults can be set up in a parameter file
 - 86 All screens are clear and easy to understand
 - 87 All functions follow consistent formats
 - 88 All customizable features are delivered predefined for easy startup
 - 89 Customizing instructions in documentation
 - 90 Supports both ImageWriters and LaserWriter
 - 91 All modules sold separately, so you only buy what you need
 - 92 All modules run independently with the System Manager or integrated
 - 93 Runs on Macintosh 512k, Macintosh XL and Macintosh Plus
 - 94 Hard disk required (Unless running on two 800k drives)
 - 95 Version 2.1 now shipping
 - 96 Available Soon: Accounts Receivable and Inventory Control
 - 97 Available in either single-sided or double-sided formats
 - 98 Unlimited yearly support contract available for a fee
 - 99 For a limited time, only \$99 per module!
- And many, many more!

Accountant's Choice for the Mac.

Features, not fluff. For a limited time, only \$99 per module.

Now you can make your accounting software fit your business instead of the other way around. Because, whether your company is big or small, *Accountant's Choice* grows as your business grows. So, if you'd rather spend your money on features instead of flashy brochures and packaging, call us today at 1-800-654-6795.

Macintosh is a trademark licensed to Apple Computer, Inc.
Accountant's Choice is a trademark licensed to Enchanted Software, Inc.



Enchanted Software, Inc.
P.O. Box 21507
Albuquerque, NM 87154

Accountant's Choice. For the way your business does business.

To order by phone or for a dealer nearest you:
CALL 1-800-654-6795. In New Mexico, (505) 291-8465.

Please send me:

- ☐ **General Ledger** \$99
☐ **System Manager*** \$99
☐ **Accounts Payable** \$99

Send to:

Enchanted Software, Inc.
P.O. Box 21507
Albuquerque, NM 87154-1507

*System Manager is required to operate the system.

Please add \$2.50 per module postage and handling.
New Mexico residents add 4.875% state sales tax.

Name _____
Address _____
Company/Title _____
City, State, Zip _____

Please circle 186 on reader service card.

MINIFINDERS



procedures, auto procedure writer and keyboard macros allow automation of many operations. It is shareware and a real bargain. \$40. The FreeSoft Corp., 10828 Lacklink, St. Louis, MO 63114. NCP (Jun 86)

Smartcom II balances power and ease of use. Capable of **|||||** unattended operation and has a very powerful command language. Supports MacBinary, Xmodem, and Hayes Verification protocols. The large screen buffer can easily be archived. \$149. Hayes, 5923 Peachtree Industrial Blvd., Norcross, GA 30092. NCP (Prem)

Telescope is the power telecommunicator's terminal program. Can **|||** be configured to emulate any terminal. The documentation does not adequately explain the many features. \$125. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP (Jun 86)

VersaTerm features include DEC VT100 and VT52, Tektronix 4014 **|||||** graphics terminal and Data General DG200 emulation. Supports Xmodem and MacTerminal Xmodem protocols and MacBinary. *VersaTerm* is easy to use and well documented. \$99. Peripherals, Computers & Supplies, 2457 Perkiomen Ave., Mt. Penn, PA 19606. CP (Prem)

WORD PROCESSORS

Document Compare allows users to compare any two *MacWrite* **|||||** 4.5, ASCII or MDS documents. Differences in spelling, punctuation, formatting and wording are detected. Documents can be printed out with differences highlighted. \$99. The Model Office Company, 49 Wellington Street East, Toronto, Canada M5E 1C9. CP (May 86)

EgWord is a *MacWrite* lookalike that allows full Japanese kanji **|||||** word processing on the Mac. Does a superlative job of making Japanese text-entry as easy as possible. Great for students of Japanese, may find a place in international business as well. \$300. Counterpoint Systems, PO Box 1685, Cambridge, MA 02138. CP (Apr 86)

Hayden: Speller (version 1.2) is a batch-type spelling checker. It's **|||||** flexible, but two drawbacks: small dictionary and you can't change number of unique words. \$79.95. Hayden Software, no longer in business. CP (Oct 86)

Just Text is a professional level word processor and page makeup **|||||** program that generates PostScript output. Comes with a set of *LaserWriter* utilities that allow total manipulation of art and text. Requires *LaserWriter* or other PostScript compatible output device. \$195. Knowledge Engineering, GPO Box 2139, New York, NY 10116. NCP (Dec 85)

Liberty Spell Checker is a fast, effective interactive checker. The **|||||** dictionary is smaller than average, but well chosen. Unfortunately, it has a few misspelled words. \$59.95. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP (Oct 86)

MacGAS is a DA spelling checker with both a small and extended **|||||** dictionary. Its best point is the excellent thesaurus, provides antonyms & glossary. A slow checker. \$99. EnterSet, 410 Townsend St., San Francisco, CA 94107. CP (Oct 86)

MacIndexer is a good writer's utility that takes much of the **|||||** mechanical work and time out of preparing an index. Works with *MacWrite* and *Word*. Can generate word frequency counts. \$79.95. Boston Software Publishers, 1260 Boylston St., Boston, MA 02215. CP (Jul 86)

MacLightning is an interactive spelling checker in desk accessory **|||||** form. Text can be checked on the fly or by selection. Works within many applications, and options include a thesaurus, medical and legal dictionary. \$99.95. Target Software, 14206 Southwest 136th St., Miami, FL 33186. NCP (Oct 86)

Macspell+ (version 1.10) is a spelling checker that installs as a **|||||** desk accessory. Works easily with *MacWrite* 4.5 and 2.2 and *Word*, but has some drawbacks. New version just available. Requires 512K+, two drives or hard disk. \$99. Creighton Development, 16 Hughes, Irvine, CA 92718. NCP

MacSpellRight spelling checker has top notch dictionary **|||||** and thesaurus, but works slowly. Limited to *MacWrite* 4.5. Publisher support nil with closing of company, but program

still available. \$89. Assimilation, no longer in business. NCP (Oct 86)

MacWrite is the basic Mac word processor. While it doesn't have **|||||** every bell and whistle, it is more than adequate for most users. Features include global search and replace, page numbers indicated in the scroll bar and excellent *LaserWriter* compatibility. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

QuickWord is a word processing accessory that adds sophisticated **|||||** glossaries to *MacWrite*. Simple to install and use, yet powerful and efficient. \$49.95. EnterSet, 410 Townsend St., San Francisco, CA 94107. NCP

The Right Word (ver 3.0) is a standalone spelling checker that can **|||** be used with *Word*, *MacWrite* and *Jazz*. Dictionary scrolling can only be done one word at a time. You have to reload program to check each document. Biggest minus is speed. \$89. Assimilation, no longer in business. NCP (Oct 86)

Spelling Champion is a fast and accurate batch-type spelling **|||||** checker. Backup feature allows you to undo corrections in a paragraph. Works only with *MacWrite* 4.5. \$39.95. Champion Software, 5201 South Hill Dr., Madison, WI 53705. NCP (Oct 86)

Spellswell is an effective and powerful standalone spelling **|||||** checker. It has many advanced features such as capitalization and homonym checking and comes with a large, well-chosen dictionary. \$59.95. Greene, Johnson, 15 Via Chualar, Monterey, CA 93940. NCP (Oct 86)

Thunder! is the best spelling checker currently available. Has a **|||||** 50,000-word dictionary. Features Learned Words (a superb glossary) and statistics. A very fast DA, it works interactively and in selection mode. Requires 512K+. \$49.95. Batteries Included, 30 Mural St., Richmond Hill, Ontario, Canada L4B 1B5. NCP (Dec 86)

Word is a power word processor for the Mac. It has just about every **|||||** feature your heart could desire. Supports keyboard commands as well as the mouse. Does mail merge and multicolumn text. Integrates with the rest of the Microsoft line. \$195. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. CP (May 86)

Word Handler is a word processor with elements of *MacWrite* and **|||||** *Word*. Can delete, rename, etc., without quitting. Has case change, flexible printing options and glossary. Slow. \$79.95. Advanced Logic Systems, 1283 Reamwood Ave., Sunnyvale, CA 94089. NCP (Oct 86)

ORGANIZATIONAL TOOLS

Acta is an outline processor in desk accessory format. It has **|||||** practically all the power of a standalone program, and then some. Can save files as *Acta* outlines, *MacWrite* or text files. A must-have for those who do outlining. \$59.95. Symmetry, 761 E. University Dr., Mesa, AZ 85203. NCP (Jul 86)

Calliope is a new type of outlining program. Chunks of information **|||||** are manipulated as small "light bulbs" containing text. Related elements can be graphically connected, and their text information viewed in hierarchical order. Text files can be created for *MacWrite* editing. \$59.95. Innovision, PO Box 1317, Los Altos, CA 94023. NCP (Sep 86)

DecisionMap organizes data to facilitate decision making. Unique **|||||** weighting abilities make this a powerful tool. The decision analysis process is long and some times complex, but never difficult. \$145. SoftStyle, 7192 Kalaniano'le Hwy., Honolulu, HI 96825. CP

MacProject allows a user to plan and track a project from **|||||** beginning to end. Uses CPM to produce schedules with start and finish dates for each task. Can report on resource interdependencies and generate all needed printed reports. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Mar 86)

MacSpec is a specification writing tool, a cross between word and **|||||** outline processors. Can automatically number and indent headings, and renumber everything when lines are moved.

IF YOU NEED \$5,000...\$20,000 EVEN UP TO \$500,000 TO START A NEW BUSINESS OR TO EXPAND AN EXISTING FIRM—THEN READ WHY YOU TOO WILL CALL THIS INCREDIBLE MONEY RAISING

BUSINESS OPPORTUNITY SEEKERS' LOANS MANUAL

"The Small Business Borrower's Bible"

Practically prepares the loan application for you line-by-line...the "proper" way.

All properly prepared applications are processed faster...no red tape!

EVERY
LOAN DOLLAR
YOU GET
YOU KEEP
AND USE TO
OPERATE
YOUR BUSINESS

Guaranteed Loans...Direct Loans...and Immediate Loans are available now!

Most men and women seriously interested in starting their own business are eligible to apply — including those who already own a business and need capital fast for expansion...or to stay afloat...even if they've been flatly refused by banks and turned down elsewhere! Yet, too many never qualify, simply because they do not know how to "properly" prepare the loan application...

In order to help those people applying for these guaranteed and direct loans fill out their loan applications the "right way" our business research along with diligent compilation and effective efforts, has successfully assembled and published a comprehensive, easy-to-follow seminar manual: The Business Opportunity Seekers' Loans Manual, that will quickly show you practically everything you'll need to know to prepare a loan application to get federally Guaranteed and Direct Loans.

Here are just some of the many important benefits the Business Opportunity Seekers' Loans Manual provides you with:

- a completely filled in sample set of actual SBA loan application forms, all properly filled in for you to easily follow—helps you in quickly preparing your own loan application the right way. Each line on the sample application forms is explained and illustrated in easy-to-understand language.
- fast application preparation procedures for getting loans for both new start up business ventures and established firms.
- advises you on how to properly answer key questions necessary for loan approval and in order to help avoid having your application turned down—gives you advice on what you should not do under any circumstances.
- what simple steps you take to guarantee eligibility—no matter if you do not presently qualify.
- where you can file your application for fastest processing.

At this point the most important question you want answered is: Just where is all this loan money coming from? Incredible as it may sound—these Guaranteed Loans, Direct Loans, and Immediate Loans are indeed available right now — from the best, and yet, the most overlooked and frequently the most ignored and sometimes outright ridiculed "made-lun-of" source of ready money: fast capital in America — THE UNITED STATES GOVERNMENT.

Of course, there are those who upon hearing the words "UNITED STATES GOVERNMENT" will instantly freeze up and frown and say:

only minorities can get small business loan money from the government!

Yet on the other hand (and most puzzling) others will rant on and on and on that

don't even try, it's just impossible — all those Business Loans Programs are strictly for the Chryslers, the Lockheeds, the big corporations — not for the little guy or small companies etc.

Still there are those who declare:

"I need money right now, and small business government loans take too darn long. It's impossible to qualify. No one ever gets one of those loans."

Or you may hear these comments:

"My accountant's junior assistant says he thinks it might be a waste of my time!" "Heck, there's too much worrisome paperwork and red tape to wade through!"

Frankly — such rantings and ravings are just a lot of "bull" without any real basis — and only serve to clearly show that lack of knowledge, misinformation, and and not quite fully understanding the UNITED STATES GOVERNMENT'S Small Business Administration's (SBA) Programs have unfortunately caused a lot of people to ignore what is without a doubt — not only the most important and generous source of financing for new business start ups and existing business expansions in this country — but of the entire world!

Now that you've heard the "bull" about the United States Government's SBA Loan Program — take a few more moments and read the following facts:

- Only 9.6% of approved loans were actually made to minorities last year
- What SBA recognizes as a "small business" actually applies to 97% of all the companies in the nation
- Red tape comes about only when the loan application is sent back due to applicant not providing the requested information...or providing the wrong information
- The SBA is required by Congress to provide a minimum dollar amount in business loans each fiscal year in order to lawfully comply with strict quotas. (Almost 5 billion this year)

Yet, despite the millions who miss out — there are still literally thousands of ambitious men and women nationwide who are properly applying — being approved — and obtaining sufficient funds to either start a new business, a franchise, or buy out or expand an existing one. Mostly, they are all just typical Americans with no fancy titles, who used essentially the same effective know-how to fill out their applications that you'll find in the Business Opportunity Seekers' Loans Manual.

So don't you dare be shy about applying for and accepting these guaranteed and direct government loans. Curiously enough the government is actually very much

GUARANTEE #1

Simply — look over this most effective money raising loan preparation assistance manual for 15 days — and then, if you are not convinced that it can actually help you obtain the Business Loan you need right away — just return it for a full and prompt refund.

GUARANTEE #2

Even after 15 days — here's how you are still strongly protected — if you decide to keep the manual — and you apply for an SBA Loan anytime within 1 year — your loan must be approved and you must actually receive the funds or your money will be refunded in full.

Interested in helping you start a business that will make a lot of money it's to their advantage — the more money you make the more they stand to collect in taxes. In fiscal 1986, our nation's good old generous "uncle" will either lend directly or guarantee billions of dollars in loan requests, along with technical assistance and even sales procurement assistance. Remember, if you don't apply for these available SBA funds somebody else certainly will.

Don't lose out — now is the best time to place your order for this comprehensive manual. It is not sold in stores. Available only by mail through this ad, directly from Financial Freedom Co., the exclusive publisher, at just a small fraction of what it would cost for the services of a private loan advisor or to attend a seminar.

For example: Initially, this amazing Guarantee and Direct Loans Manual was specially designed to be the basis of a Small Business Loan Seminar — where each registrant would pay an admission fee of \$450. But our company felt that since the manual's quality instructions were so exceptionally crystal-clear that anyone who could read, could successfully use its techniques without having to attend a seminar or pay for costly private loan advisory assistance services.

Therefore, for those purchasing the manual by mail, no 3 day class, no course and accommodations are required. And rather than \$450 we could slash the price all the way down to just a mere \$20 — a small portion of a typical seminar attendance fee — providing you promptly fill in and mail coupon below with fee while this special "seminar-in-print" manual offer is still available by mail at this relatively low price!

Remember, this most unique manual quickly provides you with actual sample copies of SBA Loan application and all other required forms—already properly filled in for you to easily use as reliably accurate step-by-step guides—thus offering you complete assurance that your application will be properly prepared and thereby immediately putting you on the right road to obtaining fast no red-tape loan approval.

Only because we are so confident that this is a fact do we dare make such a strong binding seldom-heard-of Double Guarantee. No stronger guarantee possible!

Of course, no one can guarantee that every request will be approved—but clearly we are firmly convinced that any sound business request properly prepared—showing a reasonable chance of repayment and submitted to SBA—will be approved.

THOUSANDS ARE PROPERLY APPLYING AND BEING APPROVED. HERE'S YOUR CHANCE TO JOIN THEM!

FREE BONUS

If you order your manual today you'll receive a valuable treasury of fast, easy, low-capital and highly profitable business programs worth forty-five dollars — yours absolutely free!

100% tax deductible as a business expense. Don't delay — order your copy today!

NO RISK LOAN OPPORTUNITY FORM

Detach and rush for COMPLETE PREPARATION ASSISTANCE FOR LOAN APPROVAL

Please rush me _____ copies of "Business Opportunity Seekers' Loans Manual" each at a \$20 fee plus \$3.00 handling and shipping. I am fully protected by the two strong guarantees above. I'm ordering today — so I can receive FREE — the valuable treasury of fast, easy, low-capital and highly profitable business programs — worth forty-five dollars — mine free to keep even if I decide to return the manual for a full refund.

☐ Enclosed is Full Payment
☐ Cash ☐ Check ☐ Money Order
Send payment with order.

Name _____

Please Print Clearly

Address _____

City _____

State _____ Zip _____

MAIL TO:

Financial Freedom Publishers

110 W. 5th St.

Winston-Salem, NC 27101

ORDER NOW

GUARANTEED YOUR LOAN MUST BE APPROVED...OR MONEY BACK — ONLY A SMALL PRICE TO PAY FOR THE LOAN YOU CAN GET...NO RISK AND NO HASSLES.

BUSINESS OPPORTUNITY SEEKERS' LOANS MANUAL

MINIFINDERS



Text under headings is handled and formatted as though in a simple word processor. HFS-compatible. \$199.95. LM Software, PO Box 93, Belmont, CA 94002. NCP (Oct 86)

MaxThink is an outline and idea processor that focuses on thinking skills. Helps you establish priorities, evaluate ideas, synthesize information. Some unique features and an innovative manual. \$89. MaxThink, 230 Crocker Ave., Piedmont, CA 94610. NCP (Oct 86)

Micro Planner Plus is a great project management system with major enhancement to *Micro Planner*. Outstanding analysis capability. Memory based, making it much faster than the original. Includes a font menu. Even saves reports out in *MacDraw* format for further work. Uses standard print drivers. HFS compatible. Micro Planning Software USA, 235 Montgomery St., San Francisco, CA 94104. CP (Dec 86)

Mindsight is a professional level decision support and business planning package. Can work with IFPS on mainframes, and is able to transmit models in both directions. Powerful and easy to use. Requires 512K+. \$195. Execucum Systems, PO Box 9758, Austin, TX 78766. CP

MORE is an incredibly powerful outline processor with gobs of great features: instant charts, math capabilities, multiple windows, font and style control, templates and more. Prints outlines in any of several standard formats, even in color. Requires 512K+. \$295. Living Videotext, 2432 Charleston Rd., Mountain View, CA 94043. NCP (Sep 86)

ThinkTank 512 is a very fast and intuitive organizational tool. Full keyboard control is possible. Can store and paste graphics into outlines. Slide show features allows high-quality presentations to be created. Good report formatting and printing capability. \$195. Living Videotext, 2432 Charleston Rd., Mountain View, CA 94043. CP (Jan 86)

DESK MANAGERS

BatteryPak is a set of 9 handy desk accessories including scientific and RPN calculators, a background text file printer and a 250-page note pad with search and phone dialing capabilities. *Disk Tools* is the best DA currently available. \$49.95. Batteries Included, 30 Mural St., Richmond Hill, Ontario, L4B 1B5, Canada. NCP (Dec 85)

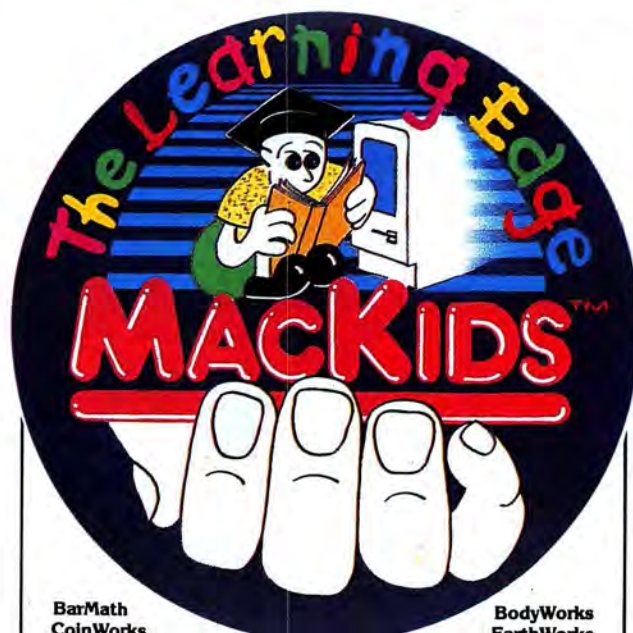
Front Desk lets small businesses and offices easily keep track of personnel schedules, activities and payments. The program can keep track of up to 15 employees, functioning as a day-, week- and month-at-a-glance calendar. \$149.95. Layered, 85 Merrimac St., Boston, MA 02114. CP (Dec 85)

My Office lets you handle your files and papers in much the same way you did before you got a computer. Excellent use of graphic symbols makes this program the easiest to use of its type. \$129.95. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP (Prem)

Quickset is a set of desk management and organizational tools that can be used as desk accessories or applications. Functions include note filer, card filer, calendar, phone dialer, financial and statistical calculators and a file encryptor. \$49.95. EnterSet, 410 Townsend St., San Francisco, CA 94107. NCP (Dec 85)

Sidekick is a set of desk organization applications and accessories. Functions include phone dialer and logger, desk accessory terminal, calculator, clock, editor and more. When resource files are included modules take up a lot of disk space. \$84.95. Borland International, 4585 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Dec 85)

Smart Alarms is the best reminder system for the Mac. Easy to use, versatile, and, well, smart. This self-running DA auto-



BarMath
CoinWorks
Naval Battle
Alphabetizer
Early Elementary 1

FlashWorks
Preschool Disk
WordSearch

BodyWorks
EarthWorks
ClockWorks
Shape Works
Lemonade Stand

MacKids™

Educational Software for Children

\$34.95

each

To order Software or Catalog call or write:

Nordic Software

3939 No. 48th Street
Lincoln, NE 68504

Toll Free: 800-228-0417
In Nebraska: 402-466-6502

Please circle 227 on reader service card.

LIGHTNING FAST PROLOG

- Professional tool, yet affordable for everyone!
- Full editor front-end to build and evaluate your code.
- Superset of Edinburgh (Clocksin-Mellish) syntax.
- Extensive debugger.
- Dozens of other features; hundreds of functions.

\$150

MasterCard/VISA orders welcome. Shipping to all U.S. cities included. No P.O.s or C.O.D.s. CA add local sales tax. For further info. call: (415) 961-1121. Advanced A.I. Systems, P.O. Box 39-0360, Mountain View, CA, 94039-0360. Macintosh™ Plus, Macintosh-XL compatible. Requires 512K or more memory.

**Advanced
A.I. Systems**

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

Please circle 22 on reader service card.

MINIFINDERS



matically reminds you of anything you enter into its Reminder file, giving you a wide range of useful advance warning options. \$49.95. Imagine Software, 2000 Center St., Berkeley, CA 94704. NCP (Oct 86)

Top Desk is a set of 7 self-installing (and self-removing) DAs. Menu Key adds Command key sequences to programs. View allows looking at and moving data between up to 8 MacWrite documents, BackPrint, Shorthand, Blank, Encrypt, and Launch. \$59.95. Cortland Computer, PO Box 9916, Berkeley, CA 94709. NCP (May 86)

UTILITIES

Accessory Pak 1 is a set of useful applications and utilities. *Paint Cutter* alone is worth the price. That program allows users to browse and manipulate full page MacPaint documents. \$39.95. Silicon Beach, PO Box 216430, San Diego, CA 92126. NCP (Nov 85)

Copy II Mac does efficient sector and bit copies and in its latest version can back-up virtually all Mac software. Features graphic displays of copy progress. Comes with *MacTools*, a multi-use utility that can recover many damaged files. \$39.95. Central Point Software, 9700 SW Capitol Highway, Portland, OR 97219. NCP (Apr 86)

DiskExpress unfragments disk volumes by reorganizing data into continuous sectors and arranging files to slow down further fragmentation. Works with MacServe, floppy drives and most hard drives. Requires 512K+. \$29.95. ALSoft, Box 927, Spring, TX 77383. NCP (Feb 87)

Disk Ranger is a speedy cataloging program that doubles as an efficient labelmaker. Comes with pinfeed labels. Works with regular and hard disks. Can catalog HFS systems. \$49.95.

Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP (Mar 86)

Dubl-Click Calculator Construction Set lets users design personalized calculators with a variety of standard and special functions. Finished calculators can be saved as installable desk accessories or as clickable applications. \$59. Dubl-Click Software, 18201 Gresham St., Northridge, CA 91325. NCP (Apr 86)

Fedit Plus is the file and disk editor for everyone, from newest Mac owner to oldest. It can do more for your disks and files than any other application. Can recover deleted MFS files. If you own a Mac, get it. HFS-compatible. \$49.95. MacMaster Systems, 939 E. El Camino Real, #122, Sunnyvale, CA 94087. NCP (Sep 86)

FlashBack is a utility to backup HFS hard disks onto floppies. A unique graphic display of the HFS directory facilitates file selection. The program can handle files larger than 800K. \$59.95. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP (Nov 86)

Glue adds a print-to-disk capability to many programs. *ImageSaver* installs as printer driver. *Viewer* allows copying and printing of Glue files. Handy utility for desktop publishers. \$49. Solutions, Box 989, Montpelier, VT 05602. NCP (Dec 86)

Hard Disk Util uses patch files to allow users to mount and run specified programs on their hard disks. The list of patches is constantly expanding. \$89.95. FWB Software, 2040 Polk St., San Francisco, CA 94109. NCP

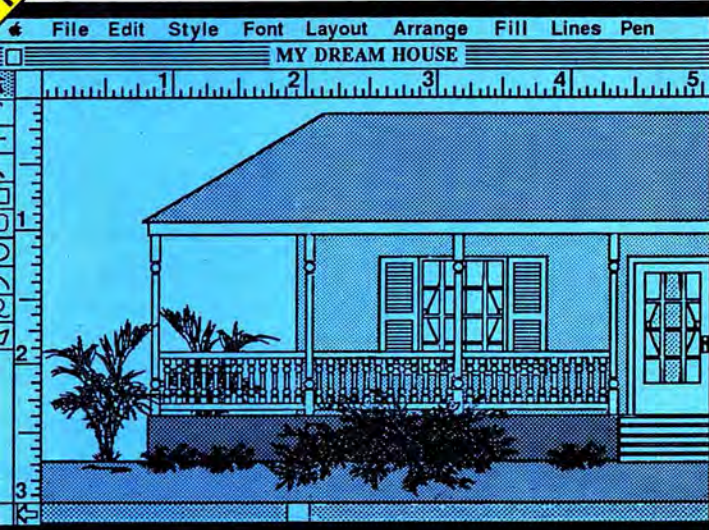
HFS Backup ranks as one of the preferred hard disk backup utilities. Backup by file/folder or last changes. Backup specifications can be saved as templates. Good graphic interface. Reliable program. \$49.95. PCPC, 6204 Benjamin Rd, Tampa, FL 33614. NCP (Dec 86)

ALL
NOW!!

MacCAD

The Two Keys to Turn-Key Drafting

Macplot



FAITHFULLY DELETES OBSCURED AREAS!



- Architectural & Engineering software templates.
- Compatible with either MacDraw or MacDraft.
- 12 separate library packages to choose from.
- Typically 3 or 4 disks per library package.

- Plots any graphics copied to the Clipboard.
- Plots multiple colors even on a one pen plotter.
- Compatible with most popular plotters.
- The hardware interface is the Imagewriter cable.

CompServCo

800 Freedom Lane, Slidell, LA 70458

1-800-272-5533

MacDraft is a trademark licensed to I.D.D., Inc.
MacDraw is a trademark licensed to Apple Computer, Inc.

Microspot

9 High St., Lenham, Maidstone, Kent, ME17 2QD, England

MINIFINDERS



HFS Locator Plus is the essential HFS desk accessory. It can search for a file by name or date of creation, create folders, move files from one folder to another, set a program to launch while in an application. \$34.95. PBI Software, 1111 Triton Dr., Foster City, CA 94404. NCP (Sep 86)

LaserServe is a printer spooler for AppleTalk networks. After installation all operations done via a desk accessory. Works with both MacServe and TOPS. Requires 512K+ and 800K drive or hard disk. \$125 per node. Infosphere, 4730 SW Macadam Ave., Portland, OR 97201. NCP (Feb 87)

Mac Disk Catalog II is a utility that will quickly organize a moderate size disk library. Easy to use with powerful reporting and label-making features. \$49.95. New Canaan MicroCode, 136 Beech Rd., New Canaan, CT 06840. NCP (Dec 85)

MacFlow is a design tool created for programmers. Traditional flowcharting symbols are linked together, and a symbol can be connected to a separate flowchart file. Symbols can't be edited, precluding using MacFlow for other applications. \$125. Mainstay, 5211-B Derry Ave., Agoura Hills, CA 91301. NCP

MacInUse tracks time spent in applications and saves info as text file. Installs on any disk, works in background. MFS, HFS compatible. Templates included for MacWrite, MS Word, Multiplan and Excel. Extremely valuable for tax purposes, client records, etc. V1.0. \$49. SoftView, 4820 Adohr Lane, Camarillo, CA 93010. NCP (Jan 87)

MacLabeler lets users instantly index and print labels for all the disks in a burgeoning collection. Choose border type and orientation of your label; index by folder or document. Starter set of labels is included. \$49.95. Ideaform, PO Box 1540, Fairfield, IA 52556. CP (Prem)

MacLink lets users transfer data between Macs and PCs. Can do special format transfers such as 1-2-3 to Multiplan and WordStar to MacWrite. Contains both Mac and PC disks, interface cable is optional. Has Mac and MS-DOS disks. \$125, \$155 with 8-ft interface cable. DataViz, 16 Winfield St., Norwalk, CT 06855. NCP

MacNosy is a global disassembler. A very advanced user can use this program to look into the code of virtually any program. This advanced tool can take you places no other Mac program could dream of going if you have the skill to guide it. The documentation is sparse. For pros only. \$85. Jasik Designs, 343 Trenton Way, Menlo Park, CA 94025. NCP

Mac + II lets you run Apple II software on the Mac. Emulation speed is only 35 to 45 percent of a real Apple II, so graphics especially suffer. Games also run slow. Runs AppleWorks (Apple II integrated software). Good for ex-Apple II owners who have large software collections. \$149.95. Meacom, PO Box 272591, Houston, TX 77277. CP

MacServe converts a Mac and a hard disk into a disk and print server. Uses the AppleTalk network and is easily hooked up. Users can partition the hard disk into multiple volumes. Runs in the background, so users can work on all machines in the network. \$250. Requires 512+ or Mac XL. Infosphere, 4730 SW Macadam, Portland, OR 97201. CP

MacZap is a three-part disk and memory utility. It can be used to recover some damaged files and disks, compare disks, analyze disk structure and make back-up copies of most disks. \$60. Micro Analyst, 2505 Roxmoor, Austin, TX 78723. NCP (Jan 86)

myDiskLabeler is an excellent label making program. It can read directories, or use large or small icons, or anything else the user desires. Comes with 54 precut labels on pinfeed paper.

FROM THE DUBL-CLICK COLLECTION



Volumes One and Two
Each Volume is a 3 Disk Set (400K per disk)



Includes new programs: Font Charter (application), BigCaps and DefaultFont (desk accessories).

Volume One fonts shown in Grey. Volume Two fonts shown in Blue. World Class Font sizes range from 9 to 72 point. Some sizes previously released under a different trademark. Some large sizes require 512K of memory. ©1986 Dubl-Click Software, Inc. World Class Fonts is a trademark of Dubl-Click Software, Inc. Mac the Knife is used as a trademark by Miles Computing, Inc.



DUBL-CLICK SOFTWARE, INC.
18201 GRESHAM ST., NORTH RIDGE, CA 91325
Ask your dealer, or order direct...
(818) 349-2758



Albuquerque	DAKAR	Manhattan	PRAGUE
ARLINGTON	DALLAS	MeiBOURNE	Reno
DETROIT	DETROIT	МИНСК	ROME
Αθηναί	Florence	Monteray	Salgon
AUSTIN	FRANKFURT	Montreal	SAN DIEGO
БЕРКЛИ	ГОРБКИЙ	MULESHOE	Santa Fe
БЕРКЛИ	GREENBAY	NAZARETH (SYMBOLS)	SCOTT'S DALE
Berkeley	hARTford	HOBBY	ΣΠΑΡΤΗ
BOCA RATON	BOISE	Helsinki	STANFORD
BORDERS ONE, TWO AND THREE	HOLLYWOOD	N.Y. Headlines	Stockholm
CALDWELL	Hong Kong	Obispo	STUTTGART
Boston	Istanbul	ODESSA (THE CHESS FONT)	SUNNYVALE
CAMELOT	アイウ KAWASAKI コサシ	ORLEAN	Sydney
CANYON	Laredo	Osaka	תל-אביב
Cape Canaveral	LAS VEGAS	PARIS	Tokyo
CARAMEL	Liverpool	POCATELLO	Venice
Chicago	luxembourg	P.O.S.T.A.L CITY 'A'	Washington D.C.
COPENHAGEN	Malibu	POSTAL CITY 'B'	WOODSTOCK
Cupertino	Manchester		

Please circle 108 on reader service card.

Finally. Desktop Analysis for the Macintosh™

Parameter Manager™ (PM)

is a revolutionary new tool for collecting, storing, analyzing and reporting your time, date or sample-based data. Right at your desk. Without programming. Without macros.

As Easy to Use as Your Mac

"Fill-in-the-blank" forms make PM data entry easy. And, you don't need to write macros to get results: analysis and reporting functions are built-in.

A Database Like No Other

The PM database can contain any number of "Items", like machines, experiments and processes. Plus up to 64 variables (parameters) for each Item. And thousands of measurements for each parameter.

Additionally, condition limits can be set for each parameter, to help you see, or predict, trouble spots before they become headaches.

You can also include qualitative observations and notes as well as a drawing or a picture of your Item.

You can even create schedules based on measurement due dates, Item conditions, or your own criteria. You'll save time collecting and analyzing data, and analysis can be done automatically. Unattended.

IBM Compatibility

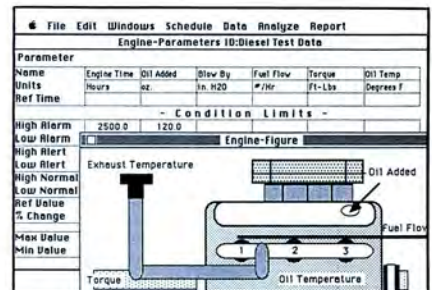
PM can also access data from popular software on IBM® PCs or compatibles.

Ready-to-use Analysis

Trend plots. Strip charts. Forecasting. Histograms. Parametric Plots. Hi Lo Charts. And Data Compression. Plus tabular listings of data, correlations between parameters, and parameter statistics. They're all yours at the click of the mouse.

Powerful Calculated Parameters

You can create new parameters with formulas that use other parameter values, mathematical and logical operators, and a choice of over 80 different functions.



Faster Solutions

With PM's reports and graphs, you'll get answers from your data faster and easier than ever before.

Total Customer Support

At SMS, we think great support is as important as a great product. And, as a leading supplier of software for engineering analysis, we've been delivering it for over seven years. That's your assurance of a superior, thoroughly supported product.

Only \$495. Money-back Guarantee.

Put PM to work on your data for 30 days. Then, if you are not totally satisfied, just return it, in good condition, for a full refund. Shipping charges are not included. A complete demo disk is available for \$10.

For nearest dealer, or to order call 800-654-5157.
In California: 800-247-4994.
Dealer inquiries welcome.

To learn more about Parameter Manager, the Desktop Analysis tool that lets you handle all your data management and analysis activities right at your desk, contact SMS today.

**Data Worth Collecting
Is Worth Using**

SMS Structural Measurement Systems, Inc.

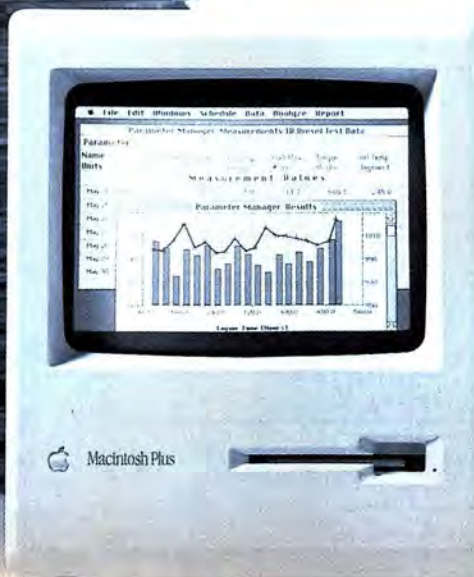
651 River Oaks Parkway,
San Jose, CA 95134
Phone (408) 263-2200

IBM is a registered trademark of International Business Machines. Macintosh is a trademark licensed to Apple Computer, Inc.

© Copyright SMS, Inc. 1986

Please circle 158 on reader service card.

Parameter	(01)	(02)	(03)	(04)	(05)	(06)
Name	Engine Time	Oil Added	Blow By	Fuel Flow	Torque	Oil Temp
Units	Hours	oz.	in. H ₂ O	#/Hr	ft-Lbs	Degrees F
	- Measurement Values -					
May 29, 1985	125.0	114.0	4.4	110.9	674.3	249.0
May 30, 1985	146.0	52.0	4.2	110.7	683.1	249.0
May 31, 1985	168.0	105.0	4.5	111.1	676.7	248.0
Jun 01, 1985	192.0	102.0	4.1	110.6	698.2	247.0
Jun 02, 1985	214.0	113.0	5.0	110.7	697.2	249.0
Jun 03, 1985	237.0	72.0	4.8	111.1	676.2	250.0
Jun 04, 1985	260.0	82.0	4.6	110.5	693.0	247.0
Sample No.	6 (Hide) - Measurement Remarks -					
	#1: Engine Running Rough					
Total No.	#2: Changed Fuel Filter and Air Cleaner - Bill Adams					
	23					



MINIFINDERS



HFS compatible. \$44.95; with color printing ability (on the ImageWriter II), \$54.95. Williams and Macias, PO Box 19206, Spokane, WA 99219. NCP (Aug 86)

'Ncryptor is a simple, safe program that lets users password their files. The same program is used for encoding and decoding. This is the best product in its category. \$39.95. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP

Packer is a simple utility that compresses files. It can be used to save disk space and also protect files. Typical space savings range from 20 to 50% depending on the original file type and size. This is the best program of its type so far. \$29. Bobbing Software, 67 Country Oaks Dr., Buda, TX 78610. NCP (Jun 86)

Packit III is an essential utility. Primarily used to temporarily "glue" files together, it can also compress and encrypt. Feeware, \$10, \$10 for printed manual. Harry R. Chesley, 1850 Union St., San Francisco, CA 94123. NCP (Jan 87)

PC to MAC and BACK has both Mac and MS-DOS disks. This program efficiently transfers text and other data between PCs and Macs. The documentation is excellent. Does special format transfers such as WordStar to MacWrite. Includes a cable for direct Mac to PC connections. \$149.95. ILLIUM Press, 8285 SW Nimbus, Beaverton, OR 97005. NCP

Quick & Dirty Utilities, Volume One is a disk chock full of the handiest programs you have ever bought. Included are a super disk cataloguer, a desk accessory mover and more. Several desk accessories including a menu bar clock and a terminal are on the disk. \$39.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP (Nov 85)

Switcher is Andy Hertzfeld's contribution to Mac productivity. This program lets users run several programs at once (up to 8 on a 1-megabyte or larger machine). Switching between the

programs is near instantaneous. Requires 512K+. \$19.95 from Apple, free from BBSs, included with some third-party applications. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

Tempo is a desk accessory that allows most Mac commands to be intelligently recorded and played back. Capabilities include pausing, conditional branching, time functions, input testing and macros that work between applications. \$99. Affinity Micro Systems, 1050 Walnut St., Boulder, CO 80302. NCP (Jul 86)

TMON is the debugger for the Mac. This isn't open to question. **TMON** is simply the best. Comes with the latest version of Darin Adler's Extended User Area. \$100. ICOM Simulations, 626 Wheeling Rd., Wheeling, IL 60090. NCP

TurboCharger 2.0 rev. D is a RAM cache utility for 512K and larger. Works on most hard disks and Mac XLs. Dramatically improves any program you use that heavily accesses the disk, like MacPaint. \$69.95. Microsystems, PO Box 1249, Capitola, CA 95010. NCP (Jan 87)

TurboDownload is a desk accessory designed specifically to increase the speed of Xmodem data transfers from national databases to your Mac. Speed increases range upward from 50% to over 300% at 2400 baud. \$39.95. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP

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. NCP

II in a Mac is a graphically oriented Apple II emulator with unique features, such as text and graphics copy from Apple screen to Mac Clipboard. Suffers speed problems associated with

COMPUCOVER®



COVER YOUR INVESTMENT

Macintosh Video & Keyboard	12.95
Macintosh Plus Keyboard	add - 1.00
With Mac Bottom	add - 3.00
Image Writer	12.95
Image Writer II	14.95
External Drive	5.95

Epson - C.Itoh - Okidata
Over 3000 covers to choose from.
You name it - We got it!

Anti-Static-Different Colors



ORDER LINE
1-800-874-6391
FLORIDA ORDER LINE
1-800-342-9008
Dealer Inquiries Invited

CompuCover®
P.O. Box 310 Dept. K
Mary Esther, FL 32569

Customer
Service
(904) 243-5793
Telex 469783

Art is the Labor of Love



Two volumes of beautiful, bit-mapped illustrations are now available for the discriminating collector.

Volume 1 offers fine renderings of buildings, landscapes, and objects of decor. Volume II includes drawings of people, animals, and birds, with emphasis on subjects such as fashion, children, and love. Each volume is available on its own 400K disk. Specify Volume 1, Volume II, or both when ordering.

\$29.95 Each/\$49.95 Both

Add \$1.50 for postage and handling.
Make checks payable to:

D. V. Franks
Suite 7020A
Longstreet Drive
Raleigh, NC 27615

Please circle 206 on reader service card.

DISKORDER™ \$50.00

Cleans up and organizes your hard & floppy disks. Saves catalog of all files with full paths to each file. Mass copies files by name, date or type. Updates your files. Prints labels. Works with HFS.

ELECTROFONTS™ \$99.00

The ONLY analog & digital circuit drawing font includes SciFont's & LogiFonts. Works well with LaserWriter +.

SCIFONTS™

Scientific & math font, includes fraction font. \$49.95

LOGIFONT™ Digital circuit font \$40.00

MacQWERTY™ \$35.00

Dvorak & custom keyboard reconfiguration.

MacTAG™ \$49.00

Teacher's Assistant Grader
Will calculate grades, sort, rank, produce histograms, individual reports up to 500 students. Roster of 100+ scores per student. New improved version 2.0. Free update to all purchasers of previous versions. Send your original disk.

QUED™ Quality Editor \$65.00

The ultimate text handling utility for developers, and others. Everything you have ever wished for! Too many features to list.

For more information or to order, call or write:
PARAGON COURSEWARE
4954 Sun Valley Rd. Del Mar, CA 92014
Tel. (619) 481-1477

VISA/MC O.K. + \$3.00 for shipping, CA res. +6% tax

Please circle 104 on reader service card.

MINIFINDERS



"virtual machine" emulation. \$69. Micro-W Distributing, 1342B Route 23, Butler, NJ 07405. CP

TypeNow is a desk accessory that allows the Mac and ImageWriter to function as an electronic typewriter. Type can be placed into blanks in complex forms easily. Typing can be recorded and played back. \$39.95. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP (Jan 86)

LANGUAGES

AAIS Prolog is a fast standard Prolog with excellent debugging and error handling. Good for serious program development. Documentation is not as good as the program. \$150. Advanced AI Systems, PO Box 39-0360, Mountain View, CA 94039-0360. NCP

Aztec C is a C language 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. \$199 basic system, \$299 development system, \$499 commercial system. Manx Software Systems, PO Box 55, Shrewsbury, NJ 07701. NCP (May 86)

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, 559 San Ysidro Rd., Santa Barbara, CA 93108. CP

ExperLogo is a version of the popular teaching language, Logo. Features three-dimensional graphics using "bunnies" rather than usual "turtles." Very speedy, smooth program. Comes

with an excellent manual. \$149.95. ExperTelligence, San Ysidro Rd., Santa Barbara, CA 93108. CP

ExperProlog II is a Prolog based on the new Prolog II standard. Has the ability to handle infinite trees and allows user-defined functions that operate conditionally. Documentation is not the best and Mac interface is nonstandard. \$495. ExperTelligence, 559 San Ysidro Blvd., Santa Barbara, CA 93108. NCP

LAP MacProlog is a flexible program that supports several Prolog syntaxes, producing a rich programming environment. However, the program's implementation and documentation are both poor. \$295. Programming Logic Systems, 31 Crescent Dr., Milford, CT 06460. NCP

LightSpeed Pascal is a fast, powerful development system for Pascal programming. Requires 512K+. \$125. Think Technologies, 420 Bedford St., Lexington, MA 02173. NCP (Feb 87)

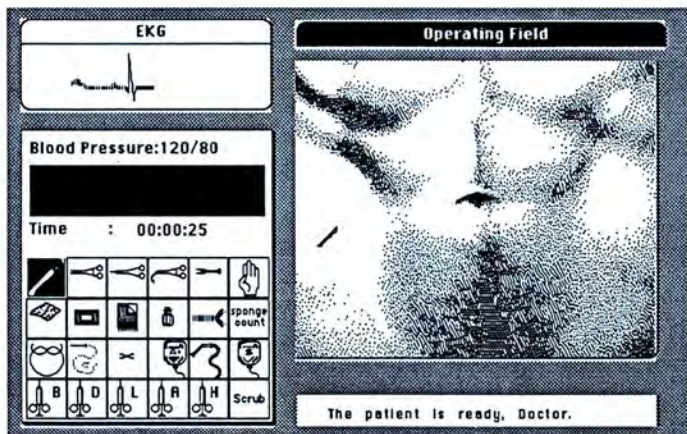
MacAsm is a software development system that allows programs to be written in assembly language. Programmers can assemble, edit and test software, and an integrated resource compiler lets independent applications run from their own icons. \$125. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP

Mac C is a good, highly Mac-oriented implementation of this popular development language. Assembler and linker built-in. \$425. Consulair, 140 Campo Dr., Portola Valley, CA 94025. NCP

MacExpress is a development environment or shell. Programmers use it to save time and effort when developing standalone applications for the Mac. Easy to use for those with a strong technical background. \$195. ALSoft, PO Box 927, Spring, TX 77383. NCP (Feb 86)

The SURGEON

-The first surgery simulation game!



Have you ever wanted to try your hand at being a surgeon? The skill, the pressure, the split-second life or death decisions, this program has it all. Operate in real time and deal with the complications of the surgery. Keep an eye on the EKG monitor and the patient's blood pressure while you exercise your skill. Feel the satisfaction of a successful operation!! The SURGEON is also educational!! While performing the surgery you will learn the parts of a human body, medical terminologies and the actual steps involved in performing the surgical correction of a disease called aortic aneurysm.

For more information or for order call....

ISM, Inc.
P.O. Box 247
Phoenix, MD 21131
Ph: (301)-666-2672

Visa and Mastercard accepted
Macintosh is a registered trademark of APPLE computer, Inc.
The SURGEON is registered trademark of ISM, Inc.

Dealer inquiries welcome.
Price \$60.00
Requires Minimum 512K

Please circle 20 on reader service card.



PROJECT-A-MAC™

VIDEO PROJECTION SYSTEM

Clearly reproduces any Mac display including fine text and high-res graphics onto screens up to 20 feet wide. An image as sharp as your Mac's. Controls for brightness and contrast adjust for room lighting conditions. Includes everything you need: projector, PDS External Video Card, 25' video cable, and complete instructions.

COMPLETE SYSTEM \$4,495.00

BIG MAC MONITOR™

Delivers 23" of sharp high resolution black and white display, enclosed in a durable, attractive Apple-beige cabinet. Will clearly reproduce any Mac screen image, including fine text and high-res graphics. Several can be connected in series where multiple displays are required. Includes everything you need: the Monitor, a PDS External Video Card for the Mac, 25' video cable, and complete instructions.

COMPLETE SYSTEM \$1,995.00

FREE EXTERNAL VIDEO CARD INCLUDED:

The PDS External Video Card for the Mac is specially designed to work with our systems, providing the highest possible resolution

Available now from: PDS VIDEO TECHNOLOGY, INC.

Specialists in Video Display Systems for the Macintosh

1152 Santa Barbara St. • San Diego, CA 92107

ORDER HOTLINE: (619) 222-7900

Please circle 139 on reader service card.

MAX YOUR MAC

**SAME DAY
SHIPMENT**

**WOULD YOU PAY \$49
FOR A LIFETIME
RIBBON SUPPLY?**

ImageWriter Ribbon Inker

Motorized Ribbon Inker silently re-inks all ImageWriter I and II fabric ribbons again and again. Print quality surpasses new ribbons—and gets better with each re-inking! Specially lubricated black ink actually extends print head life. 4-oz. ink bottle lasts 50-100 re-inkings. Our customers love the quality, simplicity, and savings!



SCSI HARD DISC DRIVE

As of press time we are still evaluating several excellent "SCUZZY" drives. Call for our recommendation and low BEDE TECH DIRECT price!

HARD-TO-FIND MAC BATTERY

Inside your Mac is a battery that lasts about two years. Replace with factory fresh Duracel 4.5 volt equivalent.

BEDE TECH DIRECT \$3.75
Reg. \$4.75 Value

SAVE ON ALL YOUR INK & RIBBON SUPPLIES

4 Oz. Bottle Black Ink	\$ 4.50
2 Oz. Bottle Colored Ink	\$ 4.50
Pint of Black Ink	\$16.50
Gallon of Black Ink	\$75.00
Color Ink Kits (2 Oz. ink, uninked roller, roller cover)	\$ 8.00
Uninked Roller w/Cover	\$ 3.50
ImageWriter Ribbon Cartridge (box of 2 uninked ribbons)	\$10.00
ImageWriter Ribbon Cartridge (box of 2 inked ribbons)	\$12.00
ImageWriter II Multi-Color Ribbon Cartridge with Refill	\$14.95
Ribbon Refill Only	\$10.95
Print Head Cleaning Kit	\$ 9.95
Re-Inker Shut-Off Timer (for high volume users)	\$24.00
ImageWriter Silence Pad	\$11.25

MOUSE PAD



Your mouse will work faster and live longer. Anti-static, designer blue surface, 9-3/8" x 7-1/8" with thick foam pad.

BEDE TECH DIRECT \$6.95
Reg. \$9.95 Value

Bede Tech Bonus. Inker Kits include FREE 4 Oz. Bottle Black Ink, FREE Roller and Roller Cover

ImageWriter Ribbon Inker Kit
BEDE TECH DIRECT \$49.00
Reg. \$67 Value

Epson Ribbon Inker Kit
BEDE TECH DIRECT \$52.95
Reg. \$71.50 Value



EXTERNAL 800K MAC DRIVE

The McD-800 sets the standards for micro-floppy disc drives. It works with ALL Macs. It's compatible with Apple's single sided 400K and double sided 800K disk format. Soft landing function. Auto and manual eject mechanisms. Unbeatable specifications.

BEDE TECH DIRECT—CALL
Reg. \$379 Value

DISC ORGANIZER • SAVE BIG WITH FOUR-PAK

Each extra sturdy 200 lb. test corr. bd. disk organizer holds up to 100 3.5" or 5.25" disks. Comes with removable dividers, cover. Glossy white dirt-resistant surface. Stackable!

BEDE TECH DIRECT Save! Four-Pak \$27.95 • Reg. \$39.80 Value
BEDE TECH DIRECT Single Disk File \$7.95 • Reg. \$9.95 Value

30-DAY SATISFACTION MONEY-BACK GUARANTEE

QTY.	ITEM	TOTAL	Send check, money order or charge it
		\$	<input type="checkbox"/> VISA <input type="checkbox"/> MasterCard Exp. Date _____
		\$	Card No. _____
		\$	Signature _____
		\$	Name _____
		\$	Address _____
		\$	City _____
		\$	State/Zip _____
PURCHASE TOTAL		\$	
Shipping and Handling Charge (Canada, Hawaii, Alaska, \$1.50 SKI)		\$ 1.50	
Ohio residents add 6.5% Sales Tax		\$	
TOTAL ORDER		\$	

ImageWriter is a registered trademark of Apple Computer, Inc.
Macintosh and MAC are trademarks licensed to Apple Computer, Inc.

MU02

Please circle 126 on reader service card.

brown
disc

TWO-FOR-ONE LIFETIME WARRANTY + FREE DISC ORGANIZER

Brown Disc has built a reputation for superior quality and error-free performance among OEM customers. Discs are 100% certified and exceed ANSI standards! These are the finest discs in the world. We prove it with a two-for-one lifetime warranty: If any Brown Disc diskette fails to perform due to defects in materials or workmanship, Brown Disc will replace the defective diskette with two diskettes of the same type.

NEW LOW DISC PRICES

Bede Tech Bonus • All orders of 50 or more discs are shipped in FREE Disc Organizer, Reg. \$9.95 Value.

Call for our current disc prices for all bulk and packaged 3.5" and 5.25" Brown discs.

We offer the absolutely best disc value you can find.



**bede
tech**

Member, The Bede Companies, est. 1976

CALL TOLL FREE

800-772-4536

In Ohio 216-631-4214

8327 Clinton Road

Cleveland, Ohio 44144

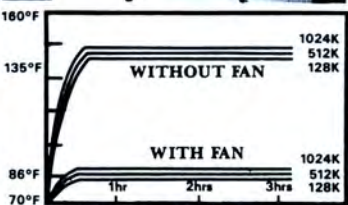
© 1986 Bede Tech

WITH



**beck
tech**

FANNY MAC FROM BECK TECH



TEMP. WITH/WITHOUT FAN

Temperature measured inside top left and right side of MAC with LM35 temperature sensor. 75° average ambient air temperature during test.

Built without its own fan, your MAC is prone to overheating. High temperatures can cause component failure or even burn out your power supply circuit board. Tests show our fan significantly reduces the temperature inside your MAC. It installs into the recessed Macintosh handle in one second. It runs whisper quiet. Intelligently designed by **Steve Beck's Beck-Tech**, with built-in surge protector and top-mounted switch that controls both fan and MAC. **PATENT PENDING**

BEDE TECH DIRECT \$74.00
Reg. \$129.95 Value

MacMOVIES™

From Beck-Tech

Smooth, seamless full screen animation at speeds from single frame to 30 per second. New, powerful techniques compress images from any Paint program, Laser scanner or video camera for rapid playback with minimum memory.

BEDE TECH DIRECT \$69.00
Reg. \$99 Value

Beck-Tech CHROMATRON™ Color Video Converter

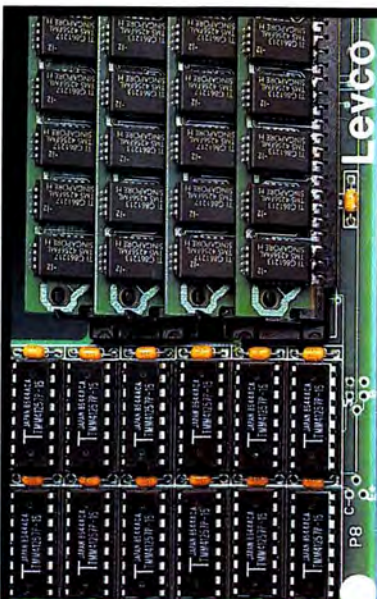
Enter the world of desk top video production! This remarkable color scan converter delivers standard NTSC video output, pallet of 16 colors and special effects.

Order VHS demo videotape showing All CHROMATRON and MacMOVIE features.
BEDE TECH DIRECT \$9.95

Copy II MAC™

Makes backups of nearly all protected software quickly and easily for your Mac or Mac Plus, 1 or 2 drives.

BEDE TECH DIRECT \$24
Reg. \$39.95 Value



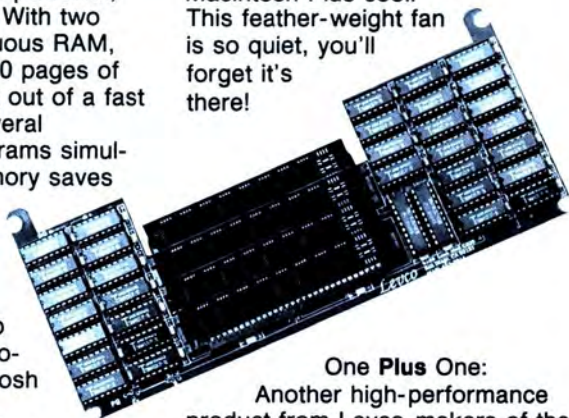
ONE PLUS ONE™

Doubles the Memory of Your Macintosh Plus™

Make the most of your Macintosh Plus now! Levco's One Plus One memory upgrade transforms your Macintosh Plus into a powerful, efficient workstation. With two megabytes of contiguous RAM, you can hold over 400 pages of text in memory, work out of a fast RAM Disk or use several memory-hungry programs simultaneously. More memory saves you more time!

Quiet Cooling Included

Levco's MacBreeze™ piezoelectric fan is included to keep your Macintosh Plus cool. This feather-weight fan is so quiet, you'll forget it's there!



Easy Installation

Just plug the One Plus One module into the SIMM sockets provided on your Macintosh Plus motherboard. No soldering or special equipment is required!

Compatibility Plus

The One Plus One makes the most of the current Macintosh system, standard applications and fast SCSI drives without the handicap of "boot" or "configuration" software.

One Plus One:
Another high-performance product from Levco, makers of the **MonsterMac™**, **Prodigy 4™** and **OverDrive™**.



Levco

6160 Lusk Blvd.
Suite C-203
San Diego, CA 92121
(619) 457-2011

"One Plus One," "MacBreeze," "MonsterMac," "Prodigy 4" and "OverDrive" are registered trademarks of Levco. "Macintosh" and "Macintosh Plus" are trademarks licensed to Apple Computer.

Please circle 209 on reader service card.

MINIFINDERS



MacForth is an implementation of the popular Forth programming language. Level 1 is a simple, introductory version. Level 2 supports the Mac Toolbox fully. Level 3 extends the language to allow standalone applications. \$149 (Level 1), \$249 (Level 2), \$499 (Level 3). Creative Solutions, 4701 Randolph Rd., Rockville, MD 20852. NCP

Mach II is a multitasking implementation of Forth that allows local variables and text files. Can create standalone applications. Several windows can be up with different operations in each, operating concurrently. Execution is fast. \$99.95. Requires 512K. Palo Alto Shipping, PO Box 7430, Menlo Park, CA 94026. NCP (Apr 86)

Macintosh 68000 Development System is a fairly traditional assembly language package. The two-disk set provides an editor (*Edit*), an assembler, a linker, an executive and a resource compiler. \$195. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

Macintosh Pascal is Apple Computer's version of this very popular programming language. Loaded as it is with innovative teaching features, this interpreter is an excellent introduction to Pascal. The documents are mostly references, get a good tutorial textbook. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. CP

MacScheme is a LISP dialect with "artificial intelligence" capabilities. Has a large appetite for RAM. Interpreted language with Toolbox access limited to a small part of QuickDraw. \$125. Semantic Microsystems, 4470 S.W. Hall St., Beaverton, OR 97005. NCP (Jun 86)

Megamax C is an easy to use, full version of C. Has a compiler, linker, disassembler, editor and much more. Good for beginners. Excellent documentation. \$299.95. Megamax, PO Box 851521, Richardson, TX 75085. NCP

Microsoft BASIC was the Mac's first programming language. This interpreter (it's not a compiler) now supports the Toolbox and the whole Mac interface can be implemented in your programs. For nonprogrammers there are lots of programs available to run. \$150. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. NCP

Microsoft Logo, from Microsoft's MacLibrary, written by LCSi. An excellent implementation of Logo, taking full advantage of the Mac's user interface. Uses three windows. Turtle looks like a turtle, and its screen actions are very precise. Windows can be resized and moved about. \$124.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. NCP

Personal Prolog is an inexpensive and well-documented program. Has no debugging or search and replace facilities, making it a more appropriate tool for learning than development. Documentation and use of Mac interface are excellent. \$64.95. Optimized Systems Software, 1221 B Kentwood Ave., San Jose, CA 95129. NCP

Prolog/m is a solid Prolog following the Edinburgh standard. Has extensive debugging facilities, but you may need separate Toolbox disk with 58 additional predicates. Only drawback: no true editing or printing facilities. \$99.95. Chalcedony Software, 5580 LaJolla Blvd., Suite 126, LaJolla, CA 92037. NCP

QUED (Quality Editor for Developers) is the ultimate source code editor. Loaded with useful and well thought out features, it will make any programmer's life much easier. It is not a word processor, however. \$65. Paragon Courseware, 4954 Sun Valley Rd., Del Mar, CA 92014. NCP (Mar 86)

TML Database Toolkit is an ISAM type database that provides fast and efficient administration of large data files in applications developed with TML compiler. Supports open multiple index files simultaneously. \$89.95. TML Systems, PO Box 36126, Melbourne, FL 32936. NCP (Dec 86)

TML (MacLanguage Series) Pascal is a good Pascal compiler, capable of producing standalone programs. Can use most existing Lisa Pascal programs with only slight modification. Requires 512K. \$99.95. TML Systems, PO Box 36126, Melbourne, FL 32936. NCP (Jun 86)

TML Source Code Library shows how to write programs that use custom definition routines, speech, serial drivers, split bars and other topics. Provided on three 400K diskettes. Requires TML Pascal. \$79.95. TML Systems, PO Box 36126, Melbourne, FL 32936. NCP (Dec 86)

ZBasic is a fast interactive compiler capable of creating standalone applications that takes advantage of Mac's unique features and abilities. Includes *Edit*, *RMaker*, and *MacIntalk* tools. Incomplete documentation. Requires 512K. \$89.95. Zedcor, 4500 E. Speedway Blvd., Tucson, AZ 85712. NCP (Dec 86)

EDUCATION

ChipWits is a combination game and teaching tool. Players create programs to maneuver robots through a set of 8 mazes. The programs are written in *ChipWit's* built-in icon-based programming language (IBOL). Now HFS compatible. \$49.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP

DietMac is a database consisting of about 800 foods with nutritional information, from which to choose for planning daily menus. The Modify Food Data option allows users to customize and update data. Some on-screen help. \$79. Tess Data Systems, 17070 Red Oak Drive, Houston, TX 77090. CP (May 86)

KidsTime is a package of five quality educational programs for children between the ages of 3 and 12. The programs all have adjustable difficulty levels. Some use speech and one is a nice introduction to musical notes. Sparse documentation. \$49.95. Great Wave Software, PO Box 5847, Stanford, CA 94305. CP (Oct 86)

MacChemistry is a two-disk set consisting of a titration program, a periodic table program, *MacNest* (a scrapbook with indexing), and a disk of *MacPaint* files. *MacNest* is of general appeal. \$145. Fortnum, 31 W. Sierra Madre Blvd., Sierra Madre, CA 91024. NCP

MacEdge and **MacEdge II** each contain 8 reading or math drill programs for basic skills. Programs follow one of three formats, a bit contrived. Contrivances are design flaws — they require learning format as well as skill. \$49.95 each. Think Educational Software, 16 Market St., Potsdam, NY 13676. CP

MacStronomy is a good package for novice sky watchers. Has expandable database of sky objects that can be customized by the user. New version is very fast. \$75. Etion Software, PO Box 649, Lafayette, CO 80026. CP (Apr 86)

MacType offers structured typing instruction. Can teach both standard and Dvorak keyboards. Features include certificates for reaching certain levels. Can be used in a multistudent environment. \$49.95. Palantir Software, 12777 Jones Rd., Houston, TX 77070. CP

MasterType is proof that learning to type can be fun. In this arcade-style action game words descend from four corners towards the center ship; the user must type them correctly. Features 18 skill levels, tracks errors, recommends lessons and provides comparison scores. \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP

NotePro is an educational package that teaches users to organize and make best use of their notes. Consists of five well designed parts, which can be used individually or as a whole. \$59.95. Learning Skills, PO Box 8038, Reno, NV 89507. NCP (Jul 86)

Score Improvement System for the SAT is a no-nonsense drill and practice session covering practice tests, vocabulary, reading comprehension, math and quantitative comparisons. On-line tutoring for wrong answers. \$99.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP (May 86)

Tellstar I & II are Mac astronomy programs. Have extensive databases, quick sky plotting and can locate specific objects. Level II has southern hemisphere star table, Messi-

**BUY HARDWARE AND SOFTWARE AT WHOLESALE + 8%
AND GET 14 TO 30 DAY SOFTWARE RENTALS†.**

MODEMS



100% Hayes
and Apple
Compatible

THE™ 1200 COM

1200 BPS External Modem w/auto answer,
dial, re-dial and built-in speaker.

\$119.00*

Anchor Lightning 2400	\$309.00*
Hayes Smartmodem 1200 w/cable, Smartcom II	417.00*
Hayes Smartmodem 2400	525.00*
Prometheus Promodem 1200 w/Mac Pac	269.00*
THE™ 2400 COMM External Modem	259.00*
U.S. Robotics Courier 2400 BPS	345.00*
U.S. Robotics Password 1200 BPS	172.00*

DISK DRIVES

100%
Macintosh
Compatible



PC Network 800K Drive

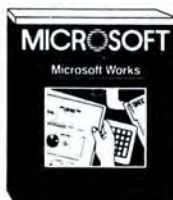
Works with 400K/800K Disks
and Macintosh Upgrades

\$185.00*

Apple 800KB Macintosh Disk Drive	\$283.95*
Apple 20MB SCSI Hard Disk	924.00*
DC Systems Easy Drive 20MB Mac Hard Disk	650.00*
IOmega Bernoulli Dual 10MB w/SCSI Interface	1,700.00*
IOmega Bernoulli Dual 20MB w/SCSI Interface	2,199.00*
IOmega Macnoulis 5MEG Cartridge Drive	620.00*

MICROSOFT.

Business Software



New Works

Write, Organize,
Analyze and Chart
One Program
Does It All

\$163.00*

Microsoft Basic	\$75.00*
Microsoft Chart	62.50*
Microsoft Excel	197.50*
Microsoft Multiplan or Word	97.50*
Microsoft File	102.00*

Members Get The Network Advantage...

CATALOG • NEWSLETTERS • 10 DAY RETURNS • BULLETIN BOARD • SOFTWARE RENTAL

(30,000 Items Listed)

(Catalog Price Updates
and Reviews)

(No Questions Asked—If You Don't
Like It, Return It—Hardware Only)

(10,000 Free Programs to Download)

(Over 1,000 Titles in our Library)

PRINTERS



Imagewriter II

10" Carriage 250CPS/80COL 45CPS NLQ
Color Capable

\$419.00*

Apple Imagewriter II Cut Sheet Feeder	\$149.00*
Apple Laserwriter	3,520.00*
Apple 15" Imagewriter for Mac	475.00*
Epson EX-800 300/60CPS 80COL Parallel/Serial	440.00*
Epson EX-1000 300/60CPS 132COL Parallel/Serial	569.00*
Epson FX-85 160/35CPS 10" Parallel	329.00*
Epson FX-286 200/40CPS 15" Parallel	435.00*
Epson LX-86 120/16CPS 8.5" Parallel	205.00*

SOFTWARE



Print Shop

New for the Mac
Write, Design and Print
Cards, Letterheads
and More

\$24.75*

GAMES AND EDUCATIONAL SOFTWARE

Activision Hacker, Mindshadow or Borrowed Time	\$22.50*
Electronic Arts One On One or Skyfox	26.97*
Infocom Deadline or Suspended	24.00*
Infocom Zork I, Witness, Planetfall or Cutthroats	20.00*
Infocom Zork II, Zork III, Suspect, Infidel or Sorcerer	21.50*
Infocom Hitchhiker's Guide, Ballyhoo or Seastalker	19.75*
Infocom Trinity	20.00*
Microsoft Flight Simulator	27.00*
Mindscape A View to a Kill or The Mist	21.00*
Mindscape Rambo: First Blood, Pt. 2	21.00*

BUSINESS SOFTWARE

Ann Arbor Full Paint	\$53.00*
Apple MacTerminal or MacPascal	77.00*
Ashton-Tate dBase for the Mac	291.00*
Blythe Software Omnis 3 Plus	265.00*
Borland Reflex or Turbo Pascal for the Mac	59.00*
Borland SideKick for the Mac	48.00*
Central Point Copy II Mac	20.00*
Hayes Smartcom II	78.00*
Layered Software Front Desk	65.00*
Living Videotext More	139.00*
Living Videotext ThinkTank (512K Ver.)	85.00*
Manhattan Graphics ReadySetGo 512K	98.00*
Monogram Dollars and Sense	71.99*
Software Publishing PFS: File/Report Combination	85.00*
True Basic, Inc. TrueBASIC	79.00*

†**RENT BEFORE YOU BUY**—Members are eligible to join the NETWORK's Business and Game Software Rental Libraries and evaluate products for a full 14 days (Regular Membership) or 30 days (VIP Membership) to see if they meet their needs. And the Network's rental charges are far less than other software rental services—Just 20% of the Member Wholesale Price. Rental titles are available in IBM, Apple and Mac Formats.

*All Prices in this Ad are Wholesale, Members Pay 8% Over Wholesale Plus Shipping. All Items are Subject to Availability. Prices Subject to Change Without Notice.

SYSTEMS

Call For Pricing On
Macintosh

512K Enhanced,
MacPlus, w/400K/800K
Disk Drive, Keyboard
Mouse and Software

DISKETTES
Guaranteed
For Life!

Brand Name Diskettes
Available in
Boxes of 10

3.5" DS/DD

\$16.95*

Free
Flip 'n' File



CALL TOLL FREE
(800) 621-SAVE

(Orders—Membership and Advice!)
In Illinois Call (312) 280-0002
Your Membership Validation Number

HH27

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 sales consultants are on duty Mon.-Fri. 8:00 AM to 7:00 PM Sat. 9:00 AM to 5:00 PM CST.

PERSONAL COMPUTER NETWORK
320 West Ohio Street
Chicago, Illinois 60610
Customer Service and Order Status (312) 280-1567



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 receive "THE PRINTOUT", a special quarterly update on merchandise at prices BELOW even those in my wholesale catalog and all the other exclusive, money-saving services available to Members. I am under no obligation to buy anything. My complete satisfaction is guaranteed.

Please (✓) all boxes that apply:

H27

Basic Membership
With 14 Days Rental
Business Software Rental Library \$25 ☐ add'l. per year
Games Software Rental Library \$10 ☐ add'l. per year

Special V.I.P. Membership
With 30 Days Rental
BOTH Business and Game
Software Rental Libraries \$30 ☐ add'l. per year

☐ Bill My Credit Card: ☐ VISA ☐ MasterCard ☐ American Express
Account Number:

Exp. Date mon. yr.

☐ Check or Money Order Enclosed for \$

Name

Address Apt. No.

City State Zip

Telephone ()

My Computer(s) is: ☐ IBM PC ☐ IBM XT ☐ IBM AT

☐ Apple II ☐ Macintosh Other

Signature
(Signature required to validate membership)
Copyright© 1986, PC NETWORK, INC.

Please circle 30 on reader service card.

MINIFINDERS



er objects. \$49.95 (level I), \$79.95 (level II). Spectrum HoloByte, 1050 Walnut, Boulder, CO 80302. NCP (Apr 86)

Turbo Turtle is a turtle graphics program primarily designed as a learning tool for children. Uses Logo commands for graphics, but is not a full Logo implementation. Simple to use, good introduction to Logo for young children. \$59.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

ENTERTAINMENT

A Mind Forever Voyaging is a departure in text adventure games. It has a more extensive vocabulary and a more involved story than most of the genre. The story here is gripping, but there are only a few puzzles to solve. Requires 512K+. \$44.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP (Apr 86)

Airborne is a classic arcade-style game with "real" sound effects. The player defends against an assault from flying enemies. Game noises digitized from actual recordings add to the game. \$34.95. Silicon Beach, PO Box 261430, San Diego, CA 92126. CP

Alter Ego simulates the entire lifetime of a fictional character. The player's reaction to each multiple-choice event shapes the character's future relationships, job, health, etc. Spectacular the first time you play; after that there are too many similarities to previous characters. \$59.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (June 86)

The Ancient Art of War gives users a chance to refight some famous campaigns on both strategic and tactical levels. Campaigns can also be designed from scratch. Very playable, addicting game. Requires 512K+ Mac. \$49.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP (Apr 86)

Archon pits the forces of Light against Dark in a quest to gain control of five Power Points on a checkerboard grid. The shifting cycles of squares' colors keeps the balance of power ever-changing. One or two players. \$44.95. Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. CP (Oct. 86)

Balance of Power is the world's first computer peacegame. This simulation allows players to become either the President of the United States or General Secretary of the Soviet Union. Extraordinary artificial intelligence routines and general play make this a classic. \$54.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60022. CP (Prem)

Borrowed Time casts players as detectives who have to solve their own murder — before it happens. This game requires players to think and act like a detective to solve the game. Good sentence parser, sketchy Mac interface. \$44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (May 86)

Bridge 4.0 provides three other players and the cards for a game of rubber bridge. It's an average (Goren) bidder and a less than good card player. Good if it's the only game in town. Plays slowly since it's written in BASIC. \$29.95. Artworx Software, 150 N. Main St. Fairport, NY 14450. CP (Sep 86)

Dark Castle is an outstanding achievement in action games which integrates RealSound with superb animation and graphics. You'll need better-than-average hand/eye coordination, but it's well worth the effort. Requires 512K+. \$39.95. Silicon Beach, PO Box 261430, San Diego, CA 92126. NCP (Feb 87)

Deja Vu: A Nightmare Comes True is a graphic adventure that breaks new ground. Innovative use of the Mac interface in truly playable and exciting game. A great introduction to graphic adventure games. \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (Jan 86)

Dinner at Eight is a useful recipe filing system that includes a

SONY

3.5" DISKETTES

Certified by Apple for Macintosh™

- High Performance VIVAX™ Magnetic Particle
- High Durability DOL™ Particle Binding System
- Safety Auto Shutter protects against fingerprints and dust
- Safety Auto Design is heat-resistant and guards against disk damage during handling
- Hard-Shell Design is heat-resistant and guards against disk damage during handling
- Slide-Type Write Protector prevents accidental erasure
- Convenient Pocket Size for carrying convenience



Price Per Diskette

	SS	DS
Box	1.29	1.89
Bulk	1.17	1.49

GUARANTEED
100% ERROR FREE

QUALITY PRINTER RIBBONS

Apple Imagewriter \$3.95 ea
Okidata 80/82/83 \$1.49 ea
Epson LX 80/90 \$2.95 ea

Sold 6/Box (Minimum)

Min. Order \$25.00. S&H: Continental USA: \$4.00/100 or fewer disks; discount at 300. Ribbons \$25 each. Foreign orders APO/FPO, please call. MI residents add 4% tax. Prices subject to change without notice. Hours 8:30 AM - 7:00 PM.



Precision Data Products™
P.O. Box 8367, Grand Rapids, MI 49518
(616) 452-3457 • Michigan 1-800-632-2468
Outside Michigan 1-800-258-0028

Please circle 226 on reader service card.

MDC II™

MAC DISK CATALOG II



THE BEST JUST GOT BETTER!

MDC II for the 512K Mac, Plus and XL. HFS Compatible: • Catalog diskettes and hard disks • Fully indexed database • Find and Select files and volumes • 4M to 6M entries (512K) • Volume IDs • 32 Standard/User Categories • Category Learn Mode • Full Editing • Reports, Diskette Labels, 3X5 Cards and Text File output. **MDC II—\$49.95**

NEW... MDCFinder™

Our new **MDCFinder™** desk accessory lets you search your **MDC II** Catalog anytime, from anywhere. **MDCFinder — \$29.95.**

Mac Disk Catalog™ (128K)—\$39.95

Pinfeed MDCLabels™ — Choose from six colors or order the Rainbow Pack:
150/\$11.95 • 250/\$19.95 • 500/\$39.95

SPECIAL

Order **MDC II** and **MDCFinder** together for just **\$74.95.**

Shipping & Handling \$3.00 (\$5.00 Foreign) per order. Visa/Mastercard Accepted.

new canaan
MicroCode

136 Beech Rd. New Canaan, CT 06840 (203) 966-6969

Please circle 191 on reader service card.

Free Demo Diskette

ADVANCED COPY PROTECTION

New Hard Disk Support

The world's leading software manufacturers depend on Softguard copy protection systems.

Now Softguard introduces the Protection Kit—a complete software duplication/copy protection system for Macintosh computers.

- New hard disk support with install/uninstall
- No source code changes
- Compatible with all Macintosh systems
- Each protection system unique
- Stops all copybusters

Call 408/970-9240

SOFTGUARD

2840 San Tomas Expy., Suite 201
Santa Clara, CA 95051

Please circle 135 on reader service card.

MINIFINDERS



**** collection of recipes from a nationwide sampling of restaurants. Users enter number of diners and program scales recipes accordingly. \$59.95. Rubicon, 6300 La Calma Dr., Austin, TX 78752. CP (Jan 86)

Dungeon of Doom is a fairly standard, *Ultima*-type adventure **** game of the pick-it-up, cut-'em-down variety. Fun, if you like the type. Requires 512K. Version 4 is HFS compatible. Shareware. \$25. If you like it. John Raymonds, PO Box 13, Pittstown, NJ 08867. NCP (Jan 87)

Enchanted Scepters is a surround sound graphic adventure **** game. It has a limited vocabulary and virtually no story. Offers extensive and varied scenes and utilizes the Mac interface to the fullest. A worthwhile adventure experience. \$39.95. Silicon Beach, PO Box 261430, San Diego, CA 92126. CP (May 86)

Flight Simulator puts you at the controls of a small plane (prop or **** jet) and lets you roam North America. As difficult as real flying. Mac version has features not found on earlier versions, including spotter aircraft. Not all features available on 128K. \$49.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98052. CP (Nov 86)

Fokker Triplane is about as near to flying as you can get seated in **** front of a computer. Very realistic simulation and excellent graphics. Well designed and implemented. \$59.95. Bullesseye Software, PO Drawer 7900, Incline Village, NV 89450. CP (Feb 86)

Gato puts players in command of an American submarine in World **** War II. This superb simulation game uses all of the Mac's graphic capabilities to really make you feel that "you are there." \$39.95. Spectrum Holobyte, 1050 Walnut St., Boulder, CO 80302. CP (Nov 85)

Grand Slam is an absorbing and realistic tennis simulation game.

**** Practice or play tournament against Mac-controlled players with different styles and abilities on four different surfaces. 512K or Mac Plus. \$49.95. Infinity Software, 1331 61st St., Emeryville, CA 94608. CP (Nov 86)

Gypsy is a computerized, customizable Ouija board. More than just **** a software package, users get a pasteboard playing surface and a Mouse Mover with 99 ball bearings. \$39.95. Magnum, 21115 Devonshire St., Chatsworth, CA 91311. CP (Prem)

HardBall is a baseball simulation game complete with umpire's **** calls and crowd sounds. Great graphics and a lot of fun for fans. \$44.95. Accolade, 20833 Stevens Creek Blvd., Cupertino, CA 95014. CP (Feb 87)

Leather Goddesses of Phobos is another in the long line of witty **** and entertaining infocom text adventures. This one lets you choose your sex and comes with a 3D comic and a scratch 'n' sniff card. It has three levels of play: tame, suggestive and lewd. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (Feb 87)

Lode Runner is a 150-screen action-strategy challenge that **** requires a joystick for truly effective play. Move around a grid of ladders and platforms collecting treasure; dig a hole to trap pursuers. Build your own challenges. \$39.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP

MacChallenger lets players land a space shuttle. The graphics of **** this flight simulator are crude and it's a hard machine to fly, but it's also a lot of fun. Lets you record your landing attempt and then review it from any of ten camera angles. \$49.95. Aegis Development, 2210 Wilshire Blvd., Santa Monica, CA 90403. CP (Feb 86)

MacGolf is a dynamic simulation of real golf. Players have a **** choice of courses and difficulty levels. Superb playability makes this a must for all golfers and gamers. Requires

When You're Ready to Mouse Around...

The **Lisa**™ Professional

Do it for Less with a Lisa.

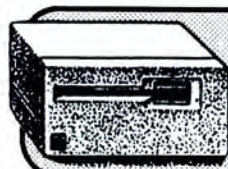


Runs Macintosh Software!

The Lisa Professional. You'll find it nowhere else! A powerful computer with up to a full megabyte of RAM, 40Mb internal hard disk capacity, 400K internal disk drive, large 12" screen and keyboard complete with numeric keypad. And, powerful as it is, it's as easy to run as any Macintosh™ and a whole lot easier to afford!

Warranted
Reconditioned **\$799**

RAM	DRIVE	PRICE
512K	400K Internal	799
1Mb	400K Internal	995
1Mb	5Mb ProFile	1495
1Mb	10Mb Int. HD	1595
1Mb	20 Mb Int. HD	1795
1Mb	10 Mb Int. HD	1795
1Mb	20 Mb Int. HD	1995
Lisa Office System (7/7)		295



Apple® Macintosh™

400K Disk Drives

Original
External
Drives!

\$79 each

Reconditioned - Warranted

SPECIAL PURCHASE

**MacWrite™ /
MacPaint™**



Buy Both Only

\$99

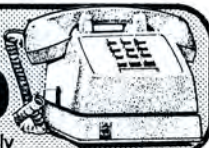
Write ver. 2.20 - Paint ver. 1.3

Apple® Modem

• Hayes Compatible
• 300 Baud - New
• With Apple Acc. Kit

\$89

1200 Baud \$195 Limited Supply



ImageWriter™ Printer



• Dot Matrix
• Serial Printer
• Graphics/Text

\$345

Reconditioned-Warranted w/o cable

Specializing in Remarketed
and Obsolete Apple Products...



P.O. Box 4029 Logan, UT 84321

ORDERLINE -
1-800-821-3221

For a complete listing of products
CALL FOR OUR LATEST CATALOG

801-752-7631
Questions - Service



Apple and the Apple logo are registered trademarks of Apple Computer, Inc. Macintosh is a trademark of Microsoft Corporation, Inc.

Please circle 64 on reader service card.

A Christmas gift? MAC INKER™

Re-ink any Fabric Ribbon automatically for less than 5 cents.

- MAC INKER IM (Imagewriter ½) \$42.00
- Universal Cartridge or Spool MAC INKER (specify) \$68.50
- Multicolored MAC INKER (re-inks 4 color Imagewriter cartridges) \$80.00
- Heat Transfer MAC INKER \$70.00



Shipping \$3.00

■ Lubricated, Dot Matrix Ink extends print-head life, \$3.00/bottle, available in black, brown, red, green, yellow, blue, purple, orange, gold and silver.
■ > 70,000 sold since 1982 (we are older than the MAC), > 8000 printers supported. ■ Imgwr. Cartridges top quality, life guaranteed, \$7.00. Heat Transfer \$9.00 (any color).

MERCURY MODEM

Really 100% Hayes* compatible
■ 300/1200 baud. Speaker. Front Panel Lights. ■ 24 months warranty.



Shipping \$4.00

\$205.00

* Hayes is a trademark of Hayes Microproducts.

DATA SWITCHES (any type) MACINTOSH MULTIPOINT

SWITCH (9 pin), (or 8 pin for MacPlus). Connect up to 4 peripherals to your printer or modem port.

\$50.00
Mac-to-Switch cable \$15.00



Shipping \$3.00

Order Toll Free.

Call or write for free brochure.

1-800-547-3303

In Oregon 503-626-2291 (24 hour line)

We are and always will be your

Computer Friends®

14250 N.W. Science Park Drive
Portland, Oregon 97229 Telex 4949559

Dealer inquiries welcome.

SPECIAL CHRISTMAS OFFER. Order any key item and get a 15% discount on any other item purchased at the same time.

Please circle 200 on reader service card.

"Make your Mac a multi-function workstation..."

VersaTerm™

Version 2.30 Price: \$ 99.00

- Remote Database Access
- File Transfer
- Mainframe Access
 - Text Terminals
 - Graphics Terminals

Designed for a 128K-512K Mac, Mac Plus or Mac-XL.
Supports the ImageWriter (I/II) and LaserWriter printer.

VersaTerm-PRO™

Version 1.20 Price: \$ 295.00

Special upgrade price for registered VersaTerm Owners.

All the features of VersaTerm PLUS...

The most complete and powerful Tektronix 4105 graphics and text emulation available for the Macintosh!!!

Designed for a 512K Mac, Mac Plus or Mac-XL.
Supports the ImageWriter (I/II) and LaserWriter printer.

VersaTerm Product Family Features:

Terminal Emulation:

- Tektronix 4105 (PRO)
- DEC VT100
- Tektronix 4014
- Data General D200

File Transfer:

- TEXT
- MacTerminal™ XModem
- Text XModem Protocol
- MacBinary XModem
- Text/Binary Kermit Protocol
- MacBinary Kermit

- New! Automatic Macro Definitions
- Not Copy-Protected.
- Supports DEC VT100 132 column mode.
- Supports all Hard Drives with HFS.
- Supports all Auto-Dial Modems.
- Very High character throughput to 9600 baud.

Special VersaTerm-PRO Features:

- New! Cleared Graphic Screens (up to 32) may be instantly viewed from memory.
- Create TekPrint, MacDraw, MacPaint and MacWrite documents from memory.
- True interactive Zoom and Pan in memory with either the 4105 or 4014 graphics.
- Fully supports all text and graphics features of the Tektronix 4105.
- The 4105 dialog can either be a separate window or text overlaying the graphics.
- Very high quality, full page graphics may be printed on either the ImageWriter or LaserWriter.
- Color output supported with ImageWriter II.

Published and Distributed by:



Developed by:



PCS Inc.
2457 Perkiomen Avenue
Mt. Penn, PA 19606
(215) 779-0522

Please circle 218 on reader service card.

Call Us



1 - 800 - Mac User

Moving? If you're moving house soon and you're a subscriber, please try to let our subscriptions department know six weeks in advance so that we can ensure you don't miss a single copy of MacUser. Just dial ...

1 - 800 - Mac User

Call us! It's a toll-free call and a real live MacUser human being will answer between the hours of 9:00 a.m. and 5:30 p.m. (Eastern Standard Time) to process your new information and confirm the details.

1 - 800 - Mac User

Subscribe! You can also dial this number to order a subscription to MacUser. You'll get a whopping 48% discount off the newsstand price as described in our regular subscription card.

1 - 800 - Mac User

Subscription query? And if you have a query or complaint relating to your subscription, we'll do our best to solve it for you while you're on-line. If you call outside of "human hours," an answering machine will take details.

1 - 800 - Mac User

Last, please help us to help you by not calling our editorial offices on the East or West Coast with subscription inquiries. We do not have the records available on screen there and can't give you any sensible answers to questions about subscriptions. Conversely, our subscription people aren't set up to handle editorial brickbats and roses. You'll find our editorial telephone numbers listed under the masthead on page 4. Thank you for subscribing to MacUser!

1 - 800 - Mac User

*Connecticut and Canadian residents only, please call (203) 853-1858 for all subscription inquiries.

Here's What Subscribing to MacUser Can Do For You!

It will make you enormously **rich**. It will make you **famous**. It will make you irresistibly **attractive** to the opposite sex. It will bring you the **respect** of your peers which you so richly deserve. Subordinates will **worship** the very ground on which you walk. It will virtually double your **intelligence**.

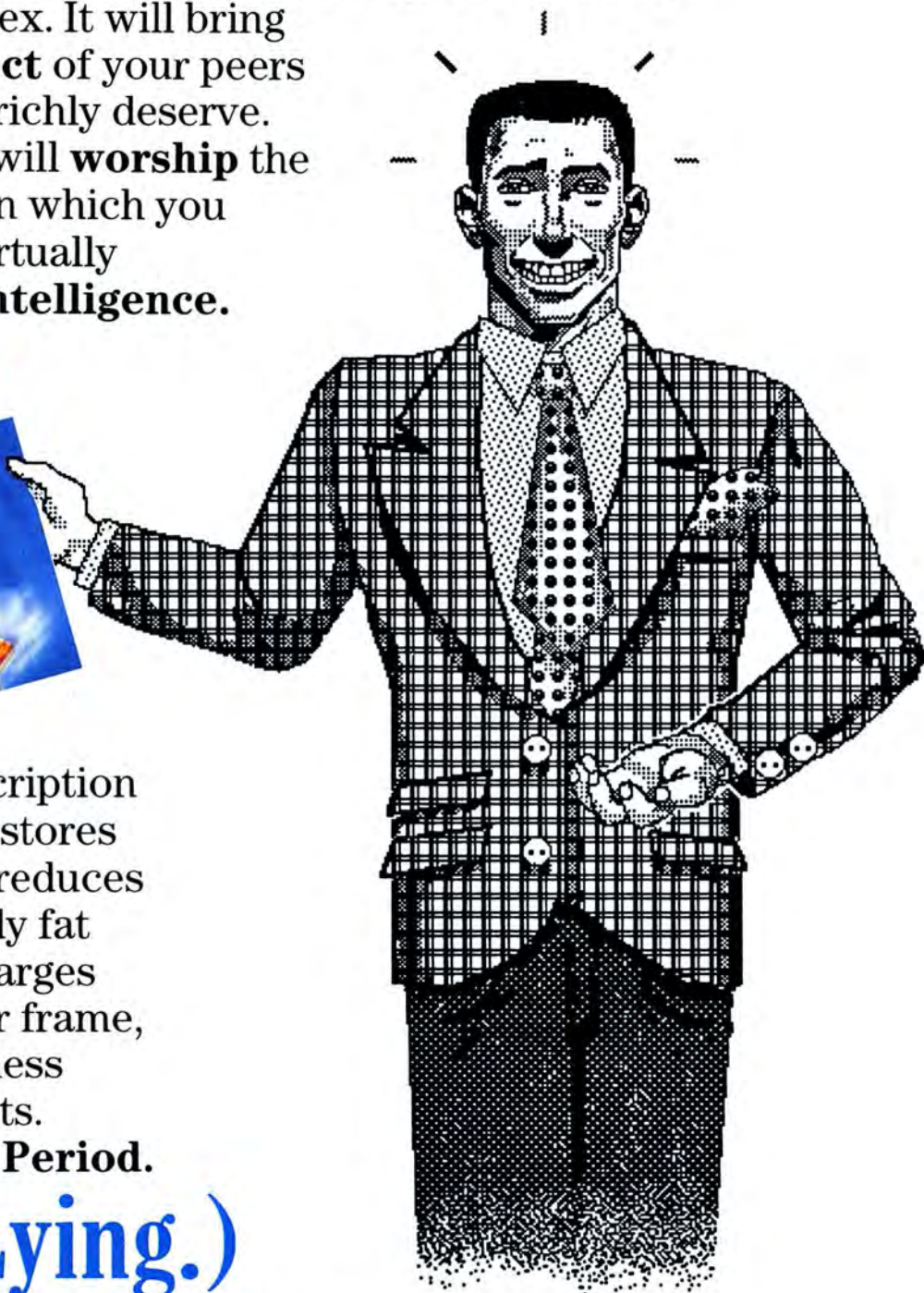


Lastly, a subscription to MacUser restores thinning hair, reduces unwanted body fat overnight, enlarges your muscular frame, banishes shyness and cures warts.

Guaranteed. Period.

(He's Lying.)

Actually, MacUser can only assist you in becoming rather more productive on your Macintosh. As well as keeping you up to date on all the latest Mac products. Oh, and sometimes it's fun to read, too. And you do save rather a lot of money off the cover price by subscribing. Really! It's true! OK, then, if you don't believe me work it out yourself! Then use the coupon opposite.



MINIFINDERS



512K+. \$59.95. Practical Computer Applications, 1305 Jefferson Highway, Champlin, MN 55316. CP (May 86)

MacInooga ChooChoo is a set of electronic toy trains. Run on the layouts provided, or create your own, as complex as you wish. Create scenery using built-in tools or import fancier MacPaint scenery. \$39. Fortnum, 31 W. Sierra Madre Blvd., Sierra Madre, CA 91024. NCP (Apr 86)

Make Millions is a fascinating business simulation in which the player competes against the computer to take control of five companies, then run them profitably. Appeals to the closet capitalist in all of us. \$49.95. Scarborough Systems, 55 South Broadway, Tarrytown, NY 10591. CP

MazeWars+ is an interactive, multiplayer game to be played on AppleTalk or through a modem link. Chase opponents through a four level maze. Requires 512K+, AppleTalk or Hayes compatible modem. \$49.95. MacroMind, 1029 W. Wolfram, Chicago, IL 60657. NCP (Nov 86)

Mind Over Mac features five games. Entertainment for the whole family. Good graphics paired with synthesized sound and on-screen help. \$49.95. Think Educational Software, 16 Market St., Potsdam, NY 13676. CP (Feb 86)

Mind Prober is a demonstration of a very simple expert-style system. How well do you know your friends? Answer certain statements as either true or false, and the computer prints a 3- to 5-page psychological profile of subject in business, stress, sex and other situations. \$50. Human Edge Software, 2445 Faber Pl., Palo Alto, CA 94303. CP

The Mist is an all-text "interactive novel" based on a short story by Stephen King. Vivid graphic and sometimes gory descriptions compensate for the game's muddled sentence parser. The story is involving, while the game is overly lock-step. \$39.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (May 86)

NewGammon is animated backgammon that will challenge even good players. Features include variable skill levels and strategies and options to play the Mac or watch the Mac play itself. An arcade-like high speed mode is included. \$39.95. Newsoft, PO Box 4035, Newport Beach, CA 92661. CP

Orbiter puts a real space shuttle on the Mac screen. A multitude of controls, intelligent on-board computer with speech capabilities, real-time graphics and 16 distinct missions help this program succeed as both a game and a simulation. \$49.95. Spectrum HoloByte, 1050 Walnut St., Boulder, CO 80302. NCP (Jul 86)

Orbquest is a fantasy role-playing adventure with better-than-average puzzles and an excellent sense of humor. Not as sophisticated as some, but a good value. \$49.95. QWare, PO Box 850415, Richardson, TX 75085. CP (Dec 86)

Pinball Construction Set lets users create their own pinball games, as elaborate or as easy as desired. Uses MacPaint for backgrounds and has lifelike sounds (on 512K+ Macs). \$40. Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. CP (Jan 86)

Pslon Chess is as good a micro chess player as you'll find. This 1984 World Micro Champion makes superb use of graphics and the Mac interface. Switch between 6 languages for a touch of spice. \$59.95. Psion, 40 Lindeman Dr., Trumbull, CT 06611. CP (Mar 86)

Real Poker is five-card draw against five other players with Old West names, distinct personalities and playing styles, in a saloon setting. Dealing and play are very fast. Game evaluates your hand. \$39.95. Henderson Associates, 980 Henderson Ave., Sunnyvale, CA 94086. CP

Sargon III is a chess program with 9 levels of play, problem-solving modes, take back, hint, etc. Easy Play blocks Sargon from stealing search time during player's move, effectively doubling number of levels. Disk stores 107 classic games for review and replay. \$49.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP (Mar 86)

Shanghai challenges players to clear a board of all 144 tiles, by matching pairs of mah-jongg tiles and removing them. Terrific strategic options plus the ability to randomly gener-

ate new game boards keep this one fresh. \$44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (Oct 86)

Skyfox is a sophisticated 3D shoot-em-up. You're fighting tanks, planes, and enemy cities floating in the sky. Fast graphics, good sound, slick, on-board attack computer and many levels of difficulty will keep fans of this genre happy for hours. \$39.95. Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. CP

Smash Hit Racquetball is an accurate and entertaining simulation of a day on the courts. Digitized sound adds to the realism. Includes a hard disk install, unusual for a game. The low price makes this the perfect Mac gift. \$14.95. Primera Software, 33 Norwood Ave., Kensington, CA 94707. CP (Dec 86)

Strategic Conquest is large scale, strategic conflict on the Mac. This very involved war game will be enjoyed by those who like this genre. \$49.95. PBI Software, 111 Triton Dr., Foster City, CA 94404. CP (Dec 85)

Tass Times in Tone Town is a slightly off-the-wall graphic adventure in which you need a flashy hairdo and a jumpsuit before you can get anywhere, and you pay for things with guitar picks. Decent puzzles, with a sense of humor. \$39.95. Activision, 2350 Bayshore Pkwy, Mountain View, CA 94043. CP (Jan 87)

The Toy Shop is a construction kit for building 20 different working model toys. Some parts can be customized. Manual gives clear instructions, but many toys are too complex for a child to build. \$64.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP (Nov 86)

Ultima II players take the part of a character who travels through land, sea, air, space and even time itself in a quest to find and defeat the evil sorceress Minax. Good Mac interface; excellent game; confusing graphics. \$59.95. Sierra, PO Box 485, Coarsegold, CA 93614. CP

Ultima III allows up to four characters to cooperate to explore the vast wilderness of Sosaria; dungeons, oceans, and the Moon Gates to help solve the adventure. \$59.95. Origin Systems, 340 Harvey Rd., Manchester, NH 03103. CP

Winter Games lets up to eight players compete against each other in Olympic events including figure skating, bobsledding, biathlon and ski-jumping. Excellent animation, good graphics, good theme music. \$39. Epyx, 1043 Kiel Ct., Sunnyvale, CA 94089. CP (Mar 86)

Wizardry is an outstanding dungeon exploration adventure pitting a party of up to six characters against the guardian monsters of the evil wizard Werdna. Capture his amulet to earn your reward. Even after solving the game, you'll want to go back into the dungeon. \$59.95. Sir-Tech, 6 Main St., Ogdensburg, NY 13669. CP

WordPlay is a word game with over 50 crossword puzzles for different levels of expertise. User friendly, it offers on-screen Help menus. A Work mode allows development of new puzzles for the creative. \$49.95. Palantir, 12777 Jones Rd., Houston, TX 77070. NCP (Mar 86)

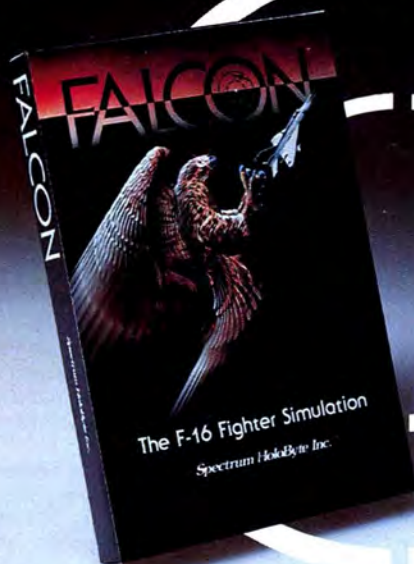
Xyphus is a role-playing game pitting four characters (fighters or wizards) against multiple scenarios that grow increasingly harder. Excellent Mac interface and icon control. \$39.95. Penguin, PO Box 311, Geneva, IL 60134. CP

Zork II is where the adventure continues in the underground empire. A wandering wizard keeps things interesting, though there's a way to beat him if you persevere. \$44.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

Zork III is the final chapter in the trilogy. Players come up against the ultimate enemy — the Dungeonmaster himself. More closed-ended than previous Zorks. \$44.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

MUSIC

ConcertWare+ is an enhanced version of *ConcertWare*. Has different instruments and can use any four of a set of eight at any point in a piece. Can read and use *ConcertWare* and



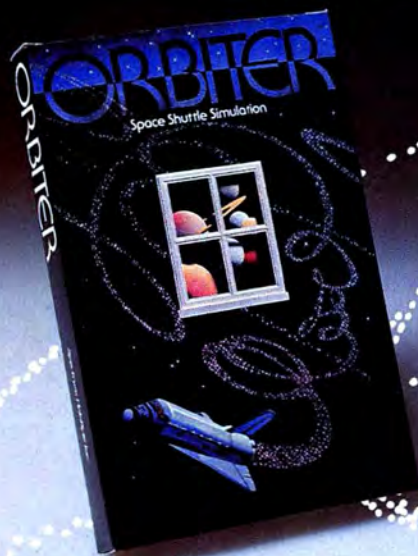
Macintosh version

Climb into the FALCON cockpit and fly a highly realistic simulation of the F-16A Fighting Falcon. Perform fighter maneuvers while engaging enemy MiG's in dogfight battles OR connect two computers and go head-to-head against another plane piloted by a second person. Realism is captured by use of sound and digitized airplane images, advanced radar mechanisms, and four alternating heads-up-displays. Multiple levels and missions challenge even expert pilots. Feel the exhilaration of power, speed, and maneuverability of the F-16 as you claim the skies as FALCON territory!

FALCON—Available on Macintosh 512K (Macintosh Plus compatible) and IBM 256K.

THE ADVENTURE BEGINS

SPACE SHUTTLE SIMULATION



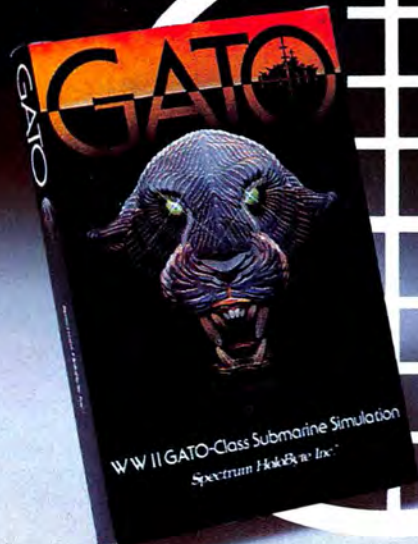
IBM version

5-4-3-2-1 LIFT-OFF! Experience space travel as you control ORBITER, the space shuttle simulation taking you from launch to landing. On certain computers use of voice synthesis adds realism as mission control "talks" to you. Missions may be to launch, rescue, or repair satellites or the floating space laboratory. Enjoy a space walk in the Manned Maneuvering Unit. The entire ORBITER experience is both educational and challenging and gives a glimpse of what being an astronaut entails. We've taken your computer to its limits. We'll take your imagination even beyond.

ORBITER—Available on Macintosh 512K (Macintosh Plus compatible), IBM 128K, and Atari ST.

BATTEN DOWN THE HATCHES

WORLD WAR II SUBMARINE SIMULATION



Atari ST version

Journey to ocean depths as you command GATO, the World War II submarine simulation, to perform missions in the South Pacific. Control panels constantly monitor your speed, depth, heading, and radar tracking, as the enemy responds strategically to your maneuvers. Increasing levels of difficulty challenge the most capable submariners to draw upon navigational expertise to outsmart the enemy. The Captain's Log with records of tonnage and enemy ships sunk can be saved for future games—IF you return from your mission!

GATO—Available on Apple //e or //c 128K, IBM 128K, Macintosh 128K (Macintosh Plus compatible), Commodore 64K, Atari ST, and Amiga.

Spectrum HoloByte Inc.

1050 WALNUT, SUITE 325, BOULDER, COLORADO 80302 (303) 443-0191

MINIFINDERS



MusicWorks files. \$69.95. Great Wave Software, PO Box 5847, Stanford, CA 94305. NCP (Nov 85)

Deluxe Music Construction Set is a good general purpose music program. An active piano keyboard and instant audio feedback make this program perfect for educational applications, and the advanced notational capabilities will satisfy most advanced musicians. \$50. Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. CP (Mar 86)

Listen is an educational tool for ear training. It has both a piano keyboard and a guitar fretboard for the student to input notes, and offers a wide range of exercises. It also produces some beautiful sounds. \$69. Imaja, PO Box 638, Middletown, CT 06457. CP (Jan 87)

Performer is a strong contender for the high-end of the MIDI sequencer market. Only those experienced with MIDI should get this. Files can be transported to *Professional Composer* for editing. No direct track or segment looping. \$295. Mark of the Unicorn, 222 Third St., Cambridge, MA 02142. CP

Professional Composer is aimed at music professionals. Produces performance-quality sheet music; has only limited playback facilities. \$495. Mark of the Unicorn, 222 Third St., Cambridge, MA 02142. CP (Prem)

Studio Session consists of two programs, and Editor and a Player, that produce music with six voices of digitized sound. Although the program is superb, documentation and technical support are poor. \$89.95. The Kette Group, 6860 Shingle Creek Pkwy, Minneapolis, MN 55430. CP (Dec 86)

HARDWARE & ACCESSORIES

DASCH is an external RAMdisk available in half, 1 and 2M sizes. Connects to a serial port. Speeds up operations 200 to 300%. Can be used as a printer buffer. Works with all Macs. 512K, \$395; 1M, \$450; 2M, \$545. Western Automation Laboratories, PO Box 3438, Boulder, CO 80307. (Feb 87)

Data Frame 40XP is a very fast, very quiet 40-meg external SCSI hard drive. Comes with a good and complete set of utility software. About as fast as a SCSI drive can be. Requires SCSI port, 512K+, new ROM. \$1999. SuperMac Technology, 950 N. Rengstorff Ave., Mountain View, CA 94043. (Feb 87)

Ergotron is a Mac (and external drive) holder that allows a full range of swiveling and tilting. Very strong, this well made unit is also very easy to use. \$99.95. Ergotron, PO Box 17013, Minneapolis, MN 55417.

FX-20 is a good 20-meg external hard drive. Good utility software. Reliable, and reasonably quiet. Sits next to Mac, has a large, oddly shaped case. Requires SCSI port, 512K+, new ROM. \$1195. General Computer, 215 First St., Cambridge, MA 02142. (Feb 87)

Hard Disk 20 is Apple's entry in the exploding hard disk sweepstakes. This quiet, small unit uses Apple's new Hierarchical File System (HFS). The lack of utility software (spooler, backup, security) is its only drawback. \$1199. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. (Feb 86)

Hard Disk 20SC is Apple's 20-meg SCSI hard disk. Reliable, fairly noisy unit. Good utility software, but no backup yet. Requires cable and terminator (\$80). Requires SCSI port, 512K+, new ROM. \$1299. Apple, 20525 Mariani Ave., Cupertino, CA 95014. (Feb 87)

HyperDrive HD20 is an internal 20-megabyte hard disk. It only adds about 5 pounds to the Mac's weight. Full featured unit with spooler, security program and backup utility. \$1695 installed in a 512K+ Mac. General Computer Company, 215 First St., Cambridge, MA 02142.

MacBottom HD21 is a very low (about 2 inches high), external 20-meg hard drive. Fits under the Mac. Very quiet, very reliable. Good utility software, including *HFS Backup*. Requires SCSI port, 512K+, new ROM. \$1195. PCPC, 6204 Benjamin Rd., Tampa, FL 33614. (Feb 87)

MacCharlie's components slip around the Mac and convert it into an IBM PC clone. Amazingly, it works well. The enlarged keyboard has a few bugs but is a joy to use. \$795 with 256K

RAM and one floppy drive. \$995 with 640K RAM and two floppy drives. Dayna Communications, 50 S. Main St., Salt Lake City, UT 84144. (Dec 85)

MacIntizer is a graphics tablet and absolute positioning device that replaces the mouse. Various scales are possible. \$599. GTCO Corp., 7125 Riverwood Dr., Columbia, MD 21046.

MacNifty Sound Digitizer turns ordinary analog sound input into digital waveforms which can then be manipulated using the *SoundCap* software it comes with. Capable of truly stunning effects. Requires 512K+. \$129.95. Impulse, 6860 Shingle Creek Pkwy., Minneapolis, MN 55445.

MacNifty Stereo Music System converts Mac sounds to simulated stereo by splitting highs and lows between two speakers. User controls bass, treble, balance, and volume. \$79.95. Impulse, 6860 Shingle Creek Pkwy., Minneapolis, MN 55445.

MacNifty Switch allows any port on your Mac to connect to two peripherals. Turn the knob to switch between the two devices. \$34.95. Impulse, 6860 Shingle Creek Pkwy., Minneapolis, MN 55445.

MacTablet is a stylus-driven graphics tablet. Users can easily sketch or trace art using this absolute-positioning device. Has a working area the size of the Mac screen. Allows concurrent use of the mouse. \$495. Summagraphics Corp., 777 State St. Extension, Fairfield, CT 06430. (Jan 86)

MacVision is a digitizer that uses an ordinary video camera for input. Capable of extremely fine results and special effects. Easy to use and well documented. \$399.95. Koala, 3100 Patrick Henry Dr., 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, 10300 Greenbelt Rd., Seabrook, MD 20706.

Mouse Mover is a mouse pad-type surface that snaps on to the bottom of the mouse like a roller skate, freeing it up to glide over desk or mouse pad with ease. 99 tiny ball bearings at three strategic points. Mouse glides faster and saves on mouse wear and tear. \$19.95. Magnum Software, 21115 Devonshire St., Chatsworth, CA 91311.

MouseTop is unquestionably the cutest mouse cover on the market. Gray, plush fur, round felt ears and button nose and eyes make your mouse look authentic. \$5.49; \$5.95 for MouseTop wearing wire-frame glasses. H&H Enterprises, PO Box 2672, Corona, CA 91718.

Moustrak is a fabric covered foam mousing pad. It will increase the efficiency of your mouse while helping to keep it clean. Pad comes in a variety of colors. Particularly useful in the typical office desk top environment. \$10. Moustrak, 3047 St. Helena Hwy., St. Helena, CA 94574.

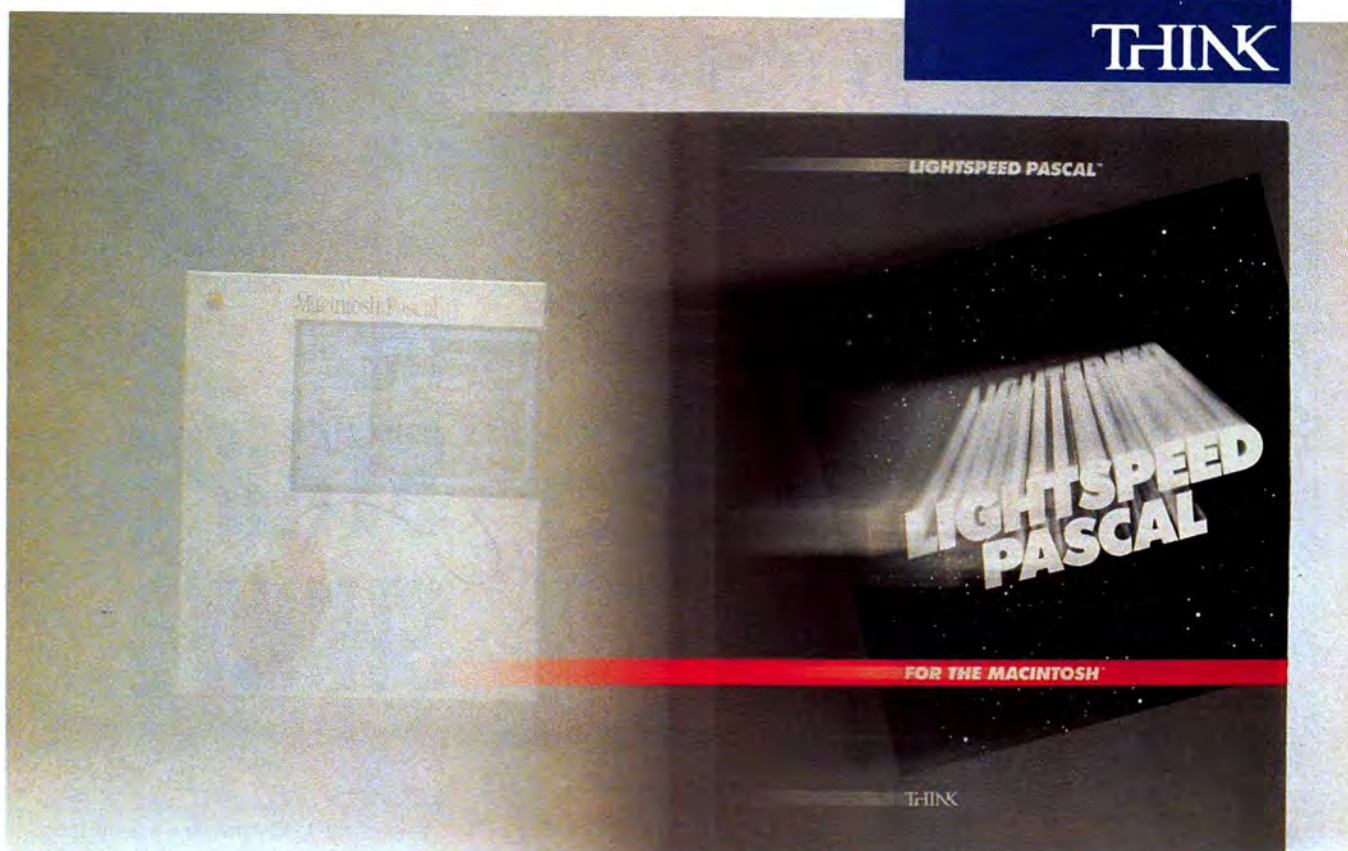
NoLabelSystem is a plastic permanent labeling system in which users slide new tabs into a transparent plastic case on the disk. The tabs stick out of the case slightly, making them easier to read while in the drive. \$19.45. Weber & Sons, 3468 Hwy 9, Freehold, NJ 07728.

PenMouse+ is a low-end graphics tablet with a transmitter-equipped pen. Has a smooth "trade" mode for very precise drawings. Does not always track evenly, pen is hard to control and documentation is confusing. \$295. Kurta, 4610 S. 35th St., Phoenix, AZ 85040. (Feb 87)

PhoneNet is an AppleTalk-compatible network. Network can be up to 3000' in length. In-place unused phone cabling can be used for network, and can be combined with AppleTalk on same network. \$49.95 per node. Farallon Computing, 1442A Walnut St., #64, Berkeley, CA 94709. (Dec 86)

ThunderScan replaces the ribbon cartridge in an ImageWriter, which is required to use it. Laser scans art that can be run through the ImageWriter, producing high-quality digitized images. The images can be manipulated as they are created or afterward. \$229. Thunderware, 21 Orinda Way, Orinda, CA 94563.

THINK



LIGHTSPEED PASCAL™ THE FUTURE REPEATS ITSELF.

JANUARY 1984. (Cupertino, California.)—Apple introduces the Macintosh.™ At the press conference, six software developers, including Microsoft and Lotus, announce their commitment to the new machine. Among them is THINK Technologies, a start-up developer of advanced systems software.

THINK announces Macintosh Pascal. It is a breakthrough. For the first time, a practical interactive interpreter is available for Pascal. People can now learn to program in a whole new way. They can look inside their program and get immediate feedback. Incorporating the Mac interface in this programming environment, THINK creates a new future for the Macintosh in education.

Writing in The New York Times, Erik

Sandberg-Diment says “MacPascal alone might be reason enough for the college-bound science or engineering major to purchase” a Mac. The product becomes a standard in university computer science courses. Users are enthusiastic. But in time they demand even more from THINK.

AUGUST 1986. (Boston, Massachusetts.)—THINK introduces Lightspeed Pascal at MacWorld Expo. It is a breakthrough. It utilizes new compiling and linking technology previously available only with THINK's Lightspeed C. But it goes even further. Like Macintosh Pascal, it provides the same ability to look inside a program, but without the need for an interpreter. It offers blinding speed and the ability to build large pro-

grams. The response is overwhelming. In the first two weeks THINK sells thousands.

Lightspeed Pascal marks a turning point in programming the Mac. It has all the features that made Macintosh Pascal a standard. And much more. Now users can create real standalone “double-clickable” applications and desk accessories. THINK creates a new future for Macintosh programmers.

Lightspeed Pascal is priced at \$125. It is not copy-protected. The package includes a 600-page manual with extensive index. It provides complete Toolbox/OS support. It is compatible with Macintosh Pascal and Lisa Pascal.

The future is here. Order Lightspeed Pascal now.

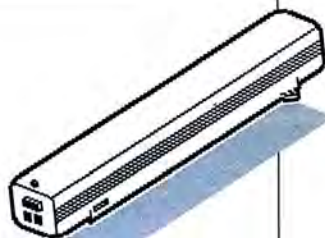
Please send me Lightspeed Pascal today. Enclosed is \$ _____ for _____ copies. (\$125/copy)

NAME _____	TITLE _____	COMPANY _____
ADDRESS _____	CITY _____	STATE _____ ZIP _____ PHONE _____
ACCT # <input type="checkbox"/> MC <input type="checkbox"/> VISA <input type="checkbox"/> AMEX <input type="checkbox"/> CHECK ENCLOSED	EXP. DATE _____	SIGNATURE _____

Mail to: **THINK Technologies, 420 Bedford Street, Lexington, MA 02173.** Or call 617-863-5595

Lightspeed Pascal is a trademark of THINK Technologies, Inc. Macintosh is a trademark of Macintosh Laboratory, Inc. and is used by Apple Computer, Inc. with its express permission.

Please circle 182 on reader service card.



THE STRIP SHOW

■ This page contains Softstrips: programs and data in a special machine-readable form. The material can range from straight, unformatted data to full-blown Macintosh applications.

To use this material, you'll need a Causin Softstrip reader. Readers are available from your local dealer. Be sure you get the Macintosh accessory kit. They're easy to use, well made and simple to store.

This month's strips are for *StuntCopter 1.2*, an exciting public domain game. The higher you are when you jump, the higher your score. But don't hit the horse or the driver! *StuntCopter 1.2* was written in TML Pascal by Duane Blehm of Ulysses, Kansas. Programmers can buy copies of the commented source code direct from Duane.

We'd like to know how you are using these strips (if you are!), how you like the Causin Reader, and, most importantly, what you'd like to see us publish in strip format.

We will continue to publish strips containing source code from articles, but we'd like to go further. Do you want to see games or utilities? Standalone applications or source code to run or compile? Let us know. Write to S. Strip, c/o MacUser, 25 West 39th Street, New York, NY 10018.

[This superb game is too long to fit in one installment, so we're giving you part one this month and part two next month. When you convert it to disk, you'll need both pages.]

**SPECIAL
SOFTSTRIP™
SYSTEM OFFER**

SOFTWARE ON PAPER IT'S HERE NOW WITH A COMPLETE SYSTEM EVERYONE CAN AFFORD!

Here is your chance to join the Softstrip™ revolution with the lowest-priced package deal yet available for this system that has the software and publishing industries doing handstands.

What is Softstrip™?

In case you're one of the few Macintosh users who hasn't heard about Softstrip yet, here's what you've been missing. The Softstrip System, in effect, replaces the floppy disk with paper. The centerpiece of the system is the Cauzin Softstrip™ reader — a compact (3" x 16") optical scanner that reads "data strips" printed on regular paper. Each data strip is about 1/2" wide and up to 9 1/2" long. It encodes 8-bit ASCII data into machine-readable form.

The system uses a concept similar to supermarket bar codes, except it can store or retrieve much more data per printed page. One 8 1/2" x 1" sheet of paper can hold as much as 44K of information. And you can create your own data strips with a dot-matrix or laser printer, or a printing press (as so many publications are beginning to do right now).

What can it mean for you?

Just as the floppy disk expanded software and data distribution beyond anyone's dreams, Softstrip now offers the next great leap forward. Anything you can put on a disk you can put on a Softstrip data strip: information, software programs, video games, sheet music ... the list is virtually endless.

And there is no limit to the *kinds* of files that can be stored on a data strip: text, binary, ASCII, graphics, sound, BASIC, Assembly Language and more. Any combination of files can be stored on a data strip (or group of data strips).

Who is already using Softstrip™?

Book and magazine publishers are turning to Softstrip in ever-increasing numbers to bring their readers program material right from the printed page. Software publishers can let you sample their latest programs on inexpensive, easy-to-produce printed pages as well. Product presentations, promotional literature, even lengthy instructions, can be produced in extremely limited space. And educational material, from teacher manuals to text books are being provided on Softstrips to give new impetus to computer-aided instruction.

User groups now offer their members a low-cost alternative to disk copying and program sharing. With the Softstrip System's ability to use the same material on different computers, media incompatibility is no longer a problem. Businesses can update prices and catalogs inexpensively and quickly. Time-sensitive data can be distributed faster and more accurately than ever before. Archival data can be linked with any computer, then stored on paper, in file cabinets!

What do the professionals say?

Critics from the whole spectrum of computer and business publications have given the



Softstrip System unanimous raves. Here are a few of their comments:

"Last time out, when we visited Washington, D.C., for a peek into Congress' crystal ball, we discovered that one of the most significant changes the Office of Technology Assessment predicts for the work place is the rise in technology that can eliminate the need for keyboarding data into computers. For once, Congress is right on target: That technology is already here in the form of Softstrip."

— D & B Reports

"Using the system is as easy as installing it. The reader works flawlessly. The accompanying manual contains sample programs in strip form. The system successfully read every strip into my Apple, even when I intentionally made small errors in alignment. Cauzin Systems has crafted a very fine product at a reasonable price."

— inCider

"It is possible to crumple a page containing Softstrips and then smooth it out and read the data successfully. This ability to correctly read under less than perfect conditions is a major strength of the system. The Softstrip System has the potential to revolutionize how we receive, and in fact use, data."

— MacUser

What are you waiting for?

To make it as easy and inexpensive as possible for you to acquire your Softstrip System, we've put together a complete package to get you started immediately — plus a FREE bonus. You get the Cauzin Softstrip™ reader (retail value \$199.95), the Macintosh Accessory Kit, containing everything you need to link the reader to your Mac, the \$24.95 Developer's Handbook (to write your own custom software) and the Macintosh Stripper Software (retail value \$19.95). The total retail value is \$244.85. But you pay only \$199.95, plus \$10 shipping, handling & insurance, for the whole package.

Take our 30-day no-risk trial and get this FREE bonus!

Just for trying the complete system for 30 days, at our risk, we'll give you — absolutely free — MacPlenty Softstrip software, which has 16 utility programs, 12 desk accessories, Clip Art™, R Font Library and an array of games and entertainment. And you'll also receive a one-year subscription to The Cauzin Effect, a monthly newsletter containing information on the latest available StripWare™ and other new developments. MacPlenty and The Cauzin Effect have a total retail value of \$43.95, and they're yours free!

Fill out and mail the order form below now. This is your opportunity to acquire everything you need to take advantage of the new technological era dawning with Softstrip™. Send your order right away.

Send to: MacUser, 831 Federal Rd., Brookfield, CT 06804

Please send me the complete Softstrip System, including the Softstrip reader, Macintosh Accessory Kit, Developer's Handbook and Macintosh Stripper Software for just \$199.95 plus \$10 shipping, handling & insurance (retail value \$244.95). Also send MacPlenty Softstrip software and a one-year subscription to The Cauzin Effect, absolutely free. If I am not satisfied, for any reason, I may return my complete Softstrip System within 30 days for a full refund. MacPlenty and The Cauzin Effect are mine to keep regardless.

CHECK HERE FOR THESE OPTIONS. Also send me

- ☐ IBM PC-and-Compatibles Accessory Kit and Stripper Software, just \$39.95 plus \$4 shipping & handling.
- ☐ Apple II Series Accessory Kit and Stripper Software, just \$39.95 plus \$4 shipping & handling.

- ☐ Check or money order for \$ _____ enclosed.
- ☐ Charge my VISA ☐ Charge my MasterCard

Card No. _____ Expires _____

Signature _____

Name _____

Address _____

City _____ State _____ Zip _____

SR287

I don't want to spend
20 hours learning
EXCEL

Then get
EXCELERATE

What's that?

A series of **one-hour**
courses on Excel

How do they work?

Instructors on the
EXCELERATE audio tape
guide you through lessons
contained on the
EXCELERATE Practice disk.

Oh, hands-on training using
the actual Excel program!
Sounds Great!

It is great! And a
bargain at only
\$29.95 a course.

Wow!
How can I get
EXCELERATE?

Just call
800-453-6500

EXCELERATE

Courses include:

- 1A Fundamentals of Excel for
First Time Spreadsheet Users
- 1B Fundamentals for Experienced
Spreadsheet Users
- 2 Creating Business Graphs
- 3 Adding power to your Spreadsheet
- 5 Building & Using Macros
- 6 Linking and Consolidating Spreadsheets

**Personal
Training Systems**

Dealer Inquiries Welcome

408 559-8635

Excel is a trademark of Microsoft Corporation. Excellerate is a
trademark of Personal Training Systems.

Please circle 60 on reader service card.

**IT'S ABOUT
TIME**

APL. 68000 for the Macintosh

*APL. 68000 is a highly optimized 68000
Assembler based APL Interpreter which
takes full advantage of the Macintosh features
including user-defined pull-down menus, Dialog
and Alert boxes and a complete interface to
Quickdraw graphics. All of this along with
a 777k APL Workspace (MacPlus), are
the reasons that APL.68000 on the
Mac sets the industry standard for
performance and capabilities.*

\$295

Order direct for \$295 + shipping (\$7 US, \$10 Canada).
VISA/MC/AMEX add 4%. Check, MO or COD. Demo
Disk available for \$15 + shipping (\$2.50 US, \$6 Canada)
May be applied to full version purchase.

30 DAY MONEY BACK GUARANTEE

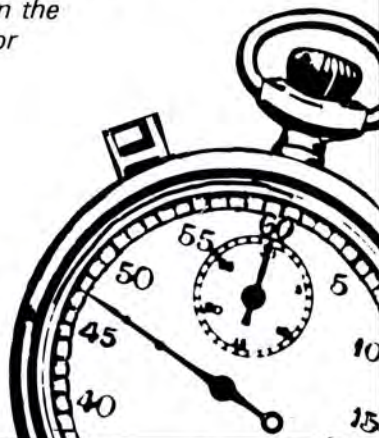
SPENCER ORGANIZATION,
INC.

P.O. Box 248

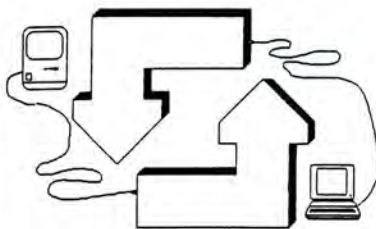
Westwood, N.J. 07675

(201) 666-6011

Please circle 56 on reader service card.



Mac.Transfer



**Macintosh ↔ Apple
Macintosh ↔ IBM pc
Connection**

SOUTHEASTERN SOFTWARE

7743 Briarwood Drive
New Orleans, La. 70128

(504) 246-8438 (504) 246-7937

Apple Version \$60.00
PC version \$60.00



* Move word processor and data
base files from programs such as
Appleworks and AppleWriter to
and from the Macintosh and
Macintosh Plus.

* Move SVLK, DIF and other data
files between the Apple, IBMpc or
Macintosh.

* Easy to Use - Complete instruc-
tions and diagrams show you how
to make the connection with
modems or cables.

* 2 diskettes - One for the Apple
or IBM and one for the Macintosh.
We also have a version to do IBM
to Apple transfers.

* Mac.Transfer includes a utility to
convert transferred files into a for-
mat compatible with Helix,
Microsoft File, Omnis 3 and other
data bases.

* Fully HFS and MFS compatible.

* A Proven product. We have
been shipping Mac.Transfer for
more than 2½ years.

Please circle 260 on reader service card.

Accept our invitation for DINNER AT EIGHT™ ... and The MACazine will pick up the check!

It's true! Begin or renew your subscription to **The MACazine** for 12 or 24 issues, and...

We'll send you Rubicon's best-selling two-disk DINNER AT EIGHT software set! You'll have instant access to hundreds of recipes and secrets from the nation's finest restaurants... **without charge and with our compliments!**

\$59.95

You've seen great reviews for DINNER AT EIGHT everywhere... now get it FREE when you subscribe to **The MACazine**!

If you're the least bit curious about how to make your Macintosh compute better, faster and more elegantly, **The MACazine** will open your eyes and show you how... exactly. No national computer magazine, no newsletter, no bulletin or alert digs so deeply so incessantly to tell you what is happening and about to happen to your Macintosh hardware, software and support.

NEW SUBSCRIBER MONEY-BACK GUARANTEE

If your very first issue of **The MACazine** doesn't provide more useful, useable news and information about and for your Macintosh than any other publication, return the mailing label from that issue for an immediate refund... and keep DINNER AT EIGHT as your gift!

START FASTER! CALL TOLL-FREE
1-800-624-2346 (214/677-2793 in Texas) and be ready with your VISA or MasterCard number!

DINNER AT EIGHT combines good taste and good sense by applying the bright new talents of your Macintosh to the celebrated world of gourmet cuisine. Speedsearch for recipes in over 20 categories... entrees to hors d'oeuvres, gourmet fast food to intimate dinners, New York to San Francisco.

Click and choose among easy-to-spot food icons and lists of recipes appear before your eyes. Browse through those you want, quickly checking ingredients and time of preparation. Change the number of servings and **Instantly**... DINNER AT EIGHT adjusts proportions for each ingredient.

Add your own recipes, assemble party menus, even choose a compatible wine and **print out your shopping list**. And there's much, much more!

DINNER-AT-EIGHT RESERVATION CARD

The MACazine
113 East Tyler (14)
Athens, Texas 75751

YES... Begin or Renew my subscription to **The MACazine** and rush my DINNER AT EIGHT two-disk software package at once. I prefer (check one)...

☐ 24 issues (two years) at just \$33 (\$24 off newsstands, an extra \$9 off single-year rates)

☐ 12 issues (one year) at only \$21 (\$12 off cover price!)
Texas residents add .5125 tax (\$22.08 or \$34.82). Outside U.S. sent AIR MAIL. Canada and Mexico \$30 per year, all other \$62 paid in advance in U.S. Funds (bank cards OK).

This is a ☐ NEW ☐ RENEWAL SUBSCRIPTION

PRINT NAME _____
Title Required

FIRM NAME _____
If any

SUITE MAILING OR APT ADDRESS _____

CITY _____

STATE _____ ZIP _____

☐ Payment enclosed ☐ Bill me; send DINNER AT EIGHT after payment.
☐ VISA
☐ MasterCard

Card No. _____ Exps _____

Usual Signature _____

FREE ★ FREE

Media-Mate 3

with purchase of any 100 diskettes
(Boxed in tens)

SONY 3½" SS/DD 1.15 Ea.
3½" DS/DD 1.69 Ea.

Boxed in tens — minimum order 20 (FREE Media-Mate 3 with each 100)

maxell 3½" SS/DD 1.15 Ea.
3½" DS/DD 1.69 Ea.

Boxed in tens — minimum order 20 (FREE Media-Mate 3 with each 100)

BASF or **Nashua** 3½" SS/DD 1.09 Ea.
3½" DS/DD 1.49 Ea.

Boxed in tens — minimum order 20 (FREE Media-Mate 3 with each 100)

MAC PAC's —	Boxed in 50's	50+	100+	400+	MAC PAC's
SONY	3½" SS/DD	1.14 ea	1.09 ea	1.04 ea	BOXED in 50's
	3½" DS/DD	1.49 ea	1.44 ea	1.39 ea	
maxell	3½" SS/DD	1.14 ea	1.09 ea	1.04 ea	
	3½" DS/DD	1.49 ea	1.44 ea	1.39 ea	
BASF or Nashua	3½" SS/DD	1.09 ea	1.04 ea	.99 ea	Includes Labels
	3½" DS/DD	1.39 ea	1.34 ea	1.29 ea	



Holds 30 3.5"

\$8.95

With Lock

\$10.95

MediaMate 3

Deluxe Roll-Top File



Holds 55 3.5"

\$15.55

With Lock

\$17.95

Mouse-Pad

\$5.95

Red - Blue - Gray - Brown



Imagewriter Ribbons

Black (2-5) 3.45 (6+) 2.95

Color Packs 20.70

Glare/Guard
by OCU

- Cuts 94% of Screen Glare
- Enhances Contrast
- Optically Coated Glass

\$34.95

ORDER NOW

Best COMPUTER SUPPLIES

2148-A Bering Drive
San Jose, CA 95131
(408) 435-3866

1 800 351-BEST (2378)

1 800 451-BEST (in California)

Visa, Mastercard, C.O.D. or Prepaid. Corporations rated 3A2 or better, government agencies and schools may send in purchase orders on a net 30 basis. Minimum order \$25.00. Shipping charges are \$3.00 per 100 diskettes (minimum shipping order \$3.00) (within the continental U.S.), APO, FPO, AK, HI, PR and Canada Orders add 10% to cover PAL and Insurance. All other countries add 20%. C.O.D. Orders Add \$4.00. No Sales Tax outside California.

Satisfaction guaranteed on all products.

Please circle 31 on reader service card.

... SUPERPAINT

(continued from page 88)

Three items immediately come to mind, all of which already exist in *ComicWorks*: an adjustable (size and spray rate) Spray Can; different modes of layering objects that define how they will combine or cover the items behind them; and, working tools in the Reduced View, which *ComicWorks* appropriately calls "ThinBits." Let's see, how about...working sideways on a page ...printing all the open windows in succession...printing a selection only...printing expanded or reduced documents...just to name a few.

SUPER BUY

I can really review *SuperPaint* in two words: Get it! There are lots of features I haven't even mentioned yet, such as: you can print in color and edit at LaserWriter resolution (see sidebars); you can print multiple copies of a document; you can save a selected portion of the document separately; documents can be saved as *SuperPaint* documents, *MacPaint* documents, in PICT format for *MacDraw* or as a Startup Screen; you can drag objects directly or as gray outlines; grids and rulers are available... I could go on, but we have to leave room in this issue for some other articles, too.

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

SUPERPAINT

Overall Rating

Follows Mac Interface

Printed Documentation

On-Screen Help

Performance

Support

Consumer Value



Comments: A powerful yet friendly graphics program combining the best of *MacPaint* and *MacDraw*. **Best Features:** The two-layer Paint and Draw approach; LaserBits. **Worst Feature:** Lack of control in the Reduced View mode. **List Price:** \$99. Published by Silicon Beach Software, 9580 Black Mountain Road, Suite E, PO Box 261430, San Diego, CA 92126. (619) 695-6956. Version 1.0 Requires 512K+. Not copy protected.

Intelligent Graphics for
Intelligent Solutions

design

Imagine a drawing program that provides structured techniques to help you solve your problems graphically. A program that lets you connect graphical objects visually and logically, redrawing the relationships as necessary. A program that lets you develop successively detailed descriptions by creating a series of hierarchical pages. Now add full text capability, imported graphics from other programs, and *hypertext* to link text *anywhere* in the diagram. Imagine a drawing program that does all that... Stop imagining, it's here.

design

The Thinker's Tool



Meta Software

55 Wheeler Street
Cambridge MA 02138 USA
617.576.6920

\$200

design is expandable for simulators, analyzers, and OEM products. It is available for the Apple® Macintosh® 512K and Plus, and is HFS compatible.

*trademarks owned by, or licensed to, Apple Computer, Inc.

© 1986 Meta Software Corp.

Please circle 268 on reader service card.

Automate your Business
Forms with

MacFill-In™

- MacFill-In™ turns MacPaint™ or FullPaint™ files into on-line data entry forms that you can quickly fill in by tabbing from blank to blank.
- Sequence numbers, dates, times, and computed values are filled in automatically.
- Includes over 20 forms: Invoice, Purchase Order, Expense Report and more. Modify standard forms or create your own forms.
- After filling in, print your entire form, or print only the data onto pre-printed office forms.
- **\$39** (512K Macintosh™ or Mac-Plus™ required)

New! Automate your
Tax Forms with

TaxFill-In™

- Over 20 standard **1986** tax forms: 1040A - G, R, SE, W, 2106, 2119, Calif. 540 (or 1986 replacements). Tax tables and regulations are not included.
- **\$15** (MacFill-In required)

MACSPIN™



MACSPIN can help anyone who needs to analyze and understand complex numerical data.

\$199.95

Visa/MC/Amex, COD, POs
Dealer Inquiries Welcome

D² SOFTWARE

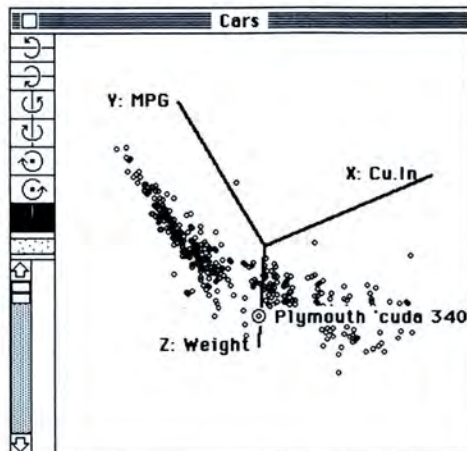
3001 N. Lamar Blvd. #110
Austin, TX. 78705
(512) 482-8933

MACSPIN is a trademark of D² Software, Inc.

**"MacSpin [is] an incredible
data analysis program..."**

John C. Dvorak
MacUser, November 1986

**When two dimensions leave
you flat, enter the world of
MACSPIN, and discover the
hidden depths of your data!**



The only way you'll ever look at data again!

Please circle 176 on reader service card.

_____ MacFill-In @ \$39 = _____
 _____ TaxFill-In @ \$15 = _____
 Sales Tax (CA res.) _____
 TOTAL _____

☐ VISA ☐ MASTERCARD ☐ Check
 CREDIT CARD # _____ EXPIRATION: _____
 NAME: _____
 ADDRESS: _____
 CITY: _____ STATE: _____ ZIP: _____
 SIGNATURE: _____

Mail to: Cognitive Concepts
1219 Phelps Avenue
San Jose, CA 95117

Please circle 220 on reader service card.

the original

disk•books™ from MicroStore™



diskstinctively the best!!!

- The **fast finder** of disk storage, **displays all disks** for fast selection & easy return.
- **Closes securely** with a unique top seal—**your valuable disks won't fall out!!!**
- Perfect in the home or office, **stores all your disks** both frequently used or backups.
- **disk • book-32** (holds 32 disks) **\$29.95**
- **disk • book-Plus** (holds 16 disks plus 3 pockets for manuals, pads, pens, etc.) **\$29.95**
- **disk • book-10** (holds 10 disks) **\$14.95**

INTRODUCING!!! OUR SLIMLINE Traveller SERIES.
Offered in three models that hold 4, 8 or 12 disks **\$7.95 to \$13.95**



Ask about our
5 1/4" models

CRAFTED WITH
PRIDE IN U.S.A.

***** The Ideal Christmas Gift *****
ORDER NOW!!! 1-800-962-8885

In WV and Alaska (304) 292-8424

Use your MasterCard, Visa or American Express

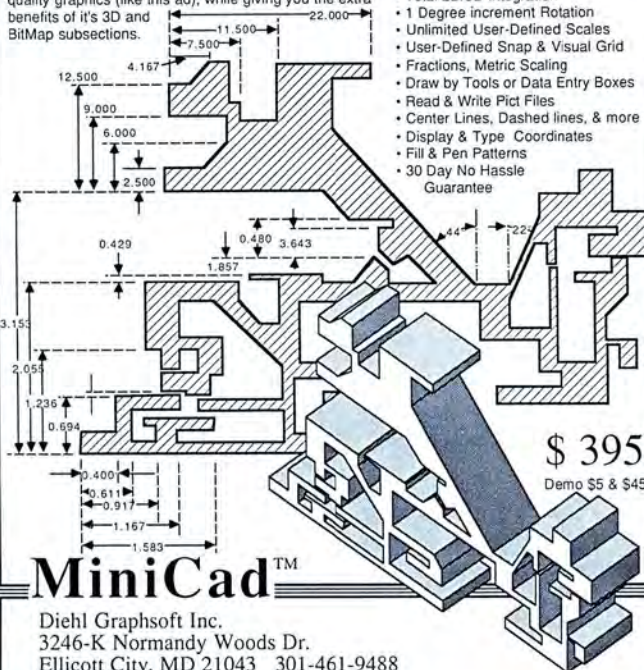
FOR INFORMATION: (304) 292-8424, TLX 325853, Shipping to 48 States \$3.00 plus \$1 ea. additional unit.
Send purchase orders to MicroStore, P.O. Box 37, St. Peter, MN 56082; Dealer Inquiries Invited.
Thanks to those companies providing software for this ad. Trademarks: disk•book, Traveller, MicroStore/MicroStore, Inc.

Please circle 243 on reader service card.



MiniCad 2D Computer Aided Design

If you need a professional 2D CAD system that goes beyond normal 'drawing' applications, and yet don't want to give up the Mac-like interface, take a look at MiniCad™ 2D/3D CAD system. It's 2D capabilities shown here can provide you with everything you need to produce high precision technical illustrations or high quality graphics (like this ad), while giving you the extra benefits of it's 3D and BitMap subsections.



\$ 395
Demo \$5 & \$45

MiniCad™

Diehl Graphsoft Inc.
3246-K Normandy Woods Dr.
Ellicott City, MD 21043 301-461-9488

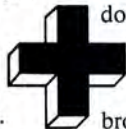
Please circle 242 on reader service card.

Paste equations in your text.

Finally, there is an easy way to put mathematical equations in your MacWrite, Word, and PageMaker documents. No longer do you have to use MacPaint or MacDraw to do a job for which they were not designed.

MathWrite is a WYSIWIG (What-You-See-Is-What-You-Get) editor for mathematical equations. Creating high-quality technical documentation is as easy as clicking and typing. MathWrite automatically formats equations according to the rules of mathematical typesetting as you type them; no "preview" is necessary.

MathWrite is supplied both as a desk accessory and as an application for maximum flexibility. The standard cut and paste commands are used to insert equations into documents developed with your



favorite word processor or page layout system.

Equations may even be brought back into MathWrite at a later time for further editing.

If you have a Macintosh with at least 512K and would like to start producing good-looking technical papers, drop your mouse (softly!) and give us a call.



MathWrite is available
for only \$149

Call to order today
at (213) 433-0685.

Or write to us at:



Design Science, Inc.
6475-B East Pacific Coast Highway
Suite 392
Long Beach, California 90803

MathWrite is a trademark of Design Science, Inc., Macintosh, MacWrite, MacPaint, and MacDraw are trademarks of Apple Computer, Inc., PageMaker is a trademark of Aldus Corp., Word is a trademark of Microsoft Corp. Dealer inquiries invited.

Please circle 237 on reader service card.



CHOOSE MAC 'N FROST FOR THE FOLLOWING ENHANCEMENTS

- Quiet, Reliable Cooling
- Safe Surge Protection (More Than 100 Joules)
- Power Distribution Center
- Innovative Diskette Storage

- Touch Me Static Discharge Plate
- 1 Year Warranty
- Optional Modem Line Protector

Mac 'N Frost offers a new standard in cooling and protection for your Macintosh by complementing the existing convection air cooling system. Enjoy major cost savings by alleviating expensive maintenance and repairs. Mac 'N Frost is engineered for high efficiency cooling which

reduces premature internal component failure, while also maintaining constant line filtering and surge suppression. No tools required for installation or removal.

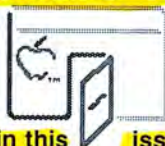
RHELECTRONICS, INC.
566 Irelan Dr., Buellton CA 93427
PST (805) 688-2047

Please circle 190 on reader service card.

We RENT Mac Software !!

MacStore™

28 Tealwood
New Braunfels
Texas 78130



National

800-847-0026

Ask about our frequent renter program !

We'll match any software rental price in this issue.

We have hundreds of other titles available for the Mac. If you don't see what you want - call us !

Accessory Pak 1 or Art Grabber	8.80	Mac Golf	9.45
Accounting Packages	Call	Mac Labeler	8.80
Battery Pak	8.80	Mac Lightning	14.80
Bulk Mailer	21.60	Medical or Legal Dictionary	13.30
Business Filevision	56.25	Mac Mat Book (all volumes 1 - 6)	25.47
Calendar Maker or Certificate Maker	8.90	Mac Publisher & Mac Publisher II	25.47
Click Art, Effects, Letters, Publications (each)	8.80	Mac Spell Right or Mac Spell +	13.85
Consultant	28.80	Mac 3 D	27.80
Copy II Mac	8.80	Mac Tracks	8.80
Championship Boxing or Baseball	8.80	Mac the Knife 1, 2, or 3 (Art, Fonts, Ripper)	Call
Crickit Graph	27.90	Max RAM Max PRINT	8.80
Davinci (We have them all)	Call	Micro Planner Plus	64.68
Dollars and Sense	18.70	More	34.69
D Mac III	58.08	Musicworks or Videoworks	13.19 & 14.15
Double Helix	60.50	Omnis III Plus	70.95
Excel	52.75	OverVue	36.80
Filemaker	29.20	Picture Base or Postermaker	8.80
Fluent Fonts, Fontastic, Font Explorer,	Call	Pinball Construction Set	8.80
Laser Fonts, SuperFonts, UltraFonts...	Call	Quick Disk, Quick Word, Quick Paint (each)	8.80
Ferrari Grand Prix or Flight Simulator	8.80	Ready Set Go	Call
Full Paint	14.56	Smart Alarms	8.90
Gato, Orbitor, or Gridwars	8.80	Super Paint	13.40
Helix	49.50	Tempo	13.30
Infocom games	Call	Thunderscan	37.50
LaserSpool	15.16	Will Writer	8.80
Keystroke	64.68	Write Now or Word Handler	Call
Languages (Asm, Basic, Z Basic, C, Cobol,	Call	Works	37.90
Expertisp, Fortran, TML Pascal, etc.)	Call		
Microsoft Chart, File, Multiplan, Word	Call		
Mac Attack	8.80		
Mc Cad	62.56		
Mac Challenger or Mac Command	8.80		
Mac Draft	33.84		
Mac Draw	32.47		

No membership fee • 16 day rentals • Rental applies to purchase

The store logo is a trademark of MacStore, Inc., the apple logo a trademark of Apple Comp, Inc.



In **800-222-1537**

Texas After tone ask operator for extension **993265**

or dial direct **512-629-5419**



One for the money. Two for the show.

MacMate 20™ Portable, quiet, and very affordable.

This convection-cooled, vertical Seagate 225N, 20 megabyte SCSI drive is built to take up to 40 G's so it goes where you go! Designed to daisy-chain to each other - or to the Relax Hard 20 Plus - in a configuration of up to seven external disk drives. For the ultimate in silence and convenience, the MacMate 20 can be controlled from the Relax 5-outlet Mac Power Controller, and can be placed out of site, up to 10-feet away.



Hard 20 Plus™ Hard disk drive plus power controller.

Surge protection and 4 up-front, peripheral control switches, coupled with a high integrity drive makes the Hard 20 Plus an unbeatable value! Features the Seagate 225N, 20 megabyte SCSI drive, the first integrated hard drive designed exclusively for the Mac. Also available in 30, 40, 60, 80, and 150 megabyte versions. Fan-cooled.



Complete Utility Package: included with every Relax Drive. **Tape Back-Ups:** TEAC SCSI Tape Back-ups are now shipping from Relax.

RELAX
TECHNOLOGY

3101 Whipple Rd.#22
Union City, CA 94587

Please circle 114 on reader service card.

The Macintosh Journal

FREE ISSUE

Don't buy another Macintosh product... until you read about it in The Macintosh Journal!

The Macintosh Journal is an independent, consumer-oriented publication dedicated to providing complete, accurate information about Macintosh products and services. Its major features include:

- ◆ **No Advertising** — The Journal has no commercial ads; its reviews are unbiased and candid.
- ◆ **Extensive Reviews** — The most comprehensive reviews of any Macintosh magazine.
- ◆ **Pays for Itself** — The Journal can save you more than the subscription cost by helping you avoid unwise purchases.

If you want to be an informed consumer, subscribe now to The Macintosh Journal. Mention this ad with your paid subscription and receive an extra issue free. Or, if you prefer, we will bill you. If you're not satisfied with The Journal after examining your first issue, write "cancel" on your invoice, return it to us, and owe nothing.

Subscription rates for 10 issues:

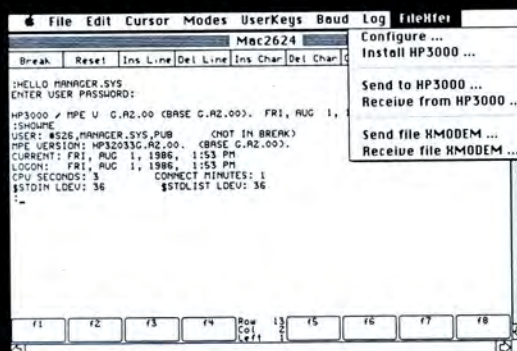
- ☐ United States, 1st Class (\$40)
- ☐ United States, 3rd Class (\$30)
- ☐ Canada/Mexico, Air Mail (\$45)
- ☐ Overseas, Air Mail (\$65)
- ☐ Overseas, Surface Mail (\$45)

☐ Payment enclosed (11 issues)
☐ Bill me later (10 issues)

B & P Publishing • 1459 South State • Orem, Utah 84058 • (801) 226-6888

Please circle 49 on reader service card.

"Mac, meet HP 3000.
HP, this is Mac."



Mac2624™ brings together two great computers, with Hewlett-Packard block mode terminal emulation.



Tymlabs Corporation
211 East 7th Street
Austin, Texas 78701
(512) 478-0611 Telex: 755820

Wick Hill Associates Limited
42A-44 High Street
Egham, Surrey, U.K. TW20 9DP
0784-38441 Telex: 268764

Please circle 52 on reader service card.

THE PRINT-LINK™

Gives your Macintosh™ printer choice

A true printer driver software package (disk with optional cable) that allows a variety of popular ink jet, dot matrix and daisywheel printers to be used with all Macintosh™ computers. Prints directly from Macintosh applications. Drivers may be installed on the HD 20 hard disk. No need to learn any new printing procedures.

DAISYWHEEL

Supports all normal features including two-color ribbon. The Print-Link™ is smart enough to recognize which font and point size you have selected, and will automatically space in accordance with your screen selection. Where it appears on your screen is where it will appear on your page, both horizontally and vertically.

DOT MATRIX

All normal dot matrix capabilities are fully supported. This includes the special feature of near letter quality. Coming very soon — 24 Pin and laser support.

EASY INSTALLATION

As easy as a drag and click routine using the user-friendly Macintosh™ window and menu system. "Choose printer" or "Chooser" for final installation.



\$62.00 (driver only)

Mac 512 or Mac Plus high quality cable is available.

For inquiries: (604) 291-9121
To order, call: 800-663-6222
Dealer inquiries are welcome.

GDT SOFTWARES INC.

Suite D, 2800 Douglas Road, Burnaby B.C. V5C 5B7, Canada
Macintosh™ is a trademark licensed to Apple Computer, Inc.
The Print-Link™ is a trademark of GDT Softworks Inc.

Please circle 13 on reader service card.

For Future Reference...



Keep your copies of **MacUser** in these specially designed binders or library file cases. Binder holds 12 issues. Box file holds 10-12 issues. Binder and box file are constructed of heavy bookbinder board with leatherette cover. **MacUser's** logo is hot-stamped in gold. Very attractive!

Please send me:

Box Files—

- ☐ 1 for \$6.95
- ☐ 3 for \$20.00
- ☐ 6 for \$36.00

Binders—

- ☐ 1 for \$8.50
- ☐ 3 for \$24.75
- ☐ 6 for \$48.00

MacUser Binders

831 Federal Road
Brookfield, CT 06804

name _____

address _____

city _____

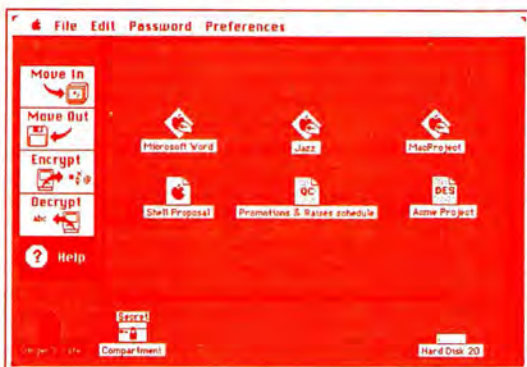
state _____

zip _____

Unconditionally guaranteed! Add \$2.50 for each unit outside U.S.A. U.S. funds only. Allow 4 to 6 weeks for delivery. B287

MacSafe™

Password-Protect Your Valuables from Roving Eyes & Curious Double-clicks.



Password-protect your documents and applications in your own safe on any disk! Files inside the safe are unuseable by other applications and can only be used when you open the safe (with

the correct password) and move them out. Additional levels of security include: a secret compartment 'drop box', and file encryption using the DES or QuickCrypt.

Only \$69.95!
(\$3.00 Shipping/Handling)

How To Order:
Call (800) 325-3587 or (713) 623-8618 (TX). Visa & MC, check or money order.

© 1986 KM, Inc. Trademark Owners: MacSafe, KM, WordManager, 10231 Drive Drive, MacProject Apple Computer.



Kent Marsh Limited, Inc.
1200 Post Oak Blvd • Suite 210
Houston • Texas • 77056

Please circle 238 on reader service card.



Welcome to the MacEngine Series™

We've redefined the meaning of pure speed and raw computing power on the Macintosh!

RYAD proudly announces a family of processor board upgrades designed to give you the Macintosh 512K and Macintosh Plus you wish Apple Computer had given you the option to buy! No more waiting for the "next" Mac to unleash the faster CPUs to make large spreadsheets zip, databases sort and MacDraft screen redraw speeds you could only dream of unless you were willing to fork over 3 or 4 times what your computer was worth. We say "Power to the people!"... Now! And at a wonderful price and value. And the best news is that you can start for as little as \$695!

Increase your 512k or Plus to over 200% speed with:

68000-GT 16MHz 68000, 128k Hi Speed RAM, Int. SCSI

For 512k ... 1MB RAM \$695

... 2MB RAM \$995

For MacPlus ... 2MB RAM \$995

68020-Turbo 16MHz 68020, Same RAM, SCSI 400% Speed!

For 512k ... 1MB RAM \$1,595

... 2MB RAM \$1,995

For MacPlus ... 2MB RAM \$1,995

OPTIONS: 68881 math co-processor \$250 for 128k ROMs only, Ext SCSI \$50

RYAD (714) 558-0662
2521-F N. Grand Ave, #950, Santa Ana, CA 92701

Mac512k & Macintosh
registered trademarks
of Apple Computer

Please circle 122 on reader service card.

**FREE \$20
MEMBERSHIP
SOFTWARE
LIBRARY**

RENT

Acta	8.99
American Govt.....	22.50
AMS Gen. Ledger	29.25
Aztec C68k C	87.32
BPI Accounting	47.82
Click Art Effects	8.99
Draw Art	8.99
Double Helix	74.25
Fluent Laser Fonts	11.41
Full Paint	13.19
HFS Locator+	8.99
Kensington Fonts, Acc.....	8.99
Kids Time	8.99
Light Speed C	26.25
MS Ftran,Basic,Plan	Call
MacSpell+	13.36
More	38.94
Mac Vegas	8.99
Mac-Hy-Phen	15.75
Max Ram Max Print	8.99
MiniCad	77.02
PictureBase	10.49
Quick & Dirty 1&2	8.99
Record Holder	8.99
Silicon Press	10.52
StatView	26.21
Starting A Business	8.99
Silver Palate	8.99
Tempo	13.52
ThinkTank 512	26.32
TurboCharger 2.0	9.12

650 More to choose from

Sony Disks:SS-\$1.30/DS-	\$2.00
Ribbons:Black-\$2.75 /Col-	\$3.75
MacOpener™	\$14.36
Turbo Mouse	\$93.56

Try It First

Rental Applies To Purchase

Our list of satisfied clients includes:
NASA • ABC News • Procter &
Gamble • Florida Power & Light

Orders Only

1-800-847-5775

Customer Service & Texas Residents

1-713-529-1100

P.O. Box 66754•Houston, Tx. 77266



Checks
Welcome



AD INDEX

PAGE #	ADVERTISER, READER SERVICE #	PAGE #	ADVERTISER, READER SERVICE #	PAGE #	ADVERTISER, READER SERVICE #						
A											
9.....	Abaton Technology Corp., 46	101.....	Great Wave Software, 113	156.....	Paragon Courseware, 104						
152.....	Advanced A.I. Systems, Inc., 22	132.....	GW Instruments, 203	80-83.....	PC Connection, 82						
62.....	ALP Systems, Inc., 93	H									
111.....	ALSoft, Inc., 240	I									
137.....	American Intellware Corp., 185	21.....	Hayes Microcomputer Products, 130	157.....	PDS Video Technology, Inc., 139						
12.....	AST Research, Inc., 213	J									
13.....	AST Research, Inc., 214	C3.....	Infosphere, Inc., 110	105.....	Peripheral Land, 254						
17.....	Axlon, Inc., 167	35.....	Innovative Data Design, Inc., 129	132.....	Peripherals Computers & Supplies Inc., 218						
B											
33.....	Batteries Included, 51	113.....	Internet, 73	11.....	Personal Computer Peripherals Corp., 50						
178.....	B & P Publishing, 49	157.....	ISM, Inc., 20	172.....	Personal Training Systems, 60						
158-159.....	Bede Tech, 126	K									
189.....	Bering Industries, Inc., 217	58.....	jasmine Computer Systems Inc., 53	101.....	Practical Computer Applications, 101						
174.....	Best Computer Supplies, 31	L									
151.....	Business Opportunity Publishers, Inc., 144	14.....	Kensington Microware Ltd., NA	162.....	Precision Data Products, 226						
C2 & 1.....	Borland International, 128	179.....	Kent Marsh Limited, Inc., 238	36-37.....	Programs Plus Software, Inc., 69						
148.....	Bravo Technologies, Inc., 234	52.....	Kraft Systems, 42	P							
64.....	Bree Communications, Inc., 72	188.....	Kurta, 210	147.....	Rabbit Industries, 161						
C											
181.....	Cauzin Systems, Inc., 151	M									
194.....	Central Point Software, Inc., 105	131.....	Leasametric, Inc., 83	89.....	Radius, Inc., 154						
49.....	CE Software, 38	64-ABCD.....	Letraset USA, NA	177.....	Relax Technology, 114						
125.....	Cognition Technology Corp., 84	159.....	Levco, 209	177.....	RH Electronics, Inc., 190						
175.....	Cognitive Concepts, 220	C4.....	Living Videotext, 245	50.....	Rodeime Systems, 10						
153.....	CompServCo, 68	94-95.....	Lotus Development, Corp., NA	179.....	RYAD, 122						
156.....	CompuCover Co., 92	27.....	Lundeen & Associates, 173	S							
121.....	CompuServe, 208	N									
132.....	Computer Cover Co., 202	173.....	MACazine, The, NA	116-117.....	Saving Zone, The, NA						
164.....	Computer Friends, 200	80-83.....	MacConnection, 82	127.....	Smethers Barnes, 181						
60.....	Cortland Computer, Inc., 198	145.....	MacDoctor Electronics, 162	155.....	SMS, Inc., 158						
184.....	Cricket Software, 132	31.....	MacMemory Inc., 115	182.....	SoftCore, 95						
185.....	Cricket Software, 134	28.....	MacRentals, 152	162.....	Soft Guard Systems, 191						
D											
46-47.....	Data Tailor, Inc., 103	177.....	MacStore, Inc., 165	107.....	SoftStyle, Inc., NA						
186.....	Davka, 247	187.....	Magnum Software, 228	66.....	Softview, Inc., 112						
194.....	D.C.M. Data Products, 107	139.....	Manx Software Systems, 194	179.....	Software Library, NA						
176.....	Design Science, 237	8.....	MAUG, 163	172.....	Southeastern Software, 260						
176.....	Diehl Graphsoft Inc., 242	175.....	Meta Software Corp., 268	167.....	Spectrum HoloByte Inc., 40						
175.....	D ² Software, Inc., 176	6-7.....	Microsoft Corp., NA	172.....	Spencer Organization, Inc., 56						
154.....	Dubl-Click Software, Inc., 108	41, 43, 45.....	Microsoft Corp., NA	183.....	Springboard Software, Inc., 75						
156.....	D. V. Franks, 206	176.....	MicroStore, 243	163.....	Sun Systems Remarketing, 64						
E											
149.....	Enchanted Software, Inc., 186	32.....	Microtech Peripherals, Inc., 140	18-20.....	SuperMac Technology, NA						
56.....	Ergotron, Inc., 183	22.....	Mindscape, Inc., NA	30.....	SuperMac Technology, NA						
F											
10.....	Future Design, 148	140-141.....	MindWork Software, 78	5.....	Symmetry Corp., 3						
G											
178.....	GDT Softworks, Inc., 13	75.....	Mirror Technologies, Inc., 184	T							
68-69.....	General Computer Corp., 81	O									
H											
I											
J											
K											
L											
M											
N											
O											
P											
Q											
R											
S											
T											
U											
V											
W											
X											
Y											
Z											
156.....	Paragon Courseware, 104	195.....	Nantucket Corp., 224	53.....	Value Line Software, 90						
80-83.....	PC Connection, 82	162.....	New Canaan MicroCode, 135	26.....	Videx, 171						
161.....	PC Network, 30	152.....	Nordic Software, 227	147.....	Vision Technologies, 161						
157.....	PDS Video Technology, Inc., 139	138.....	N ² Products, Inc., 109	W							
105.....	Peripheral Land, 254	123.....	Orange Micro Inc., 16	54-55.....	Warp Nine Engineering, 178						
132.....	Peripherals Computers & Supplies Inc., 218	P									
11.....	Personal Computer Peripherals Corp., 50	Q									
172.....	Personal Training Systems, 60	R									
101.....	Practical Computer Applications, 101	S									
162.....	Precision Data Products, 226	T									
36-37.....	Programs Plus Software, Inc., 69	U									
R											
147.....	Rabbit Industries, 161	V									
89.....	Radius, Inc., 154	W									
177.....	Relax Technology, 114	X									
177.....	RH Electronics, Inc., 190	Y									
50.....	Rodeime Systems, 10	Z									
179.....	RYAD, 122	AA									
S											
116-117.....	Saving Zone, The, NA	AB									
127.....	Smethers Barnes, 181	AC									
155.....	SMS, Inc., 158	AD									
182.....	SoftCore, 95	AE									
162.....	Soft Guard Systems, 191	AF									
107.....	SoftStyle, Inc., NA	AG									
66.....	Softview, Inc., 112	AH									
179.....	Software Library, NA	AI									
172.....	Southeastern Software, 260	AJ									
167.....	Spectrum HoloByte Inc., 40	AK									
172.....	Spencer Organization, Inc., 56	AL									
183.....	Springboard Software, Inc., 75	AM									
163.....	Sun Systems Remarketing, 64	AN									
18-20.....	SuperMac Technology, NA	AO									
30.....	SuperMac Technology, NA	AP									
5.....	Symmetry Corp., 3	AQ									
T											
34.....	Target Software, 199	AR									
115.....	Target Software, 195	AS									
186.....	Tess Data Systems, Inc., 205	AT									
169.....	Think Technologies, Inc., 182	AU									
48.....	Thunderware, Inc., 236	AV									
24-25.....	T/Maker Co., 29	AW									
44.....	T/Maker Co., 175	AX									
134.....	TML Systems, 149	AY									
40.....	Tussey Computer Products, 79	AZ									
178.....	Tymlabs Corp., 52	BA									
U											
53.....	Value Line Software, 90	BB									
26.....	Videx, 171	BC									
147.....	Vision Technologies, 161	BD									
V											
W											

COMPLETELY FREE!

NO COST!

NO OBLIGATION!

FREE INFORMATION FAST!

ON MACINTOSH PRODUCTS & SERVICES

Here's how you can get more information on products or services advertised in **MacUser**.

COMPLETELY FREE!

- Print your name and address clearly in the spaces provided on the card opposite.
- Circle the number(s) on the card corresponding to the reader service number(s) for advertised products or services in which you're interested. You can request information on any products or services in which you are interested, providing a reader service number appears in each advertisement.

NO COST!

- For quick reference, we have included both the page number and the reader service number on the Ad Index.
- Any comments you may have about **MacUser** are welcome in the space provided.
- You can use this card, if you wish, to order a one- or two-year subscription to **MacUser**. Just circle number 300 for a one-year subscription or circle number 299 for a two-year subscription. We'll bill you later.

NO OBLIGATION!

- Detach and mail the card. Literature on the products or services you have indicated will be sent directly to you from the advertiser, free of charge. No postage is necessary if your card is mailed in the United States.

MacUser

READER SERVICE CARD

February 1987

Use before August 31, 1987

Please print your name and address clearly and include a Zip code to ensure a fast response.

Name _____

Company _____

Title _____

Address _____

City _____

State _____ Zip _____

Phone _____

Comments about **MacUser** _____

● You can use this card, if you wish, to order a one- or two-year subscription to **MacUser**. Just circle number 300 for a one-year subscription or circle number 299 for a two-year subscription. We'll bill you later.

1 11 21 31 41 51 61 71 81 91	101 111 121 131 141 151 161 171 181 191	201 211 221 231 241 251 261 271 281 291
2 12 22 32 42 52 62 72 82 92	102 112 122 132 142 152 162 172 182 192	202 212 222 232 242 252 262 272 282 291
3 13 23 33 43 53 63 73 83 93	103 113 123 133 143 153 163 173 183 193	203 213 223 233 243 253 263 273 283 293
4 14 24 34 44 54 64 74 84 94	104 114 124 134 144 154 164 174 184 194	204 214 224 234 244 254 264 274 284 294
5 15 25 35 45 55 65 75 85 95	105 115 125 135 145 155 165 175 185 195	205 215 225 235 245 255 265 275 285 295
6 16 26 36 46 56 66 76 86 96	106 116 126 136 146 156 166 176 186 196	206 216 226 236 246 256 266 276 286 296
7 17 27 37 47 57 67 77 87 97	107 117 127 137 147 157 167 177 187 197	207 217 227 237 247 257 267 277 287 297
8 18 28 38 48 58 68 78 88 98	108 118 128 138 148 158 168 178 188 198	208 218 228 238 248 258 268 278 288 298
9 19 29 39 49 59 69 79 89 99	109 119 129 139 149 159 169 179 189 199	209 219 229 239 249 259 269 279 289 299
10 20 30 40 50 60 70 80 90 100	110 120 130 140 150 160 170 180 190 200	210 220 230 240 250 260 270 280 290 300

MacUser

READER SERVICE CARD

February 1987

Use before August 31, 1987

Please print your name and address clearly and include a Zip code to ensure a fast response.

Name _____

Company _____

Title _____

Address _____

City _____

State _____ Zip _____

Phone _____

Comments about **MacUser** _____

● You can use this card, if you wish, to order a one- or two-year subscription to **MacUser**. Just circle number 300 for a one-year subscription or circle number 299 for a two-year subscription. We'll bill you later.

1 11 21 31 41 51 61 71 81 91	101 111 121 131 141 151 161 171 181 191	201 211 221 231 241 251 261 271 281 291
2 12 22 32 42 52 62 72 82 92	102 112 122 132 142 152 162 172 182 192	202 212 222 232 242 252 262 272 282 291
3 13 23 33 43 53 63 73 83 93	103 113 123 133 143 153 163 173 183 193	203 213 223 233 243 253 263 273 283 293
4 14 24 34 44 54 64 74 84 94	104 114 124 134 144 154 164 174 184 194	204 214 224 234 244 254 264 274 284 294
5 15 25 35 45 55 65 75 85 95	105 115 125 135 145 155 165 175 185 195	205 215 225 235 245 255 265 275 285 295
6 16 26 36 46 56 66 76 86 96	106 116 126 136 146 156 166 176 186 196	206 216 226 236 246 256 266 276 286 296
7 17 27 37 47 57 67 77 87 97	107 117 127 137 147 157 167 177 187 197	207 217 227 237 247 257 267 277 287 297
8 18 28 38 48 58 68 78 88 98	108 118 128 138 148 158 168 178 188 198	208 218 228 238 248 258 268 278 288 298
9 19 29 39 49 59 69 79 89 99	109 119 129 139 149 159 169 179 189 199	209 219 229 239 249 259 269 279 289 299
10 20 30 40 50 60 70 80 90 100	110 120 130 140 150 160 170 180 190 200	210 220 230 240 250 260 270 280 290 300

COMPLETELY FREE!

NO COST!

NO OBLIGATION!

FREE INFORMATION FAST!

ON MACINTOSH PRODUCTS & SERVICES



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

COMPLETELY FREE!

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 217 CLINTON, IA

Postage will be paid by addressee

MacUser

Reader Service Dept.
PO Box 2041
Clinton, Iowa 52735-2041



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

NO COST!

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 217 CLINTON, IA

Postage will be paid by addressee

MacUser

Reader Service Dept.
PO Box 2041
Clinton, Iowa 52735-2041



NO OBLIGATION!



Softstrip®
COMPUTER READABLE PRINT

The
PC
User's
Edge

NOW! TRANSFER DATA – PROGRAM TO PROGRAM WITH SOFTSTRIP®

Now you can move data between programs quickly and easily using SOFTSTRIP data strips.

Using the Softstrip System, you can move data between computers and such programs as WordStar and MacWrite, dBASE and AppleWorks, Lotus 1-2-3 and Excel and ReadySetGo and many others.

We've created a series of several dozen Application Notes on Softstrip data strips. These lead you through simple steps to make the file transfer as easy as possible, adding even more versatility to your personal computer when you purchase the SOFTSTRIP SYSTEM. The advanced system you've been hearing so much about.

All you need to move data between programs is STRIPPER™ software at **\$19.95** and the Softstrip System Reader at **\$199.95**.

For a complete list of Application Notes, contact your dealer or call Cauzin.

FEBRUARY CASE HISTORY

Elroy Bond, Vice President and Director of Data Processing at Golden State Mutual Life Insurance had a problem with data transmission. The difficulty was his telecommunications equipment. No matter how reliable and easy-to-use his PC based system was, if the phone lines were down or his PC operator was ill, he would end up sending disks through the mail from their branch offices in Winston-Salem, N.C. and Compton, Westwood, and Los Angeles, CA. Besides the hassle of copying a disk and using a disk mailer, there was always the possibility of having to resend the disk because of damaged data.

Now the branch offices each have their own copy of the STRIPPER™ printing program. When their modem based system fails to operate, they just send a document in data strip format. Bond is planning on installing SOFTSTRIP Readers at every location, so that when he updates their software, all he has to do is print out a data strip document on his Epson printer, photocopy it and mail it in an envelope for 22 cents.

Users' Groups: Call for Special User Group Discounts.

ACT NOW! Don't delay. See your local Softstrip dealer or call us at 1-800-533-7323. In Connecticut: 203-573-0150.

CAUZIN

835 South Main Street
Waterbury, CT 06706
(203) 573-0150

For Europe and Asia Contact:
Softstrip International, Ltd.
53 Bedford Square
London, WC1 B3DP England
01-631-3775 Telex: 263874SOFTST G



Softstrip

This datastrip contains IBM2MAC, a utility that runs on the IBM and converts an IBM file to Macintosh format.

Please circle 151 on reader service card.

Your Best MAC Deal



Choose From Our Top Selling Disks

Public Domain Exchange's Hottest Disks

- ☐ 76 40 Pagemaker Templates: business cards, letterhead, envelopes, signs, labels (different pt. sizes) \$9
- ☐ 86 Best of Public Domain-12 programs .. \$9
- Art**
- ☐ 58 Poster any size, scroll MacPaint documents \$9
- ☐ 59 MacPaintings to print or change \$9
- Communication**
- ☐ 29 Red Ryder-latest version w/doc \$9
- ☐ 79 Appletalk Network System & Utilities .. \$9
- Desk Accessories**
- ☐ 24 24 prog: Mockterm, RPN calculator .. \$9
- ☐ 36 Save screen, Corvus calendar \$9
- ☐ 45 Compact memory term.emul., telegraph .. \$9
- ☐ 68 Teleport, MiniDOS, icon maker \$9
- Fonts**
- ☐ 56 33 fonts-bold, artsy, pictorial, etc. \$9
- ☐ 81 18 fonts-Alexis, Cavanaugh, Candy, Boxie .. \$9
- ☐ 90 Boston II-laser qfly., plus many more .. \$9
- ☐ 95 Laserwriter font + Amer. Sign. Lang. font .. \$9
- Games**
- ☐ 62 Dungeon of Doom, Social Climber, etc. \$9
- ☐ 67 Billiards, Volleyball, Juggling, etc. \$9
- ☐ 78 Cap'n Magneto, Spacebubbles \$9
- ☐ 88 Adventure Creator plus Blackjack \$9
- Home/Business**
- ☐ 2 Card file, screenmaker, error codes ... \$9
- ☐ 33 Multiplan templates: Business, nutrition .. \$9
- ☐ 85 Excel template + demo-not pub. dom. ... \$9
- Nudes**
- ☐ 49 Girls! X-rated pictures of women \$9
- ☐ 66 MacNudes: Digitized photos of women .. \$9
- Programming**
- ☐ 44 XLISP-artificial intelligence lang. \$9
- ☐ 51,52,53 Modula 2 prgm. lang. w/doc. \$27
- Spelling**
- ☐ 70 Spell Ck: MacWrite 2.2 or any text file .. \$9
- Utilities**
- ☐ 5 Code Cracking w/doc, FEdit \$9
- ☐ 6 ResEd: edit fonts & icons \$9
- ☐ 7 Switcher, disk dump, Ramtest \$9
- ☐ 25 Banner: prints to 8" letters, paintings .. \$9
- ☐ 47 Ck drive spd., scm.edit, disassembler .. \$9
- ☐ 73 Calendar-personalize w/MacPaintings ... \$9
- ☐ 84 Print ASCII, Compress files & more \$9
- ☐ 87 BASIC Compiler-text files to mach.lang. .. \$9
- ☐ **Book:** 150 pg. directory of disks \$7.95
- ☐ **1 Year Membership:** book, quarterly bulletins, plus many DISCOUNTS \$20
- ☐ **Library:** Complete set of 100 disks \$695

SPECIAL OFFER!!

Any 3 Disks + Book

Plus! 1 Year Membership

ONLY \$39.95 + \$4 S&H

Add \$4 (\$10 foreign) for shipping and handling or \$2 (\$5 foreign) if ordering book only. California orders add sales tax.

Enclosed \$ _____ by ☐ Check ☐ VISA ☐ MC

Card No. _____ Exp. _____

Signature _____

Name _____

Address _____

City _____ State _____ Zip _____

The Public Domain Exchange

2074C Walsh Avenue, Dept. 911
Santa Clara, CA 95050

CALL NOW to order 800-331-8125
or in CA call 408-496-0624

DEALER INQUIRIES INVITED

Please circle 95 on reader service card.

TEST DRIVE

(continued from page 93)

but contained in the case, a definite advantage. This unit also comes with the necessary cables and a copy of *MacServe*.

We had fewer problems chaining this unit to others, although the case must still be opened to change the SCSI address. Overall, this unit gives even better value for your dollar than the MagNet 20X. If 30 megabytes isn't enough, the MagNet series also has 40-, 85- and 172-meg versions.

AST 2000

This was the other big disappointment in this group. Maybe we expected too much of this much-anticipated unit. The combination of a 20-meg hard disk and a 20-meg tape backup unit would seem too ideal. But AST's implementation leaves a lot to be desired.

The unit is both large and relatively noisy. It's too big to serve as a comfortable base for the Mac. The unit can only run efficiently as a standalone unit or with other AST-2000s. In fact, the otherwise excellent manual only explains how to run with other AST units. The omission of chaining information is significant and not good.

Due to the way the tape driver must load and work, the hard disk portion must be set up to be the boot volume. That may be inconvenient. The unit comes set with a SCSI address of 6, so that it will have boot priority (unless a serial hard disk is attached). This shouldn't be changed. The back of the unit

only has one connector (50-pin Centronics type).

The tape drive works best backing up the built-in disk. While the tape can function as a random-access device, it is intolerably slow in that mode. It is best used to make image back ups. There's another drawback to the tape. Noise. The noise the tape drive makes when operating is literally astounding. You don't want to be in the same room with it when doing a full disk back up or restore.

In spite of that, many users have reported satisfaction with the AST 2000. The important thing about all those reports is how it was being used: as the sole SCSI device attached to a Mac Plus, with the tape used only for periodic full back ups (and restores).

WHISPERDRIVE

The Palo Alto WhisperDrive is also a somewhat unusual unit. It's roughly cube shaped and small. It strives for quietness by omitting a fan. Unfortunately, it has so many vent cut-outs that it is no quieter than many units and noisier than some with fans (such as the MacBotom). The vents are on the top as well as the sides, so nothing can be stacked on it (which you might be tempted to do; it has roughly the same footprint as the Apple 800K external drive).

Performance is better than average and our test unit proved exceedingly reliable. We had some early forebodings after the manual warned us not (continued on page 184)

DATAFRAME 40XP

Just before we went to press we received SuperMac's DataFrame 40XP. This extraordinary 40-meg hard drive was instantly appropriated by the editor-in-chief for testing. It is very, very fast and almost totally silent.

The 40XP sits in a rather ordinary DataFrame case; that is, it's a vertical unit designed to sit next to the Mac. It has two 50-pin Centronics-type connectors on the back and comes with a cable. To change the SCSI address you must open the case (simple in this case) and rearrange the jumpers on the controller board.

This early model did not have documentation except on disk, but based on prior experience with SuperMac we anticipate competent documents will soon be available. The disk contained a superb spooler (*SuperSpooler*, also being sold separately) and more than adequate backup and utility software.

Current owners of DataFrame 40s can upgrade to XP performance (nearly twice as fast for most operations) for \$99. You'll have to open the case to upgrade, but no soldering is required. If you own a DataFrame 40, you should upgrade without any reservations. Prospective owners, and there will be many of you, can buy a 40XP for \$1995 list. This is one superb hard drive.



Introducing Certificate Maker™

Because accomplishments deserve to be recognized.

Offer Congratulations! Say Thanks! Have Fun!

Giving someone a certificate is a wonderful way to recognize an outstanding achievement. It's also a perfect way to have a little fun.

Certificate Maker™ gives you **over 200 professionally designed certificates**. From strictly official to fun and witty, there's something for everyone and every occasion. So you can surprise a family member, praise a student, applaud an athlete and honor an employee with great looking certificates. And each one will be as personal, professional and special as you choose.



Personalized certificates in minutes.

Simply choose a certificate, select a border, type your message; add a date and signature... then print! It's that quick and that easy.

You can even create a name file and automatically personalize certificates for everyone in your class or club!



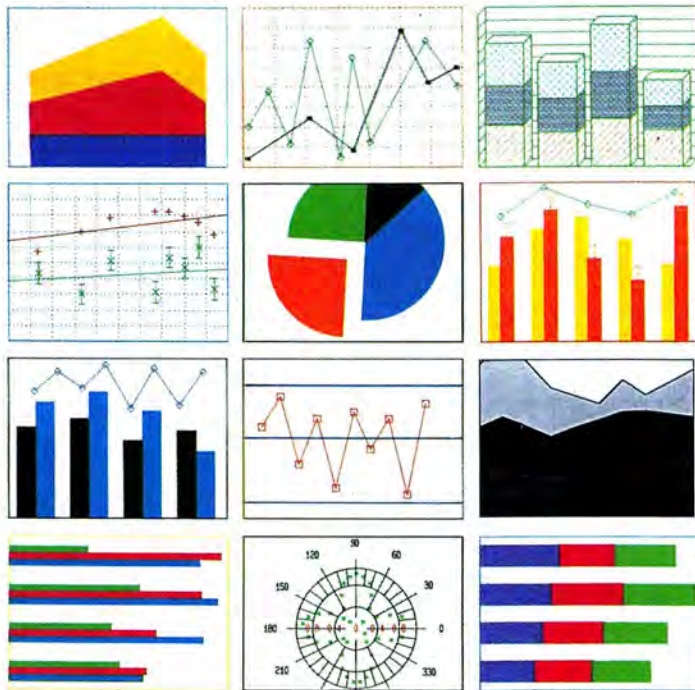
*Over 200 exciting
Certificates, Awards,
Diplomas, and Licenses.*

SPRINGBOARD

Available for Apple, IBM PC, Commodore, Macintosh • Springboard Software, Inc. • 7808 CreekrIDGE Circle • Minneapolis, MN 55435 • (612) 944-3915

Please circle 75 on reader service card.

If your Mac can't graph like this, it's not quite Cricket.



Cricket Graph

- Get the **12** most popular business/scientific charts and graphs in **one package** • Plot **2000** data points per series. (95% more than any other Mac graphic package)
- Full color and **3-D** capability • Position up to **10 graphs** on a single page • Page layout for **desktop publishing** merges graphics with text

Only one software package arms business and science with the tremendous graphic power of the Macintosh™. Cricket Graph. The first Mac package to deliver all the impact of color presentation charts and graphs. And all the possibilities of desktop publishing.

Transform data into graphics that speak louder than words. Then, print your creations out in crisp black and white or brilliant color on any of the most popular Mac-compatible printers, plotters and film recorders.

Cricket Graph. Nothing else even comes close. Just \$195. Special versions available for film recorders and other high end output devices.

Requires 512K Macintosh with two disk drives, or Mac Plus with one internal drive. Macintosh is a trademark of Apple Computer Inc. Charts printed on LaserWriter™, Hewlett Packard Color Pro™, and ImageWriter II™.

cricket
software

3508 Market Street, Suite 206
Philadelphia, PA 19104
(215) 387-7955
1-800-345-8112

Please circle 132 on reader service card.

TEST DRIVE

(continued from page 182)

to run the WhisperDrive in a room where the temperature could go over 82° F or where people smoked. However, not much seemed to bother the unit, including being picked up, turned over and examined by a visitor while it was running.

There's a large collection of public domain and shareware software (about 3 megabytes worth) on the disk when you get it. There are also some handy proprietary utilities in case something goes wrong.

The unit chains well with other units, but changing the SCSI address is a bit of a hassle. To do so, you must remove the case, and to do that requires a Torx T-15 screwdriver (the same one required to open the Mac's case). Once inside the procedure is simple and well covered in the manual.

The connectors on the back are both DB25s, somewhat unusual. Fortunately, a long (4 foot) cable is provided. Overall, this is a fine, solid hard drive, worthy of consideration by all who don't insist that the external drive must fit under the Mac.

PEACHTREE S20+

The S20+ is an under-the-Mac that uses the same Rodime hard disk in Apple's own units. It's a good, reliable high-performance unit.

There's nothing about this unit that makes it stand out. And by the same token there are no serious deficiencies or drawbacks. You do have to open the case to change the SCSI address, but the task is simple in this case. You'll find two 50-pin Centronics-type connectors on the back and the necessary cable is included.

The S20+ is a hard unit to get excited about and it tends to be very quiet and unnoticeable in operation. It would be nice if we could say such nice things about all SCSI hard disks. ☞

DAVID SCHARGEL IS THE TECHNICAL EDITOR OF MACUSER; DAVID BIEDNY IS THE FORMER TECHNICAL EDITOR AND IS NOW A CONTRIBUTING EDITOR; AND STEVEN BOBKER IS THE EDITOR IN CHIEF.

DRAW PERFECTED

I N T R O D U C I N G

CRICKET DRAW

Draw has been around as long as the Macintosh. It took Cricket Software to perfect it. Finally, the Mac's graphics capabilities can truly be realized with Cricket Draw, the revolutionary new draw program from Cricket Software.

UNPRECEDENTED FEATURES

The kind of features you only dreamed possible, such as full rotation and tilting of any object, controlled shadowing, shading with a gray scale (0-100%), fountains (graded tints), starbursts, grates, bezier curves and much, much more. And with an Imagewriter II printer you can see it all in dazzling color.

UNMATCHED TEXT MANIPULATION

Special effects with text are Cricket Draw's forte. Place text on any arbitrary path; rotate, tilt, shadow, shade — YOU NAME IT!

PRECISE CONTROL

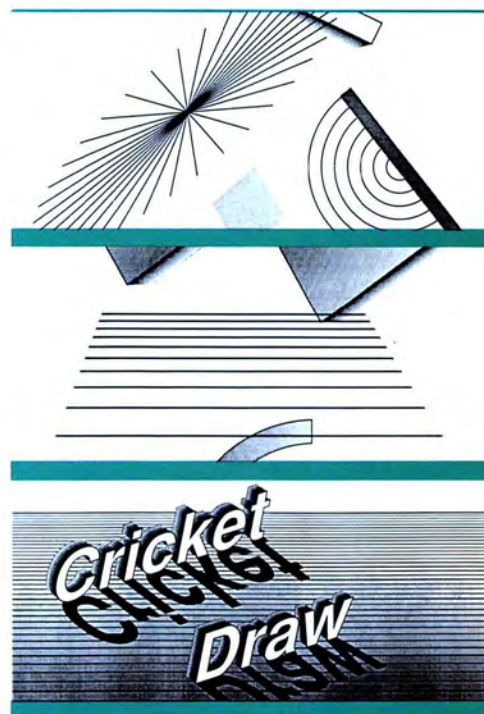
Precision drawings? How about vertical and horizontal rulers with your choice of inches, centimeters, picas or pixels? Also, you can show the measurements of any object, precisely align objects using grids or guidelines, zoom-in, zoom-out — Cricket Draw has it ALL.

A POSTSCRIPT CODE GENERATOR

High quality graphics output on a laser printer requires knowledge of PostScript. Cricket Draw is actually a PostScript code generator. It does all the work. You never have to come in contact with PostScript, UNLESS you want to. Then you can access a PostScript window to edit or create your own code from scratch.

ADVANCE TO CRICKET DRAW

Your current draw program is simply obsolete, why not advance to Cricket Draw, just \$295, available at local dealers everywhere.



cricket
software

Anything Less Isn't Quite Cricket

Please circle 134 on reader service card.

Requires a 512K Enhanced Macintosh or a Macintosh Plus.

3508 Market Street, Suite 206
Philadelphia, PA 19104
(215) 387-7955 1-800-345-8112

Macintosh is a trademark of Apple Computer Inc.
Imagewriter II is a trademark of Apple Computer Inc.
PostScript is a trademark of ADOBE Systems, Inc.

JUDAIC SOFTWARE FOR MACINTOSH!



Three software packages for your Mac, from Davka, the world leader in Judaic & Hebrew software.

DavkaGraphics—Clip Art disk with Judaic and Israel symbols and pictures, plus Hebrew fonts for MacPaint™ and FullPaint™. Can also be used with The Print Shop™. **\$34.95**

Learning to Read Hebrew—A complete beginner's guide to reading the Hebrew language, with sound. **\$39.95**

Achbar—The finest Hebrew/English bilingual, bidirectional word processor for the Macintosh. New Version 2.03 features color printing and more. **\$249.95**

**Call Toll-free 1-800-621-8227 In Illinois
(312) 944-4070**

Major credit cards accepted
Davka Corporation • 845 N. Michigan • Chicago, IL 60611

Please circle 247 on reader service card.

Exclusive Products For The Macintosh User

MacUser Mouse Mat The official mouse mat approved by MacUser. Highest quality neoprene rubber with anti-static nylon laminate. Actual size of Mac screen (8 1/8" x 6 1/4") for perfect mouse accuracy. Navy blue with MacUser logo. Just **\$7.95 (\$9.95 value)**.



MacUser Self-Adhesive Disk Labels Package of 48 color-coded disk labels to organize and locate your disks. Four different colors. Just **\$3.95**



Send to: MacUser, 831 Federal Rd., Brookfield, CT 06804

Check quantity desired:	MacUser Mouse Mat	MacUser Disk Labels
<input type="checkbox"/> 1 for \$7.95	<input type="checkbox"/> 1 for \$7.95	<input type="checkbox"/> 1 Pkg. for \$3.95
<input type="checkbox"/> 2 for \$14.95	<input type="checkbox"/> 2 for \$14.95	<input type="checkbox"/> 2 Pkgs. for \$7.50
<input type="checkbox"/> 3 for \$19.95	<input type="checkbox"/> 3 for \$19.95	<input type="checkbox"/> 3 Pkgs. for \$9.95

Enclosed is check or money order for \$
We pay all shipping charges. (CT res. add sales tax.)

Name _____

Address _____

City _____ State _____ Zip _____

Money back guarantee. Allow 4-6 weeks for delivery.

MS 287

Medical Office Software For Macintosh

**You Can Now Buy The Product That
Best Suits Your Needs**

Tess Medical Billing™

Billing, Insurance, Reports For A Single Doctor Office
Entry Level Program, Can Be Upgraded later

\$599.00

(Plus Postage And Handling. Add Tax In Texas)
(Dealer Inquiries Welcome)

TessSystem One™

Billing, Insurance, Reports For A Single Doctor Office
Plus

Appointment System
Expanded Report Generation Capability
Ability To Export Report Data Into Other Programs

\$1299.00

(Plus Postage And Handling. Add Tax In Texas)

TessSystem Two™

Comprehensive Medical Office Management For A

Multi-Doctor Office

Prices start from

\$2499.00

(Plus Postage And Handling. Add Tax In Texas)

Tess Data Systems Inc.
17070 Red Oak Drive, Ste. 403B
Houston Texas 77090

713/440-6943

Macintosh is a trademark of Apple Computer Inc.

Please circle 205 on reader service card.

Desktop freedom for tired mice

Mouse Mover™ \$19.95. "Best Accessory" award from MacUser editors! Praised by NY Times, John Dvorak, Doug Clapp, MACazine, LOTUS magazine ("everything should be designed this elegantly"). Snap it on-



to the bottom of your Mouse and enjoy freedom from annoying sticking, grabbing, hesitation or worn mouse "feet." 99

ball bearings let the Mouse glide on your desktop as if it had power steering.

A complete desktop presentation package.

Runs on Mac and big screen projection systems.

Slide Show Magician™. \$59.95. Lets you create professional presentations for meetings, demonstrations, training, teaching, tradeshow. A favorite of Fortune 500 companies, universities, small business. Apple uses scores of copies for selling Mac and internal training.

- Use anything you can get on the screen... pictures, charts, graphs, text.
- Arrange, rearrange, delete or add frames as you like.
- Select from 20 fascinating movie-type special effects for transitions.
- Set timings for every frame, every effect.
- 10 multiple choice selections per frame available for user interaction.
- Use MacPaint, MacDraw, HFS, Hard Disk, Ram Disk.
- Turn your presentations into talkies as described below!

Natural Sound™ Cable & Editor. \$129.95. The "smart" cable connects a tape recorder to your Mac and allows you to transfer any sound... voice, music, sound effects... to your SSM presentations. The special Editor is like having a professional "sound studio" on a disk. Repeat sounds, add echo, play in reverse, append, mix, Cut, Copy, Paste sounds, edit to 1/22200 of a sec. Also contains the translator/editor for Apple's Macintalk voice.

To Make Your Desktop-Life Easy, Productive, & Fun We Give You Everything But...

Natural Sound™ Sound Effects. \$39.95. 3 disk set of digitized sound effects covers a wide variety of useful sounds... crowds, applause, fanfares, animals, trains, planes etc. Two special programs, in Basic and Pascal, allow adding sounds to your own programs.

Desktop publishing graphics

McPic!™ Vol. 1 & 2. \$49.95 per volume. A combined total of 300 professionally created pictures perfect for company publications, newsletters... ads, flyers, stationery, invitations, reports, everyone's creative urge. Use "As is" or combine, clone or change. Vol. 1 categories range from Animals, Astrology to Business, Holidays, Symbols and Transportation. Vol. 2 includes categories on International Flags, World Maps, Occupations, Special Effects and the amazing People Maker which allows you to create cartoon people from scores of heads, eyes, noses, mouths, hats, accessories etc. Each volume has a specialized Hint Manual which shows how to create a thousand picture variations without art talent.

Desktop spirits

"Unbeatable at parties, indispensable at parties" MacUser.

Gypsy. \$39.95. Ask Gypsy any question, and watch as the mystic pointer makes "contact" with the "spirits" and spells out the answers on the screen. Three graphic playing screens are provided for variation... plus everything for you to design personalized answer-screens. Play solo or with partners. Comes with a free Mouse Mover!



For Mac & Mac Plus. See your dealer first. If unavailable, order direct. VISA/MASTERCARD. Add \$3 s/h for Cable/Editor, Gypsy. \$2 each for other products. (Cal. residents must add 6 1/2% tax.)

Magnum
SOFTWARE

21115 Devonshire St., Suite 337,
Chatsworth, Ca. 91311 • (818) 700-0510

Macintosh, Macintalk, MacPaint, MacDraw are trademarks of Apple Computer, Inc. Mouse Mover, McPic!, Slide Show Magician, Natural Sound and Gypsy are trademarks of Magnum Software.

The space was reserved for:

Kurta Corporation

4610 South 35th Street
Phoenix, Arizona 85040
602-276-5533

Please circle 210 on reader service card.

Ten thousand pages, take it or leave it.

For those of you going places, here's a little something that solves big storage problems in the time it takes to say who has the Farnsworth financial files.

Introducing Totem!™

A rather revolutionary Bering 20 mb Bernoulli compact disk drive system for Macintosh computers. And, the first truly *portable* 5¼" system. One that lets you tote around 10,000 pages of data on a sleek cartridge about the size of a piece of bread.

Translated, that's 25 times the storage you get on one standard floppy.

Yet unlike floppies, the Totem is no slouch for speed. It's just as fast as a hard disk. In fact, your computer will think it's a hard disk. You can even share it with co-workers. And its advanced Bernoulli aerodynamics make it resist head crashing. If you've ever used hard disks, you know what a pain that can be.

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

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

BERING
A MOUNTAIN COMPUTER, INC. COMPANY





DIRECTORY

The **MacUser Directory** is the definitive source for advertising professional products and services. This section will be read by more than 135,000 Macintosh enthusiasts every month. **Specs:** The standard format is 50 words maximum for ad copy, plus four additional lines for your company name, address, and phone number. A **FREE**

25 character bold headline is also part of your ad. **Rates:** All ads must be prepaid and submitted with copy. Visa and Mastercard are also accepted. All advertising must run in a minimum of three consecutive issues. The price is \$585 for three, and \$975 for six issues.

For further information, and closing dates

for space and material, please contact Russell Brody, at MacUser, 25 West 39th Street, New York, NY 10018, or call 1-800-422-6661, in New York (212) 302-2626.

If you would like **FREE** information on products or services advertised in this directory, circle #125 on the Reader Service Card.

ACCESSORIES

KRAFT MAC STICK

QUICKSTICK- for Mac users. It's a joystick, but flick a switch, and QUICKSTICK is a mouse, compatible with all Macintosh mouse software. Joystick or mouse, QUICKSTICK is two controls in one. For information on Kraft joysticks and computer peripherals for Apple and IBM computers, write:

- Kraft Systems, Inc.
450 W. California Avenue
Vista, CA 92083
(619) 724-7146

MACOPENER™

The finest one piece tool to open the Macintosh case. Do your own upgrades, installations, adjustments, and repairs. No moving parts. One year warranty parts and workmanship. Suggested list \$19.95 + \$3 shipping and handling. Dealer inquiries welcome.

- Central Products Corp.
2211 Norfolk, Suite 518
Houston, TX 77098
(713) 529-1080

MOUSE-HIDE™, THE RELIABLE PAD

The real leather mouse pad. The Mouse-Hide™ keeps your mouse working. Won't jam your mouse with nylon debris. Won't wear out or fray with normal use. The leather permits a more natural glide. Better traction than any other pad. Looks elegant. Only \$15 + \$2 s/h. California residents add 98% tax.

- Pilot Enterprises, Inc.
5699 Kanan Road
Agoura Hills, CA 91301
(818) 706-1818

APPLE EMULATOR

II IN A MAC™ VERSION 2.0

BELIEVE IT...a complete working Apple II computer inside a Mac.

- Run Apple II+/e/c/ software without modification!
 - Convert Apple II data into Macintosh data and vice versa.
 - Develop Apple II software using integer/Apple-soft BASIC or ML.
- II in a Mac supports hard disks, DA's, Switcher™, and UniDisk. Available NOW! Only \$89.95.
- COMPUTER:applications, Inc.
12813 Lindley Drive
Raleigh, NC 27614
(919) 846-1411

BAR CODE

BAR CODE/MAG STRIPE READERS

Bar code and magnetic stripe (credit card) readers for the Apple Macintosh are available separately or in a single compact unit. All readers connect between the keyboard and the Macintosh, and require no additional software or port. A powerful but simple program for printing Code 39 bar codes is also available.

- TPS Electronics
4047 Transport Street
Palo Alto, CA 94303
(415) 856-6833

BUSINESS

EZTAX-PREP '87

Excel or Multiplan users—fast, easy, accurate tax preparation. Highly rated, excellent documentation, thousands in use. Has 23 schedules including depreciation, AMT and income averaging. Prepares and prints IRS-ready '86 returns. Specify machine and Excel or Multiplan. \$99.95 + \$3 s/h. Call for free information or Visa/MC/A-mex orders.

- EZWare Corporation
P.O. Box 620, Dept. U
Bala Cynwyd, PA 19004
(800) 543-1040 or (215) 667-4064 in PA

FINANCIAL DECISIONS

GenMicronics, the financial analysis software leader, provides powerful analytical tools—a must acquisition for all Excel™ owners involved with commercial, consumer, real estate, and mortgage banking, lenders, borrowers, savers, and investors alike. Complex AT cash flows, mortgage schedules, and much more. Requires Excel™. A best buy at U.S. \$45 check.

- GenMicronics
5900 Shore Blvd., #401
St. Petersburg, FL 33707
(813) 345-5020

FULL-FEATURED ACCOUNTING

Business Consultant™ Series—GL, accounts receivable/payable, inventory, personnel/payroll, job costing, order entry, P.O., passwords. Multi-users upgradeable, double-entry, pre-defined-customizable reports. Handles 150+ megabytes data! \$44 (will be \$349) per module for first 5,000 copies of series sold. Free brochure. \$10 demo. 30 days refundable with actual product.

- IBNC
1919 E. Romneya, Suite 317
Anaheim, CA 92805
(714) 635-7825 or (714) 533-9837 Ext. 43

GUIDE: HI-TECH CONSULTING

New step-by-step, how-to information book: getting started, career building, hardware and software job sources. Part/full time, career change, moonlight. Contracts, taxes, client/job shop/recruiter negotiating techniques. Business-finance, engineering, scientific. Author strategies raises wages! \$16.95 + \$3 postage.

- Madden Associates, Dept. M
2039-F Civic Center Drive
North Las Vegas, NV 89030

MACAID 1040+ FOR '86

Improved from '85. Easy, low cost preparation of federal/selected tax with Multiplan/Excel. Calculates taxes, depreciation, ITC from tables/schedules. Includes 25+ schedules, high usage forms, and worksheets. Print IRS schedules-forms (2-pass for 1040A/B). Help files, imbedded instructions, revised '86 manual. Ship January 1, 1987. \$39.95 (Dec/Jan discount \$10). Visa/MC.

- Common Sense Software, Inc.
12 Whitehall Court
Buffalo Grove, IL 60089
(312) 541-5200/(MCI) 285-4711

TAXMASTER PUTS YOU IN CHARGE

Excel spreadsheet templates to calculate your 1986 Federal Income Tax plus a look at 1987 and 1988 tax changes. Lots of Forms and Schedules. Easy to use. IRS accepted printout. \$50. Quick delivery. Visa/MC. AppleWorks and IBM/Lotus 123 versions too. UG/dealer discounts. Orders: (800) 826-7146.

- Island Computer Services
3501 E. Yacht Drive
Long Beach, NC 28461
(919) 278-9483

TAX PLANNER '87

Tax program reflecting changes in new tax law. Includes phase-outs of personal exemptions, active real estate losses, passive losses, investment interest, consumer interest, low income/rehab housing credits. Also includes passive and active tax preferences, inflation adjustments. Computes six different years or alternatives beginning with 1987. Uses Excel. \$295.

- The Consulting Group, Inc.
P. O. Box 150569
Nashville, TN 37215
(615) 665-2000



CLEARINGHOUSE EXCELLENT EXCHANGE

The clearinghouse for Excel™ authors and users. 200+ tutorials, templates, macros, and vertical applications. Range \$2-\$100; average \$10. Users receive well-written, author supported programs. Authors receive royalties while Excellent Exchange handles all details. Current catalog and sample disk with 15+ programs and demos is \$4. Check it out!

- Heizer Software
5120 Coral Court, Suite 102
Concord, CA 94521
(415) 827-9013

COMPUTER FURNITURE MOBILE MAC WORKSTATIONS

New Mac model of the Mobile-Station series of computer workstations will allow the full Mac system, with printer, to be moved into place alongside your desk, or rolled from room to room. Small 24W x 24D size is ideal for tight work areas. Call or write for catalog and more information.

- Microland Furniture Co., Inc.
11 Madrone Avenue
San Anselmo, CA 94960
(415) 485-9758

CONSULTING SERVICES MARKETING & COMMUNICATIONS

Kottwitz & Associates specializes in the Macintosh market: Trade shows, events, press campaigns, market research, and documentation. We use the Mac and understand the market you're trying to reach. We've organized the MacUser trade show representation and authored The Power User's Manual. Call us today! We'll help you make a lasting impression.

- Kottwitz & Associates
27 Peaslee Road
Merrimack, NH 03054
(603) 889-4808

DESKTOP PUBLISHING INTERACTIVE POSTSCRIPT™

Now program PostScript interactively over AppleTalk using PostHaste™, an interactive programming utility for PostScript. Integrated environment includes full featured editor, separate error message capture window, and fast PostScript uploader. Many "cookbook" examples. Multiple LaserWriters supported. Great for the beginner, essential for the serious PostScript programmer! List: \$59.95. Introductory special: \$49.95.

- Micro Dynamics, Ltd.
8555 16th Street, Suite 802
Silver Spring, MD 20910
(301) 589-6300

MAC-ART LIBRARY

Illustrate your DTP ideas with the Mac-Art Library. Eleven disks full of professional MacPaint images: Animals, Buildings, Farm Life, Flowers-/Trees/Plants, Geography, Greeting Cards, Kitchen, Signs/Symbols/Borders, Sports, Tools, Transportation. Single disks: \$39.95. Complete library: \$250 Variety Pak (single disk sampler): \$49.95. Add \$3.00 for s/h.

- CompuCraft
P.O. Box 3155
Englewood, CO 80155
(303) 850-7472

MACPALETTE

MacPalette by Microspot enables you to print multicolored pictures and text from existing Macintosh software using the ImageWriter II. MacPalette will colorprint your existing documents from MacDraw, MacDraft, MacProject, MacWrite, Jazz, Microsoft Chart, Word, etc. (not MacPaint). It now prints black as a true black instead of mixing a black.

- CompServCo
800 Freedom Lane
Slidell, LA 70458
(800) 272-5533 or (504) 649-0484

DESKTOP PUBLISHING SERVICES LASER PRINTING SERVICES

Linotype L100 output for Mac/IBM disks and modems as low as \$3.50 per page. LaserWriter output \$1 per page. We sell Mirror Technologies and LoDown SCSI drives, Adobe fonts, and Ventura publisher at low, low prices. Adobe screen fonts, \$10 per set. Desktop publishing consulting services. In house full service offset printing, typesetting, and bindery services at low, low prices.

- Laser Printing Services
26058 W. 12 Mile Road
Southfield, MI 48034
(800) 722-3475, In MI (313) 356-1004

TYPESETTING FOR THE MACINTOSH

Alphabet Soup is the desktop publishing resource for high quality type and graphics from your Macintosh. We offer Linotronic 100 (1270 dpi) and LaserWriter (300 dpi) output. Your files can be sent to us by mail or by modem. Call Alphabet Soup for more information and a brochure today!

- Alphabet Soup, Inc.
2822 Van Ness Avenue
San Francisco, CA 94109
(415) 885-3156

EDUCATIONAL CONCEPTS/ATLAS

Puts a three-dimensional globe on the screen. Display any view, enlarge or reduce it, call up facts about every country and major city in the world, find the distance between any two points, label cities, print maps with MacPaint. Price: \$49.95. A Teacher's Guide is available for \$4.95.

- Software Concepts
P.O. Box 620
Brooklyn, NY 11215

GRADEBOOK/TEST GENERATION

Micrograde—easy course set-up, large class size, 100 assignments. Prints statistics and various reports. Personalized grade standards. Ideal for any grade level. Microtest II—create, update generate and store exam materials. Easy question entry, large data base, multiple test versions with separate answer keys. \$95 each. Free brochures. \$5 demo programs.

- Chariot Software Group
3659 India Street MU#1
San Diego, CA 92103
(619) 298-0202

NEED HELP STUDYING?

Learning Tool™ is designed to help you study. Learning Tool™ uses the principles of cognitive psychology to help you learn any subject, from philosophy to engineering. Learning Tool™ is an electronic notebook that helps you organize class notes, study for exams, write term papers, and more. 512K, \$50. Visa/MC.

- Arborworks, Inc.
2540 Pittsfield Blvd.
Ann Arbor, MI 48104
(313) 973-0612

POWERMATH

PowerMath is computer algebra for the Macintosh. Type your problem, using conventional math notation, and PowerMath will solve your calculus, algebra, and matrix problems. PowerMath does factorials, summations, simultaneous equations, plots, Taylor series, trigonometry, and allows unlimited number size. It's your math slave for \$100.

- Central Products Corp.
2211 Norfolk, Suite 518
Houston, TX 77098
(713) 529-1080

SOFTWARE FOR KIDS

With MATCH-ON-A-MAC your pre-K to 2nd grader can work with 11 entertaining games matching letters, numbers, pictures, shapes, and quantities. A unique Lesson Plan option allows you to individualize each computer session. Also includes a Report Card option and manual. 128K or larger. \$39.95, \$2.50 s/h.

- Teach Yourself by Computer Software
2128 W. Jefferson Road
Pittsford, NY 14534
(716) 427-7065

ENGINEERING CAE/CAD LOGIC DESIGN

McNET—Full function analog and digital logic entry. Favored as "Best" by our customers (net list, full rubber banging, rotate, move, copy, undo, redo, bus, rule check, etc.). Includes McLIB component library builder. McNET and McLIB: \$280, Demo: \$15 (Visa accepted, all items prepaid. Outside USA, add\$30). Coming soon, McSIM digital simulator and timing verifier.

- Argus Software
P.O. Box 1033
Stone Mountain, GA 30086-1033
(404) 296-9666

DIGITAL LOGIC DESIGN AID

LogicWorks is an interactive digital logic drawing and simulation package for the Macintosh. Featuring built-in common gates, flip-flops, 3-state devices, etc. User-definable symbols, PROMs and PLAs. Generates timing diagram of selected signals. Prints schematic or timing diagram. LogicWorks \$159.95, net list utility \$29.95. Libraries disk, including analog, 7400s, etc. \$29.95.

- Capilano Computing
545-108th NE Suite 6
Bellevue, WA 98004-5502
(604) 669-6343



FINITE ELEMENT ANALYSIS

MSC/pal for 3-D static and dynamic analysis of structures comprised of beams, plates, springs, masses. Plane strain/stress elements, with concentrated, gravity, and pressure loads. 3-D graphics include undeformed/deformed overlays, deformed animation, and XY plots. Executable demo with full documentation \$45. See our ad in the December issue.

- The MacNeal-Schwendler Corporation
815 Colorado Blvd.
Los Angeles, CA 90041
(213) 259-3888

STRUCTURAL ENGINEERING

Analysis programs, design aids, structure, load, tension, shear, moment, deflected shape diagrams; input, output texts; section table, more. Full Macintosh interface. Compiled. Frame-Mac (2-D frames, trusses, beams; MacDraw-like interface) \$495; BEAMAC II (continuous, simple beams) \$295; BEAMAC (simple beams) \$95. Money-back guarantee. Free support. Demo.

- Erez Anzel
5800 Arlington Avenue, #5T
Riverdale, NY 10471
(212) 884-5798

FONTS

DOWNLOADABLE LASER FONTS

Specialized fonts for the LaserWriter. Classical Greek, \$85. Serif/sans-serif for scientific texts, \$75. Font of 100 chemical structures, \$125 (with scientific text fonts, \$160). Polish serif or sans-serif, \$85 each (four styles). Serif small caps, \$40 (four styles), regular or Polish. Soon: modern Greek. Visa/MC, university PO's.

- Allotype Typographics
1600 Packard Road, Suite 5
Ann Arbor, MI 48104
(313) 663-1989

FLUENT LASER FONTS

Volume 1 through 6 are shipping. Add to your LaserWriter with high quality PostScript fonts, reasonably priced. Automatic downloading, print any size, compatibility with PageMaker 1.2, support of Western European & Scandinavian languages. Write or call for samples. Order: (800) 331-4321, In Calif: (800) 851-1986.

- Casady Company
P.O. Box 223779
Carmel, CA 93922
(408) 646-4660

"FONTagenix & LASERgenix"

FONTagenix™: Four volumes of dot-matrix display fonts, \$29.50 each volume (all four \$99.50). FOREIGN FONTS EDITION™: 22 foreign language fonts on disk, only \$49.50. LASERgenix™: Downloadable laser printer fonts, only \$32.50 each. (Add \$3 s/h, CA residents add 6%). Write for samples or order at:

- Devonian International Software
P.O. Box 2351
Montclair, CA 91763
(714) 621-0973

THE INTERNATIONAL FONTS™

The best foreign language fonts for the Mac. Roman font improves typing in any foreign language. Handles Polish, Icelandic, Romanian, Vietnamese, over 100 more. Greek font: complete classical and modern. Cyrillic font. Russian (including pre-revolutionary), Ukrainian, Serbo-Croatian, dozens more. Phonetic font, IPA transcriptions. Four fonts and manuals, \$21.75.

- Prof. Paul Rapoport
7 Cradock Court
Ancaster, Ontario, Canada L9G 3Z5

WORKFONTS 3.0-DRAFTFONTS

Clean, simple fonts that read quickly and print well, suitable for manuscripts and publishing. Plain lined, Serifed, non-proportional and new draft fonts that allow draft mode printing without the usual spacing problems. 3 disk set, 132 fonts, 197 characters per font. \$49.95 includes shipping.

- Font Workshop
MU Box 3306
Oak Brook, IL 60522

GRAPHICS

GRAPHICS PLOTTING SERVICE

Architectural, engineering, mechanical, and graphics drawings plotted up to "E" size (36"x 48") with full range of media, pen types and colors for high quality plots (from HP 7585B). Users of MacDraw, MacDraft, MacPaint, E-Z Draft, etc. can gain exceptional professional graphics output for a reasonable price. Send for information and pricing.

- Data Plot
1426 37th Avenue East
Seattle, WA 98112
(206) 324-4027

MACPERSPECTIVE™

Rapid 3D wireframe drawing working with dimensions. Can be applied to any architecture, engineering, or artistic need. Viewpoint can be changed at any time. Drawing can be printed any size up to 100 inches or transferred to other programs. Thorough manual included. \$149. Visa or MasterCard accepted.

- B. Knick Drafting
313 Marlin Place
Melbourne Beach, FL 32951
(305) 727-8071

MACPLOT & MACCAD

MacPlot by Microspot is a powerful plotter driver which will plot any object oriented graphics produced on the Mac in up to 30 colors/pens. It supports over 45 plotters. MacCAD is a series of 12 separate architectural and engineering template libraries for use with either MacDraw or MacDraft (specify which).

- CompServCo
800 Freedom Lane
Slidell, LA 70458
(800) 272-5533 or (504) 649-0484

MGMSTATION—CAD DRAFTING

MGMStation—CAD Drafting by Micro CAD/CAM, Inc., is powerful, easy to use CAD program for Mac similar in performance to Autocad for IBM-PC. MGMStation boasts over 140 powerful functions including: XY coordinate, polar or digital data input; 100X zoom; accuracy to 4 decimals, etc. Demo disk/VCR tape available — \$799.

- CompServCo
800 Freedom Lane
Slidell, LA 70458
(800) 272-5533 or (504) 649-0484

PLOT-IT

Plots MacDraw, MacDraft, MacProject, MacPaint, etc. on popular Apple, Hewlett Packard, or Houston Instruments pen plotters in sizes A, B, C, D, and E. Use for accurate engineering and architectural drawings or color data plots. Flexible color interface and scaling. \$125.

- Mesa Graphics
P.O. Box 600
Los Alamos, NM 87544
(505) 672-1998

TEKALIKE

A VT100 and Tektronix terminal emulator for text and graphics; emulates text terminals (VT100, VT640, Tektronix 4105) and/or graphic terminals (Tektronix 4006, 4010, 4012, 4014, 4016, 4105, and the VT640). Compatible with screen editors. Supports LaserWriter, plotters, MacDraw, and MacPaint output; desktop publishing compatible. \$250.

- Mesa Graphics
P.O. Box 600
Los Alamos, NM 87544
(505) 672-1993

INSURANCE

SAFWARE INSURANCE

If your computer is important to you, insure it! SAFWARE provides full replacement of hardware, media, and purchased software. As little as \$39 a year covers fire, theft, power surge, earthquake, water damage, and auto accident. Call 8am to 8pm Monday thru Friday. Saturday 9am to 5pm.

- Safeware, The Insurance Agency, Inc.
2929 N. High Street, P.O. Box 02211
Columbus, OH 43202
(614) 262-0559 (OH) or (800) 848-3469 (NAT)

INVESTMENT SOFTWARE

MARKET PRO™

The first fully integrated Portfolio Management System for Macintosh. Portfolio Manager, Technical Analysis, and Fundamental Analysis. P.M.—ten detailed reports. Access 17,000 + stocks plus mutual funds, indexes, and bonds for T.A.; F.A. 11,000 + companies via I.P. Sharp data base. Works with LaserWriter. \$395. (Ind. modules—\$195. Commodities package available).

- Pro Plus Software, Inc.
2830 E. Brown Road, Suite C-12
Mesa, AZ 85203
(800) 992-2919



LANGUAGES/LANGUAGE TOOLS

EXTENDER LIBRARIES

Communications Extender™: Routines for developing customized communications via Mac serial port. \$99.95. Programmer's Extender™ Vol. 1: Create standard Mac interface — windows, menus, dialogs, text edit, etc. Vol. 2: List manager support, text, and graphics printing, special effects, etc. \$89.98 per volume. Avail. for Aztec C, LightSpeed C & Pascal and TML Pascal.

- Invention Software Corporation
P.O. Box 3168
Ann Arbor, MI 48106
(313) 996-8108

MACFORTH PLUS

New, multi-tasking language and 32-bit operating environment. Includes turnkey compiler, assembler, new text editor, and Switcher compatibility. Faster implementation designed to take advantage of Mac Plus features and compatible across popular micros—Atari ST and Amiga. Upgrade from L2 MacForth—\$49, or new \$299. CompuServe net GO FORTH.

- Creative Solutions, Inc.
4701 Randolph Road, Suite 12
Rockville, MD 20852
(800) FORTH-OK or (301) 984-0262

NATIVE CODE MODULA-2

MacMeth 2.0, the fastest Macintosh Modula-2 development system. Compiles up to 3000 LPM. Development cycle is shortened with integrated editor, linking loader, and symbolic source debugger. Includes source to toolbox interface and some libraries. Enjoy the elegance of Modula-2 with the speed and power of high priced C packages! \$100.

- Modula Corporation
1673 West 820 North
Provo, UT 84601
(801) 375-7400

POWER WITH MASTERFORTH

MasterForth provides a complete programming environment for the Macintosh, including a 68000 macro-assembler and support for the mouse, the finder, menus, and the graphics toolbox. The string package and resident debugger are standard features. Programs can be optimized with the optional target compiler. Call or write for information.

- Micro Motion
8726 S. Sepulveda Boulevard, #A171
Los Angeles, CA 90045
(213) 821-4340

LOCAL AREA NETWORKS

WATERLOO MACJANET

A network for Apple Macintosh's designed by educators for educators. Waterloo MacJanet creates an interactive classroom network using Macintosh workstations connected via AppleTalk. Waterloo MacJanet features ease of administration, standard Macintosh user interface, secure file-sharing, and spooled print to the LaserWriter.

- WATCOM Products, Inc.
415 Phillip Street
Waterloo, Ontario, Canada N2L 3X2
(519) 886-3700 Telex 06955458

MAIL ORDER

PERSONAL SOFTWARE SERVICE

Constantly updated broad Macintosh selection. Prompt, personalized, hassle free service at competitive prices. No "Backorder" or "Wait-lists". Your payment accepted only when order shipped. School and Corporate purchase orders welcome, net in 30 days. Hours 9-5, Monday-Friday and 8-12 Sat. PDT. Free price list.

- Pacific Prime Trading
2522 Artesia Boulevard
Redondo Beach, CA 90278
(213) 376-5820

MEDICAL/DENTAL

MEDICAL & DENTAL MANAGEMENT

Solo or multi-practitioner office includes patient (responsible party) billing, recall, paper/electronic claims, aging, collections, SuperBill, labels, diagnostic history, Word/MacWrite, audit & productivity reports. 24hr Support. 512k + Hard Disk or XL. Mac Office Demo from \$100. Amex/MC/Visa. 2,400+ dealers.

- CMA Micro Computer Division
55888 Yucca Trail, PO Box 2080
Yucca Valley, CA 92286-2080
(619) 365-9718

NETWORKING HARDWARE

PHONENET CONNECTOR

AppleTalk compatible network hardware can use existing telephone wires to create 3000 foot AppleTalk networks. PhoneNET uses positive locking modular telephone components and standard telephone wire allowing for flexible installation of permanent, reliable AppleTalk networks. Also: AppleTalk repeater, star cluster controller, and network testing and management software.

- Farallon Computing
1442A Walnut, Suite 64
Berkely, CA 94709
(415) 849-2331

SUNOL SYSTEMS FILE SERVER

Sunol Systems SUN*MUFS (Multi User File Server), total AppleTalk compatible file server for Macintosh. SUN*MUFS allows multiple users to access same file simultaneously, providing inexpensive solution to networking your Macintosh environment. SUN*STREAK model features SCSI interface for Macintosh. SUN*DISK model networks Apple, IBM, EPSON, Zenith, etc.

- Sunol Systems, Inc.
1177 Quarry Lane
Pleasanton, CA 94566
(415) 484-3322

PUBLIC DOMAIN SOFTWARE

MAC PUBLIC DOMAIN

Over 160 disks, thousands of programs. The best, most complete collection available. \$10 per disk. No membership fee. Choose from business software, taxes, terrific games, graphics, programs, utilities, desk accessories, function keys, disk editors, copy programs, music, and girls. Carefully organized with documentation. For 80-page catalog send \$1.

- Educomp
2431 Oxford Avenue
Cardiff, CA 92007
(619) 942-3838

MAC SOFTWARE \$5.00

An awesome collection of Freeware, Shareware, and Public Domain software to select from. Only \$5 per disk. Disks are packed to the brim with updated versions. Library contains desk accessories, utilities, games graphics, applications, and business software. Two new disks added monthly. Send for free membership, catalog, and bulletins.

- M.C.U.S.
P.O. Box 6963
San Jose, CA 95150

PUBLIC DOMAIN \$4.00

150+ disks, utilities, games, Red Ryder, business, graphics, music, taxes, editors, and more. The best collection for less. Catalog \$1.00/\$4.00 per disk. Quantity discounts. No fees. Religious software—Mac Bible 25 disk set. Full text NIN/KJV versions with graphics \$139. Stockwatch management—buys, sells, graphs 13 and 52 week averaging, \$29.

- Encycloware™
715 Washington Street/Dept. MU
Ayden, NC 28513
(919) 746-4961

PUBLIC DOMAIN DISKS \$5.00

Hundreds of public domain and "shareware" programs available through the MacKey Mouse Club. \$5/disk ppd USA; no membership fees. Monthly newsletter, reviews public domain and commercial software and technical issues of interest to Mac users, \$14/yr. subscription. Send for free sample issue and disk catalog.

- MacKey Mouse Club
P.O. Box 4561-A
Lincoln, NE 68504
(402) 466-0252

PUBLICATIONS

HINTS & TIPS

You'll find over a thousand hints and tips covering more than 100 of the most popular Mac applications in THE POWER USER'S MANUAL. Published by MacUser, spiral bound with over 175 pages, the Deluxe Edition of THE POWER USER'S MANUAL is available only by sending \$17.95 plus \$2 s/h (payable to MacUser Publications, Inc.) to:

- Power User's Manual Offer
MacUser Publications, Inc.
831 Federal Road
Brookfield, CT 06804

SAVE \$25.00...

...off the cover price of MacUser magazine. By subscribing right now, you can save over \$25 off the regular cover price and more than \$5 off the basic subscription rate. Use the subscription cards you'll find bound into this issue or send a check for \$21.84 for twelve issues to:

- MacUser Subscriptions
P.O. Box 1540
Neptune, NJ 07754

COPY II[®] MAC

**New!
Version 6:
Full H.F.S.
Support**

BACKS UP PROTECTED SOFTWARE.



Copy II Mac does more than just sector copy. Its bit copy program has the built-in power and flexibility to handle most protection schemes automatically and supports single and double-sided drives. (We update Copy II Mac as often as needed to handle new protections; you as a registered owner may update at any time for \$15 plus \$3 s/h.)

RUNS PROTECTED SOFTWARE FROM YOUR HARD DISK.

Copy II Mac makes using your hard disk (including the Apple hard disk-20) as convenient as it should be. No longer will you have to use the 3 1/2" disk with some of the most popular business software. Call for current list.

GIVE YOUR MAC MORE MUSCLE.

Copy II Mac can even repair some damaged disks and recover accidentally deleted files. System Requirements: 512 Macintosh or Macintosh Plus, 1 drive, (2 drives, all available memory and hard disks fully supported.)

Call 503/244-5782, M-F, 8-5 (West Coast time) with your   in hand. Or send a check for \$39.95 U.S. plus \$3 s/h, \$8 overseas.

\$39.95

*Central Point
Software*

INCORPORATED
9700 S.W. Capitol Hwy., #100
Portland, OR 97219

Winner of A+ Readers' Choice Awards!

Backup utilities also available for the IBM, Apple II, Atari ST, and Commodore 64/128.

Now available!!!

800K drives for Macintosh: \$195.00 (plus \$10 shipping/handling). Plugs directly into Mac & Mac Plus!

Please circle 105 on reader service card.

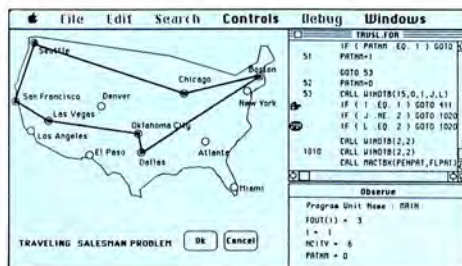
MACTRAN77

Powerful FORTRAN 77 for Macintosh

- Integrated Editor, Compiler and Symbolic Debugger
- Works on HFS, Mac Plus and Hard disk also
- High Level Interface to Macintosh Toolbox
- ANSI77 standards
- Native code compiler
- IEEE floating point formats including double precision real and complex numbers

Only for \$149* including

- Language Reference Manual
- User Manual (documentation for toolbox support too!)
- * Educational Discount available
- Visit our booth at the San Francisco Expo (#709) and avail the special Expo discount



System Requirements

Macintosh with 512K memory



1710 Two Tandy Center
Ft Worth, TX - 76102
(817) 870-2202
Tlx 756916

Please circle 107 on reader service card.



REAL ESTATE

THE APPRAISAL OFFICE

State-of-the-art program developed by professional appraisers, just for the Mac. Completes the FNMA/Residential Form quickly and accurately. Menu driven, form on screen, performs all calculations. Stores, searches, retrieves, and pastes comps to and from database. Office management functions. Free URAR upgrade. Requires Excel™, \$395.

- RealData
78 North Main Street
South Norwalk, CT 06854
(203) 255-2732

STAT ANALYSIS SOFTWARE

CLR ANOVA

Analysis of Variance program that can compute up to a 10-way design with repeated measures and unequal n. Marginal means, plots of interactions, simple effects, range tests, contrasts, and more! Full Mac interface. Data can be imported from other applications. MC/Visa \$75 + \$3 s/h. Orders: (800) 835-2246 X199

- Clear Lake Research
5615 Morningside, #127
Houston, TX 77005
Kansas (800) 362-2421 X199

SYSTEM DESIGN

DESCRIPTION AND ANALYSIS TOOL

Design is an intellectual tool for managing complexity. It is graphics-based, using structured techniques and hierarchical organization to assist in descriptions of all types of systems. In addition, relations between objects, text and pages are remembered and redrawn automatically, making frequent revisions easy. Design: \$200, demo: \$25. Shipping \$3.

- Meta Software Corporation
55 Wheeler Street
Cambridge, MA 02138
(617) 576-6920

WORD PROCESSING

WORKSPUS™ SPELL

If you use Microsoft® Works, you'll love Workspus™ Spell. It's fully integrated with Works, and it's blindingly fast. It checks spelling at over a page per second using a 70,000 word modifiable dictionary. Includes automatic hyphenation and a glossary feature. \$59.95 + \$3 s/h.

- Lundeen & Associates
P.O. Box 30038
Oakland, CA 94604
(800) 233-6851 or (800) 922-PLUS in CA

WRITING TOOL

WRITER'S WORKSHOP

Track ideas, manuscripts, set layouts, submissions, evaluate publisher's rates, enter one query letter, send to all publishers on file. Maintain bibliographic/reference notes. Keep accurate income/expense records. Create your own market types/reference categories. Complete documentation. Requires 512K, Plus XL and external/hard drive. \$99. Free brochures.

- Futuresoft System Design, Inc.
P.O. Box 132
New York, NY 10012-0132
(212) 674-5195



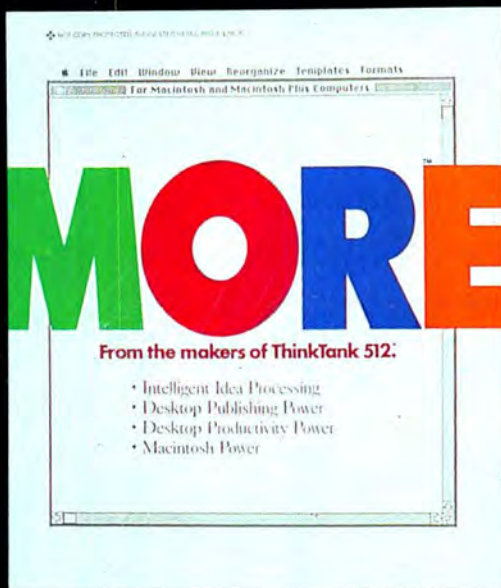
**Real dBase.TM
Real fast.
Really.**

 **NantucketTM**
12555 Jefferson Blvd., Los Angeles, CA 90066
(213) 390-7923

Nantucket is a trademark of Nantucket Corporation. dBase is a trademark of Ashton-Tate.

Please circle 224 on reader service card.

MacUser Magazine just confirmed what every user of MORE[™] already knew...



MORE is the 1986 Product of the Year.

To find out why, call 1-800-822-3700. In California call 1-800-443-4310.



LIVING VIDEOTEXT

Software that people really use

2432 Charleston Road, Mountain View, CA 94043 415-964-6300

MORE is not copy protected. Suggested retail price \$295. For all Macintosh systems with 512K or more. MORE, ThinkTank 512, ThinkTank 128, and ThinkTank are trademarks of Living Videotext. The names of the products above may be trademarks or registered trademarks.

Please circle 245 on reader service card.