

The 20th Anniversary Mac • The Year's Best Mac Products

M A R C H 1 9 9 7

Macworld

THE ESSENTIAL MACINTOSH® RESOURCE

www.macworld.com

The Next

**STEVE JOBS RETURNS APPLE BUYS NEXT AND A
NEW MAC OS IS BORN**

Mac

\$4.99 CANADA \$5.99
03 >
37772
0 130536 4



WE FIGURED OUT HOW AND WE RADICALLY R

We figured out a few months back that the best thing we could do to improve our products was to simply make more of them and get them out faster.

Hey, it only makes sense. If you're in the market to buy the fastest computers on the planet, then



you're probably not a person who likes to wait. So we switched our manufacturing and shipping departments into high gear.

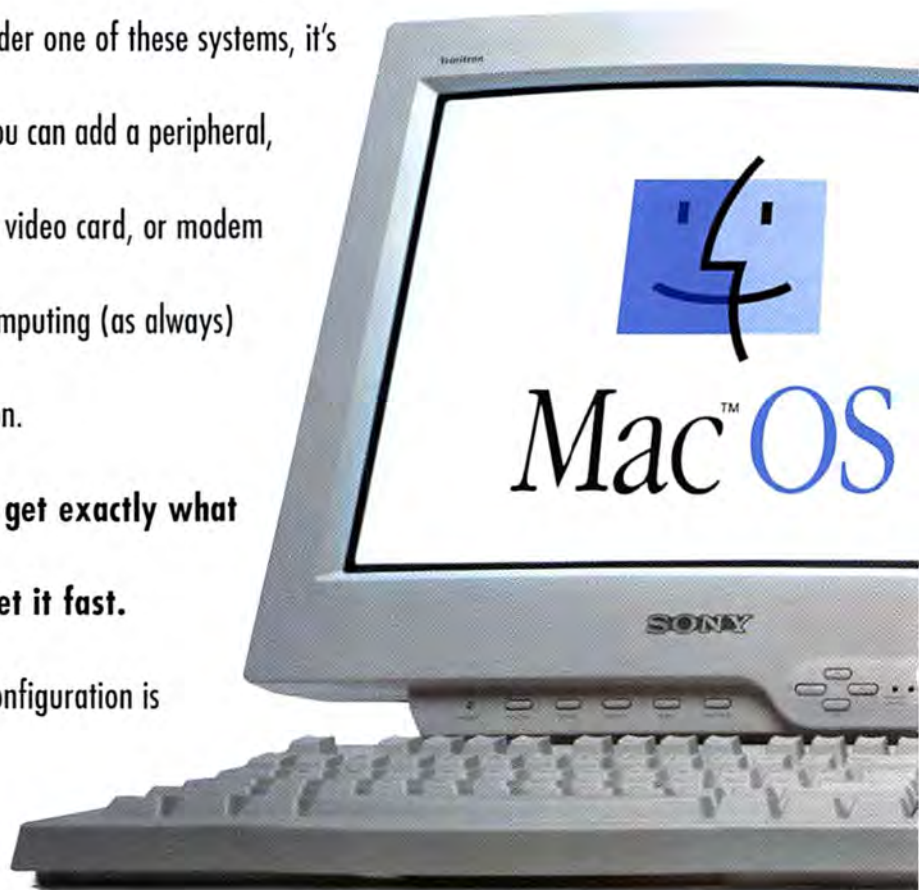
Now when you order one of these systems, it's on its way quickly. Also, you can add a peripheral,



memory upgrade, video card, or modem built-in because Power Computing (as always) offers custom-configuration.

It means you'll get exactly what you want and you'll get it fast.

The best part of custom-configuration is that you don't have to



TO SHIP THEM FASTER REDUCED OUR PRICES.

go searching around through multiple vendors or waste your precious vacation time installing something like a video card or an internal Jaz drive. You simply take your new Power Computing system out of the box, plug it in and turn it on. We do all the work for you.



**Not only has Power Computing made custom-configuration our trademark,
but our machines represent the most upgradeable Mac OS™ systems on the market.**

Because of our superior upgrade path, we're confident your new Power Computing machine will last for years to come.

If you've been waiting to



move up to a new PowerBase™,

PowerCenter™ or PowerTower Pro™,

now is the time to buy from Power

Computing. **The wait is over.**



PowerComputing

**THROUGH NEW ADVANCED
STATE-OF-THE-ART
MANUFACTURING TECHNIQUES,
WE'VE RECENTLY BEEN
ABLE TO IMPROVE
THE ENTIRE LINE OF
POWER COMPUTING SYSTEMS.**

POWERTOWER PRO: THE FASTEST, MOST EXPANDABLE MAC OS SYSTEM

PowerTower Pro 225e

225MHz PowerPC 604e Processor

- 32 MB RAM (1 GB Max)
- 2 GB 7200 RPM AV Capable Hard Drive
- 8X CD-ROM Drive
- 1 MB Level 2 Cache
- IMS Twin Turbo 128M graphics accelerator with 8MB VRAM
- 6 PCI Expansion Slots
- Interleaved Memory
- 9 Drive Bays
- Dual (Fast 10 MB/Sec) SCSI
- Connectix Speed Doubler
- Extended Keyboard and Mouse
- Add Sony 20" Trinitron 20sfl1 \$1795

\$4295 **NEW LOW PRICE**

PowerTower Pro 225e Core Config

225MHz PowerPC 604e Processor

- 16 MB RAM (1 GB Max)
- 2 GB 5400 RPM Hard Drive
- 8X CD-ROM Drive
- 1 MB Level 2 Cache
- 64-bit graphics accelerator w/ 2MB VRAM
- 6 PCI Expansion Slots
- Interleaved Memory
- 9 Drive Bays
- Dual (Fast 10 MB/Sec) SCSI
- Extended Keyboard and Mouse
- Add Power 17" Display (vis. 15.7) for \$695
- Add MiraMotion JPEG Video I/O Card for \$495

\$3795 **NEW LOW PRICE**

PowerTower Pro 200e Core Config

200MHz PowerPC 604e Processor

- 16 MB RAM (1 GB Max)
- 2 GB 5400 RPM Hard Drive
- 8X CD-ROM Drive
- 1 MB Level 2 Cache
- 64-bit graphics accelerator w/ 2MB VRAM
- 6 PCI Expansion Slots
- Interleaved Memory
- 9 Drive Bays
- Dual (Fast 10 MB/Sec) SCSI
- Extended Keyboard and Mouse
- Add Power 17" Display (vis. 15.7) for \$695
- Add MiraMotion JPEG Video I/O Card for \$495

\$3295 **NEW LOW PRICE**

POWERCENTER: THE MOST AFFORDABLE 604s YOU CAN BUY

PowerCenter 180 Starter

180 MHz PowerPC 604 Processor

- 16 MB RAM (512 MB Max)
- 2 GB 5400 Hard Drive
- 8x CD-ROM Drive
- 512K Level 2 Cache
- 1 MB VRAM On-Board (4 MB Max)
- 3 PCI Expansion Slots
- Extended Keyboard and Mouse
- Mini-tower Enclosure
- Add Iomega Zip 100MB Drive for \$145
- Add Power 17" Display (vis. 15.7) for \$695
- Add MiraMotion JPEG Video Card for \$495

\$2795

PowerCenter 166 Starter

166 MHz PowerPC 604 Processor

- 16 MB RAM (512 MB Max)
- 2 GB 5400 Hard Drive
- 8x CD-ROM Drive
- 512K Level 2 Cache
- 1 MB VRAM On-Board (4 MB Max)
- 3 PCI Expansion Slots
- Extended Keyboard and Mouse
- Mini-tower Enclosure
- Add Iomega Zip 100MB Drive for \$145
- Add Power 17" Display (vis. 15.7) for \$695
- Add MiraMotion JPEG Video Card for \$495

\$2395

PowerCenter 150 Starter

150 MHz PowerPC 604 Processor

- 16 MB RAM (512 MB Max)
- 1 GB Hard Drive
- 8x CD-ROM Drive
- 512K Level 2 Cache
- 1 MB VRAM On-Board (4 MB Max)
- 3 PCI Expansion Slots
- Extended Keyboard and Mouse
- Low-Profile Enclosure
- For Mini-tower Enclosure Add \$100
- Add Labtec Speakers Starting At \$29
- Add 28.8 Modem & Internet Kit \$129

\$2095

POWERBASE: THE ULTIMATE ENTRY LEVEL SYSTEM

PowerBase 240 Starter

240 MHz PowerPC 603e Processor

- 16 MB RAM (160 MB Max)
- 1.2 GB EIDE Hard Drive
- 8x CD-ROM Drive
- 256K Level 2 Cache
- 3D Graphics Acceleration
- 2 MB DRAM based video (4 MB Max)
- 3 PCI Expansion Slots
- Extended Keyboard and Mouse
- Low Profile Enclosure
- For mini-tower enclosure add \$100
- Add Power 17" (vis. 15.7) Display for \$695

\$2195

PowerBase 200 Starter

200 MHz PowerPC 603e Processor

- 16 MB RAM (160 MB Max)
- 1.2 GB EIDE Hard Drive
- 8x CD-ROM Drive
- 256K Level 2 Cache
- 3D Graphics Acceleration
- 2 MB DRAM based video (4 MB Max)
- 3 PCI Expansion Slots
- Extended Keyboard and Mouse
- Low Profile Enclosure
- For mini-tower enclosure add \$100
- Add 28.8 Modem & Internet Kit \$129

\$1795

PowerBase 180 Starter

180 MHz PowerPC 603e Processor

- 16 MB RAM (160 MB Max)
- 1.2 GB EIDE Hard Drive
- 8x CD-ROM Drive
- 256K Level 2 Cache
- 3D Graphics Acceleration
- 2 MB DRAM based video (4 MB Max)
- 3 PCI Expansion Slots
- Extended Keyboard and Mouse
- Low Profile Enclosure
- For mini-tower enclosure add \$100
- Add Power 15" (vis. 13.7) Display for \$379

\$1495

Configure it any way you want it.

CONFIGURE YOUR DREAM SYSTEM THE WAY YOU WANT IT WITH ANY OF THESE GREAT OPTIONS:

- IOMEGA 100MB ZIP JUST \$145 MORE
- IOMEGA 1GB JAZ JUST \$395 MORE
- ULTRA SCSI/RAID SOLUTIONS STARTING AT \$1985
- GLOBAL VILLAGE 28.8 MODEM & INTERNET KIT \$129
- MACROMEDIA BUNDLE \$495
- MIROMOTION JPEG VIDEO I/O CARD FOR \$495

GET \$1,200 WORTH OF FREE SOFTWARE WITH EVERY POWER COMPUTING SYSTEM.

SERVICE & SUPPORT

- 30 day money back Guarantee
- Toll-free lifetime technical support
- 1, 2, or 3-year on-site service available, starting at \$49.

ORDER DIRECT
800-405-7693

<http://www.powercc.com>

2555 North IH 35, Round Rock, TX 78664-2015

Tel. 512/388-6868 Fax. 512/388-6799

Internet: info@powercc.com

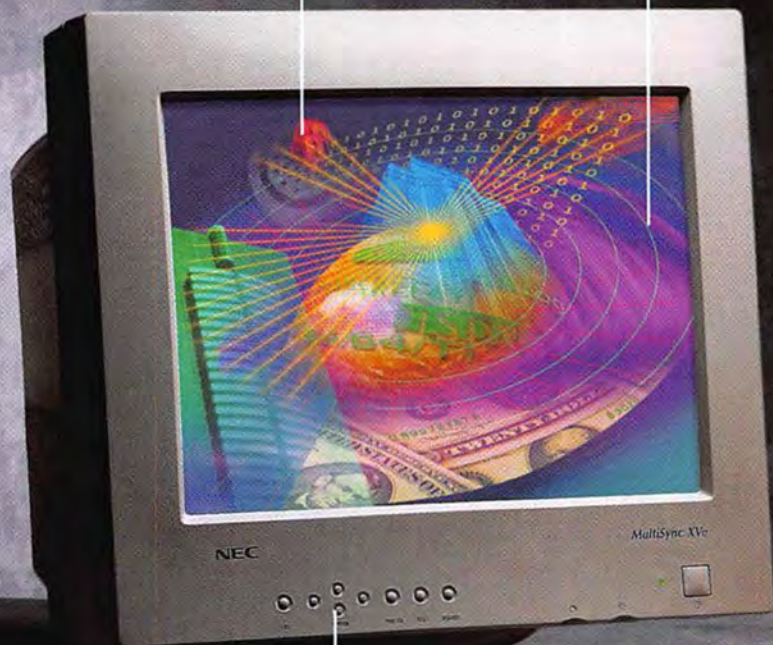
CRITICS CALLED IT "VIRTUALLY FLAWLESS."

"...bright screen, superior on-screen controls and low price."

Windows*

"...great picture quality, advanced features, and top-notch support... a superb monitor."

FamilyPC**



MacUser†

"A tremendous bargain, with great, easy-to-use controls."

Introducing the MultiSync® XV+™ Series Monitors. Upgraded, refined, retooled and ready to give you more control, more features and more options than ever before.

To begin with, both the MultiSync XV15+™ and the XV17+™ offer one of the most advanced CRT technologies to date. CROMACLEAR.™ The result is unprecedented

sharpness and greater image quality. And thanks to our unique OptiClear® screen surface, you'll also notice enhanced contrast and even less glare.

Because front-mounted digital controls were so popular on the MultiSync XV17,™ we've added them to the MultiSync XV15+. So now both XV+ monitors allow for quick and easy image adjustments.

THAT SCATHING REVIEW LED US TO THESE IMPROVEMENTS.

OptiClear Screen Surface

Enhances contrast while also eliminating glare.

NOW WITH
REVOLUTIONARY
CROMACLEAR CRT
TECHNOLOGY



Front-mounted digital controls
on the MultiSync XV15+

Now both the XV15+ and XV17+ allow
for quick and easy image adjustments.

Then, of course, there's the issue of our famed reliability. Which really isn't an issue at all considering that both monitors are backed by a 3-year limited warranty, which is one of the best in the industry. Perhaps of even more importance is the fact that each is backed by NEC's hard-earned reputation for building,

without question, the most precise monitors the world has ever seen.

The MultiSync XV+ Series from NEC. Once "virtually" flawless now, just plain flawless. To learn more about the XV+ Series, call 1-800-NEC-INFO. For information via fax, call 1-800-366-0476 and request catalog #1. **SEE, HEAR AND FEEL THE DIFFERENCE.™**

NEC

Visit our new web site at <http://www.nec.com>

Circle 16 on reader service card

Macworld

Features

104 The 20th Anniversary Macintosh

BY PAUL KUNKEL Apple Computer marks its 20th year with a limited-edition Mac so radical even we were stunned.

112 Digital Cameras: Picture It Now

BY DEKE MCCLELLAND *Macworld* rates ten affordable, reliable digital cameras for the home enthusiast.

122 Macworld's 10th Annual World Class Awards

BY MACWORLD STAFF We celebrate the very best Mac products, from utilities to systems.

131 Scanning for the Rest of Us



BY JOSEPH SCHORR Macworld Lab tests 15 sub-\$600 color scanners and discovers that you can indeed get a great scanner for very little money.



Specialized PowerBook in News, page 35.



Will the Web replace fax machines? See News, page 38.

News Flash

The Next Mac

Apple lays out its OS plans in the wake of Steve Jobs's return.

- 32 What's Next for Mac OS 8?
- 33 Apple Eyes Java for OS Role
- 35 The Next Step: Evangelize Developers
- 36 Mac OS 8's Tortuous Journey
- 37 Mac OS's Interim Steps
- 27 State of the Mac

News

- 34 One Less Peep for CHRP
IBM and Motorola drop Windows NT for PowerPC.

Sneak Peek

- 38 Microsoft FrontPage
A look at the HTML editor's features and flaws.

- 42 Best of Show
The hottest new products from Macworld Expo.

Opinion

- 19 Letters
- 226 The Desktop Critic
BY DAVID POGUE Technical Screenwriting 101.
- 14 How to Contact Macworld



Only the best products are World Class—this year's winners, page 122.



Secrets, tricks, and forgotten gems for the Finder in Secrets, page 135.

Secrets

135 The Finder Revisited

BY JOSEPH SCHORR How many of these tricks and shortcuts have you forgotten?



A very special Mac for a special occasion—Apple's 20th anniversary, page 104.

137 Quick Tips

BY LON POOLE Tips, tricks, and shortcuts.

143 NetSmart

BY CAMERON CROTTY Some of this, a little of that—a guide to component software.

IDG March 1997, Volume 14, Number 3 Macworld ISSN 1041-8647 is published monthly by Macworld Communications, Inc. Editorial and business offices: 501 Second St., San Francisco, CA 94107, 415/243-0509. Subscription orders and inquiries should be directed to 800/288-6848 or 303/604-1465. Subscription rates are \$30 for 12 issues, \$60 for 24 issues, and \$90 for 36 issues. Foreign orders must be prepaid in U.S. funds with additional postage. Add \$18 per year for postage for Canada and Mexico subscribers. Add \$69 per year for postage to all other countries. Periodicals postage paid at San Francisco, California, and at additional mailing offices. Postmaster: Send address changes to Macworld, P.O. Box 54529, Boulder, CO 80322-4529. Printed in the U.S.A.

Buyers' Tools

91 Star Ratings

Macworld's ratings for hundreds of hardware and software products at a glance.

100 Mac Superguide

Macworld's guide to every Mac system and clone on the market, lab-tested and Star Rated.

Media

147 Thoroughly Modern MIDI

BY JIM HEID The sites and sounds of MIDI on the Web.

150 Publishing Workshop

BY DAVID BLATNER Power tips for QuarkXPress.

152 Graphics Workshop

BY CATHY ABES Techniques for faceted 3-D type.



The StarMax J700—how it stacks up, page 100.

Reviews

- 48 ★★★★★/7.6 FirstClass 3.5;
★★★/6.0 Quarterdeck Mail 4.0;
★★★/6.6 QuickMail Pro
LAN-based e-mail programs
- 50 ★★★★★/8.6 Fractal Design Expression
Natural-media draw program
- 52 ★★★★★/7.1 Adobe Persuasion 4.0
Web-ready presentation program
- 54 ★★★★★/6.9 PageSpinner 1.2.2;
★★★/6.8 World Wide Web
Weaver 2.0.2
HTML editors compared
- 56 ★★★★★/7.1 Kiplinger TaxCut;
★★★★/7.7 MacInTax Deluxe
Tax software compared
- 58 ★★★★★/7.8 CyberFinder 2.0;
★★★★/7.0 DragNet 1.1.4;
★★★★/8.0 Surfboard 1.0;
★★★★/8.2 Web Quick 1.2.1;
★★★/6.7 Web Squirrel 1.06
URL managers
- 61 ★★/4.0 Startup Manager 7.0
Extension-management utility
- 63 ★★★/6.9 Mariner Write 1.3
Slim, speedy word processor
- 65 ★★★★★/7.8 QX-Tools 2.0
QuarkXTensions
- 66 ★★★★★/7.8 Sagem Planet ISDN
GeoPort adapter
- 68 ★★/3.6 QuickSite 1.0
Web authoring program
- 70 ★★★/6.4 WebRamp
Inexpensive ISDN adapter
- 72 ★★★★★/8.9 Analytica
Tool for financial decision-making
- 72 ★★★★★/5.4 Day-Timer Organizer 2.1
All-in-one information manager
- 74 ★★★★★/6.4 Now Utilities 6.5
Upgrade of system enhancements
- 74 ★★/4.6 Turbo ToolKit 1.0
Disk utility
- 76 ★★★★★/8.1 Poser 2.0
Human models in 3-D
- 76 ★★★/6.8 HTML Grinder 3.0
Web-site-management tools
- 78 ★★★★★/7.0 CyberPress 1.0
QuarkXPress-to-HTML converter
- 78 ★★★★★/7.5 DynaTek CDM 4001
CD-R-multimedia hard drive
- 80 ★★★★★/8.9 ScanPrepPro 3.1
Plug-in preps images for printing
- 82 ★★★★★/8.5 AlphaSmart Pro 2.1
Portable input device
- 83 ★★★★★/8.9 Personal RecordKeeper 4.0
Database with forms
- 84 ★★★★★/8.3 FullPixelSearch 2.0
Scientific and medical image analyzer
- 86 ★★★★★/8.3 Interactive Physics 3.0
Surprisingly fun physics simulator
- 88 ★★/3.0 Police Quest: SWAT
Action-adventure game



dts

StarMax^{3000/200}

 **MOTOROLA**

PowerPC

For a Mac lover, it's a wish come true.

Introducing StarMax. Go ahead, pinch yourself. Motorola has launched an entire line of Mac OS-based desktops and minitowers running on PowerPC™ technology. Everything from 180 MHz to 240 MHz, 1.2GB



to 2.5GB hard drives and starting at about \$1,595.* So now, you have a Mac OS alternative with an industry-low price. And with the assurance of the Motorola brand, you're getting

the quality you'd expect from a global company. In fact, we're so sure of it, we gave all of our StarMax systems a five-year limited system warranty—the only one like it in the industry. And

PowerPC™ with our new board design, Motorola systems running on


the PowerPC 603e™/200 MHz microprocessor outperformed other Mac OS compatibles running the same chip (even one running at 240 MHz)! Call us if you still think

you're dreaming. You can consider it a wake-up call.

1-800-759-1107 ext. MWD
www.mot.com/computer/



MOTOROLA
Computer Group

©1996 Motorola, Inc. All rights reserved. Motorola and  are registered trademarks and StarMax is a trademark of Motorola, Inc. PowerPC, PowerPC 603e and the PowerPC logo are trademarks of and are used under license from International Business Machines Corporation. Mac OS is a registered trademark of Apple Computer, Inc. All other brand and product names are the trademarks or registered trademarks of their respective holders. *Contact your local reseller for current prices on specific configurations. †MacWorld, November, 1996.

What you never thought possible.™

Circle 207 on reader service card

AnthroCarts!®



AnthroCarts are so flexible. You have dozens of shapes and sizes to choose, plus over 50 accessories to configure your cart exactly the way you want.

And they have a **Lifetime Warranty!** Made of steel and high density particle board, these AnthroCarts are as tough as nails.

See them all in our catalog, then call us direct to order. We'll ship to you the very next business day!



Call for your free catalog:

800-325-3841

6:00 AM to 6:00 PM PST, M-F

**Anthro Corporation®
Technology Furniture®**

10450 SW Manhasset Dr.

Tualatin, OR 97062

Fax: 800-325-0045

<http://www.anthro.com>

Since 1984. Prices from \$299. For a lower cost line for the home, ask for our Compacta catalog. GSA contract. Available for OEM applications. Anthro, AnthroCart and Technology Furniture are registered trademarks of Anthro.

Macworld

PRESIDENT AND CEO

ASSISTANT TO THE PRESIDENT

CHIEF OPERATING OFFICER

BUSINESS MANAGER

FINANCIAL ANALYST

DIRECTOR OF HUMAN RESOURCES

EMPLOYEE RELATIONS MANAGER

NETWORK MANAGER

MANAGER OF TECHNICAL SERVICES

IS TECHNICIAN

PROGRAMMER/ANALYST

ADMINISTRATIVE ASSISTANT

ACCOUNTING/OPERATIONS

ACCOUNTING/FACILITIES MANAGER

Colin Crawford

Sharon Sanderson

Stephen Daniels

Lisa Buckingham

Eos de Feminis

Shelly Ginenthal

Marisa Chow

Wally Clegg

Theodore Kim

Dave Johnson

Frederic Desbois

Ginger Von Wening

Pat Murphy

Michelle Reyes

Macworld is a publication of International Data Group, the world's largest publisher of computer-related information and the leading global provider of information services on information technology. International Data Group publishes over 275 computer publications in over 75 countries. Sixty million people read one or more International Data Group publications each month. International Data Group's publications include: ARGENTINA: Buyer's Guide, Computerworld Argentina, PC World Argentina; AUSTRALIA: Australian Macworld, Australian PC World, Australian Reseller News, Computerworld, IT Casebook, Network World, Publish, Webmaster; AUSTRIA: Computerwelt Österreich, Networks Austria, PC Tip Austria; BANGLADESH: PC World Bangladesh; BELARUS: PC World Belarus; BELGIUM: Data News; BRAZIL: Annuário de Informática, Computerworld, Connections, Macworld, PC Player, PC World, Publish, Reseller News, Supergamepower; BULGARIA: Computerworld Bulgaria, Network World Bulgaria, PC & MacWorld Bulgaria; CANADA: CIO Canada, Client/Server World, ComputerWorld Canada, InfoWorld Canada, NetworkWorld Canada, WebWorld; CHILE: Computerworld Chile, PC World Chile; COLOMBIA: Computerworld Colombia, PC World Colombia; COSTA RICA: PC World Centro America; THE CZECH AND SLOVAK REPUBLICS: Computerworld Czechoslovakia, Macworld Czech Republic, PC World Czechoslovakia; DENMARK: Communications World Denmark, Computerworld Denmark, Macworld Denmark, PC World Denmark, Techworld Denmark; DOMINICAN REPUBLIC: PC World Republica Dominicana; ECUADOR: PC World Ecuador; EGYPT: Computerworld Middle East; PC World Middle East; EL SALVADOR: PC World Centro America; FINLAND: JäkköPC, Teletyöko, Tiettyöko; FRANCE: Distributique, Hebdo, Info PC, Le Monde Informatique, Macworld, Reseaux & Télécom, WebMaster France; GERMANY: Computer Partner, Computerwoche, Computerwoche Extra, Computerwoche FOCUS, Global Online, Macwelt, PC Welt; GREECE: Amiga Computing, GamePro Greece, Multimedia World; GUATEMALA: PC World Centro America; HONDURAS: PC World Centro America; HONG KONG: Computerworld Hong Kong, PC World Hong Kong, Publish in Asia; HUNGARY: ABCD CD-ROM, Computerworld Szamlastechnika, Interneto online Magazine, PC World Hungary, PC-X Magazine Hungary; ICELAND: Tobuheimur PC World; INDIA: Information Communications World, Information Systems Computerworld, PC World India, Publish in Asia; INDONESIA: InfoKomputer PC World, Komputek Computerworld, Publish in Asia; IRELAND: ComputerScope, PC Live; ISRAEL: Macworld Israel, People & Computers/Computerworld; ITALY: Computerworld Italia, Macworld Italia, Networking Italia, PC World Italia; JAPAN: DTP World, Macworld Japan, Nikkei Personal Computing, OS/2 World Japan, SunWorld Japan, Windows NT World, Windows World Japan; KENYA: PC World East African; KOREA: Hi-Tech Information, Macworld Korea, PC World Korea; MACEDONIA: PC World Macedonia; MALAYSIA: Computerworld Malaysia, PC World Malaysia, Publish in Asia; MALTA: PC World Malta; MEXICO: Computerworld Mexico, PC World Mexico; MYANMAR: PC World Myanmar; NETHERLANDS: Computer1 totaal, LAN Interworking Magazine, LAN World Buyers Guide, Net, Macworld Netherlands, WebWeek; NEW ZEALAND: Absolute Beginner's Guide and Plan & Simple Series, Computer Buyer, Computer Industry Directory, Computerworld New Zealand, MIB, Network World, PC World New Zealand; NICARAGUA: PC World Centro America; NORWAY: Computerworld Norge, CW Rapport, Datamagasinet, Financial Rapport, Kurguide Norge, Macworld Norge, Multimedaworld Norway, PC World Express Norge, PC World Nettverk, PC World Norge, PC World ProduktGuide Norge; PAKISTAN: Computerworld Pakistan; PANAMA: PC World Panama; PEOPLES REPUBLIC OF CHINA: China Computer Users, China Computerworld, China InfoWorld, China Telecom World Weekly, Computer & Communication, Electronic Design China, Electronics Today, Electronics Weekly, Game Software, PC World China, Popular Computer Week, Software Weekly, Software World, Telecom World, and online Webzine: China Computerworld Daily, PERU: Computerworld Peru, PC World Professional Peru, PC World SoHo Peru; PHILIPPINES: Click!, Computerworld Philippines, PC World Philippines, Publish in Asia; POLAND: Computerworld Poland, Computerworld Special Report Poland, Cyber, Macworld Poland; NETWORK World; PC World Komputer; PORTUGAL: Cerebras/PC World, Computerworld/Correu Informatico, Dealer World Portugal, Mac/In/PC*In Portugal, Multimedia World; PUERTO RICO: PC World Puerto Rico; ROMANIA: Computerworld Romania, PC World Romania, Telecom Romania; RUSSIA: Computerworld Russia, Mir PK, Publish, Seti; SINGAPORE: Computerworld Singapore, PC World Singapore, Publish in Asia; SLOVENIA: Monitor; SOUTH AFRICA: Computing SA, Network World SA, Software World SA; SPAIN: Comunicaciones World España, Computerworld España, Dealer World España, Macworld España, PC World España, Sri Lanka: Infolink PC World; SWEDEN: CAPS/Design, Computer Sweden, Corporate Computing Sweden, Internetwork Sweden, it,branschen, Macworld Sweden, MacData Sweden, MikroDatorm, Nätverk & Kommunikation, PC World Sweden, PCKaktiv, Windows World Sweden; SWITZERLAND: Computerworld Schweiz, Macworld Schweiz, PCtp; TAIWAN: Computerworld Taiwan, Macworld Taiwan, NEW VISION/Publish, PC World Taiwan, Windows World Taiwan; THAILAND: Publish in Asia, Thai Computerworld; TURKEY: Computerworld Turkey; Macworld Turkey; Network World Turkey; PC World Turkey; UKRAINE: Computerworld Kiev, Multimedia World Ukraine, PC World Ukraine; UNITED KINGDOM: Acorn User UK, Amiga Action UK, Amiga Computing UK, Apple Talk UK, Computing, Macworld, Parents and Computers UK, PC Advisor, PC Home, PSX Pro, The WEB, UNITED STATES: Cable in the Classroom, CIO Magazine, Computerworld, DOS World, Federal Computer Week, GamePro Magazine, InfoWorld, I-Way, Macworld, Network World, PC Games, PC World, Publish, Video Event, The WEB Magazine, and WebMaster; online Webzines JavaWorld, NetscapeWorld, and SunWorld Online; URUGUAY: InfoWorld Uruguay; VENEZUELA: Computerworld Venezuela, PC World Venezuela; and VIETNAM: PC World Vietnam


binuscan® *ColorPro*

Professional software for automatic
high quality image processing

It's not good...
...it is perfect!

We cannot tell you any more because
this \$1999 package is so unbelievable that
no words are strong enough to describe it.
Try it yourself: download a copy of the
professional demo version today from:
<http://www.binuscan.com>



a special version of binuscan is bundled with all the **UMAX** high-end scanners
a special version of binuscan is freely available for every  Pro Master Photo CD

binuscan®
PhotoPerfect

binuscan - International Sales Division
4-6, Av. Prince Héritaire Albert - MC-98000 MONACO
+377 92 05 37 62 - Fax: +377 92 05 74 63

binuscan, Inc. - US Sales Office
505 5th Avenue - New York, NY. 10017
1 800 881-2352 / 1 212 681-0600 - Fax: 1 212 681-0603

Circle 6 on reader service card

Macworld

EDITOR IN CHIEF

Adrian Mello

EDITORIAL

EXECUTIVE EDITORS Galen Gruman, Carol Person
DIRECTOR OF EDITORIAL OPERATIONS Jane Lagas
SENIOR EDITOR/FEATURES Howard Baldwin
SENIOR ASSOCIATE EDITOR/NEWS Stephen Beale
SENIOR ASSOCIATE EDITOR/REVIEWS Anita Epler
SENIOR ASSOCIATE EDITORS Cathy E. Abes, Elizabeth Dougherty, Tova Fliegel
ASSOCIATE EDITORS Linda Comer, Suzanne Courteau, Cameron Crotty, Katherine L. Ulrich
OFFICE MANAGER Deborah Weinberger
ADMINISTRATIVE ASSISTANT Keith A. Mitchell
ASSISTANT TO THE EDITOR IN CHIEF Patricia Carberry-Harris
CONTRIBUTING EDITORS Mel Beckman, Robert C. Eckhardt, Erfert Fenton, Jim Heid, Steven Levy, Cary Lu, Deke McClelland, Tom Negrino, David Pogue, Lon Poole, Steve Roth, Joseph Schorr, Charles Seiter, Franklin N. Tessler
INTERNATIONAL EDITORS Matthew J.C. Powell, Australia; Vinicius Souza, Brazil; Stig Boesgaard, Denmark; Jean-Philippe Dubrun, France; Andreas Borchert, Germany; Enrico Lotti, Italy; Shohei Nishida, Japan; Oscar Kneppers, Netherlands; Tom Helge Berglie, Norway; Alvaro Ibariez, Spain; Lennart Hakansson, Sweden; Cuno Schneeberger, Switzerland; Bahattin Apak, Turkey; Simon Jary, United Kingdom

LAB

LAB DIRECTOR Lauren L. Black
SENIOR TECHNICAL ANALYSTS Matt Clark, Mark Hurlow, Jeff Sacilotto
TECHNICAL ANALYST Chris Uiterwijk
INVENTORY CONTROLLER Paul Brown

COPY EDIT AND EDITORIAL PRODUCTION

MANAGING EDITOR Ruth Henrich
SENIOR COPY EDITOR Paul-Michael King
SENIOR PRODUCTION EDITOR Lisa Brazieal
COPY EDITORS Gail E. Nelson, Elissa Rabellino
ASSISTANT PRODUCTION EDITOR Jackie Goodman

ART AND DESIGN

DESIGN DIRECTOR Leslie Barton
ART DIRECTOR Joanne Hoffman
DESIGNER Tim Johnson
ASSOCIATE ART DIRECTOR Sylvia Benvenuti
ASSOCIATE DESIGNER Martha Katt
SENIOR DESIGN ASSOCIATE Belinda Chlouber

ONLINE

ONLINE MANAGER Paul Devine
ONLINE SALES MANAGER Jeff Julian
ONLINE ACCOUNT MANAGER Ed Ramirez
DESIGN DIRECTOR, ONLINE Arne Hurty
WEB ADMINISTRATOR Chip Carman
ONLINE PRODUCER/EDITOR Karen Liberatore
ONLINE ADMINISTRATOR Steve Costa
ONLINE CONTENT PRODUCER Matt McAlister
ASSISTANT CONTENT ENGINEER Roxanne Gentile

Every file on the Internet has an outer "shell." We're the nutcracker.

There are bushels of files on the 'net. But nearly all have a "shell" that must be removed before you can use them. Stuffit Deluxe™ 4.0 is the Mac standard for both Stuffing and unStuffing files, which also saves time and money. Stuffit handles most formats, even those for Windows and Unix, including sit, zip, hqx, and uu. So enjoy the riches the online world has to offer, because the Internet isn't a tough nut to crack if you have the right tool.

Aladdin Systems

(408) 761-6200 www.aladdinsys.com

Circle 21 on reader service card

Sophisticated Style & Innovation
 DESKS THAT MAKE TECHNOLOGY EASIER TO USE

FREE CATALOG

As low as **\$299**

1.800.688.2446
 AGIO DESIGNS™ FAX: 503/242-0519 support@agio-designs.com

New OmniPage Pro 7.0 gives you the recognition you deserve.

OmniPage Limited Edition or OmniPage Lite is the OCR that came with your scanner. They give you basic OCR.

How to Improve Your OCR Accuracy and

Caere Corporation (NASDAQ: CARR) recently announced an upgrade that makes the OmniPage Pro optical character recognition (OCR) software resellers for an estimated street price of only \$129. This is an inexpensive way for scanner users to step up to fully-featured OCR products (including those bundled with flatbed and edge-feed products) can upgrade to the full version of OmniPage Pro at a \$29

OmniPage Pro is a separate upgrade package available through Computer City, Egghead, and Best Buy. Since the vast majority of Caere OCR, most scanner users are eligible to upgrade at this price.

The large number of scanner manufacturers that bundle Caere OCR (Microtek, Canon, Plustek, Umax, Nikon, Agfa, Logitech, Retlays) are eligible for the upgrade.

The upgrade program includes OmniPage Pro 6.0 (Windows 3.1 and 7.0 (Windows 95), which offer all the capabilities of the bundled software for extended functionality. Most notable among them are high resolution scanning and preprocessing of scanned images, variable resolution scanning, and the retention of the original page formatting, as well as OCR training and deferred processing capabilities.

The Changing OCR Market: In the not so distant past, OCR required expensive and OCR software that was often difficult to use and provided little value. These issues were frustrating and limited the use of OCR to high volume vertical markets. The use of desktop OCR was limited to the

"Today, several trends are contributing to the widespread use of OCR by users faced," said Chad Kinzelberg, Caere's vice president of sales. "The ease of use of the program is another major factor that will promote the use of OCR. For the occasional OCR user will find Caere software more attractive because of its ease of use and the fact that it is so easy to use."

Analysts following the OCR market agree that OCR use is on the rise and industry trends promoting its mainstream adoption:

Higher Customer Awareness: An increased number of computer users are realizing the time and money saving benefits it provides.

Higher Scanner Penetration: Scanners prices have dropped dramatically in the last few years with many flatbed grayscale scanners available for under \$500. Also, many multifunction devices (such as the small-footprint sheet-fed scanners) and multifunction

Increased OCR Accuracy: OCR developers have developed high accuracy OCR technology for increased output. The greatest improvement has been made on degraded and hard to read documents. Pricing and Availability: OmniPage Pro 7.0 (Windows and Mac) and WordScan Plus 4.0 (Windows) upgrade packages are immediately available at major resellers for an estimated street price of \$129. The Company Caere

Improve Your OCR and Save Big \$\$\$



Scanners prices have dropped dramatically in the last few years with many flatbed grayscale scanners available for under \$500. Also, many multifunction devices (such as the small-footprint sheet-fed scanners) and multifunction devices have entered the market.

OCR Market: In the past, OCR required expensive and OCR software that was often difficult to use and provided little value. These issues were frustrating and limited the use of OCR to high volume vertical markets. The use of desktop OCR was limited to the

Today, several trends are contributing to the widespread use of OCR by users faced," said Chad Kinzelberg, Caere's vice president of sales. "The ease of use of the program is another major factor that will promote the use of OCR. For the occasional OCR user will find Caere software more attractive because of its ease of use and the fact that it is so easy to use."

Analysts following the OCR market agree that OCR use is on the rise and industry trends promoting its mainstream adoption:

Higher Customer Awareness: An increased number of computer users are realizing the time and money saving benefits it provides.

Higher Scanner Penetration: Scanners prices have dropped dramatically in the last few years with many flatbed grayscale scanners available for under \$500. Also, many multifunction devices (such as the small-footprint sheet-fed scanners) and multifunction

Increased OCR Accuracy: OCR developers have developed high accuracy OCR technology for increased output. The greatest improvement has been made on degraded and hard to read documents. Pricing and Availability: OmniPage Pro 7.0 (Windows and Mac) and WordScan Plus 4.0 (Windows) upgrade packages are immediately available at major resellers for an estimated street price of \$129. The Company Caere

Higher Scanner Penetration: Scanners prices have dropped dramatically in the last few years with many flatbed grayscale scanners available for under \$500. Also, many multifunction devices (such as the small-footprint sheet-fed scanners) and multifunction devices have entered the market.



Scanners prices have dropped dramatically in the last few years with many flatbed grayscale scanners available for under \$500. Also, many multifunction devices (such as the small-footprint sheet-fed scanners) and multifunction devices have entered the market.

Increased OCR Accuracy: OCR developers have developed high accuracy OCR technology for increased output. The greatest improvement has been made on degraded and hard to read documents.

Pricing and Availability: OmniPage Pro 7.0 (Windows and Mac) and WordScan Plus 4.0 (Windows) upgrade packages are immediately available at major resellers for an estimated street price of \$129.

The Company: Caere Corporation, with U.S. headquarters in Los Gatos, Calif. and European headquarters, Caere GmbH, in Munich Germany, is a leader in OCR technology and desktop document management products. Caere has recently expanded its product line of OCR

OmniPage Pro gives you almost twice the OCR accuracy with the same ease-of-use as OmniPage Limited Edition.

OmniPage Pro keeps text in its original format and layout, including graphics.

OmniPage Pro even outputs to HTML.

continued on next page

OmniPage Limited Edition

OmniPage Pro

Upgrade now to faster, more accurate OCR.

Sure, the OmniPage Limited Edition OCR that came with your scanner is good. In fact, that's why scanner makers like HP, Microtek and Agfa chose it above all others.

But if you want greater accuracy, full-throttle speed and a ton of new time-saving features, then it's time you moved up to OmniPage Pro®.

OmniPage Pro employs a new, more powerful OCR engine to recognize poor copies and degraded faxes.



www.caere.com

It integrates seamlessly with your favorite applications like Word, ClarisWorks and more. It even guides you through the OCR process using its AutoOCR Toolbar. All with the simple push of a button.

What's more, you get the advantages of the world's most popular OCR software without learning an entirely new program. So make sure you're getting all the OCR power and accuracy you deserve. Call now to upgrade, or visit a local reseller.



Key Feature Comparison	OmniPage Pro	OmniPage Limited Edition
Caere's fastest and most accurate OCR engine	✓	
AutoOCR Toolbar™ for easy, one-button OCR processing	✓	
Apple Guide gives you on-screen interactive help	✓	
Preserves graphics in output text	✓	
OCR from within your favorite applications	✓	✓
Retains original layout	✓	

SPECIAL UPGRADE
\$129* CALL TODAY TO ORDER!
800-736-5735
 extension 80



*Suggested price US\$. Subject to change. Valid in US & Canada only. Caere, the Caere logo and OmniPage Pro are registered trademarks and AutoOCR Toolbar is a trademark of Caere Corporation. © 1994. All other names are the property of their respective holders.

Circle 69 on reader service card



(freezing now optional)

For info on TechTool Pro software, call **800-829-6227**.
For info by fax, call 707-838-4231 and order #2009.
Or, check out our site at <http://micromat.com/mmcs/>.

TechTool Pro™
BY MICROMAT COMPUTER SYSTEMS

Circle 77 on reader service card

Macworld

DISPLAY ADVERTISING SALES

ASSOCIATE PUBLISHER	Matt Sweeney (415/978-3271)
NATIONAL SALES DIRECTOR	Steve Plevin (415/978-3138)
SALES DEPARTMENT ADMINISTRATOR	Eva Bosch (415/974-7310)
REGIONAL ACCOUNTS MANAGER	Liz Pabón (415/978-3257)
ACCOUNT EXECUTIVE	Tony Andrade (415/975-2619)
NATIONAL ACCOUNTS MANAGER	Karl Elken (415/978-3155)
ACCOUNT EXECUTIVE	Christine Wong (415/978-3192)
ADMINISTRATIVE ASSISTANT	Jessica Ross (415/267-1799)
NATIONAL ACCOUNTS MANAGER	Sara Culley (310/545-0646)
SALES ASSOCIATE	Margaret Level Green (415/267-4577)
NATIONAL ACCOUNTS MANAGER	Cynthia Ramsey (201/243-1197)
NATIONAL ACCOUNTS MANAGER	Paul Bonarrigo (508/370-0832)
ACCOUNT EXECUTIVE	Lisa Weisberg (415/978-3164)
ADMINISTRATIVE ASSISTANT	Glenn Munlawin (415/974-7350)
NATIONAL ACCOUNTS MANAGER	Lisa Laddle-Wallace (800/779-5622)
ACCOUNT EXECUTIVE	Kathy Poppenhagen (847/398-8141)

CLASSIFIED ADVERTISING SALES

MACWORLD SHOPPER AND DIRECTORY	Niki Stranz (415/978-3105), Carol Johnstone (415/978-3152), Shannon Smith (415/974-7414)
ADMINISTRATIVE ASSISTANT	Toni May (415/975-2638)

RESEARCH

RESEARCH DIRECTOR	Linda Lawrence
SENIOR RESEARCH ANALYST	Phillip Hibbert
INTERNET RESEARCH ANALYST	Scott Petersen

WORLDWIDE MARKETING

MARKETING DIRECTOR	Cynthia Koral
MARKETING MANAGER	Oliver Chin
MARCOM MANAGER	Rhona Hamilton
SENIOR TRADE SHOW/EVENTS MANAGER	Anna Noetzel
TRADE SHOW/EVENTS COORDINATOR	Marjorie Maggenti
MARKETING SPECIALIST	Jamila Johnson

CIRCULATION

VICE PRESIDENT/DIRECTOR OF CIRCULATION	Angelina Beitia
SINGLE-COPY SALES DIRECTOR	George Clark
SENIOR CIRCULATION MANAGER	Lori Hitchcock
CIRCULATION MANAGER	Elizabeth Jensen
NEWSSTAND SALES MANAGER	Martin Garchar
DIRECT-MARKETING MANAGER	Kelvin Gee
NEWSSTAND COORDINATOR	Dalia Schwartz
SUBSCRIPTION COORDINATOR	Tom Porcella
PROMOTIONS COORDINATOR	Peter Ho
SUBSCRIPTION INQUIRIES	800/288-6848

PRODUCTION

VICE PRESIDENT/DIRECTOR OF MANUFACTURING	Anne Foley
PRODUCTION MANAGER	Cynthia Neustadt
ASSISTANT PRODUCTION MANAGER	David W. McAfferty
DTP COORDINATOR	Clayton Haberman
BILLING INFORMATION MANAGER	So Fong Yip
BILLING ASSISTANT	Lily Cheung

Portable Solutions

Charger
1400



VST Technologies is proud to announce our newest line of accessories for the PowerBook® 1400. Once again VST has all the mobile solutions to make your PowerBook truly portable.

230 MB
Magneto-Optical Drives



1.2 GB
Expansion Bay Hard Drives



For People
Who Are
Going Places

VST
TECHNOLOGIES
Incorporated

125 Nagog Park • Acton, Massachusetts 01720
(508) 263-9700 • Fax (508) 263-9876 • <http://www.vsttech.com>

Contact VST for the full line of products for the PowerBook 1400 Series

Circle 73 on reader service card

**Play solo...or go on
the Internet and kick the crap
out of snotty PC owners.**



COMMAND & CONQUER®

**The strategy game that redefines Macintosh gaming.
NOW AVAILABLE IN STORES EVERYWHERE.
OVER A MILLION UNITS SOLD WORLD-WIDE.**



**Over 40 missions
on two CD-ROMs**



**Dozens of close-ups
and action movies**

Westwood™
STUDIOS
www.westwood.com

You read the magazine.

Macworld

Now join the club!



Find out what it's all about.
www.club.macworld.com

Sponsored by



Macworld

HOW TO CONTACT MACWORLD

Subscription Questions

Phone Mainland USA 800/288-6848
All other locations 303/604-1465
Fax 303/604-7644
U.S. Mail Subscription Services
P.O. Box 54529, Boulder, CO 80328-4529
America Online Keyword Macworld
WWW [http://www.macworld.com/
community/sub.services.html](http://www.macworld.com/community/sub.services.html)
E-mail subhelp.macworld@neodata.com

Macworld Club Questions

Phone U.S. and Canada 800/895-9545
WWW <http://www.club.macworld.com>
E-mail club_macworld@macworld.com

REPRINTS AND PERMISSIONS Address requests for reprint orders and for permissions to copy editorial for other purposes to Reprints and Permissions, Editorial Department.

Permission will be granted by the copyright owner for those registered with the Copyright Clearance Center (CCC) to photocopy any article herein—for personal or internal reference use only—for the flat fee of \$1.50 per copy of the article or any part thereof. Specify ISSN 0741-8647 and send payment directly to the CCC at 27 Congress St., Salem, MA 01970.

Back Issues of Macworld

Back issues are \$7 per issue for U.S. delivery (\$12 overseas); prepayment in U.S. funds is required. Make checks or money orders payable to Macworld Magazine and mail along with a written request to Macworld Back Issues, c/o Snyder Newell, P.O. Box 7046, San Francisco, CA 94120-9727. Readers can obtain newsstand premiums by mailing a check for \$2.95 (shipping and handling) to Macworld Communications, Newsstand Promotion, 501 Second St., San Francisco, CA 94107. Important: Please state CD title and issue, and include shipping name and address.

Macworld in Microfilm

Macworld is available on microfilm and microfiche from UMI, 300 N. Zeeb Rd., Ann Arbor, MI 48106-1346, 313/761-4700.

Macworld Editorial

Our offices are located at 501 Second St., San Francisco, CA 94107; 415/243-0505, fax 415/442-0766. E-mail: macworld@macworld.com.

Readers can contact editors directly via the Macworld forum on America Online (keyword Macworld) or Macworld Online's Web site (<http://www.macworld.com>).

LETTERS TO THE EDITOR Direct all comments, questions, and suggestions regarding any aspect of the magazine to letters@macworld.com. All mail is read by our editor, but due to the high volume of mail received, we can't respond personally to each letter. We reserve the right to edit all submissions. All letters published in Macworld or Macworld Online become the property of Macworld.

QUICK TIPS Send your questions or tips on how to use Mac computers, peripherals, or software to the attention of Quick Tips, Lon Poole, or e-mail them to quicktips@macworld.com. Please include your name, address, and telephone number.

BUGS AND TURKEYS Send descriptions of turkeys (flaws in conception or design) and bugs (defects or flaws in execution) with your telephone number, mailing address, and T-shirt size to the magazine via letters@macworld.com. Due to the high volume of reported bugs and turkeys, we can't personally solve or advise on reported conflicts.

WRITING FOR MACWORLD If you're interested in writing for us, send a self-addressed, stamped envelope with a request for our writer's guidelines. Do not send unsolicited manuscripts.

FOUNDER

David Bunnell

FOUNDING EDITOR

Andrew Fluegelman 1943-1985

Macworld is a publication of Macworld Communications, Inc. Macworld is an independent journal not affiliated with Apple Computer, Inc. Macworld, Macworld Interactive, Macworld Shopper, MW, MW Lab, MW Shopper, The Desktop Critic, Expert Graphics, Quick Tips, Star Ratings, Buyers' Tools, Streetwise Shopper, and Conspicuous Consumer are registered trademarks of International Data Group, Inc. Power PC World and Secrets are trademarks of IDG, Inc. APPLE, the APPLE LOGO, MAC, and MACINTOSH are registered trademarks, and MACLETTER and POWERBOOK are trademarks of Apple Computer, Inc. Printed in the United States of America. Copyright © 1997 Macworld Communications, Inc. All rights reserved. Macworld is a member of IDG Communications, the world's largest publisher of computer-related information.



Shockwave™ and Capitol Records Produce Another Smash Hit.

a truly compelling interface that takes advantage of Shockwave's streaming audio from SoundEdit™ 16 plus DECK II™, Macromedia xRes™ helps us edit high-resolution

because of its superior sound quality. With it, we breathe new life into both old and new hits on our virtual jukebox. By using Director, we get the flexibility to create

images, and Extreme 3D™ takes us to another level in 3D. We'll continue to use Director and Shockwave in the future, and soon we'll have entire CDs right on our site.*

Made With

Macromedia Director Multimedia Studio

The Most Powerful Tools for Multimedia & the Internet

Buy now and get a free DMS Interactive Training CD and book — a \$49.95 value! Ask your reseller for details.

Macromedia Shockwave

Capitol Records

With An Acoustic Sound	Do You A Little
Great Funk Pedal	One Vase
Big Talk	Double Blues
U.S. Group Vol. 1	Wipe Out
Chick & Wren	That's All Right
Bank's Edge	Dear Marie

Hear it now. To record your own greatest hits, pick up the Director Multimedia Studio with Shockwave.

<http://special.macromedia.com/dmsad>

Capitol Records' Robin Bechtel on the Director Multimedia Studio with Shockwave: "We chose Shockwave"

Now with streaming audio, Shockwave™ is producing hit after hit on the World Wide Web. Take this virtual jukebox at Capitol Records, created with the Director Multimedia Studio™ entirely for Shockwave. "We use Macromedia because they're dedicated to pushing technology

to the limit," said Robin Bechtel, senior director of new media at Capitol. "With Shockwave, we're at the forefront of a new frontier in multimedia and Web audio. As a medium to get music to the masses, it's the best thing going." But don't just take her word for it. First,

see and hear for yourself by getting Shockwave free at our Web site, where you'll also find a link to Capitol Records. Then give us a call today. And you'll become a multimedia sensation overnight.

Call 1.888.200.5696
for a **FREE Showcase CD** and the name of a reseller near you.

MACROMEDIA®
Tools to Power Your Ideas.™

Director Multimedia Studio includes Director 5, SoundEdit 16 plus DECK II™ for Sound Forge 97 for Windows, Macromedia eMac™, and Extreme 3D™. Estimated street price is \$999 for Windows or Mac.

*Offer valid in the U.S. and Canada only. Outside the U.S., Canada, and Europe, call us at 1-405-231-8000 or FAX us at 1-405-420-2524. In Europe, call +44 (0)144 416000. Macromedia, the Macromedia logo, and Director are registered trademarks and Director Multimedia Studio, SoundEdit, DECK II, Macromedia eMac, Extreme 3D, Shockwave, Showcase, and Tools to Power Your Ideas are trademarks of Macromedia, Inc. All other brand or product names are the property of their respective owners. © 1996 Macromedia, Inc. All rights reserved.

Stencil It!
Paint & Click Graphics for the Artistically Challenged
The perfect design program for an imperfect world

Stencil It! from Kaetron Software is packed with powerful tools and images (called stencils) that work together to automate the creation of flowcharts, network diagrams, web pages, floor plans, technical drawings, timelines and more. Instantly turn your creation into a hyperlinked web page.

Microsoft Office Standard

Enhanced with Bookshelf

Word, Excel, PowerPoint, Mail

Small Business Edition

Get the office suite that works hard for your small business. Now, with essential small business tools and the Bookshelf CD-ROM reference library, Microsoft Office 4.2.1 makes it easy to portray a professional image, work seamlessly with other organizations and increase productivity.

Now Software brings you the #1 best-selling schedule and contact manager for the Macintosh. It's perfect for individuals, workgroups and the web. Fast and easy: one-click access to your schedule and contacts, plus easy setup for group scheduling and sharing calendars and contacts.

Now Up-to-Date & Contact

SCHEDULES AND CONTACTS FOR

- INDIVIDUALS
- WORKGROUPS
- THE WORLD WIDE WEB

Automate sales, focus marketing, control inventory and simplify accounting — run your whole company with just one program! Sound too good to be true? See for yourself. Get Big Business™ FREE! Just visit <http://www.bigsoftware.com/applefree>. From Big Software.

Big Business

SALES • MARKETING • INVENTORY • FINANCE

For all you

Quicken DELUXE

MACINTOSH

Organizes Finances Painlessly and Much More...

NEW 97

Over 30 new shortcuts and improvements make Quicken Deluxe for '97 the fastest, easiest Quicken ever. Improved registers, reports, graphs, free mutual fund quotes and a new, streamlined interface designed for Mac users speed up daily tasks. Get Clickin' with Quicken. From Intuit.

SoftWindows 3.0

Get two computers in one! With SoftWindows™ 3.0 from Insignia Solutions you can run Windows and DOS applications on your Power Mac™ right alongside your Mac OS programs. It's 35% faster than version 2.0 and offers Sound Blaster™ compatibility for Windows applications.

In the past, you practically had to be a programmer to create pages for the World Wide Web. But now, whether you're a small business or home user, manager or webmaster, with Adobe PageMill™ software for the Mac, you can create professional, dynamic and colorful pages — quickly and easily.

Adobe PageMill 2.0

Increase your productivity and achieve greater personal and professional success with ASCEND 4.0 from Franklin Quest. Its unique features help you plan your entire day, week or month. Schedule repeating tasks and recurring appointments and print onto Franklin Day Planner pages.

ASCEND 4.0 FOR MACINTOSH

Franklin Day Planner Software

MYOB accounting

The Most Acclaimed Accounting Software Ever!

M.Y.O.B.™ is designed to help you do exactly that — Mind Your Own Business. With 100 business templates, a powerful report customizer, comprehensive payroll, instant cash-flow analysis and more, it's the perfect solution to help manage your business effortlessly. From Best!Ware.

SpellCatcher

Spell Catcher™ will become your constant writing companion. It enhances your vocabulary, checks your spelling as you write, saves you time and keystrokes with a customizable shorthand glossary and saves your work automatically. Your masterpiece is in good hands now. From Casady & Greene.



You'd swear that ruthless competitor is a 100,000 person operation blanketing the globe. Yet it could easily be someone just like you, a group of brave entrepreneurs making a go of it. Except, perhaps, for one very important fact. They have an edge. They're doing business on a Macintosh® computer — where the

© 1997 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, Macintosh and the Mac OS logo are registered trademarks of Apple Computer, Inc. Power Mac and Give your Microsoft Corporation and SoftWindows is a trademark used under license by Insignia from Microsoft Corporation. All other company and product names and logos are registered

know, that conglomerate you're up against is a five person

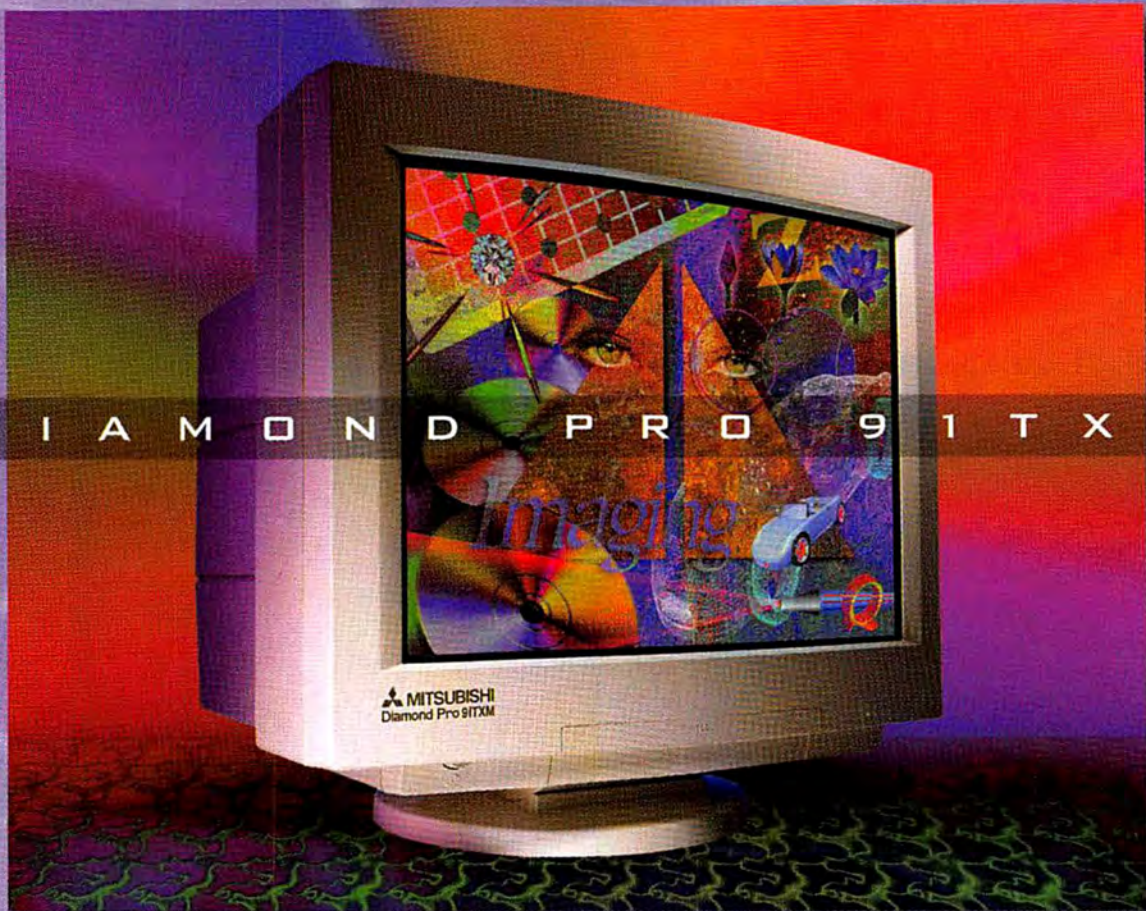
operation using all Mac software.



difficult becomes easy, little becomes big, good becomes brilliant. And, as any businessperson knows, any edge you can get is an edge you need. So visit stores like CompUSA, Best Buy and ComputerWare and check out productivity software for the Mac®. Or browse through mail order catalogs like MacWarehouse and MacMall. One thing's for sure, once you get all this great software, the only thing left to do is, well, outmaneuver that conglomerate. To get started, visit www.macsoftware.apple.com. **Or call 800-500-4862, ext. 100.**

Prism is a trademark of Apple Computer, Inc. Adobe and PageMill are trademarks of Adobe Systems Incorporated or its subsidiaries and may be registered in certain jurisdictions. Bookshelf and Microsoft are registered trademarks of Microsoft Corporation. Windows is a registered trademark of Microsoft Corporation. All other trademarks or trademarks of their respective companies. Mention of third party products is neither an endorsement nor a sponsorship.

D I A M O N D P R O 9 1 T X M



The DIAMONDTRON advantage is now even bigger, sharper and clearer.

Introducing the world's first .28mm, 21-inch (19.7" DVI*) aperture grille monitor.

The new Diamond Pro 91TXM (21" CRT/19.7" diagonal viewable image) from Mitsubishi Electronics represents an unprecedented improvement in the way you'll look at monitors from this moment on.



Bright, vivid colors with superb contrast. Razor-sharp focus due to Mitsubishi's enhanced electron gun.

High refresh rate for flicker-free imagery. On-Screen Display system with intuitive front-panel controls.

All in an ergonomic, compact enclosure that fits easily into any workspace.

Best of all, the Diamond Pro 91TXM is available at the estimated selling price of \$1,699, including a comprehensive 3-year warranty and support program to keep it working at peak efficiency. The new Diamond Pro 87TXM (17" CRT/16.0" diagonal viewable image) is also available, with an estimated selling price of \$849.

Get all the details today—both on-screen and off—by calling Mitsubishi Electronics at 1-800-843-2515 in the U.S. and Mexico. In Canada call 1-800-387-9630. For immediate product specifications call Mitsubishi Qwikfax at 1-800-937-2094. World Wide Web <http://www.mitsubishi-display.com>



MITSUBISHI
DISPLAY PRODUCTS

©1997 Mitsubishi Electronics America, Inc. DIAMONDTRON is a trademark of Mitsubishi Electronics America, Inc. Microsoft, Windows and the Windows logo are registered trademarks of Microsoft corporation. Mac and the Mac OS logo are trademarks of Apple Computer, Inc. * DVI: Diagonal viewable image

Circle 261 on reader service card

Letters

Strong Opinions on Corel

AS A GRAPHIC DESIGNER I CAN ONLY echo Deke McClelland's horror at the CorelDraw 6 Suite (*Reviews*, December 1996). I'm firmly convinced that the real reason it's the best-selling PC drawing package has everything to do with the 750 fonts and 10,000 pieces of (mostly awful) clip art. It sure has nothing to do with the painful drawing tools.

If competing against Microsoft in the office-suite wars means user-interface arrogance, bloated code, and playing to the lowest common denominator, then I must admit that Corel is well on its way toward achieving its lofty goal.

JIM DONATO
Orlando, Florida

HOW COULD YOU GIVE THE CORELDraw 6 Suite only two stars? I'm the first to admit it isn't the best set of programs and it does have its share of bugs, but look at the value. The \$595 list price can be misleading, but seven pages forward in your magazine the CorelDraw 6 Suite was advertised for \$415.98. And the competitive upgrade is only \$158.98.

If you purchase the CorelDraw 6 Suite, you may not get the best products, but you still have money in your pocket to replace the bad portions.

CARL GRANT
Sterling Heights, Michigan

I WONDERED WHAT YOU WERE THINKING when you went from praising to pounding the CorelDraw 6 Suite. Mike Heck wrote a glowing report of CorelDraw ("Can CorelDraw Challenge the Pros?" *News*, August 1996). I based my purchase on that "Sneak Peek," as it was the most current information.

A week later, the December issue



came out. "Corel debuts on the Mac with a resounding thud." Great. I noticed, though, that the guy who reviewed it was Deke McClelland. Where was he months ago when the beta was out?

ETHAN ROBERTS
Watertown, Wisconsin

Mike Heck, a contributing editor for InfoWorld, stepped in and did our "Sneak Peek" on the CorelDraw 6 Suite while Deke was busy taking portraits of albino reptiles. A "Sneak Peek" is not a review. It gives a look at the features and interface of a beta product without rating or evaluating it, so Heck gave Corel the benefit of the doubt about fixing bugs. Our reviewers—like McClelland—cut companies no such slack for final products rated in reviews.—Ed.

Where's the Bunny When You Need It?

MY ETERNAL THANKS FOR "THE BATTERY TIME BOMB" (*News*, December 1996). A couple of months ago my daughter's LC 475 died. I assumed she'd blown

the logic board until I saw your article. A new battery cost me \$8. Your magazine was \$5.95. Better than spending \$800 for a new board, or getting next to nothing for the machine as junk. The experience left me delighted with *Macworld*, but a bit puzzled about Macintosh service. Can it really be that trained technicians don't know about this battery wrinkle?

DON BRAID
Calgary, Alberta, Canada

ACCORDING TO "THE BATTERY TIME Bomb," the motherboard battery replacements should range in price from \$7 to \$15. A local repair center I spoke with informed me that my wife's PowerBook 165c has a wafer-type battery on a card soldered to the motherboard. I was told that replacing the card alone would cost \$145! Is this a mistake, or did you overlook some oddities hidden in Apple's product line?

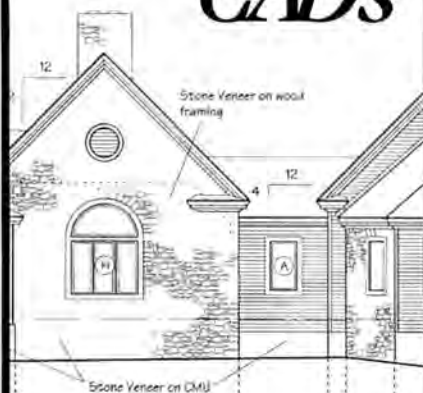
JEFF NUGENT
Bonner Springs, Kansas

The cost of a PowerBook 165c battery should be no different than for other Macs—\$7 to \$15, as long as you install the battery yourself. Motherboard batteries are harder to replace in PowerBooks than in desktop Macs, but even so, \$145 seems a high price for technical service. You might want to call around and find a better deal—something in the \$80 range.—Cary Lu

Off the Grid . . . and Loving It

ROGER SPENDLOVE'S LETTER WAS OF great interest, as I have been living off the grid using photovoltaic power for about 20 years (*Letters*, December 1996). The problem with computer equipment is *continues*

DRAW circles around those other CADs



"Now I can design
my way."
—Bob Payne, Architect



You want drawings that look like the ones you've always done by hand—or better. Exquisitely detailed. Perfect arrows. Crisp lines. Or maybe a squiggly sketch. You don't want it to look like it was done on a computer.

PowerCADD lets you draw like that, and it doesn't get in your way. Draw floor plans. Machinery. Charts. Sketch a bush. Doodle a cloud. A flower.

You can draw anything with PowerCADD. And it's easy.



PowerCADD

Turn your genius loose. Put some fun
back into your life. Order PowerCADD.

Call 910-299-4843 In Canada: 204-453-8111
ENGINEERED SOFTWARE
<http://www.enqsw.com> Fax: 910-852-2067

Circle 12 on reader service card

LETTERS

that there is *no* standard. I power my Power Mac, scanner, removable drives, and printers with a 12-volt battery system through a 120V AC inverter. On the DC side of my system, the PowerBook requires 24V—7.5V for the PowerBook 150—and a third printer uses 5V. Although Spendlove is willing to wire his home for DC power only, most of the people I know living off the grid find that using a good inverter and standard energy-saving 120V AC appliances and lighting saves a lot of money and headaches when providing different power for several systems. Aside from which, the cost of DC wiring is usually more than the cost of a good modified sine-wave inverter.

SAM TAYLOR

The Unplugged Unquarterly
Tres Piedras, New Mexico

Want to live off the grid? You can reach The Unplugged Unquarterly, a journal about using, living, and working with renewable energy, at staylor@taos.newmex.com, 505/986-2952, or P. O. Box 40, Tres Piedras, NM 87577.—Ed.

Acronym Alert

IN "FILE FORMATS FOR PREPRESS" (*Publishing Workshop*, December 1996), a clarification needs to be made regarding DCS and EPS image files. High-resolution CMYK images in EPS and DCS format (the most common CMYK format in prepress) are about the same size as CMYK TIFFs—not 25 percent larger.

DARREL PLANT

Portland, Oregon

True. CMYK files are about the same size in TIFF, EPS, and DCS when saved from Adobe Photoshop, though embedded previews can make minor variations. But RGB image files created by Photoshop are 25 percent larger in EPS format (even without previews). Photoshop's EPS files seem to include four channels of data, even though only three contain color information.

Your mileage may vary, however, if you're using something other than Photoshop. EPS files created by Equilibrium's DeBabelizer 1.5, for instance, are 270 percent the size of their TIFF equivalents—with either RGB or CMYK images—even with no previews included.

Also note the uncertain antecedent in the sentence referring to Photoshop's screening ("One difference [between TIFF and EPS]: when you include screening instructions in a Photoshop

EPS file, Photoshop's screening procedure differs from standard PostScript screening, which can reduce banding in scanned images and graduated fills"). The which refers to Photoshop's screening, not standard PostScript screening. For an explanation of Photoshop's screening routine, see Quick Tips, December 1996.—Steve Roth

Are We Mac Hypochondriacs?

I READ YOUR COMPARISON REVIEWS ON virus-protection software, and I had to laugh (*Reviews*, December 1996). Just which viruses, exactly, are these programs checking for? I have been downloading software from the Internet for several years and I can only recall one mention of a virus during this period. I know they exist, but they are very few and very far between. Word macro viruses? Yet another reason to keep Microsoft products off my computer. My advice: save your money. Macintosh users are too busy doing real work with their computers to bother writing viruses. For the PC user, however, virus protection is a way of life. We're still trying to get rid of the Monkey virus from all the PCs at my workplace.

STEVE ROSEN

Philadelphia, Pennsylvania

Maybe I download more files than you do, but my machine ends up with infected files often enough so that I've made Disinfectant a permanent resident on my hard drive.—Ed.

Unhappy with Quark

I'M A LOYAL QUARKXPRESS USER AND I have been for years. However, I have no interest in using QuarkImmedia as a Web design tool, for the very reasons your reviewer thinks I should be interested (*Reviews*, December 1996).

Barbara Assadi writes as if other designers are the only audience for Web design. Perhaps this is often true; this is a rather incestuous business, even now. But as a Web designer, I know that accessibility is everything—you've got to make your pages as simple and quick as possible for the widest number of browsers. Immedia's proprietary browsing architecture defeats this goal.

Only a fraction of netizens will bother to download yet another piece of proprietary software to view a minuscule
continues

MetaTools



KAI'S POWER TOOLS®

KAI'S POWER 600™

BRYCE® 2

CONVOLVER®

VECTOR EFFECTS™

METAPHOTOS™

STUDIO EFFECTS™

FINAL EFFECTS™

FINAL EFFECTS AP™

Where Digital Imaging Comes Alive.

Find out more!

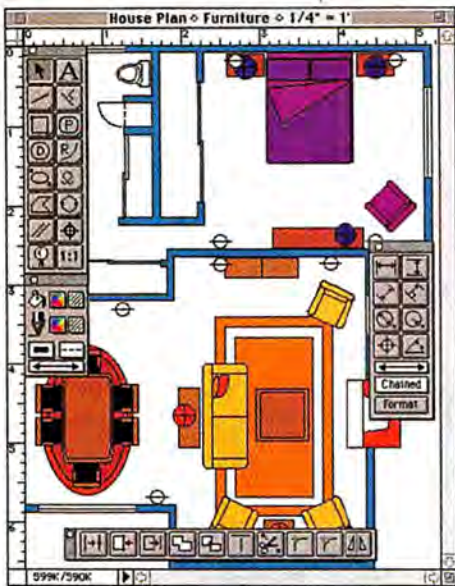
800-472-9025

Ask for Dept. MM03
<http://www.metatools.com>

MetaTools
The Visual Computing Software Company

©1997 MetaTools, Inc. 6303 Carpinteria Ave., Santa Barbara County, CA 93013. Phone: 805-566-6220 Fax: 805-566-6385. IT'S NEW! Play MetaSquares on America Online (keyword: MetaSquares). Kai's Power Tools, Bryce and Convolver are registered trademarks and Kai's Power 600, MetaPhotos, MetaSquares and Vector Effects are trademarks of MetaTools, Inc. Studio Effects, Final Effects and Final Effects AP are trademarks of MetaTools, Inc. and ETAB AB. "MetaLab" image created in Bryce 2 by ArtEffect Design Studio, Los Angeles. Background texture from MetaPhotos Collections.

Circle 5 on reader service card



MICROSPOT MacDraft® 4.2

The powerful, low-cost solution for all of your drawing and drafting needs.

\$249

To order MacDraft or MacPlot:

1-800-622-7568



The MICROSPOT MacPlot® Family

Print in color from any Mac software to large format printers from CalComp, ENCAD, HP and more!

From **\$399**



Microspot USA, Inc. (408) 253-2000
Se habla español
Demo copies available - www.microspot.com

Circle 3 on reader service card

LETTERS

number of pages, especially if the only benefit is really nice-looking type. (How many Adobe Acrobat pages have you accessed lately?) We designers often forget that outside our world, the vast majority of the real world couldn't care less about typography, as long as they can read what it says. On the Web in particular, they care about searchability and the ability to cut and paste, both of which are impossible in Immedia. Consequently, these pages, like Acrobat pages, are invisible to search engines—which is another death blow.

I am frankly upset that Quark decided to go proprietary rather than really help us out with a Quark-sharp HTML translation module. Maybe this is a great multimedia tool, but to award four stars to this product as a Web design package seems grotesquely inappropriate.

STEVE FARLEY
Tucson, Arizona

Unlucky in Lotto

IT IS A PITY THAT YOUR TOP-RATED CD-ROM drive, the Plextor-equipped La Cie 8× External CD-ROM Drive for Macintosh, is no longer available from La Cie ("CD-ROM Drives Accelerate," December 1996). It seems the drive is available only with a Panasonic mechanism. I suspect that La Cie feels like the poor fellow who has won the lottery but can't produce a lotto ticket in order to claim the prize.

FRED BRUNT
Murfreesboro, Tennessee

It's also a pity that my spiffy, new 8× CD-ROM drive, purchased the week before I wrote this response, will be replaced on retailers' shelves with 16× CD-ROM drives by the time you read this. But that's the nature of the business, according to La Cie. CD mechanisms are replaced by newer mechanisms at the rate of three or four per year—the Panasonic 8× that replaced the Plextor 8× tested in "CD-ROM Drives Accelerate" will only be around for a few months before it too is replaced with a faster drive. And then there's always DVD, due out next year.—Ed.

A Stitch in Time

I HAVE BEEN LOOKING FOR A DECENT Macintosh needlepoint and cross-stitch program for some time. I use several PC

programs under Insignia Software's SoftWindows 95, but navigating within the Windows environment is terribly awkward, and I'm not getting the results I need. Do you have any information on needlepoint or cross-stitch programs written for the Macintosh?

BERNARDINE DODEK
via Macworld Online

Yes, indeed. Try Cochenille Design Studio's Stitch Painter. You can reach Cochenille at 619/259-1698 or via its Web page at <http://www.cochenille.com>.—Ed.

Next, Macintosh Sea Chanteys

AS I SANG THE CAROLS IN "THE MACWORLD 1996 Holiday Sing-along Songbook" (*The Desktop Critic*, December 1996) aloud to my wife, I realized that those seasonal hymns prove nobody else is even half as hooked on the Mac as David Pogue appears to be! *Macworld* should be proud to have such a dedicated lunatic on its staff.

STEVE SCOVILLE
Encinitas, California

I ENJOYED DAVID POGUE'S CHRISTMAS carols so much that I was inspired to try my hand at composing one.

12 Months of Macworld (to the tune of "White Christmas")

I'm resubscribing to *Macworld* For each software review they write.

InfoWorld ignores me;

Computerworld bores me;

And I get not a bit of bang from *Byte*.

I've paid the newsstand price too long.

(Sometimes I just stand there and peek.)

Where I work, I'm the reigning Macgeek...

I need *Macworld*...

... to supplement *MacWeek*.

J. MICHAEL ROWLAND
Thompson Station, Tennessee

Letters should be sent to *Letters*, *Macworld*, 501 Second St., San Francisco, CA 94107; via fax, 415/442-0766; or electronically to CompuServe (70370,702), MCI Mail (294-8078), America Online (keyword *Macworld*), AppleLink (*Macworld1*), or via the Internet (letters@macworld.com). Include return address and daytime phone number. Due to the high volume of mail received, we can't respond personally to each letter. We reserve the right to edit all letters. All published letters become the property of *Macworld*. **m**

SELECTING

THE

BEST

GRAPHICS

PROGRAM

JUST

BECAME

A

NO-BRAINER



A Mixture of tools so powerful...

we should put asbestos gloves in every box!

CANVAS 5
Complete Illustration, Photo Editing and Page Design

If you already own a graphics application, trade up to Canvas 5 for just \$149.95. See your favorite reseller, or visit us at www.deneba.com for complete product information and secure online ordering. For a Canvas 5 dealer near you, or to order by phone, call 1-800-6 CANVAS or 305-596-5644.



Stop toying with feeble graphics programs that sap your creative energy. Canvas 5 puts everything you need to realize your artistic vision into one integrated program that's ready to rock the second inspiration hits. • Say goodbye to concentration-zapping "launch and quit" cycles. With Canvas 5, absolutely stunning illustration, photo editing, and page design tools are always right at your fingertips. • In addition, Canvas 5 works with any file (from Photoshop™ to CorelDraw™ to GIF, TIFF, and JPEG) and any Photoshop-compatible plug-in. You also get over 20,000 clip art images and 2,000 premium URW™ fonts. • Simple, flexible, and relentlessly versatile, Canvas 5 is an industrial-strength graphics tool. So what are you waiting for? Put the awesome power of Canvas 5 under your creative control today.

©1997 Deneba Software. Canvas is a trademark of Deneba Software. All other company names, product names, trademarks and registered trademarks are the property of their respective holders. Limited time offer subject to change without notice.

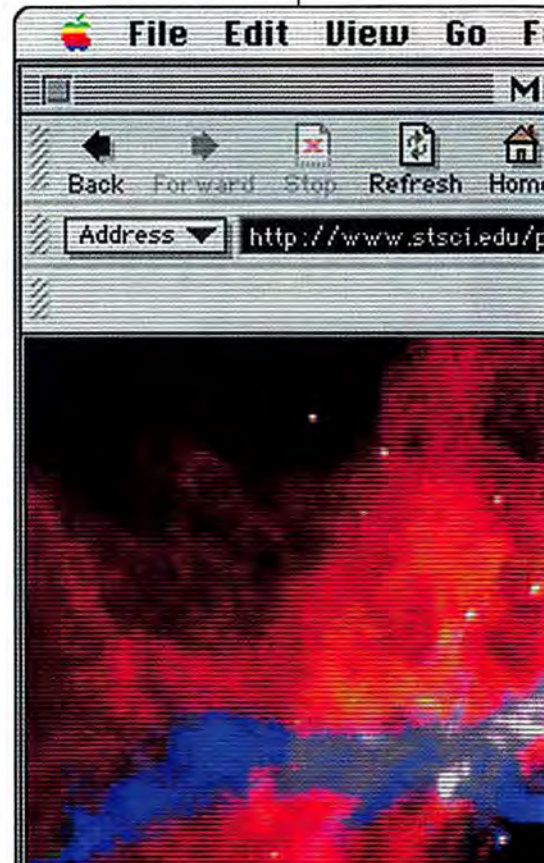
800.6.CANVAS

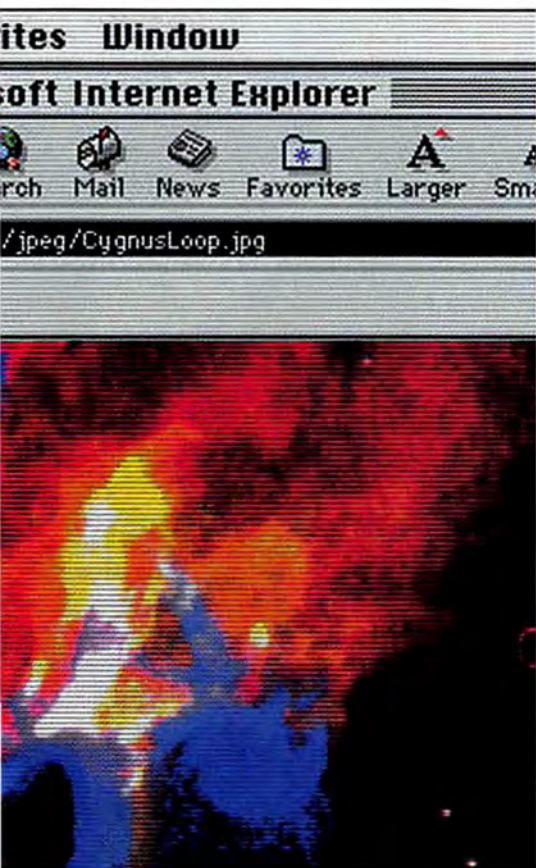


Circle 57 on reader service card

Microsoft Internet Explorer 3.0 for Macintosh. Does Netscape come with an uninstall program?

Let's look at the facts. Microsoft® Internet Explorer 3.0 was designed for the Mac by our Mac developers to be faster and easier to use. It requires no upgrade since it runs on existing Macs like 680x0 and Power Macs, and it only needs a 4MB RAM partition. (Netscape eats an 8MB partition.) Internet Explorer 3.0 supports Stylesheets, ActiveX™, Java™ and native Mac technologies like QuickTime, QuickTime VR and AppleScript. It gives you lots of killer ways to customize your Web experience, as well as convenient access to e-mail and newsgroups. Microsoft Internet Explorer 3.0 is quicker and smarter and smaller and, incredibly enough, it's free.* You can do a quick download from the Microsoft Web site, or call AT&T for a WorldNet connection and a free disk at 1-800-967-5363 ext. IE3. You may even want to keep Netscape for nostalgic reasons.





Where do you want to go today?®

www.microsoft.com/ie/

Microsoft®

1996
Macworld
WORLD CLASS AWARD
WINNER

SHOULD MINICAD 6 BE YOUR CAD SOLUTION?

- ❖ A program tailored to your needs. Specialized tools for many design industries: A/E/C, mechanical engineering, landscape, space planning, food service, theater/lighting and more.
- ❖ A program that can be used for every stage of the design process — from concept sketches to working drawings and 3D client presentations.
- ❖ A program that's easy to use, easy to buy; lower entry and training costs and less downtime equal higher productivity.
- ❖ THE cross-platform solution: move files flawlessly between Mac and Windows. Full 32-bit power!
- ❖ A proven market leader that handles any job: 2D, 3D, materials lists and cost estimates.
- ❖ A program you can try ... RISK FREE!

MiniCad 6

MACINTOSH WINDOWS

THE FULL-FEATURED CAD PROGRAM
with INTEGRATED PROFESSIONAL SOLUTIONS

MINICAD 6: THE COMPLETE CAD PACKAGE!

Just what you're looking for: a hybrid 2D/3D drafting environment; a powerful database to track costs and materials; a built-in macro language to automate routine drafting tasks; full file-transfer capabilities to other major programs, including QuickDraw™ 3D; even digital terrain modeling! All highly organized and easy to use. You even get high-end presentation features and QuickTime™ animation!

FREE DESIGN AND DRAFTING TOOLKIT™

No extra symbol libraries to buy! MiniCad 6 is packed with thousands of symbols, tools, commands, templates, parametrics, formatted reports, worksheets and sample files created for specific industries. These specialized modules are powerful, complete and already in MiniCad 6, giving you both design flexibility and targeted industry solutions.

INTERNATIONALLY RECOGNIZED

Now in its 11th year, MiniCad is the best-selling CAD program on the Macintosh. And now there's a Windows™ version! Available in 13 languages, MiniCad 6 is used by design professionals in more than 80 countries.

TRY IT RISK FREE FOR 30 DAYS!

When you buy MiniCad 6 from a participating dealer, you'll get our no-hassle, 30-day money-back guarantee. Plus 18 months of free technical support, a 24-page newsletter and a CD-ROM with QuickTime demonstrations of each Tool and Command as well as samples of MiniCad files from around the world.

Diehl Graphsoft Inc

Software for Today's CAD Professional

A NASDAQ TRADED COMPANY

www.diehlgraphsoft.com

For more information, please call 1-800-413-0935 (Dept. O) or 410-290-5114 Fax: 410-290-8050,
In Canada, call PaXar at 1-800-260-0905 For Academic pricing, call 1-800-531-3227

MiniCad and Design and Drafting Toolkit are trademarks of Diehl Graphsoft, Inc. QuickTime, QuickDraw and Macintosh are trademarks of Apple Computer. Windows is a trademark of Microsoft.

Circle 46 on reader service card



State of the Mac

by Adrian Mello

Steve Jobs, Next, and the Mac OS

DRAMA, QUESTIONS, AND TENTATIVE ANSWERS ON APPLE'S NEW OS

YOU CAN'T SAY APPLE isn't an interesting company. Apple's history is more like a soap opera than a corporate biography. In the previous episode viewers were anxiously awaiting the acquisition of Be so that Apple could lay claim to a new operating system to replace the recently failed Copland OS. Be is the brainchild of Jean-Louis Gassée, the onetime Apple bad boy who filled the personality vacuum created by Steve Jobs when he left the company in 1985. But at the eleventh hour, none other than Steve Jobs himself returned to Apple, and with him came Next, which will provide the Mac's new operating system and future hope.

As remarkable as Steve Jobs's rejoining Apple may be, the most important part of the story is the acquisition of Next and its technology (see "What's Next for the Mac OS?" in News). What does this mean to ordinary users? Well, it means nothing for a while, since the Next OS won't be available for at least a year. Nonetheless, the Next acquisition is important to everyone who cares about the Mac and Apple's future. Apple has placed its bet, and the company's future depends on how it plays its new hand. It's pretty clear that Apple's plans are still in the formative stage, and I don't expect to see a lot of details in the January 7 announcement.

I will tell you frankly that I don't have answers to many pressing questions as I write this, shortly after the acquisition was announced in late December. However, I can suggest some of the key questions you will be asking in the coming months, and take a jab at possible answers.

How important will Steve Jobs be to Apple? He will play a comparatively minor role as a part-time technology consultant. He won't be running the company as he did in the past. Ellen Hancock

will remain firmly in charge of Apple's technology direction. The fact that Amelio has taken advantage of Jobs's publicity value to create new excitement demonstrates the kind of media savvy that's been lacking since Jobs left.

Will the new user interface look like the Mac or the Next OS? No one knows. I hope that rather than arguing which of the two existing user interfaces it should keep, Apple creates an elegant interface that makes the new OS as accessible and intuitive as possible. This interface should also do a good job of integrating the Internet.



Will Mac technologies such as QuickTime, QuickDraw GX, and OpenDoc be incorporated into the new OS? A version of QuickTime already runs on Next for movie playback, and other pieces are likely to be integrated over time. The fate of GX, OpenDoc, and other technologies isn't clear.

Will Next technologies such as Nextmail, NextTime, and Display PostScript be incorporated into the new OS? I don't know. Apple rejected Display PostScript for QuickDraw GX several years ago, but

it will probably reconsider such technology options at this point.

Will the new OS be offered on Intel-based hardware? Next says this is a possibility, and it's tantalizing. The opportunity to expand the Mac's market share into the huge base of Intel computers would be a boon and would also encourage developers. However, Apple won't want to cloud its commitment to PowerPC, so I don't expect to see an Intel-compatible version of the new OS for at least a year or two after it is available on PowerPC hardware, although OpenStep is already available on Intel machines.

Will the new OS run on my old Mac? Apple expects the new OS to run on existing Macs. It's not clear whether it will run on older PowerPC systems that use the NuBus or on even older 680X0 Macs.

Will current Mac applications run on the new OS? I find it hard to imagine that Apple wouldn't offer some form of compatibility for existing Mac applications. What degree, and what approach Apple will take, were unclear at press time. At least two products have been created that run some Mac apps on Next systems: Daydream from Quix and Executor from Abacus Research Development.

Will existing Next applications run on the new OS? This isn't clear either, but the stakes aren't as high for Apple with current Next users as they are with the vastly larger installed base of Macintosh users.

These are just a few of the questions for the new year. If you have answers, and even other questions, I'd love to hear from you at mello@macworld.com. In the meantime, I'm encouraged to see Apple acting boldly, and the new year looks promising indeed. It will certainly be exciting. **m**

FINALLY, A DIGITAL CAMERA
WITH EVERYTHING YOU NEED
TO UNLEASH THAT MAD,
IMPETUOUS ARTIST WITHIN.





Oh-la-la, make room in your imagination for the pocket-size Sony DSC-F1. Then simply aim, shoot and save up to 108 sharp, clear pictures for instant downloading of your creative genius. The DSC-F1's all-



Integrated LCD screen.

encompassing list of features includes a LCD screen for instant review, wireless* transfer of images, and of course, Sony's leading CCD technology for outstanding image quality. Making it the crème de la crème of digital cameras.

For more information on the Sony DSC-F1, just call 1-800-352-7669 or visit www.sony.com/technology And turn your work into a work of art, tout de suite.

640 x 480
Resolution,
24-Bit Color

Built-In Wireless
Infrared and
Serial Interface

1.8" Color
LCD Screen

Stores
108 Images at
640 x 480

Built-In Flash

Video Output
for TV

Rechargeable
Lithium Ion Battery

Mac® and PC
Connection Kit
Included

Sony's
Progressive
Scan CCD

SONY

When we say ViewSonic®

will



Shown above
Model PT775



ViewSonic PT775

- 17" CRT Size
- 16.0" Viewable
- Aperture Grille Pitch .25 mm
- 96 KHz Horizontal Scan Rate
- 1600 x 1200 @ 77 Hz Maximum Resolution
- TCO Compliance
- Plug & Play ✦

ViewSonic PT813

- 21" CRT Size
- 20.0" Viewable
- Aperture Grille Pitch .28 mm
- 107 KHz Horizontal Scan Rate
- 1600 x 1200 @ 85 Hz Maximum Resolution
- TCO Compliance
- Plug & Play ✦



ViewSonic G810
January 1997



ViewSonic G810
January 1997

exceed your expectations,

we've got the guts
to back it up.

**Aperture grille technology
that rewrites the spec charts.**

It's one thing to say our new PT775 17" (16.0" viewable) monitor sets a new performance standard. It's quite another to back up that claim. But we've got the technology and the specs to prove it.

Featuring an 0.25mm aperture grille pitch, this monitor outperforms all competition. Period. The PT775 achieves breakthrough quality in brightness, color saturation and screen clarity with a maximum resolution of 1600 x 1200 at a remarkable 77 Hz refresh rate.

It works hard. It plays hard.

The PT775 SonicTron™ draws on ViewSonic technology to exceed all high-performance demands—no matter what the application. From graphic design to business presentations to CAD and the internet, it delivers the highest resolutions and clearest images yet seen in its size range.

And, the PT775 comes with the full support of ViewSonic, one of the fastest-growing, most respected companies in the industry. It's backed by a limited 3 year warranty on CRT, parts and labor (the best in the business), as well as an optional Express Exchange™ Service program that insures 48 hour replacements.

A winning tradition.

The PT775 is the latest in a long line of winners. ViewSonic's monitors have earned over 120 major awards and have been given rave reviews in publication after publication.

To exceed your highest expectations, call (800) 888-8583 and ask for Agent 5887 for the dealer nearest you.



ClubMac

800-258-2622
Source Code: WSS596



800-339-4239



800-560-6800
2F13651

**PC
Mac** Connection

800-986-2271



800-248-0800

Mac WAREHOUSE

800-255-6227

News

NEWS FLASH

What's Next for the Mac OS?

APPLE'S OS STRATEGY
BEGINS TO TAKE SHAPE AS
NEXT GETS ABOARD

by Tova Fliegel
and Galen Gruman

When Apple CEO Gilbert Amelio revealed Apple's \$400 million Next acquisition in late December—along with the return of cofounder and former Next owner Steve Jobs—he offered few details about how Apple would incorporate the Next OS (known as both NextStep and OpenStep) into its product line. Those details, he promised, would be presented during his Macworld Expo keynote on January 7. Instead, the keynote turned into a high-tech Hollywood spectacle complete with movie stars and rock musicians, but with little of substance for users or developers looking for details on Apple's latest OS strategy.

In fact, Apple does have a real strategy for developing the next-generation Mac OS. Although Amelio didn't describe it, chief technology officer Ellen Hancock did in a

separate press conference, and *Macworld* has learned further details. The plan has two components: a short-term strategy for issuing semiannual updates to System 7, and a long-range plan for incorporating the Next OS.

In keeping with Apple's musical metaphors, the Next-based Mac OS will be code-named Rhapsody. Apple plans to deliver an early version of

Rhapsody to developers in the third quarter of this year. This version will not run current Mac applications; the idea is to give vendors a head start on developing applications for the new OS.

Users will get their first taste of Rhapsody around January 1998, in a version dubbed Rhapsody Premier. That release will run new Rhapsody applications, but

will offer only limited compatibility with System 7 applications. The first fully Mac-compatible release, Rhapsody Unified, is slated to appear in mid-1998, or possibly later.

Apple will continue to revise System 7. In July, it will ship the Tempo upgrade (see "The Mac OS's Interim Steps," elsewhere in this section). In January 1998, Apple plans to ship the Allegro update, and in



RICHARD DOWNS

July 1998, the Sonata upgrade. The two updates' features are still being determined.

Apple expects to support both System 7 and the new Mac OS for several years, even after Rhapsody ships to the public.

With this new scheme, Apple is throwing away several years of effort spent developing an OS that can run Mac OS 8 and System 7 programs using shared OS components. But Apple says it will port current key Mac technologies like QuickTime, AppleScript, Apple events, V-Twin, Hot-Sauce, Open Transport, and OpenDoc.

System 7 Compatibility

Apple plans to develop a compatibility box for the Next-based OS that will let it run most System 7 programs. The so-called Blue Box will not be a Mac emulator but the actual System 7 OS running on the new Mac OS kernel, the part of the OS that manages hardware and basic system operations. Apple has not decided what kernel to use, and before being acquired by Apple, Next was thinking of using a new version of its Mach kernel.

In the Blue Box window you will be able to run any System 7 program (680X0 and PowerPC) that doesn't communicate directly with the Mac hardware. The programs that do run will include system extensions and control panels, but not drivers and some utilities that work directly with the hardware. This level of compatibility is more than was planned for Apple's original Mac OS 8 effort, known as Copland. That OS would not have run extensions and control panels.

Technologies such as QuickDraw 3D, QuickTime, QuickDraw GX, OpenDoc, and the DayStar multiprocessing API will also be supported in the Blue Box.

The Next-Based Mac OS

The new Mac OS—the Next-based OS—will be known as the Yellow Box. Unlike Copland, the Yellow Box will be fully preemptive and multi-threaded, and will have full memory protection. This means programs can work in parallel without causing each other to crash. It also means users should be able to run several tasks in parallel, such as faxing while printing, or doing a database sort while reading e-mail. Under the Copland plan that Apple killed in August, only some parts of Mac OS 8 would have had these capabilities.

Rhapsody's Yellow Box will also support fully symmetrical multiprocessing, in which any available CPU can run any program or program thread. System 7's multiprocessing architecture reserves one CPU as the traffic cop, which divides the tasks of programs specifically written for multiprocessing among the available CPUs. The primary CPU is less available for task sharing because of its role as traffic cop.

Mac-Like Interface

Apple plans to rework the Next OS's interface so it is Mac-like. While Apple will adopt some Next OS conventions, the company is convinced that the Mac OS's human interface is the best available and wants to ensure this approach is maintained. Within the Next-based OS, Apple will hide the remnants of its Unix command-line interface.

Like the abortive Copland effort, the Next-based Mac OS in the Yellow Box window will support multiple looks. Thus, you will be able to customize the interface's visual appearance and how some of its features operate—for example, preventing network access for some users.

continues on page 42



LEA SUZUKI/SAN FRANCISCO CHRONICLE

Steve Jobs got all the attention, but the real story is Next's software technology.

NEWS FLASH

Apple Eyes Java for Key OS Role

THE MAC OS MAY GET AN ASSIST FROM SUN
by Charles Seiter

Java is emerging as the language of the Internet, and Apple has been forced to find a place for Java in its ongoing OS revision struggles. Apple's chief technology officer Ellen Hancock, an admitted Java fan, has said that Apple is using Java for elements of Mac OS 8, and hopes the company can integrate some Java components developed by other companies into the operating system, saving Apple the time of developing these components.

In fact, Apple is generating a wide range of responses to the rise of Java as a programming language. At the simplest level, Apple has announced that Mac OS Runtime for Java 1.0 will ship this spring and be included in the Harmony OS in July, allowing Java applets to run on a Mac without opening

a separate browser. At the most advanced level, Apple is said by contacts at language vendors to be contemplating a stripped-down future operating system written in Java itself.

PowerPC Goes Java Such an operating system would be an ideal match to the CPU quietly announced in spring 1996 by Motorola. Hans Wildenberg, director of Motorola Semiconductors Europe's computer technology group, described plans for a chip Motorola intends to introduce in early 1997, a custom PowerPC 604 processor optimized for Java instructions, which would be essentially a PowerPC alternative to Sun Microsystems' own Java chip set, which was

continues

THE NEXT MAC

What's Next for Mac OS 8?

32

Apple Eyes Java for OS Role

33

The Next Step: Excite Developers

35

Mac OS 8's Tortuous Journey

36

Mac OS's Interim Steps

37

State of the Mac

27

also announced in 1996.

In between these two options, or perhaps waiting at the side, is a Pippin-like operating system supporting OpenDoc and Java, which Apple is said to be positioning as a competitor to Sun Microsystems' JavaStation, a "thin client" network computer introduced in late 1996. Thus, at the simplest level, a user wouldn't really have much more Java involvement than happens now when running Netscape Navigator 3.01 under System 7.5, while at the advanced level the Mac would be an all-Java system, running new, network-oriented, OpenDoc- and Java-based software—not Mac software. This would be a radical new generation of Macs. Sources close to Apple deny that there is a plan to replace the Mac OS with a Java-based OS, but acknowledge that Apple is exploring ways to use Java throughout its products.

Will Java Be True? One reason for Apple's cautious, multi-level approach to Java is major uncertainty about aspects of Java's future. Java was designed by Sun as a cross-platform language, and Sun's JavaSoft subsidiary is trying to get the programming industry to accept the idea of Pure Java, a platform-independent version credentialled by a large test suite.

But Microsoft is putting considerable effort into derailing Java—first, by promoting its own ActiveX system as an alternative for Internet programming, and second, by insisting on Windows-specific additions to basic Java so that most programmers' work wouldn't run on Macintosh or Unix systems.

Apple clearly doesn't want to get caught with an all-Java hardware-and-OS base if Microsoft can succeed in undermining Java as a cross-platform programming system. Therefore, Apple must keep its options open on Java involve-

ment for at least another year.

The Java Trial However, the situation may not be as difficult for Apple as it seems at first. Because Java-ready browsers for both 680X0 and PowerPC systems already exist, the whole Apple installed base has a chance in 1997 to investigate small, fast OpenDoc and Java applets as possible replacements for the giant traditional applications that form the Microsoft-dominated view of computing.

Before committing themselves to next-generation hardware and a new Mac OS, owners of older Macs would still have the opportunity to try—at considerably reduced performance in a browser window—some of the new applications and applets written in Java that Apple thinks may be a market force driving users to a new platform.

systems

IBM, Motorola Drop NT for PowerPC

TOO LITTLE DEMAND,
TOO FEW PROGRAMS

by Tova Fliegel

The PowerPC has lost another operating system, leaving the Mac OS and IBM's AIX version of Unix as the only major OSs on it. (IBM dropped OS/2 a year ago.) IBM's RS/6000 Group (800/426-2255, <http://www.rs6000.ibm.com>) and Motorola's Computer Group (800/759-1107, <http://www.mot.com/>

computer/) are halting further development of PowerPC-based Windows NT workstations. The move came a mere month after Motorola was to begin manufacturing its PowerStack II line of PowerPC-based NT workstations. Motorola says it will continue to sell PowerStack II systems, although it plans to shift production to its new StarMax series of Macs, which are produced on the same assembly lines.

Pentium Wins The two companies say there is insufficient demand for such systems and insufficient support from software developers, who would have to recompile their NT applications to run on a PowerPC-based system. Instead, it's clear that NT users have adopted Pentium Pro-based systems as the standard NT workstation. Both companies will continue to support systems ported to 4.0, the current version of NT, but neither has plans to support future versions.

CHRP in the Lurch? The announcement does not bode well for the future of the Common Hardware Reference Platform (CHRP). Capable of running the Mac OS, NT, and AIX, CHRP systems were supposed to appeal to budget-conscious corporate IS managers who could buy one machine to run multiple operating systems and save money on peripherals by connecting the same devices to machines running disparate OSs.

Now, the only major operating system to run on the forthcoming CHRP system is the Mac OS, so the only broad advantage of CHRP seems to be the lower manufacturing costs (due to CHRP's use of less-expensive PC components) for systems makers and lower costs for users who can buy PC peripherals for their CHRP Macs.

Minolta's Detachable Lens

NEW CAMERA ALSO FEATURES LCD MONITOR

Now that there's a glut of consumer-level digital cameras on the market, vendors are scrambling for new ways to differentiate their products. In the new Dimage V from Minolta (201/825-4000, <http://www.minolta.com>), the big selling point is the 2.7x zoom lens on a rotating mount, which lets you shoot from various angles without contorting yourself.

You can even detach the lens and connect it to a 3.3-foot



ROBERT PERRY

cable for shooting where no digital camera has gone before. The camera also features a color LCD monitor and built-in flash. Maximum resolution is 640 by 480 pixels, and removable cards can store 16 high-resolution or 40

low-resolution images. The camera is bundled with Adobe PhotoDeluxe 1.0 and includes Mac-compatible image-capture software that can be used as a plug-in or stand-alone application.—STEPHEN BEALE

Representatives of the Apple, IBM, and Motorola alliance claim that the original multi-OS benefits of CHRP remain. They claim that other as-yet-unnamed companies are preparing to announce NT ports for CHRP systems, but it's hard to imagine why any smaller companies would be willing to undertake a proposition considered too risky by the two major players.

Apple spokeswoman Nathalie Welch says Apple's plans for the CHRP-based systems will not be affected by the Motorola-IBM announcement, although she offers no timetable for their release. "After Windows NT 4.0, we'll see if there's enough customer demand or if it's time to go back to the drawing board," she says.

One rumor is that Microsoft demanded huge fees for further ports of NT on PowerPC. However, *Macworld* could not confirm that rumor.

NEWS FLASH

The Next Step: Evangelize Developers

EARLY SIGNS

ARE POSITIVE

by Tova Fliegel

Developers and analysts seem to agree on one aspect of Apple Computer's surprise acquisition of Next: this time around Apple has shown some marketing smarts in spinning the tale of its returning prodigal son, Steve Jobs.

But with that marketing triumph under its belt, Apple now must ensure that a Next-based Mac OS gathers critical mass in the market. And to be

accepted by consumers, Apple's new OS must first be embraced by software developers, who have limited resources to spend on porting applications, particularly in a market where a dual-platform strategy is now key to survival. As analyst Michael Gartenberg of the Gartner Group puts it, "The toughest job here is for Guy [Kawasaki, Apple evangelist] and Heidi [Roizen, head of Apple developer relations]. They still have to convince developers to buy into this."

The Benefits of Age

While praise is far from unanimous, at this still-early stage in Apple's new OS plans, a sampling of developers is applauding Apple's bold acquisition. The developers view the ten-year-old NextStep as a mature operating system with all essential services in place, dismissing remarks that NextStep is old and comparing it favorably to Apple's other options (see "Time for a New OS?" February 1997).

"It may be ten years old," says Larry Zulch, president of Dantz Development, "but it's newer than Windows NT or 95, or just about any other OS. And developers are inherently conservative. We want a stable foundation, but we have to have services that facilitate things we want to do."

Zulch and others view NextStep as just such an OS: proven as well as forward-looking. They welcome the addition of preemptive multitasking and protected memory to the Macintosh environment, features they acknowledge as long overdue.

More important, these developers say NextStep is more forward-looking than Windows 95, because of its object orientation. One developer called Next's development tools "second to none."

Steve Guttman, vice president of marketing for Fractal



A Mac for Disabled People

The Macintosh has long been the favored platform for computer products aimed at people with disabilities. But until now, there has never been a Mac designed from the ground up for these special users. The Freestyle from Assistive Technology (617/731-4900) incorporates a PowerBook motherboard with a touch-screen display, infrared controls, a 6X CD-ROM drive, 16MB of RAM, and a 750MB hard drive. It also features a sophisticated text-to-speech system. Styled by Frogdesign, it looks more like a tablet than a laptop: there's no cover and no built-in keyboard, although the latter can be added as one of several input options. One advantage of this design is that the Freestyle can be easily attached to—and powered by—a wheelchair. The system includes Knowledge Navigator, an authoring tool that lets users create custom environments for disabled people. Freestyle is available at an introductory price of \$4995 until June 30, after which the price will rise to \$5495.—STEPHEN BEALE

Design, touts Next's use of Adobe Systems' Display PostScript, which provides a more WYSIWYG display, as a boon to publishers.

These users would benefit from Display PostScript's wealth of services, Guttman says, while developers would no longer have to re-create code for output both to screen and to PostScript-based devices.

Dumping GX?

To adopt Display PostScript, Apple would have to dump its latest imaging engine, QuickDraw GX. But few developers

are writing to GX, and if Apple were to adopt Display PostScript, the platform might even benefit from the promotion of an industry-standard imaging technology.

Developers and analysts agree on at least one other point: the biggest issue for Apple at this juncture is the migration path it provides. If Apple can provide a smooth transition from System 7 to this new OS—duplicating the successful transition from 680X0 to PowerPC machines—it will carry both its developers and users forward.

NEWS FLASH

Mac OS 8's Tortuous Journey

YEARS OF DEMOS AND
PROMISES BUT NO OS

by Galen Gruman

For at least five years, Apple has been talking about its big new operating system that would redefine personal computing. In those years, there have been many demos and many code names, but no new OS—at least not from Apple. Microsoft has revised Windows and Windows NT twice each in that period, while IBM has revised OS/2 twice, as well. Apple did deliver System 7.5 and some good extensions like QuickDraw 3D and QuickTime VR, but no new OS.

The following timeline charts Apple's troubled OS course to show what themes have remained and what have turned out to be mere fads. It also reminds us all that the current plan may in the end be no more successful than the many that went before it.

Pink In 1989, Apple first discussed the Pink project, which would become the next Mac OS (presumably Mac OS 8, as System 7.0 was far along in its development). Then, in 1991, Apple announced that IBM had bought into Pink and the two companies had spun Pink out as a new company named Taligent that would create a new OS for use on Apple and IBM systems, as an alternative to Windows. Instead, Taligent mutated from an OS into something that not even the Taligent staff could quite describe, and

in 1995, Apple and IBM pulled the plug after wasting tens of millions of dollars.

Copland 95 In 1993, Apple started hinting about Copland, the new Mac OS that would overpower the new Windows, then known variously as Chicago and Windows 4.0. But Apple would only hint—when pressed for details, Apple spokespeople said that they didn't want to reveal anything because they feared Microsoft would steal the ideas for Chicago.

But in January 1995, after an unflattering story in *Macworld* ("The New Windows Threat," February 1995), Apple officials began releasing a few details, following up with high-profile demonstrations at the May Worldwide Developers Conference (see "The New Mac OS Unveiled," July 1995). The idea was to give the Mac community something to look forward to in the blitz leading up to and following the August 1995 release of Windows 95.

The essential features were a customizable interface, agents that automated common tasks, partially protected memory and multitasking, and a new kernel that would keep extensions from crashing the Mac (and that would make most current extensions incompatible with Copland).

Apple also described a post-Copland OS, called Gershwin, that would offer such features as preemptive multitasking and protected memory, which Copland would implement only partially. Gershwin would bring the Mac OS up to par with Unix, Windows NT, and OS/2, at least at the core OS level.

In the next year, Apple trotted out demos of Copland at various trade shows, but no one was allowed to try it themselves. *Macworld* acquired a summer 1995 proto-

type version of Copland and found it almost nonfunctional, despite Apple's claims that Copland would ship in summer 1996.

Apple officials gave contradictory release dates for Copland as it became obvious that a summer 1996 release would not happen. After a few months of that, it was clear that early 1998 was a more likely release target.

In August 1996, Apple was poised to announce the first developer release of Copland (called DR1), months after it was originally promised. A week before the Macworld Expo in early August, Apple officials were prepping the press and developers for the DR1 release.

By the Expo itself, DR1 was dead, as *Macworld* exclusively reported. Apple's new chief technology officer, Ellen Hancock, had realized that

the Copland effort was so out of control that it could not be salvaged, and rather than let it continue, she ended it (see "Mac OS 8's About-Face," *News*, October 1996). The cost of this abortive effort: \$300 million.

Copland 96-A The new plan, issued just after the demise of Copland 95, described a phased-in Copland (see "Mac OS 8: Back to Square One," November 1996). Instead of an all-new operating system, Copland features would appear over time in System 7; which features remained unstated.

At some point, System 7 would become Mac OS 8—likely when the new kernel was added—but most of the planned Copland technologies would be grafted onto System 7, so they would remain compatible with many 68030-based and all 040-

A Signature for CD-R

FARGO'S LATEST PRINTER PRODUCES CD LABELS

Recordable CD drives let ordinary Macintosh users produce their own CDs, just like the big record companies and multimedia publishers. The only problem is that the CDs look unprofessional when you label them with a felt-tip marker. So Fargo Electronics (612/941-9470, <http://www.fargo.com>) has stepped into the breach with the



SUZANNE BOADY

Signature CD Color Printer. Priced at \$1295, the Signature uses thermal ink-jet technology to produce color images on CD-R media covered with a special coating. The program can also print on jewel-box enclosures and cardboard

templates; the latter let you produce test prints before printing your artwork on a CD. You can print at 300 dpi or 300 by 600 dpi in color or in black and white. Signature CD-R discs, available in white or silver, cost \$47.50 for a package of 5 or \$475 for a package of 50.—STEPHEN BEALE

based Macs, as well as with all PowerPC-based Macs. By contrast, the use of a new kernel in Copland 95 meant that only PowerPC-based Macintoshes would run Mac OS 8.

The Copland 96-A strategy survives in the semi-annual OS updates—System 7.6, Tempo, and so forth—which will continue until Mac OS 8 ships.

The Be Interlude At the August 1996 Expo, Power Computing showed off a new OS running on its Mac clones: the Be OS developed by a group of former Apple OS engineers. Apple was indeed talking to Be about an acquisition or technology-sharing arrangement. But Apple declined to comment, letting the rumors take on greater believability. By November, strategic statements and leaks from Power Computing and Be to the business and trade press resulted in a flurry of stories predicting that Apple would use the Be OS as the new Mac OS—*Forbes* and *MacUser* were among the publications proclaiming this. After a month of this, Apple began quietly spreading the word that there'd be no Be acquisition.

Copland 96-B To debunk the Be OS rumors, sources close to Apple described a new variation on the Mac OS 8 strategy in late November. Under that strategy, Apple would have a fat OS, in which System 7 and Mac OS 8 components would coexist, much like fat-binary programs let 680X0 and PowerPC components coexist. System 7 programs would use System 7 OS components, and Mac OS 8 programs would use Mac OS 8 components (see "Time for a New OS?" February 1997).

But a month later, in late December, Apple announced the Next acquisition and yet another new OS strategy. Let's hope this one sticks.

NEWS FLASH

The Mac OS's Interim Steps

PERFORMANCE BOOSTS
AND WEB INTEGRATION

by Galen Gruman
and Adrian Mello

Until the Next-generation OS is ready, Apple will continue to release interim updates to System 7. Following this month's System 7.6 release (known for months by its code name, Harmony) will be a July release of the Tempo System 7.X OS, incorporating features of the Mac OS 8 Finder.

With this new scheme, Apple is throwing away several years of effort developing an OS that can run both Mac OS 8 and System 7 programs using shared OS components. In the Next Mac OS, developers and users will probably have to say good-bye—at least for a few years—to some of Apple's more elegant technologies, such as QuickTime. But what Apple bought in exchange could be new life for the Mac OS, albeit in an entirely different form.

Before the world knew of Apple's acquisition of Next, Apple CEO Gilbert Amelio personally demonstrated the mid-1997 Mac OS update, code-named Tempo and likely to be called System 7.7, to the press in mid-December.

Tempo is the first major revision to the Mac OS since System 7.5. The System 7.6 release in January merely bundled bug-fixes; enhanced virtual-memory management; and previously released revisions to QuickDraw 3D, Cyberdog, and OpenDoc into System 7.5.5. It also added a

continues

Internet WATCH

BY CAMERON CROTTY

Microsoft and Netscape's New Battle

You'd better be ready for the Internet to invade your desktop, because it's now just a question of which company will burst onto your screen first, Netscape Communications (415/254-1900, <http://www.netscape.com>) or Microsoft (206/882-8080, <http://www.microsoft.com>). Netscape's recently announced Constellation, an add-on technology for the next version of Netscape Communicator, takes over your desktop and turns it into a Net information center by using JavaScript and HTML on the client and server. Microsoft's Active Desktop follows a similar route but relies on ActiveX components to do the job.

Netscape Constellation Called the Home Port, Netscape's Constellation user environment divides your desktop into three major sections. Messages, information broadcast from the Net, and commonly used desktop resources such as applications and files appear in Project areas, which take up most of the desktop. At the bottom of the screen, the Info Stream is a strip of graphical Info Blocks, which serve as launching pads for services on the network. Suppose you've installed an Info Block for your favorite Net search engine. Instead of surfing to the search page, type your search criteria into the block and click on the Search button. Finally, the Selector bar on the right side of the screen contains the system resources (hard drives and printers, for instance) available to whoever's logged in. Constellation will require the next version (4.0) of Netscape Communicator, which comprises the company's group of Net applications (including Navigator). Netscape expects to have a public beta of Communicator 4.0 for the Mac by May.

Microsoft Active Desktop Microsoft's Active Desktop is expected to be similar to Constellation, although details of the Macintosh implementation of Active Desktop remain sketchy, partly because at the time this story was written the Mac version of ActiveX had only just entered public beta testing. Users will be able to access their file systems with Internet Explorer, using Microsoft's ActiveX component-software technology to deliver information directly to the desktop in much the same way that Netscape intends to do with Constellation. At any rate, neither company seems to be far enough along in implementing its technology for anyone to determine which one is likely to win the battle for our desktops.



ANOTHER MINDSPRING USER

MindSpring users look like everyone else... until they spring onto the Internet! MindSpring provides fast, reliable, easy-to-use performance for Mac or Windows that gets you directly to the Internet. No traffic tie-ups. No detours. You'll click right along with noggin'-springin' extras like e-mail, newsgroups, chat sessions and the best web browser available.

We offer you friendly, 24-hour technical support by phone or e-mail. Flexible pricing plans starting as low as \$6.95 a month. Unlimited access for \$19.95 a month. And each plan comes with a 30-day money back guarantee. So if you want a fast, reliable connection, call toll-free **888-677-7464**, or check out our web page at **www.mindspring.com**. It's a heads-up move.



MindSpring™

Direct To The Internet.

© 1997 MindSpring Enterprises, Inc.



Systems WATCH

BY MAC WORLD STAFF

in which you send e-mail to a designated address to have it converted into a fax.

Newer technologies are integrating conventional fax technologies with the Internet more tightly. For example, NetXchange (415/346-4131, <http://www.ntxc.com>) offers a client-server system called Internet Xchange for Fax in which you send a fax to an Xchange server, designating its ultimate destination. The server then uses a least-cost routing function to send the transmission as cheaply as possible. The company offers cross-platform Java-based client software that can be used to send electronic faxes. You can also



use conventional fax machines equipped with an autodialer. The product isn't cheap, beginning at \$2400 for a two-port system, but large organizations may find it cost-effective due to money saved on long-distance phone charges.

At the Comdex show in November, Panasonic (201/348-7000, <http://www.panasonic.com>) offered a technology demonstration of an Internet fax machine. Documents scanned by the prototype are converted into TIFF files and sent over the Internet to a designated e-mail address as an enclosure. Files can then be read with any application capable of viewing TIFF files. The TIFF files are in PC format, and the product at present is not configured for the Macintosh. However, adapting the Internet fax machine for Macintosh users does not appear to be a major hurdle.

Internet as Printing Network
Further away are technologies

that let you use the Internet as a gigantic printing network, completely bypassing the need for fax technology. Several companies, including Adobe Systems (408/536-6000, <http://www.adobe.com>), Tektronix (503/685-3150, <http://www.tek.com>), and Hewlett-Packard (800/752-0900, <http://www.hp.com>), have announced products that let you make printers directly accessible over the Internet. In essence, the printer has its own Web page through which you print the document. Adobe has promised this capability in PostScript Level 3.

Of perhaps greater significance is a recent announcement by Novell (801/222-6000, <http://www.novell.com>) of a new standard for printing over the Internet. The protocol specification, Lightweight Document Printing Application, was submitted to the Internet Engineering Task Force in November 1996 for consideration. The idea is to provide standards that make it easier to select and control remote printers over the Internet or corporate intranets. Novell has signed up a who's who of printing vendors to support the standard, including Adobe, Canon, Hewlett-Packard, IBM, Intel, Lexmark, QMS, Ricoh, Sharp, Tektronix, Toshiba, and Xerox. Novell has also enlisted the Multi-Function Peripheral Association to propose extensions to the specification to support faxing, scanning, copying, and other operations common to multifunction peripherals.

"There's a lot of uncertainty about whether you'd want to put your printer on the Internet," says Charles LeCompte, publisher of the *Hard Copy Observer* newsletter, which covers the printer industry. "There are a lot of issues around that, such as toner usage and security issues. But I think it makes a lot of sense."

The Baiting Game Although Power Computing's PowerBase line of Macintosh systems has received favorable reviews, the company (512/388-6868, <http://www.powercc.com>) is getting increasingly bad press from the people who actually buy computers.

Nowhere is this more apparent than on PowerWatch (<http://lostworld.pair.com/powerwatch>), a Web site where users post their experiences with Power Computing products. And while some people do praise the systems, they're drowned out by a cacophony of complaints, ranging from stories of waiting weeks or months for a system's arrival, to being shipped a system that died within a week or two due to a malfunctioning hard drive or motherboard.

Customers are not alone: Macworld Lab has received several defective systems for testing that had to be replaced. Even more disturbing are reports that the company requires those who return defective systems to sign an agreement barring them from mentioning the problem.

Newer Goes Multiprocessor DayStar Digital (770/967-2077, <http://www.daystar.com>) has signed up Newer Technology (316/943-0222, <http://www.newertech.com>) as the latest licensee for its nPower multiprocessing technology. Newer plans to ship dual 180MHz and 200MHz upgrades around the time you read this. The multiprocessing technology will also be incorporated into other Newer products.

Speedier Doubler Connectix (415/571-5100, <http://www.connectix.com>) has upgraded Speed Doubler, its software accelerator for the Macintosh. With a street price of \$60, Speed Doubler 2.0 boosts access to removable and hard drives and improves 680X0 emulation for Power Macs running nonnative applications. New features include a control panel for easier configuration; an improved Secure Erase function, making it virtually impossible to recover deleted files; and the ability to copy files from three different locations simultaneously. A synchronization feature helps users keep information on their PowerBooks synchronized with their desktop system. Current users can upgrade for \$25.

Umax Hits Top Speed Last August, it was a technology demo, but in February, Umax Computer (510/226-6886, <http://www.supermac.com>) plans to make real a 240MHz version of its SuperMac S900 tower system. The S900/240 will cost \$5795 and include 32MB of RAM, a 512K cache, a video card with 78MB of VRAM, a 2.1GB hard drive, 100BaseT Ethernet, six PCI slots, four open drive bays, and an 8x CD-ROM drive.

What the **NEW XCLAIM VR LOOKS LIKE** to the competition.

2D Graphics Acceleration

QuickDraw 3D Acceleration

QuickTime Capture

Mac2TV Video Out

QuickTime Acceleration



Turn your PCI Mac into an amazing graphics and multimedia monster with the ATI XCLAIM™ VR. The only graphics upgrade with five must-have functions built right in.

You get **QuickDraw 3D Acceleration** for richly textured 3D rendered at blinding speed for amazing gaming action and incredible VRML Web browsing. **Mac2TV Video Out** that lets you plug your Mac right into your big screen television for in-your-face, arcade-style game playing and riveting business presentations. There's **2D Graphics Acceleration** for up to 16.7 million brilliant colors. Screen resolutions up to 1152x870. Plus **QuickTime Capture** that captures frames and QuickTime™ movies from your VCR or camcorder for use in your other applications. And **QuickTime Acceleration** for the first truly usable full screen, full-motion QuickTime playback. It's just \$269*. Call 905 882-2600 (press 2 for faxback). Or check out all the details at www.atitech.ca. ATI XCLAIM™ VR is available at Computer City, MacWAREHOUSE and Mac Zone.



MAC2TV



NOW YOU SEE IT.™



© ATI Technologies Inc., 1996. ATI, XCLAIM and NOW YOU SEE IT are trademarks and/or registered trademarks of ATI Technologies Inc. All other company and/or product names are trademarks and/or registered trademarks of their respective manufacturers. *Based on US suggested retail price of 2MB version at time of printing. Dealer may sell for less.

Circle 256 on reader service card

ONCE AGAIN, MACWORLD'S EDITORS have made their picks for the Best of Show Awards, recognizing the hottest new products to be introduced at Macworld Expo. We examined dozens of new products and hand-tested the top contenders to make our final decisions. We rated them on innovation, usefulness, and that hard-to-define quality known as The Wow Factor. To be considered, a product had to be announced for the first time at, or shortly before, Macworld Expo.

VIRTUALMAC

Sure, the Apple-Be deal never happened, but the Be OS will still be available for many Mac systems. Users of these systems will find themselves thanking a company called Fredlabs (415/788-8512, <http://www.fredlabs.com>) for its VirtualMac software, which lets you run Macintosh applications from within the Be OS. You can even copy data from one OS to the other.



VirtualMac

POWERTOWER PRO 250MP

From Power Computing (512/388-6868, <http://www.powercc.com>) comes yet another Mac system that sets a new level of performance. The PowerTower Pro 250MP is the company's first dual-processor Mac, and with a pair of 250MHz PowerPC 604e processors, it is the Mac market's fastest multiprocessor system. The \$5995 system also includes an upgradable 1MB cache, 32MB of RAM, and a 2GB hard drive. For \$4995, you get the PowerTower Pro 225MP, with dual PowerPC 225MHz CPUs.

CODEWARRIOR 11

This latest version of the software-development tool from Metrowerks (512/873-4700, <http://www.metrowerks.com>) provides a single environment from which Macintosh programmers can cre-

ate applications for the Mac OS, Windows 95, Windows NT, Magic Cap, and PowerTV. Whether you write in C, C++, Object Pascal, or Java, for Windows or for the Macintosh, you can now call CodeWarrior your home.

EYE CANDY

New Adobe Photoshop plug-ins abounded at Expo, but this set of filters from Alien Skin Software (919/832-4124, <http://www.alienskin.com>) stood out for its cool effects and elegant interface. Essentially an upgrade to Black Box, it includes revisions of Drop Shadow, Inner Bevel, and other old favorites, along with several new filters, including Fire, which makes it look as if your selection is burning, and Fur, which makes your image look like an animal's coat.

VECTORTOOLS

These vector plug-ins from Extensis (503/274-2020, <http://www.extensis.com>) replace DrawTools. Available in versions for Adobe Illustrator and Macromedia FreeHand, it adds several useful functions missing from both. You get a magic wand—click on one object, and it selects all other objects with similar characteristics. A Navigator tool makes it easy to get around your document when working in a magnified view.

CONFLICT CATCHER 4

This upgrade to the popular system utility from Casady & Greene (408/484-9228, <http://www.casadyg.com>) now manages plug-ins along with extensions and other Mac software components. Plus, it can set up your Mac to download software updates to popular programs via the Web. Version 4, which sells for \$99.95, also provides hyperlinks to the Web sites of extension vendors, letting you get the latest information on system resources that may be causing problems.



Conflict Catcher 4

"WHAT'S NEXT FOR THE MAC OS?" *continued from page 33*

Programs running in the Blue Box will be able to share some data with programs running in the Yellow Box, and vice versa. Programs in the two environments can share data via Apple events (Apple's OS-based messaging technology) and via copy and paste. However, direct interapplication communications probably won't be allowed, so the two environments can't cause each other to crash if something goes wrong in one of the boxes.

Not yet clear is how users and programs will deal with files created by programs running in the two environments. While the hope is to let Yellow Box and Blue Box programs access each other's drives and folders, it is too early for Apple to know whether or how it can accomplish that goal, at least in the 1998 releases.

Technology Issues

Among the technologies issues Apple needs to address are the following.

Symmetric Multiprocessing

Unlike the Be OS, which Apple also considered buying, the Next OS in its current form supports this capability only in theory. (Symmetric multiprocessing lets multiple CPUs run concurrently and automatically spreads computation work among all available CPUs. The multiprocessing capability in today's Macs requires that programs be specially written for multiprocessing.)

Today, the Next OS does not run with symmetric multiprocessing applications on any platform, but Avie Tevanian, the former Next executive who now heads the Mac OS/Next OS project, says this feature will be added.

Display PostScript One benefit of the Next OS is its

use of Display PostScript, which Next licensed from Adobe Systems. As a result, applications no longer need a separate PostScript interpreter for their output, and users get greater fidelity between what they print and what they see on screen. Unknown is what this means for the future of ColorSync and QuickDraw GX; Hancock says such fea-

Online Updates

FOR ONGOING COVERAGE OF THE NEXT OS/MAC OS STRATEGY AS IT DEVELOPS, TURN TO MACWORLD DAILY AT [HTTP://WWW.MACWORLD.COM/DAILY/](http://www.macworld.com/daily/).

tures may need to be added to Display PostScript.

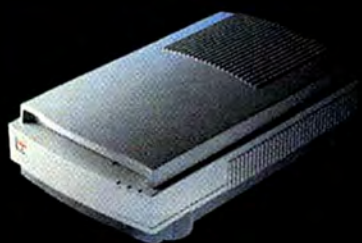
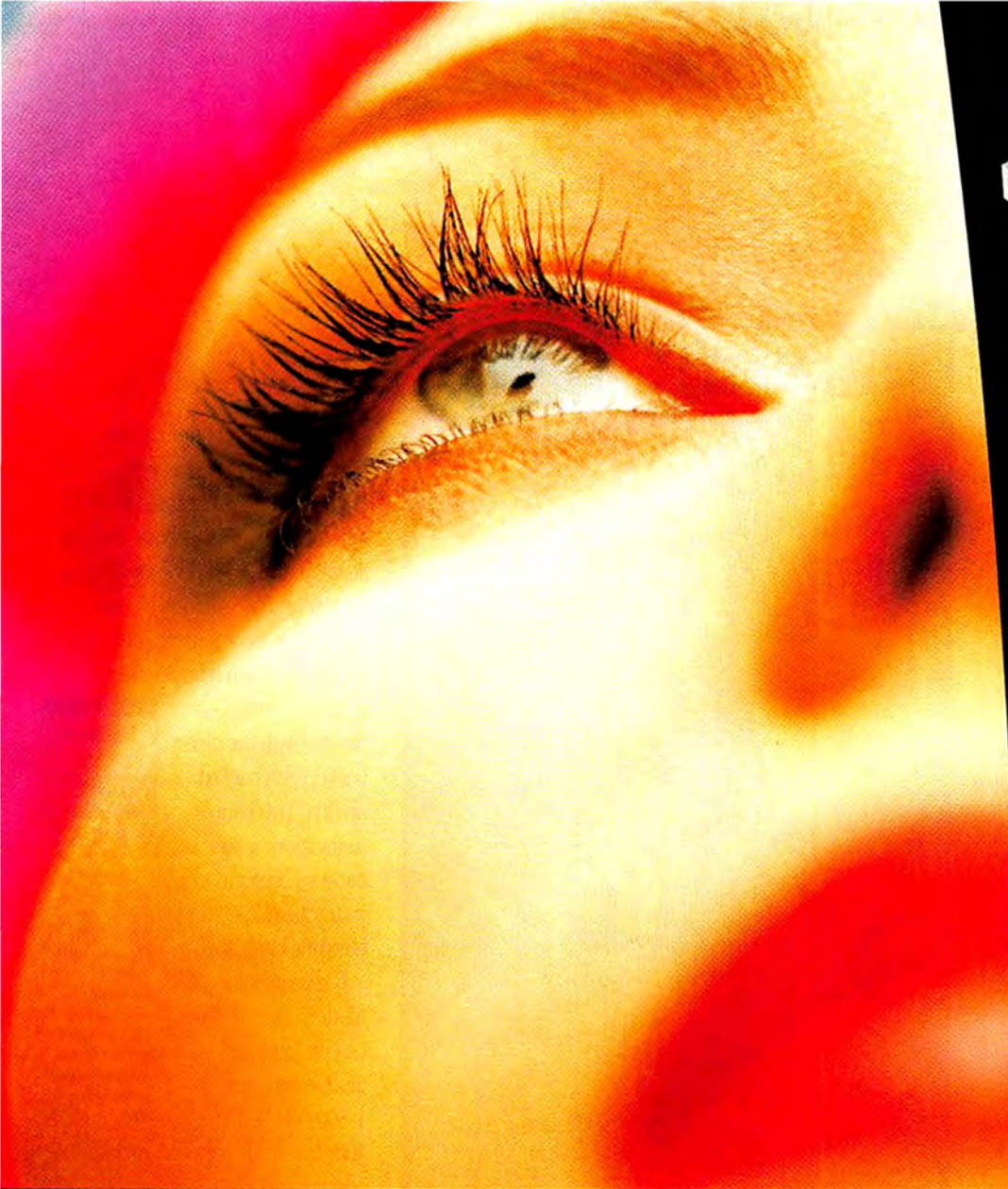
Object Architectures

Metrowerks, developer of the leading C++ tool CodeWarrior, has quickly stepped up to bat, saying it will offer CodeWarrior compilers and runtime enablers based on Objective C, the highly object-oriented programming language for the Next OS.

The New OS Team

Apple's break with the past goes beyond the OS strategy alone. To implement its plan, Apple is betting on the talents of Tevanian, formerly Next's vice president of engineering.

Reporting to Hancock, Tevanian will lead a team composed of the few remaining Copland engineers as well as some 100 Next engineers. Hancock has made it clear that Apple will continue working on versions of the Next OS and Next's WebObjects server-development tool for other platforms. But Tevanian's most immediate job is to ship a new Macintosh Operating System.



PowerLook 2000

FEATURES:

- 1000 x 2000 dpi optical resolution
- 36-bit color depth
- 3.3 Dmax from transparent originals
- Over 68 billion colors and shades of gray
- Scans multiple images quickly by batch mode
- Scans slides, transparencies and negatives
- Enclosed optical system for images free of dust and light contamination
- Comes with binuscan's® PhotoPerfect™ software (value: \$2000)

TO SEE THE **POWER** OF 2000 dpi,
JUST **LOOK** CLOSELY.



"The PowerLook 2000 gives me prepress quality in a flatbed."

Presenting the affordable PowerLook 2000™ prepress-quality 36-bit color scanner from UMAX. At 2000 dpi, you suddenly have the ability to capture details like never before. Which makes the PowerLook 2000 ideal for enlargements. Plus, it comes with binuscan's® PhotoPerfect® automatic color correction and separation software. PhotoPerfect maximizes every ounce of PowerLook 2000's range and color. So you can be certain to get the most consistent, highest-quality scans—every time. Guaranteed. Look into the PowerLook 2000. And then look closely at the list price of \$4,395. No other scanner offers the time-saving productivity and high-end color control at such a low cost.

Call us for the Value Added Reseller nearest you, 1.800.546.8557.
Circle 45 on reader service card

UMAX®

<http://www.umax.com>

What *was* on your PowerBook?

"Losing" your PowerBook is a harsh blow, no question about it. But what's even worse is losing all your files.

Hardware can be replaced, but you may never recover your data. Not to mention all the time and energy invested in creating those files.

There's only one real solution—regular and reliable backups. And if it wasn't so hectic every time you got back into the office you'd remember to do it. Instead you just keep your fingers crossed and hope that today is not the day when you lose everything.

Wouldn't it be great if every time you plugged your computer into the office network, it would get backed up without you even thinking about it?

That's why you need Retrospect Remote.*



Just plug your computer into the network and Retrospect Remote's unique Backup Server™ automatically goes to work. Backup Server patrols your network looking for Macintosh, Windows 95, and Windows NT computers in need of backup. Then it backs them up in priority order—the one with the oldest backup gets backed up first. This simple innovation makes backups conform to your schedule—and everyone else's, too.

For more information on how you can protect your productivity, call 1-800-982-9983 for your free white paper on mobile computing.

Because even if your computer checks out, your data is always checked in.



It's unanimous. MacWeek says Retrospect is "the best of the breed." MacWorld writes "Retrospect leaves the competition in the dust." And MacUser reports "no other backup utility can match its breadth or depth."



If you're not on a network, we still have you covered with our single user version, Retrospect 3.0.*

dantz *To go forward, you must backup.**

© 1996 Retrospect Remote and Retrospect are registered trademarks of Dantz Development Corporation. All other trademarks are property of their respective holders. Dantz Development Corporation, 4 Orinda Way, Building C, Orinda, CA 94563. Phone: 510.253.3000. Fax: 510.253.9099. Internet: info@dantz.com, upgrade@dantz.com, www.dantz.com

Circle 26 on reader service card

New Products

THE LATEST MACINTOSH RELEASES

COMMUNICATIONS

Intelligent E-mail

Claris (408/727-8227, <http://www.claris.com>) E-mailer 2.0 seems to do everything but type the message for you. New features in the \$49 program include support for an unlimited number of e-mail accounts, multiple signatures, and the ability to specify an upper limit on the size of e-mail downloaded.

Mail Stash

Originally designed to store e-mail in Claris FileMaker Pro databases, Mail Archiver from Blue World Communications (206/313-1051, <http://www.blueworld.com>) is becoming a popular all-around e-mail storage solution; it works with Claris E-mailer, Qualcomm's Eudora, and the Apple Internet Mail Server, among others. Once messages are stored in the database, you search them using standard FileMaker commands. Prices are \$79 for an electronically distributed version and \$119 for a shrink-wrapped version.

DISPLAY

CRTs Hold Their Own

The computer industry may be moving toward LCD displays, but CRTs remain the most cost-effective monitors for most applications:

- Panasonic (201/348-9090, <http://www.panasonic.com>) has introduced the Panaflat PF70, a flat 16-inch CRT monitor that sells for less than \$1000. Maximum resolution for Macintosh users is 1152 by 870 pixels.
- Mitsubishi (714/220-2500, <http://www.mitsubishi-display.com>) has released several new CRT models. The \$1699, 21-inch Diamond Pro 91TXM offers an

enhanced aperture grille of 0.28mm, a maximum resolution of 1600 by 1200 pixels (at a 76Hz refresh rate), and 180MHz video bandwidth. The 17-inch Diamondtron 87TXM, priced at \$849, features a 0.25mm aperture grille mask, 1600-by-1200 resolution (66Hz refresh rate), and 135MHz video bandwidth. The 17-inch Diamond Pro 67TXV, with a \$749 price tag, features a 0.25mm aperture grille mask, 1280-by-1024 resolution (64Hz refresh rate), and 100MHz video bandwidth.

FINANCIAL

Held Accountable

Credit drives the economy, and BestWare (201/586-2200, <http://www.bestware.com>) has just released version 7 of M.Y.O.B. Accounting, which lets business owners set credit terms on a per-customer basis. The update features an improved help system and comprehensive customization options. M.Y.O.B.'s Cue Cards guide users through more than 100 advanced tasks. Estimated street prices for M.Y.O.B. Accounting version 7 are \$80 without a payroll option and \$140 including payroll.

GRAPHICS

Picture It

jasin Design One, a \$160 collection of digital images from Jasin Design (303/837-1888), features 150 images in Macromedia FreeHand 5.5 and FreeHand EPS, Adobe Illustrator 5.5, and 72-dpi PICT formats. The categories are People, Sports, Animals, Heavenly Bodies, Mythology, Radicals, and Miscellaneous.

Get Organized

Designers aspiring to develop their organizational abilities can turn to

Fetch 1.5 (\$99.95), an upgrade to the multimedia database program from Extensis (503/274-2020, <http://www.extensis.com>). The new version offers faster performance, particularly in tasks such as cataloging and previewing images.

NETWORKING

Mac Does ATM

It's a new era in Macintosh networking since Apple (408/996-1010, <http://www.apple.com>) released its ATM Network Software to network card developers. Now, asynchronous



Jasin Design One

transfer mode (ATM), commonly used for network backbones, could be seeing new applications for smaller networks. Apple's ATM Network Software is a module that extends the functionality of Open Transport.

- Following on the heels of Apple's announcement, Adaptec (408/945-8600, <http://www.adaptec.com>) has announced Macintosh drivers for its PCI ATM cards, running at 25 Mbps and 155 Mbps. The 25-Mbps model costs \$199, or \$349 with more active virtual circuits. The 155-Mbps model is \$495 with unshielded twisted-pair interfaces and \$595 for the multimode fiber interface. Customers who have already purchased these cards can download the driver at no charge from Adaptec's Web site.

- Integrated Micro Solutions (408/369-8282, <http://www.integratedmicro.com>) has also announced 25-Mbps and 155-Mbps

ATM adapters supporting Apple's Network Software. The 155-Mbps model sells for \$599, and the 25-Mbps adapter is \$359.

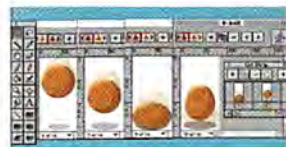
My Address Is Your Address

Looking for a way to lower ISDN connection costs? Farallon Communications' (510/814-5100, <http://www.farallon.com>) new Netopia ISDN SO-Smart Routers enable all machines on the router's LAN to share one Internet IP address. As a result, an entire office can connect with one dynamic IP account, saving money in the process. Model 635, which routes IP and IPX, was planned to be available by press time, and will sell for about \$849; Model 435, which routes IP, IPX, and AppleTalk, should be about \$1099.

ONLINE

WebPainter Goes Live

Totally Hip Software (604/685-6525, <http://www.totallyhip.com>) has released the beta of WebPainter for OpenDoc, a new component version of the company's paint program for creating animation and GIF graphics for Web pages and corporate intranets. Users can drag and drop the WebPainter component into a word processing document to create a page containing live animations. You can download the beta of WebPainter for OpenDoc from c|net's Download.com site, at <http://www.DOWNLOAD.COM/Mac/Result/TitleDetail/0,4,0-18682,00.html>.



WebPainter

Plug for WebSiphon Leaks

Purity Software (512/328-2288, <http://www.purity.com>) has released an update to its \$495 Web authoring tool, WebSiphon. WebSiphon 1.0.2 fixes various bugs, continues

New Products

including a memory leak related to the Preprocessor action and one in the `vCountMatching()` function that caused occasional crashes. Also corrected are problems with memory management and printing large lists. The update can be downloaded from Purity's Web site.

A Cache Bonus

StarNine (510/649-4949, <http://www.starnine.com>) is shipping a substantially faster upgrade to its WebStar Web-server software. Because WebStar 2.0 caches as much of a hosted Web site as possible, the company claims it can now serve up Web sites at least twice as fast as the old version. For the same price as the previous version (\$499), WebStar 2.0 ships with a built-in Java Virtual Machine and supports Netscape's Secure Socket Layer (SSL).

PRINTING

Low-Cost Network Printer

For those who don't need PostScript or LocalTalk, Hewlett-Packard (800/752-0900, <http://www.hp.com>) is shipping its \$3869 midrange LaserJet 5Si NX printer, an Ethernet-only addition to its LaserJet 5Si family of network printers. The 600-by-600-



HP LaserJet 5Si NX

dpi LaserJet 5Si NX prints up to 24 pages per minute. It offers two 500-sheet trays and a 100-sheet multi-purpose tray. Optional accessories include a \$1299, 2000-sheet input tray; a \$669 duplex unit that supports up to 11-by-17-inch paper and a 100-piece envelope feeder; a \$1889 multibin mailbox; and a \$549, 100-envelope feeder.

Apple's Latest Laser

A new \$2195 printer bundle from Apple Computer (408/996-1010, <http://www.apple.com>) combines the LaserWriter 12/640 PS Plus with 12MB of RAM, a 500-sheet paper cassette and feeder, and a duplex printing unit. Options include a \$149 envelope cassette, a \$49 face-up output tray, and a \$120 toner cartridge. The 600-dpi printer features PostScript Level 2 and PCL emulation, along with autosensing and autoswitching Ethernet, LocalTalk, and parallel ports.

PRODUCTIVITY

Live from Nisus

Nisus Software (619/481-1477, <http://www.nisus-soft.com>) is shipping Nisus Writer 5.0, a \$69.95 upgrade to the PowerPC version of its word processor that adds support for Apple's OpenDoc technology. The software acts as a Live Objects container, so users can drag and drop Live Objects parts, such as table editors or graphing programs, into their documents. The new version also offers enhanced Internet capabilities.

Getting Hyper

Apple Computer (408/996-1010, <http://www.apple.com>) has released HyperCard 2.3.5, an update to its media authoring software that will provide a bridge to version 3.0. The \$99 update consists of performance enhancements, but Apple is also bundling it with other software packages with an eye toward making it a tool for creating Web content. You'll also need HyperCard 2.3.5 if you want to create stacks compatible with version 3.0.

PUBLISHING

The House That Corel Built

Corel (613/728-8200, <http://www.corel.com>) has announced a Macintosh version of Print House, an entry-level draw program aimed at users who want to create greeting cards,

business forms, signs, and other simple graphics. The software features polygon tools, and also allows you to flip, rotate, resize, and group graphic objects. The \$40 package ships with 1000 sample files, 1000 photos, 100 fonts, 5000 clip art images, and templates from Paper Direct.

Another Camera from Kodak

Kodak (716/726-7260, <http://www.kodak.com>) is shipping the DC25, its latest digital camera. The \$499 camera features a built-in flash, an LCD display for picture review, and an optical viewfinder. The advantage of the viewfinder, Kodak says, is that you don't deplete the batteries as rapidly as you would if you pre-viewed images through the LCD.



Kodak DC25

SCIENCE/ENGINEERING

MathCAD for Internet

MathSoft (617/577-1017, <http://www.mathsoft.com>) is now shipping MathCAD Plus 6 for the Mac (\$350), which adds the capability to link and hyperlink documents over intranets, the Internet, or local Web servers. Other new features include improved editing and formatting, simplified menu structures, and the ability to create and embed animation within a worksheet.

STORAGE

FWB Switches Focus

FWB (415/463-3500, <http://www.fwb.com>) has released three utilities for managing and optimizing hard drives and RAID systems.

• Targeting a common source of bottlenecks—disk I/O operations—Turbo Toolkit 1.0 is a suite of three extensions that speed perfor-

mance. TurboDisk continuously defragments your disk in the background to optimize disk performance. The other extensions cache data to RAM: TurboRead buffers frequently used data blocks for faster access, and TurboBoot caches extensions to speed system start-up.

• RAID Toolkit has been upgraded to support "warm-swapping" removable canisters, drag-and-drop array management, and more than 800 devices. In addition to disk mirroring (RAID 1) for fault tolerance, version 2.0 offers data striping (RAID 0), which increases throughput by letting you treat partitions on two separate drives as one logical volume.

• Hard Disk Toolkit•PE has also been upgraded to 2.0. New features of the disk-management utility include a simpler interface, one-button disk configuration, drag-and-drop support, and online help.

List prices are \$79 each for Hard Disk Toolkit•PE and Turbo Toolkit and \$299 for RAID Toolkit 2.0; site licenses are also available.

Storage on the Go

Sony Electronics (408/432-1600, <http://www.sony.com>) has introduced a 6x portable CD-ROM drive. The \$400 PRD-650 Discman weighs 10 ounces and uses 4 AA batteries or an AC adapter. As an option, you can power the drive with a lithium-ion battery, which has a longer usage cycle than a NiCd battery. The PRD-650 connects to a PowerBook through a SCSI-2 cable.

VENDORS: TO HAVE YOUR PRODUCTS CONSIDERED FOR PUBLICATION IN NEW PRODUCTS, SEND A PRESS RELEASE WITH PRODUCT DESCRIPTION, PRICE, AVAILABILITY, AND CONTACT INFORMATION FOR READERS, PLUS OPTIONAL PHOTO OR SCREEN SHOT, TO NEW PRODUCTS EDITOR, MACWORLD, 501 SECOND ST., SAN FRANCISCO, CA 94107; NEW_PRODUCTS@MACWORLD.COM

Self- centered?



Good. So are we.

Hey, if you don't look out for yourself, who will, right? Well, actually, we will. Because we untangled the web and made it more like you. So what we're offering is the most personal, hassle-free Internet service out there. And on top of Internet access, we offer hundreds of our own distinct features. Like our handy navigation tools. They make it easy to point and click wherever you want to go. We even made it really affordable. To be perfectly honest, we love it. And we'll give you one free* month of unlimited use to make sure you do, too.

To get your free Macintosh® software with Netscape Navigator™ 3.0 Browser
call 1-800-PRODIGY (776-3449)x3004 / www.prodigy.com

\$19.95/month for unlimited hours or \$9.95/month for 10 hours†



prodigyinternet™
make it yours.

*Limit one free trial per individual. Valid credit card required. Additional charges may apply for certain features. Phone company charges not included. Supplemental access charges may apply. To avoid being charged your first monthly fee, simply cancel your membership before your free one month trial ends. For Basic 10 Plan and Unlimited Plan pricing after your one month trial, refer to the online Member Services or Help sites. Offer subject to change without notice. †For complete details on the Basic 10 Plan (\$9.95/mo. for 10 hrs.) and Unlimited Plan (\$19.95/mo.), refer to the online Member Services or Help sites. Prodigy Internet and the Prodigy Internet logo are trademarks of Prodigy Services Corporation. Netscape Navigator is a trademark of Netscape Communications Corporation. Macintosh is a registered trademark of Apple Computer, Inc. ©1996 Prodigy Services Corporation. All rights reserved.

Circle 75 on reader service card

Reviews

E-Mail Programs

FIRSTCLASS, QUARTERDECK MAIL, AND QUICKMAIL GO BEYOND BASIC E-MAIL

NOT TOO LONG AGO, WE WERE happy to be able to send a text message from one desktop to another through the magic of e-mail. Today, users want to send styled text, pictures, sound, and movies with a click of the mouse, and they expect Internet access as well. Three new products aimed at the Mac departmental mail market are CE Software's QuickMail Pro 1.0, StarNine's Quarterdeck Mail 4.0 (formerly Microsoft Mail for AppleTalk Networks), and SoftArc's FirstClass 3.5. QuickMail Pro is a client-only package that requires a separate server; Quarterdeck Mail and FirstClass are complete client/server systems. Although none of the three delivers the multimedia and Internet features necessary to be considered a breakthrough product, each goes beyond basic message handling.

Getting Started

All three programs have a core client application for composing, sending, receiving, reading, searching, sorting, and filing messages, and all three require a server to act as a post office for mail en route from one user to another. Quarterdeck Mail and FirstClass ship with proprietary servers that run over AppleTalk; QuickMail Pro uses the Internet-standard Post Office Protocol (POP) version 3,



which lets it converse with POP mail servers (such as Apple's Internet Mail).

Offering a choice of servers makes QuickMail Pro more flexible than the others, but products that bundle all the necessary software in a single package have an undeniable advantage. CE Software is aware of that and has licensed Software.Com's Post.Office POP mail server, scheduled for release in early 1997.

Setting up each program's server component is a straightforward process, whether you're using a third-party server (with QuickMail Pro) or a bundled server (with Quarterdeck Mail or FirstClass):

you simply install the server software, register user names and passwords, and set a few preferences. All three products have excellent documentation explaining server concepts and setup procedures (although QuickMail Pro's documentation is necessarily limited).

With the server up and running, you're ready to distribute the client application and documentation to users. Because all three vendors sell their product by the "seat," or user, license control is an important issue—particularly if you're setting up many users. A license key gives a specific number of users access

REAL PRODUCTS
REAL RATINGS

Reviews you can trust: Unlike other publications, Macworld rates only final shipping products, not prototypes. What we review is what you can actually buy.
Outstanding ★★★★★ = 9.0-10.0 Very Good ★★★★ = 7.0-8.9 Good ★★★ = 5.0-6.9 Flawed ★★ = 3.0-4.9 Unacceptable ★ = 0-2.9

to the server, allowing the programs to be distributed over a network. All three products have thorough end-user documentation, but only FirstClass supplies a handy quick-reference card for each user—a boon to help-desk administrators.

Inside the Envelope

Beyond basic message handling, e-mail administrators want mail stream encryption, automated backups, interserver message routing, batch account administration, and Internet interoperability. Users want styled text, forms processing, automatic replies, drag-and-drop attachment handling, a spelling checker, public-key encryption, and rule-driven filtering.

On the server side, both Quarterdeck Mail and FirstClass have competent backup mechanisms, routing between message servers, and batch account administration. Quarterdeck Mail also sports a handy POP server to let clients (such as Qualcomm's Eudora and Claris EMailer) access mail in its proprietary post office format. FirstClass lets you encrypt all mail traffic between servers, providing protection from network snoopers.

Although Internet connectivity software isn't bundled with either Quarterdeck Mail or FirstClass, it's available through separate SMTP (Simple Mail Transfer Protocol) gateway products. (QuickMail Pro, because it uses Internet-standard mail protocols, is Internet-ready right out of the box.) Quarterdeck Mail also has gateways for Microsoft Exchange and UUCP (Unix-to-Unix Copy Program, an Internet mail-transport mechanism); FirstClass offers gateway options for Microsoft Mail and Lotus cc:Mail.

Because the client application is the face an e-mail system presents to users, the client's features are critical. First prize in this area belongs to FirstClass, which goes beyond traditional tabular e-mail lists to provide a customizable, icon-based desktop interface (see "First-Class Delivery"). You can design a common environment that includes not only the usual folders for incoming and outgoing mail, but folders for bulletin boards, conference areas, and chat rooms as well. No other e-mail server offers the ability to create such a community ambience. FirstClass also incorporates such novel capabilities as user-customizable forms, background file transfers, built-in graphic viewers, and access to the entire file system through the FirstClass desktop.



First-Class Delivery FirstClass's rich suite of e-mail services is delivered in a classy graphical interface. Besides providing basic mail handling, the program offers users access to conferences and bulletin boards—a handy feature for collaborative efforts.

If you have a microphone hooked up to your Mac, you can send voice messages via Quarterdeck Mail. That package also supports a rule-driven filtering system that scans your messages as they arrive, automatically filing them in the appropriate folder (or the Trash Can); it can even highlight URLs and automatically pass them to your Web browser. Another nifty feature in Quarterdeck Mail is the ability to store a selected group of messages as an HTML document, complete with a hypertext table of contents—an easy way to publish mail discussions on the Internet.

QuickMail Pro also supports user-customizable forms, rule-driven filters, and voice messages, but for some reason omits such Web-oriented features as URL links and HTML output. However, its interface—the cleanest of the bunch—makes the program easy to use, which may be more important in many office environments than a rich feature set.

Postage Due

Surprisingly, none of the products supports public-key encryption or offers hooks to third-party encryption tools. Public-key encryption, such as that offered by the shareware PGP (Pretty Good Privacy), is the only way users can communicate over e-mail with any assurance of privacy. When you consider that e-mail products for the PC have had that capability for years, this is a significant deficiency.

Another shortcoming is that none of the products offers access to MIME message content. (MIME is the standard for exchanging multimedia objects, such as styled text, HTML, imagery, voice, and video, across platforms over the Internet.) Though all three can send and receive

MIME attachments, the contents aren't accessible from within the client application; instead, you have to launch the appropriate helper application.

The Last Word

The new crop of Macintosh e-mail systems offers a mixed bag of features. If you want to set up a complete e-mail community for your organization, FirstClass is the way to go; its icon-based user interface makes organizing shared discussions easy. For instant Internet interoperability and a good basic feature set, QuickMail Pro is a fine choice (though you'll have to buy the server separately until CE Software ships Post.Office). For those who don't need the sophistication of FirstClass but still want an all-in-one e-mail system, Quarterdeck Mail is a cost-effective alternative to QuickMail's à la carte packaging.—MEL BECKMAN

FirstClass 3.5

RATING: ★★★★★/7.6 **PROS:** Offers encryption, multiple-gateway support, and conference and chat capabilities. **CONS:** No public-key encryption; no audio or MIME-content processing; lacks message filtering and automatic filing. **COMPANY:** SoftArc (905/415-7000, <http://www.softarc.com>). **LIST PRICE:** \$495 with 5-user licenses; additional licenses \$35 to \$79 depending on quantity.

Quarterdeck Mail 4.0

RATING: ★★★/6.0 **PROS:** Integrated POP server; mail-to-HTML converter; rule-driven message filtering; supports voice messages. **CONS:** Limited gateway support; lacks MIME-content processing; no public-key encryption; no customizable forms. **COMPANY:** StarNine Technologies (510/649-4949, <http://www.starnine.com>). **LIST PRICE:** server \$395; 5-user pack \$245.

QuickMail Pro 1.0

RATING: ★★★/6.6 **PROS:** Nonproprietary server architecture; rule-driven message filtering; voice messages. **CONS:** Lacks gateway to non-Internet mail servers; no public-key encryption; no MIME-content processing. **COMPANY:** CE Software (515/221-1801, <http://www.cesoft.com>). **LIST PRICE:** \$69.95 (for 1 user) to \$3449.95 (for 100 users).

Fractal Design Expression

OBJECT-ORIENTED NATURAL-MEDIA DRAWING—AT LAST

EVEN IF YOU DON'T KNOW MUCH about computer graphics, you probably know that pixel-based bitmapped paintings are soft and organic-looking, while object-oriented vector drawings are sharp and precise. Fractal Design's pixel-based Painter, for example, lets you create artwork that looks as if it were drawn with real pencils, pastels, and paintbrushes, while Adobe's vector-based Illustrator produces pristine designs that mimic a fastidious draftsman armed with a rack of technical pens. Occasionally, brave graphics applications attempt to cross the line—Live Picture defines brushstrokes as independent objects, FutureWave's SmartSketch takes a painterly approach to vector-based drawing—but until recently, there was little true integration of the two genres.

Expression 1.0 changes all that. Using vectors—and only vectors—Expression lets you render continuous-tone artwork that's virtually indistinguishable from a bitmapped painting, as deftly as if natural media and Bézier paths had been promised to each other at birth. Expression is one of the strongest software debuts in recent memory, ranking among must-have Mac graphics programs.

The Missing Link

Superficially, Expression is the opposite of SmartSketch. Where SmartSketch lets you manipulate vector objects as if they were pixels, Expression lets you create paintings using objects. Very simply, you draw paths, apply traditional-looking brushstrokes to them, and export the final graphic as a bitmap or a vector file. The resulting image looks like something created with Painter, except that you can edit the brushstrokes on a point-by-point basis. You can also transform, clone, and swap brushstrokes without altering the composition of your artwork. Imagine being able to reshape every brushstroke in Painter, and you have a fair idea of what Expression feels like.

But where SmartSketch is a modest, inexpensive sketching utility, Expression is a professional-level illustration environment that aspires to be the equal of

Illustrator and Macromedia FreeHand. It doesn't always succeed, but it comes closer than any first-version application yet.

Skillful Drawing Tools

If you're familiar with other graphics programs, you'll quickly settle in to Expression. The program uses industry-standard keyboard modifiers for zooming and scrolling, and offers a navigation palette for repositioning the page view and rotat-



No Objects Were Harmed Expression's variable-width brushstrokes let you modify line weights, opacities, and colors to create new images without drawing a single line. The underlying structure is pure vector art, despite the painterly appearance.

ing the canvas. The palette lacks an image preview, but it's unobtrusive and functional. Expression also lets you interrupt screen redraws and switch to one of two wire-frame display modes.

You can draw point-by-point Bézier paths using a pen tool comparable to Illustrator's or opt for less complicated polygons and B-spline curves. Most essential path-editing tools are present, and you can add, delete, and convert points with complete freedom—though it's harder to join paths than it ought to be. Expression also lets you align, distribute, and layer objects. Even with these amenities, you may prefer to create paths in another application; Expression imports Illustrator EPS and CorelDraw Exchange documents, but not Illustrator 6 files, so you can't import paths from Photoshop 4 (which shares this format).

Strokes of Genius

Although Expression offers admirable drawing and editing tools, it's much more

than an Illustrator knockoff. Breaking from the PostScript drawing model, Expression lets you create variable-width lines that ebb and flow like real brushstrokes. These strokes can be combined to form single objects, whole drawings, and even multiviews, which animate the stroke between two extremes.

Expression can also vary the opacity of a stroke so that lines build on top of each other. You can create free-form lines with a pressure-sensitive tablet, and rather than tracing a closed outline around your stroke, as in FreeHand or Illustrator, Expression saves pressure information at various points along the path. Although you can't modify the pressure points, it's still a giant step beyond anything in other object-oriented graphics programs.

Expression is every bit as imaginative and meticulous about emulating real-world brushstrokes as Painter. By default, brushes stretch evenly along a path's length. Alternatively, you can anchor the ends of a brush and stretch just the middle, or avoid stretching altogether and repeat the brushstroke along the path. Expression allows you to slant a brushstroke with respect to its path, twist strokes like a corkscrew, and mask the strokes of one path with the strokes from another—a great way to achieve hand-painted fills.

The Last Word

Expression's diligent attention to brushstrokes may seem like something of a one-hit wonder, and not a particularly innovative one at that. But Expression takes its role as a natural-media drawing program seriously, and although its basic premise is simple, its implementation is highly imaginative and painstakingly thorough. Expression is that scarcest of applications: a program without peer.—DEKE MCCLELLAND

RATING: ★★★★★/8.6 **PROS:** Natural-looking artwork in an object-oriented environment; good drawing and editing tools; unprecedented variable-width stroking capabilities.

CONS: Minor editing omissions; can't import Illustrator 6 format. **COMPANY:** Fractal Design (408/430-4228, <http://www.fractal.com>). **LIST PRICE:** \$449.

COREL™

For Macintosh®

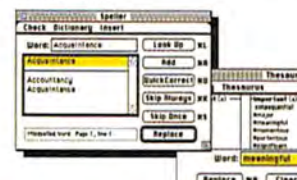
WordPerfect® 3.5



Work Faster, Smarter, Easier than Ever.

Smart Functions

Let Corel® WordPerfect® 3.5 check grammar, style and spelling for you. It can even correct typos as you go! Is a letter too long—or a paper too short? The Make It Fit™ function can shrink or expand your document to just the right size. And with support for Apple® MacinTalk™, Corel WordPerfect 3.5 will even read it to you in your choice of voices.



Ease of Use

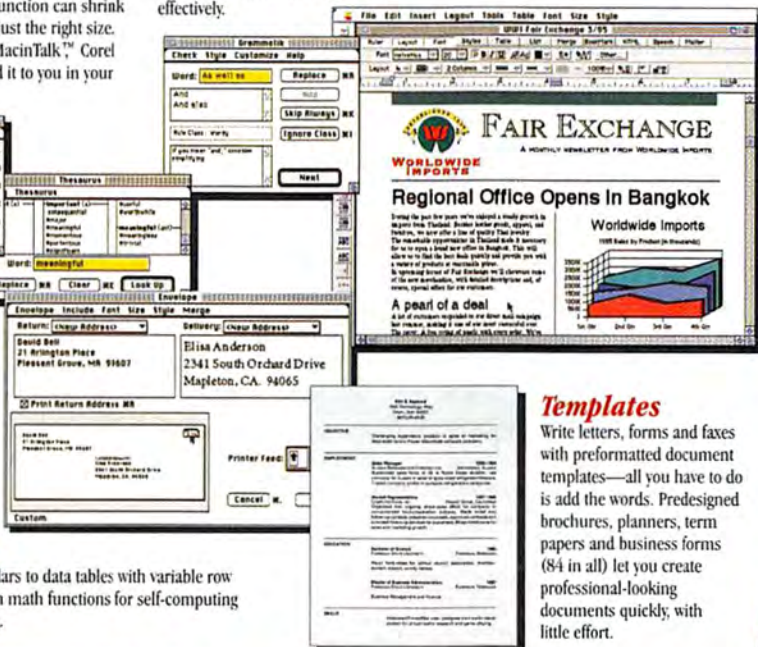
Address and print envelopes automatically, merge letters with address lists and more. Corel WordPerfect 3.5 eliminates the drudgery of many routine tasks.

Tables and Math

Create everything from calendars to data tables with variable row and column sizes. Use built-in math functions for self-computing expense reports and invoicing.

Document Design Tools

Choose from hundreds of easy-to-use formatting tools to tame even the most complicated documents. Use columns, text boxes, bullets, headers, footers and more to put your best ideas across effectively.



Internet Tools

Read and publish information with ease on the World Wide Web! Netscape Navigator Internet browser, combined with Corel WordPerfect 3.5's new HTML tools, lets you explore the "Information Superhighway" and create and edit your own HTML documents.

Templates

Write letters, forms and faxes with preformatted document templates—all you have to do is add the words. Predesigned brochures, planners, term papers and business forms (84 in all) let you create professional-looking documents quickly, with little effort.

Amazing Value!

- Corel® WordPerfect® 3.5
- Netscape Navigator™
- MasterJuggler™ Pro
- 5,400 clipart images
- 150 TrueType® fonts
- 200 photos

Key Features

Internet Publishing Tools

- Create, import and export HTML
- Netscape Navigator™ Internet browser

New Features

- Bookmarks with hyperlinks
- Ability to "speak" text
- Make It Fit™
- Easy envelopes
- Easy-to-use templates
- Corel WordPerfect 7 conversion

Apple® Technology Support

- AppleGuide™
- Easy Open
- Cross-application drag and drop
- QuickDraw™ GX printing
- PowerTalk™ (AOCE)
- MacinTalk™
- AppleScript™
- WorldScript™
- QuickTime™

Page Layout Features

- Columns (3 types), up to 24
- Styles, kerning, borders
- Text boxes
- Headers and footers

Graphics Features

- Drawing and Equation Editors
- Page overlay/watermarks
- Bézier curves
- TIFF, EPS, PICT, JPEG, GIF

Documentation Processing Features

- Macros
- Integrated grammar checker
- Speller/Thesaurus
- Sort/Merge/Outlining
- Corel WordPerfect conversions for DOS, Windows®, UNIX and VAX
- New imports for Microsoft® Word 6.x, MacWrite II, RTF and text

The #1 word processor for the MAC.



SYSTEM **75** Mac OS

Corel and WordPerfect are registered trademarks of Corel Corporation or Corel Corporation Limited. Apple and Macintosh are registered trademarks of Apple Computer, Inc. Netscape Navigator is a trademark of Netscape Communications Corp. Microsoft and Windows are registered trademarks of Microsoft Corporation. All other product and company names are trademarks or registered trademarks of their respective companies.

Call Today!
1-800-222-2808

Competitive upgrade CD-ROM version **\$99.99***
Full CD-ROM version **\$169.99***

KUR-0260-US

*US\$ plus applicable taxes and shipping.



<http://www.wordperfect.com>
Call now for faxed literature!
1-613-728-0826 ext. 3080
Document # 1168

Adobe Persuasion 4.0

PRESENTATION PROGRAM MAKES THE LEAP TO THE WEB

AFTER RECEIVING NO MAJOR revisions in more than two years and very little advertising exposure, Persuasion looked as if it might be abandoned by its new owner, Adobe Systems. The release of version 4.0 should put the rumors of Persuasion's impending demise to rest. While it doesn't have every feature I'd hoped for (see *Reviews*, September 1994), Persuasion 4.0 is a solid upgrade that should be particularly appealing to those who want to publish their presentations on the Web.

All in the Family

Persuasion's dialog boxes, menus, and tool palettes have been revamped to resemble those of two other Adobe programs, Photoshop and Illustrator. I especially like the new color palette, which is much more logical and includes a handy list view similar to Microsoft PowerPoint's. The text palette is also more compact, sporting a pop-up menu that lets you access the character- and paragraph-formatting dialog boxes.

The Layers menu—at the bottom of the slide window in Persuasion 3.0—is now a convenient palette; a pop-up menu lets you choose from 13 magnification levels, twice as many as in the previous version (see "Multiple Layers").

Another new command automatically arranges all the active tool palettes at the side of the window, although you still can't dock them at the top or bottom.

In keeping with its new place in Adobe's product family, Persuasion now lets you import or drag and drop native Photoshop and Illustrator files into presentations with layers intact. Version 4.0 also supports several new file formats, including EPS and JPEG for export and TIFF, JPEG, and GIF for import.

Other welcome additions include a tool for cropping images, an eyedropper tool similar to Photoshop's, and an enhanced nudge palette that allows finer control over the size and position of objects on a slide.

Caught in the Net

Persuasion's new link tool lets you attach Internet URLs to any object on a slide; clicking on the object while the presentation is running launches your Web browser and takes you to the specified page. Persuasion also lets you drag and drop URLs from your browser onto a slide.

You can export slides to the Web using Adobe's Portable Document Format (PDF), which lets you transfer whole presentations to your Web server with text, graphics, and hyperlinks intact. (Persuasion uses Acrobat Distiller to perform the translation; you can also create a PDF file by printing your presentation using an included Chooser extension.) Users can then view presentations in PDF format with Adobe's free Acrobat Reader.



Multiple Layers Persuasion's new Layers palette lets you rename, lock, and hide individual layers or assign objects to them.

Adobe's approach to Web publishing has advantages and disadvantages. The rich PDF format ensures that your presentation retains its antialiased text and finely detailed graphics on the Web. But until PDF gains universal acceptance, there's no guarantee that everyone browsing the Web will be able to view your presentation. HTML export would be a useful option, even at the expense of fidelity.

Still Missing in Action

Surprisingly, a few of Persuasion 3.0's shortcomings remain uncorrected in the new version. There's still no way to draw Bézier curves, and your animation options are limited to moving objects horizontally or vertically—you can't animate motion

along a path, for instance. And Persuasion still doesn't directly support text rotation, although you can import rotated text from other applications.

Persuasion's spelling checker hasn't improved much, either. The most glaring annoyance is the need to click on an Ignore button or hit the return key after adding a word to the dictionary. I also have mixed feelings about Persuasion's companion charting and table applications, Adobe Chart and Adobe Table, both unchanged from version 3. Although Chart's wealth of graphing options makes the long launch time almost worthwhile, having to run a separate program to create simple tables is frustrating.

Two for the Price of One

Persuasion 4.0 runs on any Mac with a 68030 processor, although a 68040 machine or a Power Macintosh is recommended. You'll also need plenty of memory: Adobe suggests 16MB for Persuasion, an unrealistic proposition if you have less than 32MB of RAM installed.

Both the brief quick-start manual and the comprehensive user guide sport dual Macintosh and Windows logos. That's no accident—the box ships with Mac and Windows installers and licenses, a big plus if you work with both operating systems. The CD also includes an application that lets you translate PowerPoint 4.0 files into Persuasion format, although I'd prefer to import them directly. A limited version of Adobe Type Manager 4.0 is also included, along with a generous sampler of textures, fonts, clip art, and sounds.

The Last Word

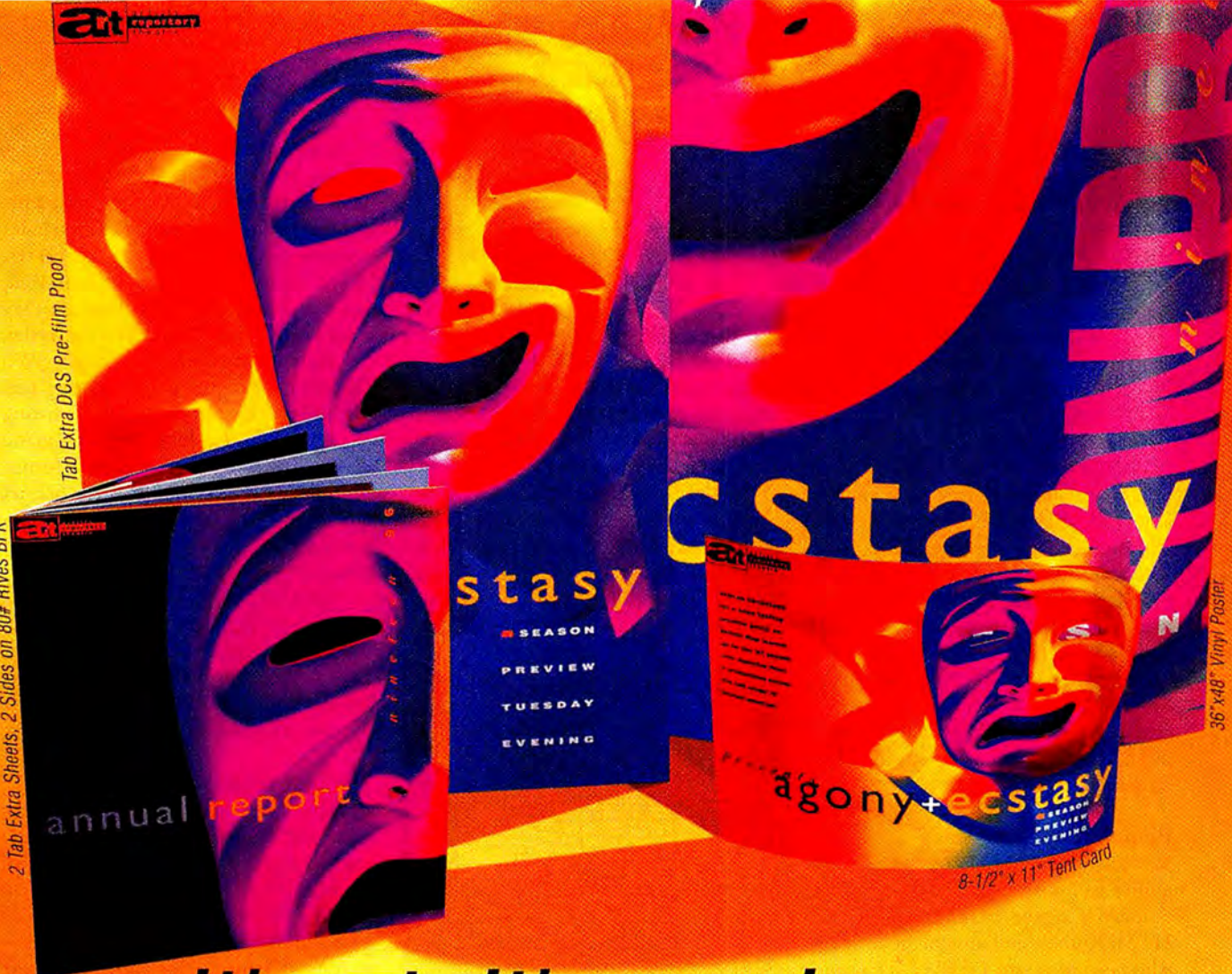
Persuasion's revised interface and added features more than outweigh its deficiencies, and its new feature set is much richer than PowerPoint's. Although there are better alternatives for Web-page design—Adobe PageMill among them—Persuasion is an excellent tool for creating presentations for the boardroom, the classroom, and the Internet.—FRANKLIN N. TESSLER

RATING: ★★★★★/7.1 **PROS:** Improved user interface; more import and export options; ships with Mac and Windows versions. **CONS:** Separate table and charting programs; poor spelling checker. **COMPANY:** Adobe Systems (408/536-6000, <http://www.adobe.com>). **COMPANY'S ESTIMATED PRICE:** \$395.

be PostScript

Tab Extra DCS Pre-film Proof

2 Tab Extra Sheets, 2 Sides on 80# Rives BFK



36" x 48" Vinyl Poster

8-1/2" x 11" Tent Card

**It's art. It's your image.
Trust it to Tektronix color printers.**

More design professionals choose a color printer from Tektronix, the leader in workgroup color printing, than from anyone. It is because they want the richest, most vibrant, and controllable color in the world. The fastest. The brightest. And the most versatile. All these color printers are cross-platform and connect to networks in a snap. They're economical and reliable.



The Power of Color
Call for your free CD.

And they'll make all your comps and pre-film proofs worthy of a standing ovation.

Which one is best for you? Get your free *Power of Color* interactive CD with print samples and find out!



Poster-sized prints
On any paper

NEW Phaser 600



Fastest color
Pennies a page

NEW Phaser 350



Photographic print quality
Letter bleed

NEW Phaser 450



Photographic print quality
Tabloid bleed

Phaser 480X



Brilliant color
Any paper both sides

Phaser 300X



1200 dpi color laser
Office workhorse

Phaser 550

Call 1-800/835-6100, Ext. 1369. <http://www.tek.com/CPad?1369>

Circle 143 on reader service card



HTML Editors

PAGESPINNER AND WORLD WIDE WEB WEAVER TAKE A NON-WYSIWYG APPROACH TO WEB AUTHORING

ON THE CONTINUUM OF WEB-authoring programs, WYSIWYG tools like Adobe PageMill (see *Reviews*, February 1997) and others that try to shield the user from HTML are at one end; at the other are programs that take a text-only, code-head approach, like Bare Bones Software's BBEEdit (see *Reviews*, June 1996). Somewhere in between lie non-WYSIWYG programs that let you tweak the HTML while still showing you the results of style tags. Two of these—Miracle Software's World Wide Web Weaver and Optima System's PageSpinner—prove not only that such HTML editors still make sense, but that they occasionally outshine their all-graphical counterparts.

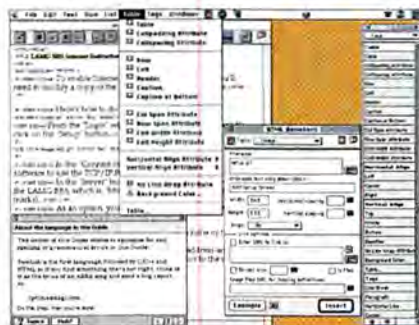
Help for HTML Newbies

With its excellent help features and the ability to insert any HTML tag, PageSpinner is a good starting point for new HTML authors and a useful tool for those who need to create a slew of Web pages. This shareware program can be downloaded from Optima System's Web site or from the Mentioned in Macworld area of Macworld Online's Software Library (<http://www.macworld.com/software>).

PageSpinner's main editing window displays the text of your Web page, with color-coded HTML tags and formatted body text. If you don't want to type in the tags, you can use PageSpinner's Tags menu or the HTML Assistant, a window that helps you add page elements by listing their required and optional attributes.

Small icons in PageSpinner's menus and dialog boxes tell you whether a particular tag or tag attribute is part of the current HTML 3.2 specification or a Netscape Navigator or Microsoft Internet Explorer extension. The Tags menu lets you easily insert any standard tag, plus some commands controlling search sites' automatic indexers and Maxum's Net-Cloak. Another nice touch is the ability to insert tags for Java applets and common JavaScript functions. And the program shines in its extensive use of built-in help, including a nicely implemented Apple Guide and balloon help.

But although PageSpinner does a good job of creating Web pages, it has serious problems when it comes to editing existing documents. Say you want to change a page's background color, an attribute specified in the <BODY> tag. The HTML Assistant lets you set the new color, but clicking on the Apply button creates an additional <BODY> tag rather than modifying the existing one. Because an HTML document can have only one <BODY> tag—and because the program



Spinner's Delights PageSpinner's hand-holding includes an Apple Guide; the HTML Assistant, which helps you add common page elements; and the floating menu palette listing all the program's commands.

doesn't check and validate HTML—if you're not careful, you can end up with seriously flawed pages. And PageSpinner is incompatible with the FaxMenu part of STF Technologies' Faxstf (though you can turn off FaxMenu and still use the rest of the fax software).

Stodgy but Solid

World Wide Web Weaver lacks PageSpinner's sophisticated interface and extensive help, but it still has plenty of power. It breaks up the document window into four sections—Page Head, Header, Body, and Footer—reflecting the parts of an HTML document. This convention lets you use a single command, Update Page Sections, to change common design elements on multiple pages.

You enter tags either by typing them in or by choosing them from the Tags menu or the tool palettes. One of Web Weaver's customizable palettes contains special characters, such as diacriticals and

the copyright symbol; another lists tags for line breaks and paragraph centering. More complex tags have their own editing dialog boxes, each of which includes options for using the tag's attributes. While most of those editors work well, some are awkward to use because they don't give you enough space on the screen.

Unlike PageSpinner, though, Web Weaver has no problems validating tags for proper syntax or editing existing pages, and a Re-Edit Tag command makes it easy to modify tables, forms, frames, and so on. Web Weaver doesn't include the wide variety of tags that PageSpinner does, so you may find yourself looking up tags a bit more often.

Web Weaver comes with a printed manual and includes balloon help but no Apple Guide. And although both programs have scratchpads for storing boilerplate information, PageSpinner's 100 nameable pages make it the more useful of the two.

The Last Word

Building Web pages and maintaining them are two very different tasks, and each of these programs excels at one of them. With its outstanding built-in help and HTML Assistant, PageSpinner is a great choice for creating Web pages—particularly for novice authors. If your focus is on maintaining a Web site, or if you're an experienced Web developer, World Wide Web Weaver is the better choice; it's a little more expensive, but its knack for modifying existing Web pages justifies the extra cost.—TOM NEGRINO

PageSpinner 1.2.2

RATING: ★★ ★/6.9 **PROS:** Good HTML-creation tools and assistants; excellent built-in help; includes HTML 3.2 tags. **CONS:** Mediocre page maintenance; minor incompatibility with Faxstf. **COMPANY:** Optima System (<http://www.algonet.se/~optima/pagespinner.html>). **SHAREWARE FEE:** \$25.

World Wide Web Weaver 2.0.2

RATING: ★★ ★/6.8 **PROS:** Good at editing existing pages; validates tags for correct syntax. **CONS:** Doesn't include all current tags; some tag editors feel a bit cramped. **COMPANY:** Miracle Software (315/265-0930, <http://www.miracleinc.com>). **LIST PRICE:** \$89.

In a recent study, researchers found that 3 out of 5* chickens were completely unaware of a Mac to PC printing solution called PowerPrint.†

*2 out of 5 did not understand the question.

Help us get the message out.



Yes, you *can* print from your Mac to over 1000 PC printers — with PowerPrint.

PowerPrint is everything you need to print from your Mac to the PC printer you already have or the one you're thinking of getting. Suddenly, you have the ability to print to a huge range of PC printers from companies like Canon, Epson, Hewlett-Packard, Lexmark, Okidata and Panasonic.

You can take advantage of the same wide selection of features and prices that PC users have been enjoying for years. For less than \$150, PowerPrint has the software and smart cable that makes Mac to PC printing possible.

So give us a call and tell us about the PC printer you want to use with your Macintosh.

Let us tell you how simply PowerPrint can make them work together.

† Any person(s) with data to refute or contradict our study should present their research documentation, including a profile of a typical chicken used in that research, to the Marketing Department of GDT Software, Inc. Any person(s) presenting us with an actual chicken with proven awareness of PowerPrint as a printing solution will be given a free copy of PowerPrint along with our hearty admiration. We reserve the right to feature any such chicken (original or extra-crispy) in subsequent ads.



Call: 800.665.8680
Website: www.gdt.com

PowerPrint[®]



© 1996 GDT Software, Inc. PHONE: 804.473.3600 FAX: 804.473.3699
All product and corporate names are trademarks of their respective companies.

Circle 32 on reader service card

GDT SOFTWARE
INCORPORATED



Tax Software

IMPROVED MACINTAX DELUXE AND KIPLINGER TAXCUT
MAKE AN ANNUAL CHORE LESS TAXING

THIS TAX SEASON, IT'LL BE A little easier to choose a tax preparation package: Parsons Personal Tax Edge, one of the products in our last roundup (*Reviews*, April 1996), is no longer available for the Macintosh. The two remaining programs—Intuit's MacInTax and Block Financial's Kiplinger TaxCut—are closely matched, offering streamlined interview features that help you navigate the minefield of tax regulations. We looked at the planning versions of these programs; the final versions, which contain the IRS-approved forms required for filing, should be available by early February.

Different Approaches

The 1996 versions, like those in previous years, let you choose between the interview method, in which the program prompts you for information and fills in the tax forms automatically, and the manual method, where you enter the information yourself on electronic versions of the forms. Both MacInTax and TaxCut



Tour Guide MacInTax intersperses tax advice with short videos designed to highlight an element of tax law or guide you through a sticky issue.

can also import data from a financial-planning program, and if you stick with the same tax program this year, it will transfer basic information into the current year's return. Either way, your taxes are calculated in seconds, and the results change automatically as you enter additional information. Once your return is completed, you can print it or, for a \$9.95 service charge, have Intuit or Block file your return electronically.

Though their approaches to the inter-

viewing process differ, both programs offer a "what-if" feature that lets you test several strategies to see which one results in the lowest tax, and both flag tax errors and entries that may trigger an IRS audit.

MacInTax's improved question-and-answer technique attempts to get more



Easy Access Kiplinger's TaxCut offers an accessible, easy introduction to the program.

information from you at the start of the interview process, so fewer questions need to be asked later on. From time to time you'll have the option of viewing a Quick-Time movie that explains an aspect of tax preparation in more detail (see "Tour Guide"). Some of the clips offer valuable information, but others don't seem to go much beyond the sound bite category. The overall presentation is extremely professional, however, and takes much of the work out of preparing tax forms.

TaxCut has a revamped question-and-answer process, with a friendlier approach and less formal language than MacInTax's (see "Easy Access"). Another new feature is a more Mac-like interface; you can at last activate highlighted buttons by pressing return, and cut and paste material in data-entry fields.

The Amenities

MacInTax Deluxe comes on a CD-ROM, which, annoyingly, must be in the drive while you're using the program. (A \$34.95 floppy-disk version includes all the necessary tax forms and basic help and interview information, minus the videos.) The PowerPC-native Deluxe version uses roughly 5MB of RAM and runs briskly enough, though occasionally it keeps you waiting

while it retrieves data from the CD.

The Mac version of TaxCut isn't available on CD-ROM, nor is it PowerPC native, but performance was fine on my Power Mac 9500. I did, however, run into an occasional low-memory warning when I ran the program with its default setting of 1800K.

The state version of TaxCut is available only for California and New York. Intuit, on the other hand, offers state versions of MacInTax for every state with an income tax. And MacInTax includes an excellent 64-page manual that takes you through the basics of installing and using the program. In contrast, TaxCut's printed material is limited to a leaflet containing installation instructions. Both programs include the actual IRS instructions for each form, plus hints on handling particularly knotty aspects of your return.

The Last Word

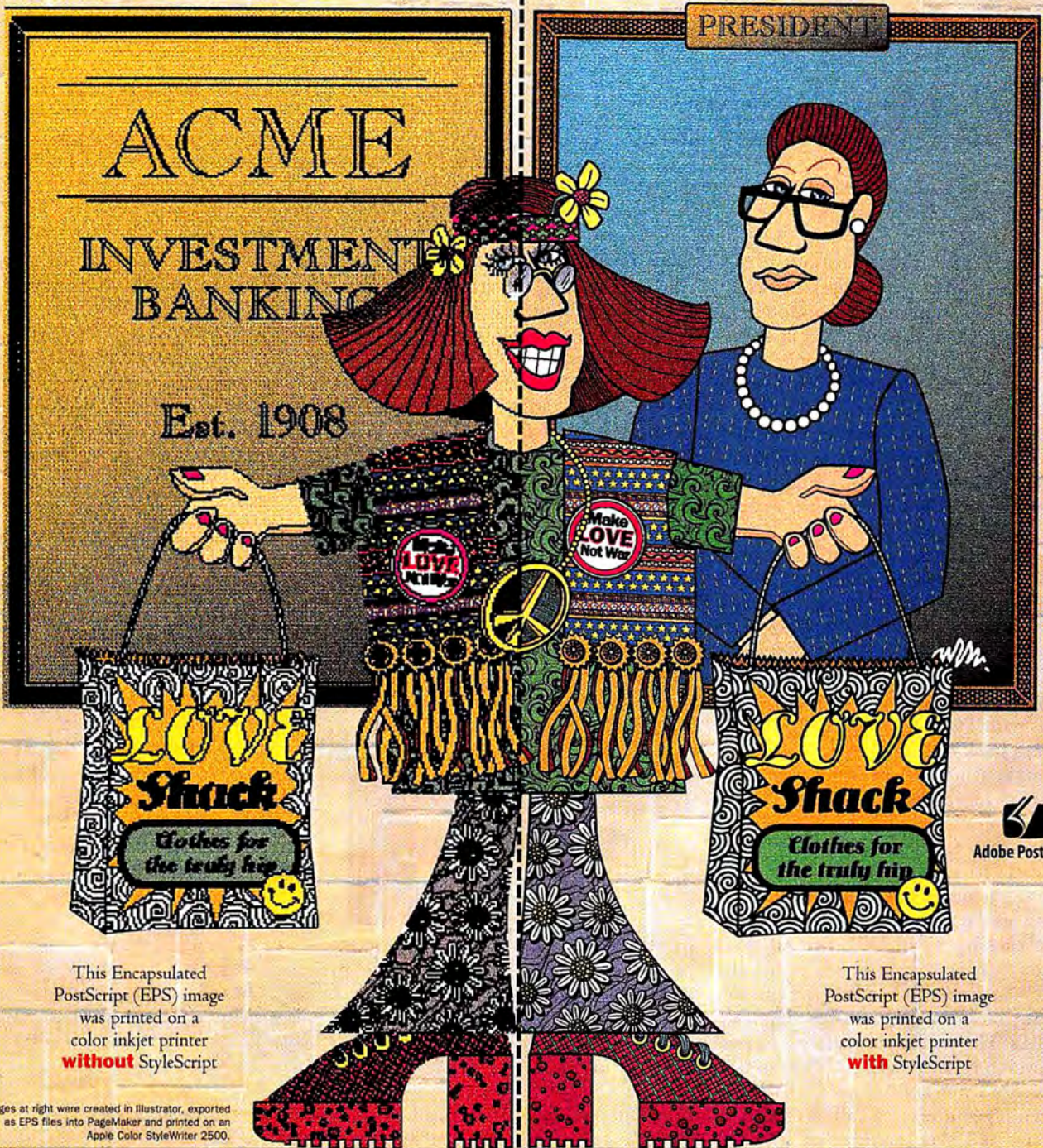
MacInTax and TaxCut have been refined over the years to make tax preparation as trouble-free as possible, and now they're close enough in features and performance that you'll probably have a hard time choosing one over the other. If you live somewhere other than California or New York, prefer a little multimedia with your tax preparation, or need the greater range of online help a CD can provide, you may be better off with MacInTax.—GENE STEINBERG

Kiplinger TaxCut

RATING: ★★★★★/7.1 **PROS:** Friendly interview process; well-organized, easy-to-follow online instructions; relatively brisk performance. **CONS:** Meager documentation; occasional low-memory warnings; state versions available only for New York and California. **COMPANY:** Block Financial (617/428-1119, <http://www.conductor.com>). **COMPANY'S ESTIMATED PRICE:** \$29.95; state modules \$24.95.

MacInTax Deluxe

RATING: ★★★★★/7.7 **PROS:** Easy but comprehensive interview process; informative tax help; state tax modules for all states with income tax. **CONS:** Occasional slowdowns when accessing information from CD; somewhat RAM-intensive. **COMPANY:** Intuit (520/295-3110, <http://www.macintax.com>). **LIST PRICE:** \$44.95; planning version \$54.95; state modules \$24.95.



This Encapsulated PostScript (EPS) image was printed on a color inkjet printer **without** StyleScript

This Encapsulated PostScript (EPS) image was printed on a color inkjet printer **with** StyleScript

The images at right were created in Illustrator, exported as EPS files into PageMaker and printed on an Apple Color StyleWriter 2500.



FREEDOM OF EXPRESSION

Now, you can print PostScript to your inkjet printer!

StyleScript turns your Apple or HP inkjet printer into an affordable, sharp, high-quality PostScript printer using our genuine Adobe Level 2 PostScript software.

With StyleScript, you're now free to print PostScript (EPS) graphics without the jaggies, giving you the same smooth result as you would get using an actual PostScript printer — for less than \$150!

WEBSITE: www.gdt.com

CALL NOW: 800.807.9905



© 1996 GDT Softworks Inc. PHONE: 604.473.3600 FAX: 604.473.3699
All product and corporate names are trademarks of their respective companies.
GDT SOFTWARE
INCORPORATED



StyleScript®

Circle 42 on reader service card

URL Managers

WHEN YOUR BROWSER'S BOOKMARK LIST JUST ISN'T ENOUGH

AT THE DAWN OF TIME—LATE 1993 or so, when bookmarking in browsers was truly primitive—I kept all 12 Web URLs in a SimpleText file in the Apple menu. When the Web exploded to 50 sites, I added 2 more files. As the Web grew, I began grouping my files into folders. I mention this bit of history to emphasize that if a commercial URL manager isn't easier to use than this approach, it's hard to justify paying for it.

Five new URL managers range from elaborate to basic. All capture and catalog URLs, e-mail addresses, and FTP sites for easy access, but some are significantly easier to use, faster, and more compact.

The Big Boys

Eastgate Systems' Web Squirrel 1.06 keeps track of URLs using an elaborate filing system. Sites are kept in nice visual displays called "farms," and farm elements can be grouped into "neighborhood" lists—sort of a reinvention of the Finder's View by Icon. You can add URLs to farms using cut and paste or drag and drop; as with all the utilities reviewed here, double-clicking on an URL fires up your browser and takes you directly to that site. Web Squirrel also has an agent function that tracks and eliminates duplicate URLs. The question to put to this rodent, however, is how tracking URLs can take nearly as much RAM as ClarisWorks (running a browser, a PPP dial-up program, and Web Squirrel on a 16MB Power Mac is nearly impossible).

Another URL tracker with hefty RAM requirements is OnBase Technology's DragNet 1.1.4, a significantly more stable product than earlier versions. You drag and drop URLs into databases and locate them using a search function. If you have a big enough monitor, you can keep the Address, Directory, Hot List, and Searcher windows open and manage thousands of URLs quite easily. Of course, another approach is to consider a search engine your URL manager and avoid cataloging hundreds of URLs that are quietly turning into "file not found" errors behind your back.

Little Giants

Aladdin Systems, cleverly recognizing that the Mac already has a System and Finder, produced a control panel that creates a Finder-like environment outside your browser. CyberFinder 2.0 is unobtrusive, small, and incredibly stable. It organizes other online activities (e-mail, FTP, Gopher, and newsgroups) in their own separate folders. If you prefer to handle e-mail with Eudora, download files with Fetch, and read newsgroups with your favorite news reader rather than relying on your browser, CyberFinder is the utility you want.

Europasoft, meanwhile, developed a compact (380K) extension that produces its own Finder-level menu. Web Quick 1.2.1 simply follows your URL trail as you browse, organizing sites alphabetical-



Channel Surfing Surfboard's simple channel clicker fits easily on a small screen and supports multiple sets of "channels."

ly in one pull-down menu and by the order visited in another menu. Site lists let you open URLs as if they were regular menu items, and you can drag URLs as hyperlinks into other applications. Web Quick eliminates duplicate URLs.

Another utility with no learning curve is Abbott Systems' Surfboard, which appears as a remote control with pull-down menus (see "Channel Surfing"). You can create your own sets of buttons, and you add sites simply by clicking on the plus-sign button. Surfboard doesn't have its own database functions or CyberFinder's powerful non-Web options, and admittedly its presentation is something of a gimmick, but it works; Surfboard is a splendid example of interface design.

Trust me, you understand channel-clicking better than you understand System 7.5. You may outgrow it when you become a Java-jiving Web pro, but Surfboard is a great place to start.

The Last Word

Both Web Quick and Surfboard are still on my system; Web Quick follows my trail, then I dump the URLs I want to save into Surfboard for easy access. But every product in this collection offers better bookmarking than either Netscape Navigator or Microsoft Internet Explorer. And at these prices, you can afford to add one or two to your collection.—CHARLES SEITZ

CyberFinder 2.0

RATING: ★★★★★/7.8 **PROS:** Bug-free; fast. **CONS:** Non-Web activities require planning. **COMPANY:** Aladdin Systems (408/761-6200, <http://www.aladdinsys.com>). **LIST PRICE:** \$30.

DragNet 1.1.4

RATING: ★★★★★/7.0 **PROS:** Good choice for managing huge URL lists; effective search system. **CONS:** RAM hog; multiple windows crowd small monitors. **COMPANY:** OnBase Technology (714/830-5682, <http://www.onbasetech.com>). **LIST PRICE:** \$39.95.

Surfboard 1.0

RATING: ★★★★★/8.0 **PROS:** Simple; intuitive; takes little screen space. **CONS:** Limited topic capacity on clicker. **COMPANY:** Abbott Systems (914/747-3116, <http://www.abbottsys.com>). **LIST PRICE:** \$39.

Web Quick 1.2.1

RATING: ★★★★★/8.2 **PROS:** Small; convenient; essentially no learning curve. **CONS:** None. **COMPANY:** Europa Software (503/417-2900, <http://www.europasoftware.com>). **LIST PRICE:** \$49.95; \$29.95 online.

Web Squirrel 1.06

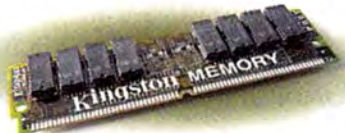
RATING: ★★★/6.7 **PROS:** Powerful organizer based on hypertext file engine. **CONS:** Needs lots of RAM; duplicates and renames standard Mac features. **COMPANY:** Eastgate Systems (617/924-9044, <http://www.eastgate.com>). **LIST PRICE:** \$49.



**IF YOUR MEMORY FAILS
WHO CARES WHAT'S ON YOUR POWERBOOK?**



Your screenplay. Your stock portfolio. Images from your trip to the Himalayas. There's a lot of valuable stuff on your PowerBook. So why not use the finest components to preserve it? Kingston® memory. At Kingston, we test every cell on every chip on every module. (On a 16 megabyte module, that's 128 million cells.) Since every PowerBook has its own unique memory requirements, we design



and test each module specifically for the model in which it will be used. Together, these grueling procedures have helped us become a select Authorized Apple RAM Developer. To find the specific Kingston memory for your PowerBook, just call (800) 259-8965. And before you put anything else on your PowerBook, be sure to put in some Kingston memory.

Kingston
TECHNOLOGY

For more information call us at (800) 259-8965



Visit our Web site: <http://www.kingston.com/mw.htm>

Kingston Technology Company, 17600 Newhope Street, Fountain Valley, CA 92708 USA, (714) 435-2600, Fax (714) 435-2699. © 1996 Kingston Technology Company. Kingston is a registered trademark and Computing Without Limits is a trademark of Kingston Technology Company. All rights reserved. All other trademarks are the property of their respective owners. PowerBook is a registered trademark of Apple Computer, Inc.

Circle 201 on reader service card

between now

and **May 31**

there's a color called

REBATE.

Get a \$1,000 Rebate on a Color Laser Beam Printer 360PS.

COLORCONNECTS your office to a spectacular array of colors at a spectacularly low price. Buy a Color Laser Beam Printer 360PS until May 31, 1997 and you'll get a rebate certificate worth \$1,000.*

And if that's not enough to brighten your day, while supplies last, you get a **32MB printer for the suggested retail price of \$9,495 — what you'd expect to pay for 16MBs!**

It comes with a built-in Fiery™ driven controller for speed, plus you get 600 dpi of high-resolution text and graphics at a fast 3 pages per minute. And it's all part of a system that easily connects with your current environment, from a name that's easily recognized as the leader in color laser technology.

To get your rebate certificate, visit your nearest Canon authorized dealer today or call **1-800-OK-CANON** ext. 0360, *anytime*. Or connect with us on the Web at <http://www.usa.canon.com>.

* \$1,000 manufacturer's rebate available with required proof of purchase.



Canon Laser Color. Its only competition is reality.

Startup Manager 7.0

NOW'S ANEMIC EXTENSION UTILITY GOES SOLO

FROM THE FLAWED BLURB ON THE front of the box ("It's the first utility you'll ever need") to its buggy interface, Now Startup Manager (NSM) is disappointing. It's hard to understand why Now Software decided to break out this extension-management utility from the successful Now Utilities suite and market it as a stand-alone product.

Admittedly, NSM is a step up from Apple's own Extensions Manager. For example, it allows you to sort your start-up items by various criteria—loading order, installation date, and so on—and create a new loading order by dragging items up or down a scrollable list. It can

start-up by holding down a key combination you define.) NSM's bland extensions list can't compare to CC's interface, which allows you to color-code start-up items. Listing and sorting options are also more limited with NSM: you can't list start-up items by the amount of RAM they consume, for example. And NSM lacks CC's Intuition feature, which lets you first target extensions you think might be causing a problem when hunting down a conflict.

NSM allows you to disable the display of icons during start-up, but doesn't show each item's name under its icon—something I've found useful with Conflict Catcher. And although you can switch between saved start-up sets with NSM, the program doesn't display the name of the active set during the start-up sequence (Conflict Catcher does).

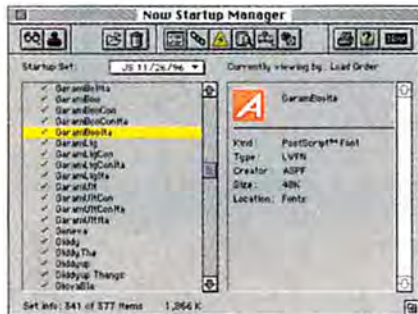
Worst of all, I found NSM disturbingly buggy and unpolished. Its system profiling feature reported that the processor in my Power Mac 7200 was a 68020 chip instead of a 601—a goofy error. When I re-sorted my start-up items in the NSM control panel, Control Strip modules appeared in alphabetical order, even when I tried sorting them by other

criteria. Also strange, the NSM Installer plunked a copy of the Now Startup Manager Guide in my Apple menu—even though launching the guide from there produces an error message. (The Apple Guide features must be accessed from within the control panel itself.) Finally, a printed manual will cost you another \$10, and if you want floppy disks (instead of the CD-ROM), add another \$3.95.

The Last Word

As one component of Now Utilities, Now Startup Manager is a passable extension-management tool, but it simply can't compare to Conflict Catcher as a full-blown stand-alone utility. When it comes to catching conflicts, Conflict Catcher is still king.—JOSEPH SCHORR

RATING: ★★/4.0 **PROS:** Manages fonts and application plug-ins; inexpensive; conflict database updated daily on the Web. **CONS:** Can't display names of loading extensions during start-up; buggy; no printed manual. **COMPANY:** Now Software (503/274-2810, <http://www.nowutilities.com>). **LIST PRICE:** \$55.



Getting Started Now Startup Manager manages more than control panels and extensions. You can use it to load fonts, as well as plug-ins to programs such as Adobe Photoshop and Netscape Navigator.

also create a profile of your system, and it helps isolate conflicts by systematically turning off groups of extensions (starting with those most recently installed) and restarting your Mac until you nab the offending extension. (Now updates its conflict database on its Web site daily.)

NSM lets you manage more than just extensions and control panels. You can use it to manage alternate sets of fonts and to turn on or off at start-up selected third-party plug-ins (or groups or plug-ins) for programs such as Netscape Navigator and Adobe Photoshop.

But NSM lacks many of the features that make Casady & Greene's Conflict Catcher (CC) 3 so elegant. While CC allows you to switch between start-up sets and access other features via a menu-bar icon, NSM requires that you open the control panel itself to make adjustments. (You can also access the panel during

Is tomorrow a
"I have to address and mail
1,800 letters by 3pm..."
type of day?

Well, you can relax. Avery® address labels make large mailings easy. Thanks to preset layouts for Avery products that already exist in Microsoft® Word, WordPerfect®, LabelPro® and other popular software. And you can print them out on your laser or ink jet printer. Which makes your labels look as professional as you do. Could be a "long lunch" type of day after all.

Avery® Address Labels (Laser 5161™/Ink Jet 8161™)

AVERY
How will you use us today?
1-800-477-4404
www.avery.com

Circle 17 on reader service card

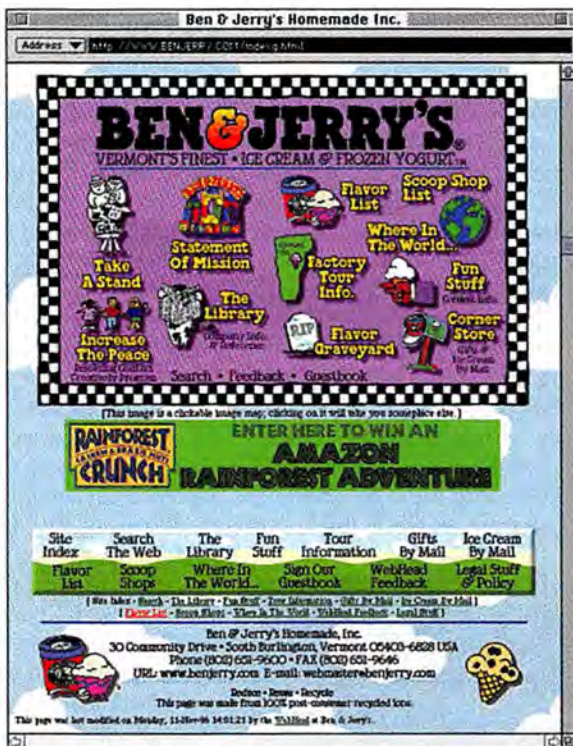
Behind every good web site...

Every job requires the proper tool. When it comes to creating web sites, **BBEdit 4.0** is the **Swiss Army Chainsaw** of HTML editors.

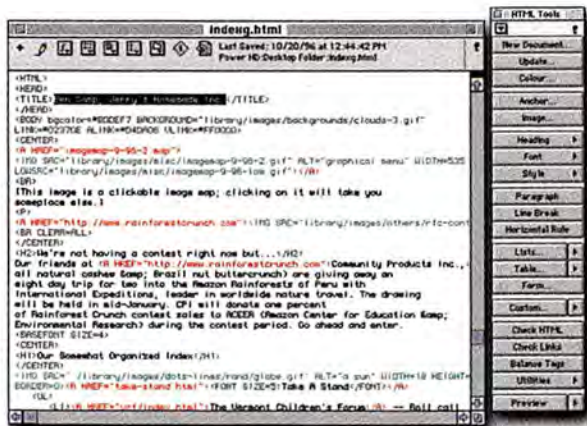
"BBEdit deserves a place in everyone's HTML toolkit..."

-- MacUser, August 1996

- Use **drag & drop** HTML tools to build your page quickly
- **Spell check** text; **syntax check** your HTML
- **Preview your page** using the browser of your choice
- **Open from and Save to** FTP server from the File Menu



A page from Ben & Jerry's web site created using BBEdit.



HTML code from the www.benjerry.com site displayed in BBEdit 4.0.

...is a **great** HTML editor.

BBEdit 4.0

<http://www.barebones.com/propertool>

To order, call 617-676-0650



Bare Bones Software, Inc.

P.O. Box 1048, Bedford, MA 01730 • main 617-778-3100 • fax 617-778-3111

Mariner Write 1.3

ELEGANT, SPEEDY WORD PROCESSOR

A YOUNG ACORN OF A PROGRAM has sprouted in the forest of enormous, old-growth word processors for the Macintosh. Mariner Write 1.3 is a slim, fast writing machine that takes up just 990K of hard-disk space on a Power Mac, runs in 1250K of RAM, and launches three times faster than Microsoft Word 6. To the PowerBook owner, the RAM-starved, or any fan of the abandoned WriteNow, Mariner Write is a welcome reprieve from the bloated 25MB best-sellers.

Yet we're not talking about SimpleText here; Mariner's modern-day features include a movable tool bar, ten levels of Undo, seven degrees of magnification, kerning, split windows, WorldScript sup-



Mariner Writing Mariner Write's menus are clean and carefully organized. Word 6 users might be startled to see the fascinating feature known as the Font menu.

port, text-wrap around graphics, excellent import and export compatibility with major word-processor formats, and a WYSIWYG font menu. And then there's drag and drop—other programs also let you use your desktop to stash text and pictures dragged from a document, but now such efficiency comes in a \$70 package.

All these features are implemented so cleanly and intelligently that it's hard to imagine needing the manual, balloon help, context-sensitive help, or text-only Apple Guide. Still, it's easy to see where Mariner ends and the \$300 word processors begin: Mariner Write lacks a table-creation feature, envelope printing, a thesaurus, and a mail-merge command.

From those omissions, it's clear that

Mariner Write's designers believe a word processor is for *writing*—not page layout, book creation, or number crunching. The program is crammed with surprising, unusual, and frequently charming features tailored to pure writing. A widow and orphan control, for example, prevents a single line of text from appearing at the top of a page; you can choose a text color and a background color; and you can select noncontiguous chunks of text. An Open Recent command lists the last eight documents you've opened, while a Dynamic Scrolling option lets you watch your text go by as you drag the scroll bar "thumb."

The program's menus reveal other treasures: four kinds of underlines, small caps, strike-through, and a style that puts a rectangle around text you've selected. Another menu lists worthwhile AppleScript commands, including one that highlights the active document's icon in the Finder. The Window menu commands neatly manage your open windows.

While this writer-centric rethinking of the modern word processor generally succeeds, some traditional features feel half-finished. For example, although the Find/Replace command is fast and clean,

and a separate command lets you search for combinations of fonts and sizes, you can't search for styles or other formatting. And while Mariner can create a multiple-column layout, you can't vary the number of columns in a document; similarly, you get only one header per document.

The Last Word

For writers, this pleasant word processor's speed and size may well be worth a truckload of thesaurus and table-making features. Unfortunately, Mariner Write pales next to its real competition: ClarisWorks. For only another \$60, that word processor offers similar speed and elegance—and spreadsheet, database, and graphics tools in the bargain.—DAVID POGUE

RATING: ★★ ★/6.9 **PROS:** Small, streamlined, and speedy; low RAM and disk requirements; reads and writes Microsoft Word files and many other formats; filled with useful, unusual touches. **CONS:** Lacks table, thesaurus, and mail-merge features; some features feel unfinished. **COMPANY:** Mariner Software (502/222-6695, <http://www.marinersoft.com>). **DIRECT PRICE:** \$69.95.

Chances are
the drug store doesn't have a
"Please Attend the Grand Opening
of Ben's Reptile Emporium"
card section.

Avery® Blank Greeting Card 8316™

But did Ben and his reptiles panic? Of course not. Because Ben designed and printed his own customized announcements. Without hassling with a print shop. Avery® card products feed easily through laser or ink jet printers and work well with popular publishing software. Which allowed Ben to personalize his message without anyone's cage getting rattled. Now that's progress.

AVERY
How will you use us today?
1-800-477-4404 167
www.avery.com

Circle 17 on reader service card

SPSS® 6.1 for the Macintosh®

Real Stats. Real Easy.

Accelerated
for the Power
Mac!

Use SPSS 6.1 for the Macintosh when you need in-depth answers quickly and easily. Go beyond summary statistics and spreadsheet row-and-column math by using the right tool for the job. SPSS is a complete tool kit of statistics, graphs and reports that enables you to answer tough questions like:

- Why did sales drop in the last quarter?
- How satisfied are my customers?
- What are the patterns in my data?

SPSS products are used today for:

Survey research

- Explore consumer awareness
- Compare perceptions of products
- Discover preferences by group

Marketing and sales analysis

- Analyze your customer database
- Forecast sales by product and region
- Improve mailing responses
- Determine which promotions work best

Quality improvement

- Assess process capability
- Reduce nonconformance
- Spot unnatural patterns of variation
- Track incidence of infection

Research of all types

- Test hypotheses
- Determine group differences
- Track performance over time
- Prepare professional reports

Answer your tough questions

From the most basic to the most in-depth analysis, SPSS 6.1 for the Macintosh gives you a wide range of statistics. Use procedures from counts and crosstabs to regression, factor, Kaplan-Meier plus over 60 more! SPSS gives you all the statistics you need to answer your tough questions.

All statistics are in organized, easy-to-use menus and dialog boxes. Get up and running quickly with the online tutorial. Task-oriented help and a statistical glossary guide novices and experts alike.

See your results clearly and pinpoint your answers easily with 50+ fully-integrated, high-resolution charts.

Take advantage of System 7 features such as Apple® Events, Balloon Help™ and AppleScript™ support.

Working with SPSS couldn't be easier. Call today to find out how to answer your tough questions every day with SPSS 6.1 for the Macintosh!

Get a great value – order now!

1 (800) 457-8287

Fax 1 (800) 841-0064

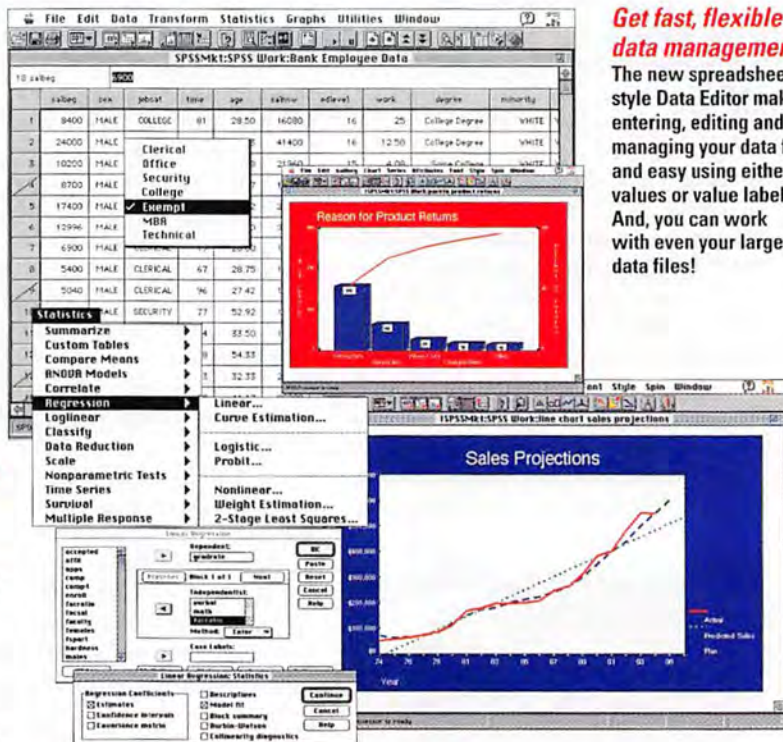
Our WWW site <http://www.spss.com>
Circle 85 on reader service card

Get answers to tough questions using in-depth statistics!

Work with 60+ statistical procedures from basics such as counts and crosstabs to more sophisticated statistics including factor, regression and logistic regression.

Work faster with an all new Macintosh interface!

Learn faster using an online tutorial and speed up analysis with task-oriented help, a statistical glossary and a new toolbar. Plus, all statistics are located in organized, convenient menus and dialog boxes for fast access without having to type commands!



Get fast, flexible data management!

The new spreadsheet-style Data Editor makes entering, editing and managing your data fast and easy using either values or value labels. And, you can work with even your largest data files!

See your results quickly and clearly!

Use 50+ integrated, high-resolution charts and graphs. Choose from business, statistical and SQC charts. All charts can be fully edited with point-and-click accuracy through tear-off menus and palettes.

Take a closer look at SPSS 6.1 for the Macintosh:

- All new Macintosh interface
- 60+ statistical procedures – from the most basic to the most advanced
- Work with even your largest data files
- 50+ integrated, high-resolution business, statistical and quality charts with automatic labels, including: Bar, Area, Pie, High-Low-Close, Histograms, Scatterplots, Boxplots, Error bars, Pareto, X-bar, Range, Autocorrelation Plots and many more
- Create labeled charts automatically as part of SPSS' powerful statistical routines
- Choose the right chart with the SPSS' Chart Advisor
- Toolbar with one-button access to statistics, commonly used functions and results.

- Plus, with the Dialog Box Recall button, SPSS remembers your last 12 steps making it fast and easy to do ad hoc or refine analyses
- Supports Apple® Events required suite
- Quickly build error-free production jobs from SPSS dialog boxes or type commands using our command language. Use AppleScript™ to run your production jobs unattended
- Hot buttons between graphs and numerical output
- New spreadsheet-style Data Editor makes it easy for you to enter, edit, browse and manage your data. Display values as labels or as numbers
- Option-click any variable cell to see a pop-up menu of value labels

- Save time by defining templates for variable definitions you use frequently
- Identify individual cases in scatterplots and boxplots and see related cases highlighted in the Data Editor
- ODBC database access
- Access files in other applications through Easy Open translators
- Complete report writer
- Online tutorial with step-by-step instructions and system overview
- Task-oriented help system
- Glossary of statistical terms
- Documentation that clearly explains statistics
- Technical support for statistical and operational help

- Explore data more thoroughly with factor, cluster, discriminant analysis and more with SPSS Professional Statistics™
- Execute advanced multivariate techniques such as Cox regression, Kaplan-Meier estimation, logistic regression and more with SPSS Advanced Statistics™
- Create customized tabular reports with SPSS Tables™
- Predict the future using advanced time-series analysis in SPSS Trends™
- Perform perceptual mapping, conjoint analysis and optimal scaling procedures with SPSS Categories®



Get a great value – order now!

Call 1 (800) 457-8287

Fax 1 (800) 841-0064

or mail to: SPSS Inc.
444 North Michigan Avenue
Chicago, IL 60611

American Express, Discover, MasterCard,
VISA and I.M.P.A.C. cards accepted

Name	_____
Title	_____
Organization	_____
Address	_____
City	_____
State	_____
ZIP	_____
Phone number ()	_____
Fax number ()	_____

Try SPSS 6.1 for the Macintosh with our unconditional, 60-day money-back guarantee.

(U.S. and Canada only)

A8267

SPSS
Real Stats. Real Easy.™

Chicago • Washington, D.C. • Boulogne • Chertsey • Gorinchem • Madrid • Munich • New Delhi • Singapore • Stockholm • Sydney • Tokyo • And distributors worldwide

QX-Tools 2.0

WINNING COLLECTION OF
QUARKXTENSIONS GETS EVEN BETTER

RANGING FROM SOMEWHAT USEFUL to wildly powerful, the ten XTensions in QX-Tools 1.0 added new or improved functions to QuarkXPress (see *Reviews*, February 1996). Extensis has added five new tools to the collection, making QX-Tools 2.0 an even more appealing package for serious XPress users.

The new QX-FindChange tool is a powerful, much-needed replacement for XPress's own Find/Replace command. With QX-FindChange, you can search and replace not just by character and paragraph attributes, but by style sheet, color, box attribute, rule, frame, or line.

Another new gem is QX-FineTune, a turbocharged version of XPress's Measurements palette. With QX-FineTune you can tweak 28 paragraph, character, object, and rule specifications, either by typing in new measurements or by clicking on arrows to change settings in fixed increments. What makes QX-FineTune so powerful is that all these essential commands are gathered into one compact, tabbed palette. The price you pay for such convenience is that you can't undo QX-FineTune's formatting changes—not even those you can normally undo using XPress's standard commands.

But the most dramatic of the new tools is QX-Effects. This utility lets you add striking special effects, such as drop shadows and embossing, to text and picture objects from within QuarkXPress. This process would ordinarily require a separate image-editing program, such as Adobe Photoshop.

To add an effect to your page, you simply select an object and choose one of the four options—Bevel, Emboss, Glow, or Shadow—from the QX-Effects palette. You can preview the results and adjust the blur, shadow, and other settings (see "Drop a Shadow"). When you click on Apply, QX-Effects creates a new TIFF image containing the effect and places it on the page. The array of effects is impressive, and the preview window gives you excellent control over the results; but you'll need to boost XPress's memory allocation by at least 1MB.

The other new tools in the package are QX-CopyStyle, a useful palette that



Drop a Shadow QX-Effects' Shadow dialog box controls the offset, blur, and shade of a drop shadow.

lets you selectively copy paragraph, frame, box, color, and trapping attributes from one object to another, even across XPress documents; QX-DocStyles, a more powerful version of XPress's New Document command; and QX-SmartBar, a palette that watches how you work and builds a tool bar with buttons for the commands you use most.

Of the ten holdovers from version 1.0, the standouts are QX-Scaler, which lets you scale multiple objects in one step; QX-Styles, which adds character-based style sheets to XPress; and QX-Viewer,

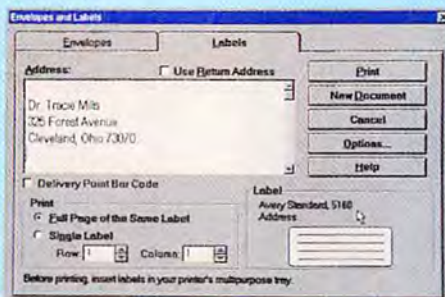
a palette that gives you a thumbnail view of each page, boosts XPress's zooming capabilities, and speeds up navigation within a document. Another original XTension, QX-Bars, offers customizable palettes and tool bars with buttons for accessing dozens of XPress commands. The tool bars can be overwhelming on small monitors, but you can customize them to make them smaller—or eliminate them entirely if you prefer.

The Last Word

At less than \$7 per XTension, QX-Tools 2.0 is an undeniably great deal. Once you get used to the power this collection adds to QuarkXPress, you'll find it hard to live without.—JOSEPH SCHORR

RATING: ★★★★★/7.8 **PROS:** Impressive special-effects filters and search-and-replace commands; more-accessible formatting tools. **CONS:** Can't undo some standard commands; palettes and tool bars clutter small monitors; increases XPress's RAM requirements. **COMPANY:** Extensis (503/274-2020, <http://www.extensis.com>). **LIST PRICE:** \$99.95.

"Don't leave!
I don't know how to do this!"



Oh wait, hey, I got it!"

How's that for a learning curve? It's all because preset layouts for Avery® products already exist in Microsoft® Word, WordPerfect® and LabelPro®. Which takes all the guesswork out of what used to be daunting projects. Like printing out address labels. Or business cards. Or whatever. And that gives you more time to sit back, relax, and bask in your superhuman intelligence.



AVERY

How will you use us today?™

1-800-477-4404 167
www.avery.com

Macworld Online

Software Collection

Could you
use some
FREE
software?

Picks o' the Week

As of: 12/18/96

[http://www.macworld.com/
software/index.shtml](http://www.macworld.com/software/index.shtml)



QuickTime Plug-In 1.1

Apple's QuickTime plug-in lets you view QuickTime movies and QuickTime VR (Virtual Reality) Panoramas and Objects directly in your browser window.

19
97

1997 Icon Calendar

This is S.P. Robinson's set of 12 custom icon folders, one for each month. Within each of these folders are folders representing each day of the month, laid out in calendar

Macworld Online.
For the hottest software
in the Macintosh market.

www.macworld.com

Reviews

Sagem Planet ISDN

GEOPORT TERMINAL ADAPTER BREAKS
SERIAL PORT SPEED BARRIER

THERE ARE TWO WAYS TO GET ISDN connectivity to your Mac: connect its serial port to an ISDN terminal adapter (TA), or use Ethernet to access an ISDN bridge or router. The former has always been less expensive, but because it labors under the asynchronous serial port speed limit of 115.2 Kbps, it misses out on ISDN's full performance capabilities. The Sagem Planet ISDN GeoPort Adapter (SPIGA) circumvents this limitation by operating the serial port in synchronous mode.

SPIGA consists of an oblong pod that connects to the serial port of any GeoPort-equipped Macintosh on one end (drawing its power directly from the computer) and to an ISDN jack on the other, using a supplied RJ-11 phone cable. Non-GeoPort Macs require a special external power cable and AC adapter, neither of which is included.

A well-written quick-start guide walks you through the process of ordering an ISDN line and explains how to configure SPIGA and Sagem's supplied PPP dialer software. A user guide provides more detailed setup instructions and troubleshooting information. SPIGA's only other bundled software is Sagem's Serial2ISDN tool, which lets you use serial-port communications programs—such as the popular shareware application ZTerm—for file transfer. Sagem sells its own ISDN file transfer software, EasyTransfer, separately.

Setting up SPIGA for Internet access is a snap: you simply type the phone number of your Internet service provider into the Sagem PPP dialer along with your user ID and password, and click the Connect button. The dialer's panel displays ISDN call status in plain English, a boon for problem diagnosis. The PPP dialer has automatic calling and idle-time disconnect features, so you can configure it once and forget about it, letting the dialer make calls for you whenever you run an Internet application.

A single ISDN line has two 64-Kbps channels, each carrying a separate phone call. The ISDN GeoPort supports a feature called Multilink PPP that joins these two channels into a single 128-Kbps connection. You can switch speeds on the fly while connected to your Internet provider,

a useful feature if your provider charges extra when you connect at 128 Kbps.

Some features found in other TAs are missing from SPIGA. Sagem offers no support for connecting analog devices—phones, modems, or fax machines—nor any built-in analog modem capability; you should hang on to your analog modem for the time being. Sagem supplies no Internet client software, so you must obtain a Web browser, e-mailer, and other Internet applications separately.

SPIGA sped past all other ISDN TAs we've tested, achieving FTP speeds of 15.5 Kbps—very near the theoretical ISDN maximum. Other TAs' serial port



limitation, coupled with inefficient asynchronous signaling (which requires 10 rather than 8 bits per byte), limits them to about 12 Kbps for file transfers—giving SPIGA a 25 percent performance edge.

The Last Word

ISDN products have come a long way from the early days of complex configuration and operation. Sagem's Planet ISDN GeoPort Adapter is the first external ISDN terminal adapter designed specifically for the Mac, and that shows in its easy setup and the polish of its user interface. Although SPIGA lacks the analog line features and bundled software of other ISDN TAs, its best-of-breed performance makes it a winner for ISDN Internet access.—MEL BECKMAN

RATING: ★★★★★/7.8 **PROS:** Low price; Multilink PPP support; dynamic bandwidth adjustment; easily configured PPP software. **CONS:** No power supply or cable for non-GeoPort Macs; no analog ports; no bundled Internet client software. **COMPANY:** Sagem USA (408/446-8693, <http://www.satusa.com>). **LIST PRICE:** \$395.

Are you the kind of person who always wants everything your own way? **Cool!**

EarthLink's Internet access now includes your Personal Start Page.

- 1 **STYLIZE** Choose how your page looks and what goes on it.
- 2 **GOT E-MAIL?** We'll tell you as soon as it comes in.
- 3 **NEWS** Select from 25 categories you're interested in and we'll gather it for you from over 700 sources.
- 4 **STOCK QUOTES** Watch your wallet fatten with your choice of stock quotes updated by PC Quote.
- 5 **PREMIUM CONTENT** Enjoy discounted rates and direct links to services from Quote.com, CompuServe® and others.
- 6 **WEATHER** Find out if you need shades or a scarf, with a 4-day local forecast.
- 7 **WEB LINKS** Select personal links to your favorite Web sites so they're only one click away.
- 8 **WEB SEARCH** If it's not on your Start Page, use a keyword to search the Internet to find exactly what you're looking for.

**Unlimited Internet
\$19.95 a month**

1 800-395-8425



It's your Internet™

Free software package for Windows™, Windows95™ and Macintosh®

www.earthlink.net Info e-mail: info@earthlink.net

All the goodies you expect... and more!
Personal Start Page Netscape Navigator™ Multiplayer Gaming Over 500 Dial-up numbers 24/7 Help 800# Free Website
Chat ISDN Business Solutions National Frame Relay The Net "A"-Rated Pournelle's Choice Yahoo Best

©1997 EarthLink Network, Inc. Trademarks are property of their respective owners. All rights reserved.
EarthLink Network, Inc. 3100 New York Drive, Pasadena, CA 91107
Circle 8 on reader service card

A rose is a rose is a... wait a second.



Kodak DC-40 Digital Camera



Casio QV30 Digital Camera



EPSON PhotoPC 500 Digital Camera

\$499



THE NEW EPSON® PHOTOPC™ 500 DIGITAL CAMERA WITH SUPERIOR IMAGE QUALITY. Roses are red, violets are blue, but only if you take their picture with the EPSON PhotoPC 500. The digital camera with 640 x 480 pixel resolution that gives you the most lifelike pictures around. It's got all the

convenience of a regular camera, from its built-in red-eye



reduction flash to its optional lenses and filters. But

no other camera has Epson's unique ColorTrue™ in-camera



processing and ClearOptics™ system, for accurate, vivid

images that add impact to documents or e-mail messages.

The PhotoPC 500 is flexible, too. With an optional LCD

to preview,



playback, or erase images. Memory that expands to hold 200 JPEG images. PC/Mac compatibility. And

our free Internet Sampler Pak (valued up to \$300) that lets you access and create Web pages. So, when it

comes to digital photography, a camera by any other name just isn't as good. For more information, visit

www.epson.com to download some sample images, or call 1-800-GO-EPSON and ask for operator 3015.



YOU'VE GOT TO SEE IT IN **EPSON** COLOR.™



RITZ CAMERA CENTERS



Street price may vary. Rose photos were taken with the Kodak DC-40, Casio QV30 and EPSON PhotoPC 500 as configured for retail sale. No special effects or lenses were used. Awards given to the EPSON PhotoPC, the first in the line of Epson color digital cameras. EPSON is a registered trademark of Seiko Epson Corp. ColorTrue and ClearOptics are trademarks of Epson America, Inc. All other trademarks are the property of their respective owners. ©1996 Epson America, Inc.

Best Buy



YOU'VE GOT TO GET YOUR ESSENTIALS!



COMMUTER MUG
Whether in your car or on public transportation, you'll love the versatility of this 12 oz. spill proof commuter mug!

ORDER TODAY!

MAIL ORDER **PHONE ORDER**
Macworld Merchandise 1.800.257.0347
501 Second Street
San Francisco, CA 94107
(please fill out form below)

ITEM	QTY	PRICE	AMOUNT
Commuter Mug (Pictured)		\$8.99	
Latte Mug		\$9.99	
Canvas Bag		\$10.99	
Eco-Fiber Cap		\$12.99	
Denim Shirt		\$39.99	
SUBTOTAL			
Add sales tax for CA, IL, NJ, or MA			
SHIPPING			
TOTAL			

Name		
Address		
City	State	Zip
Phone		
<input type="checkbox"/> Visa <input type="checkbox"/> Mastercard <input type="checkbox"/> Check <input type="checkbox"/> Money Order		
Card Number		
Signature		

SHIPPING INFORMATION

Item(s) value	Shipping Cost
\$0-\$9.99	\$4.99
\$10-\$19.99	\$5.99
\$20-\$29.99	\$6.99
\$30-\$49.99	\$7.99
over \$50	\$8.99

For Non-domestic orders please add \$20.00 for shipping and handling. Please allow 2-4 weeks for delivery.



Macworld

Your Essential Resource

WebRamp

ISDN ROUTER LACKS SOME FEATURES

TRANCELLE'S WEBRAMP ISDN router simplifies the process of putting an office LAN on the Internet with a setup wizard that walks you through the steps of connecting to an ISDN line, and thence to the Internet. But the WebRamp lacks advanced features found in other routers.

Along with the setup wizard, the WebRamp includes a built-in eight-port Ethernet hub, cables, a Macintosh installation guide, a user guide, and Netscape Navigator. You start out by running the setup wizard, which first presents information about WebRamp-savvy Internet service providers (ISPs) in your area and ISDN-line ordering instructions specific to your local telephone company. You must then contact both an ISP and your telephone company to arrange for service and obtain configuration information.

Armed with the necessary facts, you plug the WebRamp into your LAN and rerun the wizard, which locates the router and performs diagnostic checks. The wizard's graphical interface gives you pictures when you need them, offers extensive built-in help, and is much easier to use than the character-based interfaces of other ISDN routers. As you enter various ISDN and TCP/IP configuration values into dialog boxes, the wizard performs tests each step of the way and lets you know if it encounters problems. You finish by assigning IP addresses to all the machines on your LAN. Going online is now a completely transparent process: the WebRamp senses outbound Internet traffic and automatically dials your ISP; later it disconnects after a period of inactivity.

The entire process seems too good to be true, but it really does work, as long as your ISP is familiar with the WebRamp. In our testing, several ISPs had difficulty coming up with the necessary information to configure the WebRamp.

The WebRamp offers features common to other ISDN routers: dynamic bandwidth management, packet filtering to block outside access to your LAN, and alternate connection profiles for telecommuters. However, many advanced features found in other routers are missing from the WebRamp, including analog ports, data compression, AppleTalk or IPX routing or bridging, Distributed

Host Control Protocol (DHCP) dynamic IP addressing, and LAN-to-LAN routing.

The WebRamp also lacks remote management capabilities. It allows a single Telnet session, through which you can enter text commands in a teletype-like environment, but it does not support Simple Network Management Protocol (SNMP) monitoring, remote firmware upgrades, remote message logging, or multilevel password security.

The WebRamp's diagnostic tools include five LEDs that show power, hardware errors, Ethernet activity, B-channel status, and WAN errors; eight other lights show the status of each Ethernet port. The WebRamp also includes a software-monitoring tool that shows the status of



NEVIL CAMPLAND

connections, as well as error messages. Unfortunately, this software caused problems with screen drawing in other applications, and the tool lacks any remote-control capability; you can't, for instance, command a disconnect through it.

The router performed well in throughput tests, easily moving large files at close to 16 KBps, ISDN's theoretical maximum speed. It also interoperated well with other brands of routers, including ISDN gear used by ISPs.

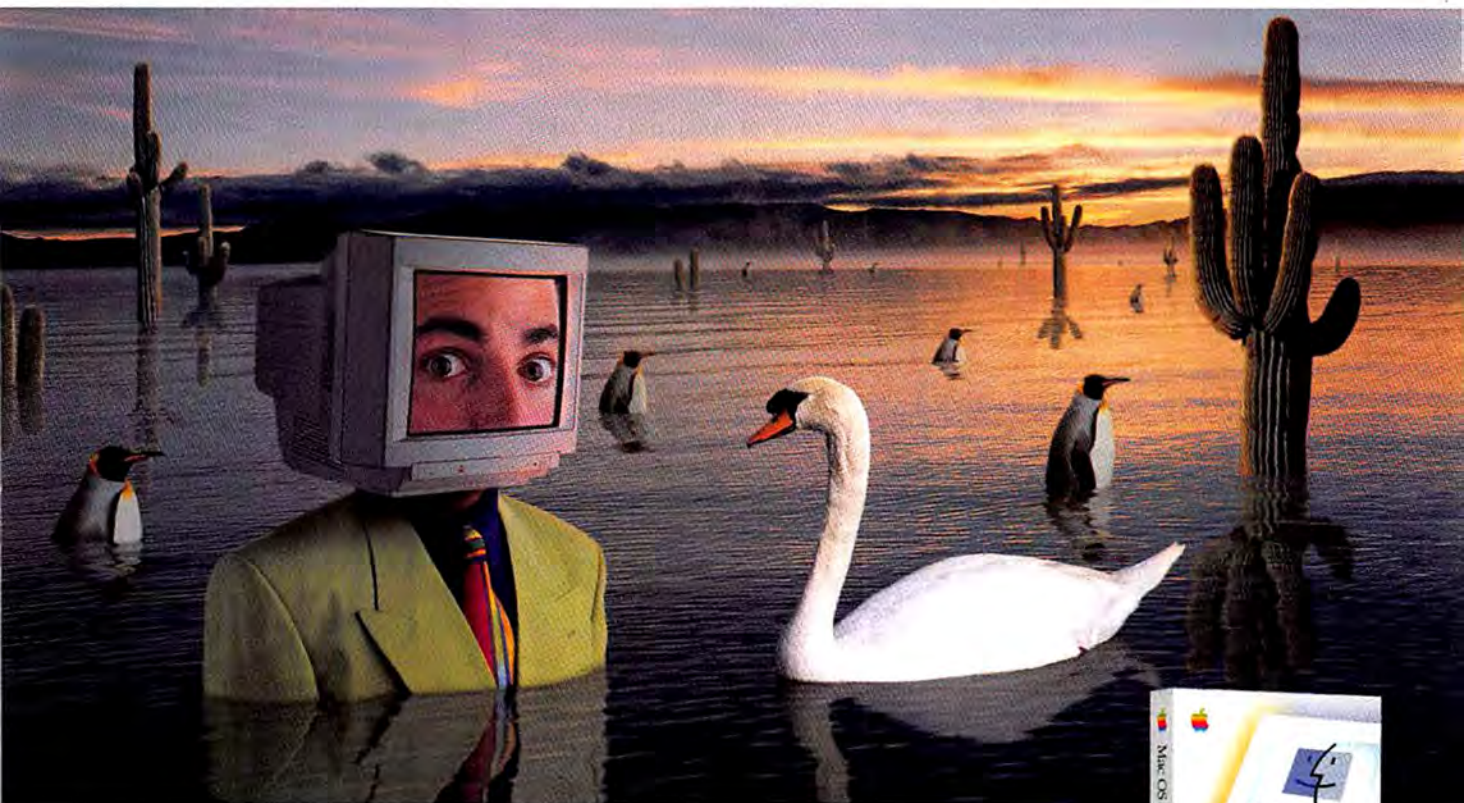
The Last Word

As a general-purpose Ethernet-to-Ethernet router, the WebRamp falls short. But if your local ISP supports it, the WebRamp offers a fast, easy way to get a corporate LAN on the Internet.—MEL BECKMAN

RATING: ★★☆/6.4 **PROS:** Helpful setup wizard; built-in Ethernet hub. **CONS:** No AppleTalk or IPX protocol support; limited remote administration capabilities; no analog ports. **COMPANY:** Trancell Systems (408/988-5353, <http://www.trancell.com>). **LIST PRICE:** \$899.

The new Mac OS 7.6.

Now, wherever your mind goes your computer will follow even faster.



Enhance your performance on your Mac OS computer.



The job of a great operating system is to get out of the way. To let you fashion ideas, unencumbered by process. Nothing does that job better than Mac OS 7.6. It not only raises 'intuitive' to new and exciting heights, it's also a major advance in the ease with which powerful new functions can be deployed on your desktop.

Now you can bring live web pages into your OpenDoc compatible documents and have them automatically updated. New virtual memory management allows you to launch your applications up to 40% faster, and your "Print" commands will execute up to 35% faster.* And you

can open PC files (including Windows 95 files) without the applications in which they were created. Mac OS 7.6 also makes the installation of an operating system simpler than it has ever been: in just a few steps you'll have access to QuickTime applications, Apple Open Transport, the OpenDoc program, Cyberdog software* . . . all the latest advances from Apple.

Enrich your ideas by enhancing your computer. Buy the pleasingly affordable Mac OS 7.6 at your local Apple software reseller or call 1-800-482-6376 ext. 1421. For more information, visit us on the web at www.apple.com.





A demonstration of the new Animation Series from PhotoDisc.™

To really attract attention, add motion and sound to your web site with animated GIFs and Shockwave files. Call us for your free "Sneak Peek" Animation CD at 1 800 528 3472, or just visit our web site. And hey, quit jumping around. People are starting to talk.

download any image anytime: www.photodisc.com



Circle 114 on reader service card

MCW Volume 11 images not available online. Shockwave is a trademark of Macromedia, Inc. The Animation Series Sneak Peek disc is available only in the US and only while supplies last.

Now Utilities 6.5

INCREMENTAL FEATURE UPGRADES
ARE NO SUBSTITUTE FOR STABILITY

SCANT MONTHS AFTER THE ADVENT of version 6.0, another update to the venerable Now Utilities collection of system enhancements has arrived. This upgrade still isn't worth the fee for previous 6.0 and 5.X users, both because the new features are fairly minor and because Now Software has yet to fully address the package's stability problems.

The biggest change in this version is the upgrade of Now Startup Manager (NSM) to version 7.0. In a direct challenge to Casady & Greene's Conflict Catcher 3, NSM has been completely rewritten (see *Reviews*, in this issue.) While the new NSM has some innovative features, it's still no match for the more polished Conflict Catcher.

The three components added in version 6.0, Now AutoType, Now ShortCuts, and Now Tabs, have all received bug-fixes and enhancements. Now AutoType is faster and more reliable. It uses an improved method to trigger its text macros that allows macro expansion after punctuation without the additional keystrokes needed in previous versions. It also includes useful predefined



Fast and Wide Access The indispensable Super Boomerang now lets you expand the Open and Save dialog boxes so you can see your document's entire name, and lets you access files that are up to ten folders deep with one mouse drag.

macros. Unfortunately, a new bug causes AutoType to produce gibberish in Microsoft Word 5.1, unless Word's numeric keypad navigation feature is turned off.

The lightweight Now Shortcuts and Now Tabs sport new plug-in modules, including modules that arrange and tile Finder windows, launch OpenDoc parts, and display useful information such as free space on a hard disk, or an IP address. But significant bugs remain. Now Tabs exhibited screen redraw problems and Shortcuts simply doesn't work sometimes.

Version 6.0's inadequate Installer pro-

gram has been replaced; now you can choose individual components to install or remove. Now Scrapbook finally supports dragging and dropping images. Super Boomerang has a nifty new feature: it can expand the Standard File dialog so that long file names are no longer cut off. Documentation is still provided on the program's CD-ROM; you can order a paper manual for \$10 or a set of floppy disks for \$3.95. If you do get the manual, you'll find that it's too big to fit in the box, a needless annoyance.

The Last Word A new user of Now Utilities can easily be overwhelmed by all of the subtle modifications the package makes to your Mac. Most experienced users tend to use only the components they find valuable; of the 12, I use only Super Boomerang, Menus, WYSIWYG Menus, Scrapbook, and Startup Manager. The others don't pass muster because they are unimpressive, buggy, or both. Now Software would do well to quit adding features and work on improving the package's stability.—TOM NEGRINO

RATING: ★★★/6.4 **PROS:** The best modules (Super Boomerang, Menus) carry the weaker parts. **CONS:** Many components still have bugs. **COMPANY:** Now Software (503/274-2810, <http://www.nowutilities.com>). **LIST PRICE:** \$89.95.

Turbo ToolKit

DISK UTILITY OFFERS MINOR SPEEDUP

THE STOPWATCH SHOWN ON TURBO ToolKit's package is there for a reason: you may need one to notice any improvement from this utility. The latest offering from FWB Software, Turbo ToolKit 1.0 is actually a set of three extensions—TurboBoot, TurboDisk, and TurboRead—designed to accelerate system start-up, optimize disks, and enhance application launching speed. Its interface is intuitive and the user guide is thorough, but that's where the praise ends.

FWB claims that on a Power Mac 7600 with more than 90 control panels and extensions, TurboBoot should reduce start-up time by 25 percent—from 55 seconds to 41. However, that represents only the elapsed time between when your Mac loads TurboBoot and when it loads the last control panel; in reality, if you take the entire start-up process into consideration, it takes twice as much time as what TurboBoot reports. What's worse, TurboBoot actually *increases* start-up time if Connectix's RAM Doubler is installed. I don't know about you, but I'd rather double my memory than shave seconds off start-up time.



Saving Seconds Doesn't Make Sense Turbo ToolKit's interface is clean, but the three components just don't deliver enough performance to justify the price.

Another extension, TurboDisk, can be invoked periodically (or during idle periods) to rewrite fragmented files into contiguous blocks on any volume larger than 10MB and smaller than 4GB. TurboDisk goes beyond simple defragmentation by placing the most frequently used files on the disk's outer tracks for faster access. Data is never in jeopardy because TurboDisk confirms that it has written a contiguous file before deleting the original. That sounds great, but TurboDisk is neither particularly easy to use nor particularly effective. To optimize a disk properly, you must run TurboDisk from another start-up volume. And despite what the manual says, you can't use a bootable CD or floppy—you need another hard drive or a removable disk. (FWB is aware of this

problem and should have fixed it by the time you read this.) Unless you start with a seriously fragmented disk, it's unlikely you'll notice any significant improvement.

Turbo ToolKit's third component, TurboRead, caches the most frequently read blocks to memory, where the data can be retrieved more quickly upon subsequent requests. FWB claims that TurboRead makes applications launch faster, but that wasn't substantiated by testing or by Turbo ToolKit's own estimate of the amount of time saved, which is measured in mere seconds over the course of several hours.

The Last Word Although each of the Turbo ToolKit components does what it sets out to do, saving a few seconds here and there is a far cry from FWB's claims that the program turbocharges system performance. For about the same price, Power Mac users can get significantly greater performance boosts from Connectix's Speed Doubler 2 or a 256K cache.—OWEN W. LINZMAYER

RATING: ★★/4.6 **PROS:** Intuitive interface; thorough, well-written user guide. **CONS:** Marginal speed improvements; TurboDisk requires second volume for proper optimization. **COMPANY:** FWB Software (415/463-3500, <http://www.fwb.com>). **LIST PRICE:** \$79.

High and Mighty Printing With a Down to Earth Price.

For Just \$2495 You'll Get

OVERSIZED 11X17 PRINTING
600 X 600 DPI (UPGRADEABLE TO 1200 X 1200 DPI)
ADOBE™ POSTSCRIPT™ LEVEL 2
HALFTONE ENHANCEMENT
X•ACT™

(XANTÉ'S ACCURATE CALIBRATION TECHNOLOGY)

SPOIL YOURSELF.

XANTÉ's Accel-a-Writer® 8300

Duplexing also available.

Call 800 926-8839

EXT. 2132 • DEALERS CALL EXT. 2133 • FAX 334-342-3345

Optional inside service provided by XANTÉ
in collaboration with Olivetti North America.

olivetti

AT&T
Capital Corporation

www.xante.com

MasterCard•Visa•Amex•Discover



Adobe PostScript

© 1996 XANTÉ Corporation. XANTÉ and Accel-a-Writer are registered trademarks of XANTÉ Corporation. X•ACT is a trademark of XANTÉ Corporation. Adobe, PostScript, and the PostScript logo are trademarks of Adobe Systems Incorporated or its subsidiaries and/or are registered in certain jurisdictions. Other brands and product names are trademarks or registered trademarks of their respective holders. XANTÉ Corporation, 1421 Spring Hill Ave., Mobile, AL 36688, P.O. Box 16626, Mobile, AL 36616-0526. Phone: (334) 342-8840. Fax: (334) 342-3345.

XANTÉ
Innovations In Output



Circle 112 on reader service card

Poser 2.0

HUMAN MODELS IN 3-D (WITHOUT A FINE-ARTS DEGREE)

DRAWING THE HUMAN FORM REQUIRES time and patience, commodities that most of us have in short supply. Fractal Design's Poser fills the gap by providing detailed human models ready to be positioned and modified using simple controls. With animation, higher-resolution models, and better import and export options, the new version has many of the features of expensive animation software—without the complex interface.

Poser's main window gives you a convenient studio in which you can arrange a model, props, a camera, and lights (see "Simplify Life"). To adjust a model's pose, you simply select the desired body part and drag it. Because the program uses inverse kinematics, you can pull on a model's foot and the entire leg moves naturally in relation to the rest of the body. If you need greater precision, you can enter the exact scale and dimension settings. The new version also lets you import any 3-D model as a prop and link it to a body part; a wig can be linked to a head, for example, so the two move in unison.



Simplify Life Poser's simple interface makes it easy to change the look of digital characters, select a predefined animation, and render the composition as a still image or movie.

Creating short motion studies is easy using the animation palette. You might want to start with one of the predefined sequences, such as walking, or you can let Poser record your changes to a pose, body part, camera, prop, or light, then generate the intermediate poses. Although Poser 2.0 isn't intended to replace stand-alone animation programs, it does have some high-end features—animated backgrounds, strong editing functions, and various quality settings for rendered movies.

While Poser 1.0 supplemented 2-D image-editing programs such as Fractal Design Painter and Adobe Photoshop, it

didn't work well with modeling software because of its limited export options (see *Reviews*, October 1995). Poser 2.0, on the other hand, loads and saves popular 3-D file formats like 3DMF, DXF, and Wavefront OBJ; you can even replace a body part with an imported 3-D object (to draw Captain Hook, for example). Other new features in Poser 2.0 improve the quality of final images: multiple light sources give you better control over highlight and shadow details, you can now specify how surface details render, and an antialiasing option reduces harsh edges around models.

The Last Word Combining great figure-design capabilities with new animation and rendering features, Poser 2.0 is an excellent tool for artists who need a drawing guide and for multimedia designers seeking ways to enliven Web pages. Although its simple interface will appeal to beginners, it offers enough control to satisfy professional users.—MIKE HECK

RATING: ★★☆☆/8.1 **PROS:** Professional-looking models; simple inverse-kinematics animation; better import and export capabilities. **CONS:** Limited animation features. **COMPANY:** Fractal Design (408/430-4100, <http://www.fractal.com>). **LIST PRICE:** \$249.

HTML Grinder 3.0

TOOLS AUTOMATE SITE MANAGEMENT

AUTOMATION MAY NOT BE AN issue for you if your HTML duties don't extend beyond maintaining a home page on America Online. If you're a freelance Web designer or in charge of a sprawling corporate site, however, you'll appreciate HTML Grinder 3.04, a collection of 18 utilities (called *wheels*) that automate repetitive, time-consuming tasks. You could automate some of those tasks just as easily using a freeware text editor, but most of Grinder's utilities quickly pay for themselves in saved coding time.

Most impressive are Grinder's site-organization tools: AutoIndexer generates a keyword-based index of your pages, Index Builder creates an index automatically from the file names you drag into a group (see "Daily Grind"), Sequential Linker adds Next Page and Previous Page links, and StretchList lets you add clickable "list triangles." Adding this level of indexing manually could take days, but with HTML Grinder it takes just minutes.

Another pay-for-itself utility is The-sens, which checks for invalid HTML syntax, missing links, pages with no links, and



Daily Grind The Index Builder "wheel" creates an index for HTML files you drag onto the Grinder icon.

a half-dozen other nuisances that are inevitable on large sites. A less flashy but equally capable wheel, Eight Dot Three, truncates entire batches of Mac-style file names to fit DOS file-naming conventions.

Another nice utility is Color Calculator, which looks up hexadecimal codes for background and text colors when you click in the Apple Color Picker. Other conveniences are a utility that prints your entire site and one that applies an AppleScript script to all your pages; you simply drag the collection of pages to the Grinder icon with the appropriate wheel selected.

Five or six of the wheels—such as Altifier, which adds Alt tags to images so text-

oriented browsers can avoid downloading large graphics—automate tasks you could perform fairly easily using a text editor. Bare Bones' reliable BBEedit (*Reviews*, June 1996) and Nisus Software's QUED/M (*Reviews*, January 1997) are perfect for most utility-type tasks—and unlike HTML Grinder, they support Undo.

The Last Word If you write your own HTML rather than using a WYSIWYG authoring tool such as Adobe PageMill or Claris Home Page,

HTML Grinder can cut down the time you spend embellishing and organizing your Web pages. It's not for "Here's a picture of my kitten" home pages, and not every user will need all the utilities it offers. If you use the Web to present a multitude of information, however, Grinder is bound to be one of your favorite programs.—CHARLES SEITER

RATING: ★★☆☆/6.8 **PROS:** Very useful for site indexing and organizing. **CONS:** Some of its functions would be easy to duplicate using macros. **COMPANY:** Matterform Media (505/983-4189, <http://www.matterform.com>). **LIST PRICE:** \$149.

It does **exactly** what other
digital **cameras** do.
Just **a lot better.**



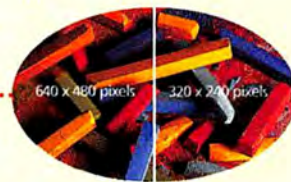
Preview 36 photos in only
10 seconds.



No learning curve.
If you can use a camera, you
can use the ePhoto 307.



Download photos up
to 4 times faster, thanks to
Agfa PhotoWise software.



Two resolution options, for up to
72 photos between downloads.



Unsurpassed 24-bit picture quality.



Just drag and drop photos into
any OLE2-compliant application
using PhotoWise.

The new Agfa ePhoto™ 307 lets you take digital photos and download them into your PC or Macintosh®, just like other digital cameras. And, like other digital cameras, there's no film or processing, so you can have your photos instantly. But the ePhoto 307 gives you better-looking photos. The fastest previews and downloads. The most user-friendly software, Agfa PhotoWise.™

And it comes standard with Adobe® PhotoDeluxe,™ which lets you use your photos to make birthday cards, calendars, business documents or practically anything else you can imagine. The ePhoto 307 is even easier to handle than other digital cameras, thanks to its ergonomic design. Quite simply, it's the best digital camera in its price range. You just can't do better.

See one or buy one, and meet the ePhoto 307 product team at:

www.agfahome.com/ephoto

Circle 158 on reader service card

Adobe®
PhotoDeluxe™

WHAT DO
YOU SEE?

AGFA Agfa
The complete picture.

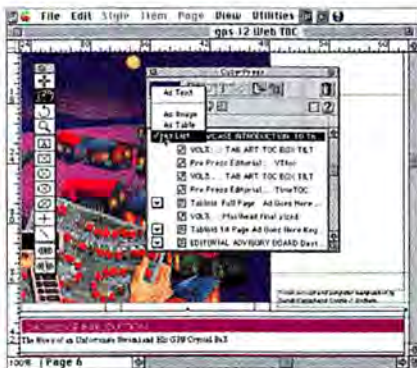
CyberPress

QUARKXPRESS TO HTML ON A BUDGET

AT THE MOMENT, THE BEST TOOL for turning QuarkXPress documents into Web pages is Astrobyte's BeyondPress 2.0. This powerful XTension lets you map XPress style sheets to HTML tags and export fully formatted Web pages from XPress (see *Reviews*, October 1996). But with a price tag of \$595, BeyondPress isn't for everyone.

If you're looking for a less expensive way to make the journey from XPress to the Web, Extensis's CyberPress 1.0 is the ticket. Actually a scaled-down, low-budget version of BeyondPress, it's all you need to export XPress elements as Web-ready text and graphics—and it costs only \$149.

At its core, CyberPress works just like BeyondPress. You select specific objects in a document—either text boxes or picture boxes—and add them to a palette. You can then drag the objects into any order and add simple elements, such as paragraph breaks and horizontal rules, before exporting them. CyberPress can also open the exported documents automatically in the browser of your choice so that you can see the results of your efforts, though you'll do most of



Making the List Using the CyberPress palette, you can export just the QuarkXPress text and picture boxes you want to include on your Web page.

your tweaking *after* the export process.

Of course, at this price you're not getting several of the features that make BeyondPress impressive. You can't map style sheets to specific HTML tags, select chunks of text within a text chain and apply separate HTML tags to those selections, make exported GIFs transparent, or create image maps from pictures on the XPress page. In fact, you can't even preview your work in a browser before exporting it.

When you're ready to put the final touches on your HTML documents, you can use the outstanding WYSIWYG edit-

ing tools in Adobe PageMill 2.0 (included with CyberPress). At that point, you can make GIF images transparent, turn them into image maps, add new elements, add forms and frames, and so on.

While CyberPress lacks the power of BeyondPress, it has some superb features. It lets you add Web links to selected text within your XPress document and choose background and text colors before exporting it. You can also convert XPress text into HTML tables or lists on the fly. And although you can't map style sheets to HTML tags, you *can* map specific font sizes.

The Last Word CyberPress is a great deal; after all, PageMill 2.0 alone lists for \$149. Its tool set may be minimal, but it's still powerful enough to streamline the process of converting content from XPress pages to Web pages. If your Web publishing efforts take off and you decide you need more power, you can always upgrade to BeyondPress for \$449.95.—JOSEPH SCHORR

RATING: ★★★★★/7.0 **PROS:** Inexpensive; exports HTML tables and lists; includes PageMill 2.0. **CONS:** Limited HTML-formatting options on export; can't preview elements before exporting. **COMPANY:** Extensis (503/274-2020, <http://www.extensis.com>). **LIST PRICE:** \$149.

DynaTek CDM 4001

CD-ROM MASTERING MADE SIMPLE

ONCE CONSIDERED UNRELIABLE, CD-Recordable (CD-R) drives have become easier to use, but two major problems still exist: the reliability of your recording depends in large part on the speed of the drive used to copy data to the CD-R, and the recording process ties up your Mac. DynaTek Automation Systems' CDM 4001 solves both of these problems by combining a fast multimedia hard drive and a 4X CD-R mechanism within a single cube-shaped enclosure, with a dedicated data path between the two drives.

Under the CDM 4001's front-panel status lights is a CD-R drive capable of reading and recording CDs at speeds up to 4X. Hidden inside the enclosure is a fast multimedia 1.1GB hard drive. The back panel sports a single SCSI connector. An internal processor manages the recording process, eliminating interrupts and system bottlenecks caused by the Mac that can interfere with the process and turn your media into expensive coasters. The CDM 4001 comes with Astarte's excellent Toast CD-ROM Pro mastering software (see "Desktop CD Recorders," *Macworld*, September 1996).



To test the CDM 4001, I copied a large Adobe Photoshop file to the internal hard drive of my Power Macintosh 7500/100 and created copies on several CDs. When you initiate a recording session with a stand-alone CD-R drive, it copies data from your mastering drive to the recording mechanism, and you're forced to wait until the process is complete. But with DynaTek's unit, data is transferred directly to the CDM 4001's fast multimedia hard drive and *then* copied to the CD-R mechanism, allowing you to continue using your Mac during the process.

If you're mastering multiple copies of the same CD using a standard CD-R drive, you have to repeat the entire process for each additional CD. Using the CDM 4001,

though, you simply insert another blank CD-R disc and press a button on the front panel to create a second copy.

The CDM 4001 also duplicates existing CDs easily. After you insert the master CD into the CD-R mechanism, pressing a single, conveniently located button copies the CD's data to the CDM 4001's internal hard drive. After the data is transferred, your original CD pops out and the drive is ready to receive blank CD-R media. A second button copies the data from the drive to the newly inserted blank media.

The Last Word If your CD recording is limited to occasional archives, the CDM 4001's added cost doesn't make sense, but its convenience makes it a standout for those whose business depends on the fast, reliable duplication and creation of CDs. The extra time you'll be able to spend on your Mac is certainly worth the price.—MATT CLARK

RATING: ★★★★★/7.5 **PROS:** Quickly and easily creates one or more CD-ROMs; frees up the Mac for use during disc recording; simple CD-ROM duplication. **CONS:** More expensive than CD-R-only drives; not appropriate for general use. **COMPANY:** DynaTek Automation Systems (902/832-3000, <http://www.dynatek.ca>). **LIST PRICE:** \$2889.

OUR EDITORS REVIEWED 100,000 WEB SITES SO YOU WON'T HAVE TO!

LUCKMAN'S

OFFICIAL INTERACTIVE

World Wide Web

YELLOW PAGES

10,000 of the Best Sites on the Web

Site Ratings Include Download Time

Detailed Site Descriptions

Offline and Online Searching

PC & Mac CD-ROM
\$59.00 SRP

Fast & easy access to the best of the Web!



Luckman's Official Interactive World Wide Web Yellow Pages™ is the easiest, most useful Web site directory available for the Internet. Of the more than 100,000 sites on the Web, our editors have found, reviewed, rated, and compiled over 10,000 of the very BEST.

A built-in search engine locates sites by category, name, description, keyword or site rating. A mouse click on the site name or URL automatically connects you to the Internet, launches your browser and takes you to the Web site.
Call today: 1-800-711-2676

E-Mail: info@luckman.com <http://www.luckman.com> 1055 West 7th Street, Los Angeles, CA 90017



Luckman Interactive, Inc.™

©1996 luckman interactive, inc. All rights reserved. Luckman's Official Interactive World Wide Web Yellow Pages is a trademark of Luckman Interactive, Inc. All others are trademarks of their respective owners. Screen shot reprinted with permission from Microsoft Corporation.

Circle 65 on reader service card

ScanPrepPro 3.1

PHOTOSHOP PLUG-IN PUTS IMAGE PROCESSING ON AUTOPILOT

THE IMAGE PREPRESS DANCE IS notoriously tricky, but ImageXpress's ScanPrepPro 3.1 makes the photo-Photoshop pas de deux as easy as putting one foot in front of the other. This Photoshop plug-in can automatically prepare digitized images for commercial printing or control the scanning, correction, and preparation of a print or transparency, frequently with remarkable results.

Running ScanPrep is a simple matter of answering a few relatively nontechnical questions concerning the original image and the desired output. For input, you indicate the type of source image (see "A Photo Finish"); whether the original is too light, dark, grainy, or blurry; if it has been screened; and its dimensions. For output, you specify the desired format—line art, halftone, color separation, multimedia image, fax, or RGB archive file—and the finished size (or scaling factor), printing process, and paper stock. Annoyingly, some settings reset others to their defaults if you enter them in the "wrong" order, and ScanPrep often drops digits when you enter the dimensions.



A Photo Finish ScanPrepPro begins by asking what type of image you're working with or what type of scanner ScanPrep will use to acquire the image.

ScanPrep calculates the optimal tonal range, screen frequency, and dot gain for you, but experts can easily override these settings and can now fine-tune such factors as UCR (under-color removal), stochastic screening, and unsharp masking, then save those settings for retrieval.

Using your scanner's own software in most cases, a suite of Photoshop manipulations, and ScanPrep's rewritten color-correction tables (or your custom tables), the program takes control of your scanner to produce a publication-ready image. ScanPrep can now ghost images 30 to 50 percent, pause to let you adjust color balance in a Photoshop dialog box, and create

the most remarkably detailed 600- and 1200-dpi line art you've ever seen from a standard flatbed scanner. In addition, ScanPrep's ability to descreen screened images and convert images from color to rich, full-tone black and white is even better than in the last version.

Unfortunately, ScanPrep has three major shortcomings: it uses a hardware copy-protection key; there's no printed documentation, just a PDF-format electronic manual and a well-meaning but laborious instructional video; and it's expensive.

The Last Word Although ScanPrepPro can't turn a bad snapshot into a digital masterpiece, it can produce excellent images from reasonable originals and spare you the hassle of calculating scanning resolutions, line screens, scaling factors, and so on. Whether you're a novice or an old hand, ScanPrepPro is one of the most useful tools you'll find for preparing images for print or the Web.—ROBERT C. ECKHARDT

RATING: ★★★★★/8.9 **PROS:** Automatically controls scanners and prepares images for printing; yields excellent results. **CONS:** Hardware copy-protection key; no printed manual; expensive. **COMPANY:** ImageXpress (770/564-9924, <http://www.scanprep.com>). **LIST PRICE:** \$695.

Introducing Stencil It!, the first graphics program for those who can't draw a straight line

With Stencil It!, you no longer have the limitations of clip art or the time requirements of complex graphics programs. All the predrawn intelligent images, called Stencils, needed to produce professional quality graphics are in the box. And anything you can create in Stencil It! you can instantly convert for Internet publishing. Go from Stencil It! to web page in one step. Choose from a wide variety of Quick Start Templates including flowcharts, web pages, floor plans, network diagrams, family trees, and more. Select the Stencil you need and you're on your way to a masterpiece.

Limited Time Offer:

Order your copy of Stencil It! today at the introductory price of **\$99.95**, and you will receive an additional **200 Stencils absolutely FREE** (retail value **\$49.95**). Offer good for the next 90 days. Call **(800) 938-8900**

"If you're looking for the ultimate in diagram creation, Stencil It! is for you. It's easy to use, inexpensive and powerful. It actually makes diagram design fun."

★★★★ MacHome Journal, December 1996

Includes
FREE Graphics to
Internet Utility!

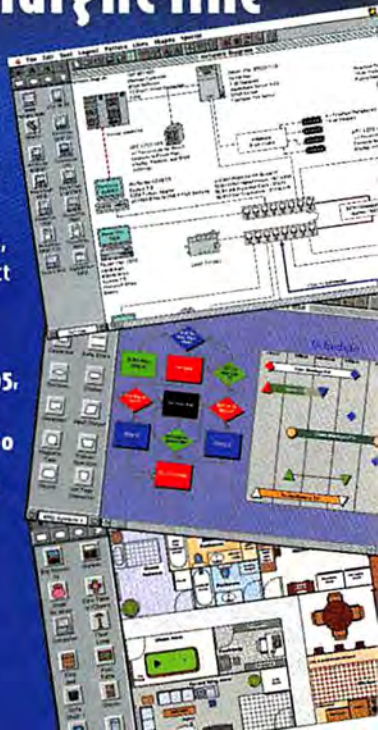
STENCIL IT!
Point & Click Graphics for the Artistically Challenged

Order Your Copy Today!
(800) 938-8900

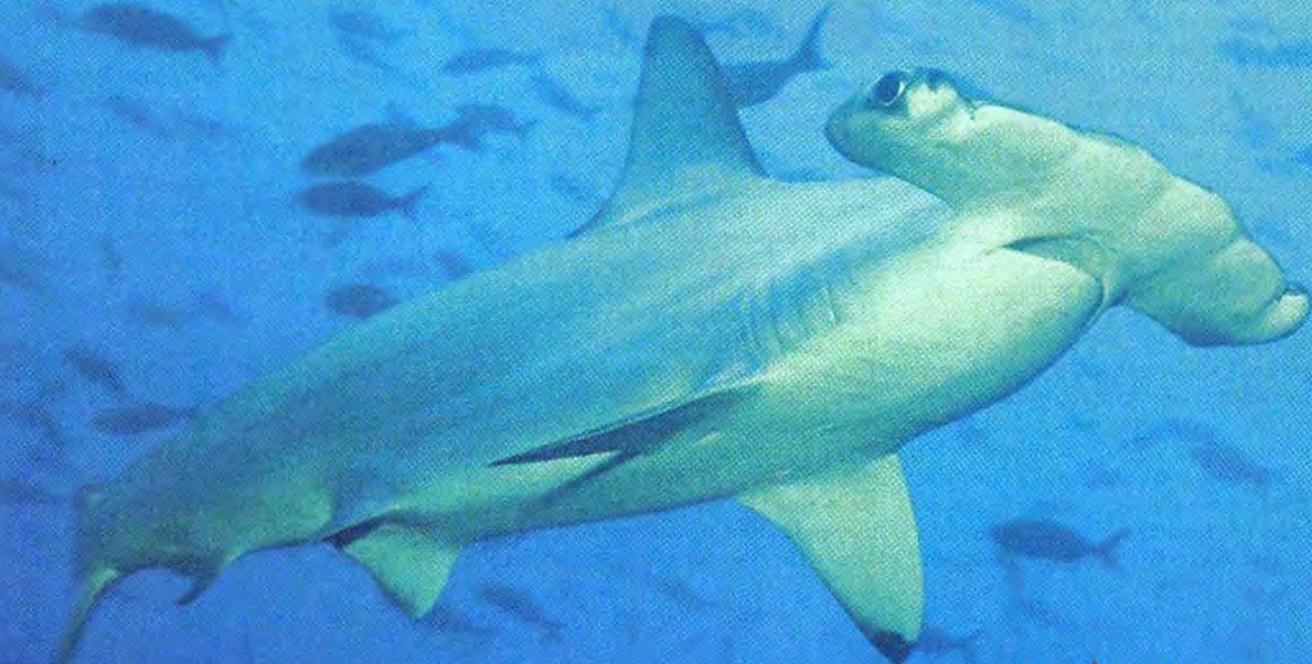
KAETRON
Software Corp.
<http://www.kaetron.com>

Circle #67 on reader service card

APPLE'S
HOT PICK
of '96
Macworld
Expo



It's Baaaaack...



**Free
Duplexer***
until
March 31, 1997

The QMS 2060 HAMMERHEAD.®
\$5,999—Eating the competition alive.

Standard Features	QMS 2060 EX HammerHead	Xante® And-a-Writer 6200	NewGen® DesignPress 13	LaserMaster® Daily 1800XL-Plus
1200 x 1200 dpi	yes	yes	yes	yes
Duplexing	yes*	no	no	no
Ethernet	yes	no	no	yes
Edge-to-edge	yes 13" x 19"	no	no	no
Internal Hard Drive	yes	no	no	yes
Printing Speed	20 ppm	16 ppm	16 ppm	8 ppm
Standard RAM	48 MB	40 MB	40 MB	20 MB
Price	\$5,999	\$5,695	\$6,495	\$6,995

Finally, high-res monochrome laser output that duplexes tabloid pages! And at 20 pages a minute, you'll be in a printing frenzy.

Standard Ethernet satisfies your hunger for connectivity. Get all of these features—without devouring the budget.



1-800-523-2696 Ext. 49
<http://www.qms.com/>

©1996 QMS, Inc. QMS, the QMS logo, and Hammerhead are registered trademarks of QMS, Inc. All other products are trademarks of their respective companies.

*Free duplexer offer good on QMS 2060 EX Hammerhead model only.

QMS

Circle 288 on reader service card

AlphaSmart Pro 2.1

PORTABLE INPUT DEVICE OR CURE
FOR POWERBOOK ENVY?

THERE SIMPLY AREN'T ENOUGH computers to go around in today's schools. One solution to this chronic problem is the AlphaSmart Pro 2.1, an intelligent keyboard that's designed to work as a stand-alone input device. This enhanced version of the original AlphaSmart keyboard has some refinements and new features that make it more versatile. And it's not just for students; it's a great data-collection and note-taking device for any mobile Macintosh user who wants to avoid the expense, weight, and security risk of a PowerBook. It's not as smart as a desktop Mac, but it's clever—and extremely handy.

The AlphaSmart Pro is about the size of a PowerBook, but it's half as thick and a quarter the weight. It can be used like a standard keyboard when it's plugged into a Mac; when it's not, two AA batteries or an optional rechargeable battery pack power the screen and memory. Unlike a typical portable computer, the AlphaSmart Pro is a power miser—a pair of alkaline batteries can keep it running for up to 200 hours.

The keys are responsive, quiet, and



ROBERT PERRY

mostly full-size. As you type, the small LCD screen displays four 40-character lines of text. The screen isn't backlit, so it's difficult to read in dim light. The keyboard has enough memory to hold up to 64 pages of text in 8 fixed-length files, and a row of function keys lets you switch among the files.

The AlphaSmart Pro couldn't be much easier to use: you flip on the power switch, press a key to select a file, and start typing. You can edit with the arrow and delete keys, but serious editing is best saved until you've transferred the file onto your Macintosh. When you're ready to transfer the text, you connect the AlphaSmart to the Mac just as you would any keyboard. When you press the Send button, the file is poured into your word processor (or whatever application

is active). The file remains in the AlphaSmart until you press the Clear File button to erase it. Unfortunately, the keyboard doesn't turn itself off when it's idle.

The AlphaSmart Pro can be configured for users with special needs—for example, it supports one-handed typing, the Dvorak keyboard layout, and multiple languages. Optional software allows it to transfer data faster and receive data from the Macintosh Clipboard, though most users will find that the keyboard meets their needs without any reconfiguration or additional software.

The Last Word AlphaSmart keyboards have been a fixture in schools since they were introduced in 1993, but the latest version has hundreds of applications outside the classroom. If you don't need a full-blown computer when you're away from your desk, the AlphaSmart Pro offers a low-cost, lightweight, hassle-free cure for PowerBook envy.—GEORGE AND BEN BEEKMAN

RATING: ★★★★★/8.5 **PROS:** Inexpensive; lightweight; intuitive interface; minimal battery requirements. **CONS:** Small screen with no backlight; doesn't turn off automatically when idle. **COMPANY:** Intelligent Peripheral Devices (408/252-9400, <http://www.alphasmart.com>). **LIST PRICE:** \$269; educational price \$185 to \$249.

There's a faster, cleaner



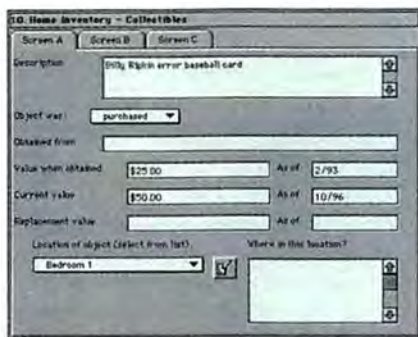
Houston, we have liftoff. Presenting the Apple® Internet Connection Kit. Everything you need to blast onto the Internet, browse the web, and send e-mail in one simple to install, no hassle package. So what do you get? Well, the kit comes complete with Netscape Navigator™ 3.0 and Claris Em@iler™ Lite software, plus QuickTime® VR Player, RealAudio™ Player, Macromedia Shockwave, Adobe® Acrobat™ Reader, Farallon's Look@Me, and a host of other software that installs easily in just minutes. As if that weren't enough, Apple Internet Dialer will even help you select an Internet Service Provider, and set up an account with just a few clicks of your mouse. And if you have any problems, Apple Guide online help can answer any Internet related questions you may have —

Personal RecordKeeper 4.0

DATABASE HELPS YOU KEEP TABS ON PERSONAL INFORMATION

IF YOU'VE GOT THE TIME TO ENTER information about personal, legal, and financial matters, Nolo Press has the place to put it. Personal RecordKeeper 4.0 is a database with predesigned forms for a wide variety of vital data, such as emergency information, insurance records, financial information, and personal documents. You can use Personal RecordKeeper for your own reference, making it a centralized source for your records, or print information for others, such as house sitters and pet sitters. Whether you want to compute your net worth or simply catalog family mementos, this comprehensive, well-designed program can help you organize information that's important to you.

Entering data is straightforward. You click on the folder icon for one of the 27 main categories, then select one of the subcategories listed. For example, you might choose Home Inventory, then Antiques, and fill in a record for each antique you own. You can enter a dollar value for each item and have Personal RecordKeeper print your home inventory as part of a net worth report. One restriction: the total dollar



Covering All the Bases Many of Personal RecordKeeper's categories offer multiple data-entry screens. Here, screen A lets you enter information about an item's value and location; screens B and C let you describe its care and insurance coverage.

amount can't exceed \$21,474,836.47—not a problem for me. (As the manual wisely suggests, "Hey, if you're worth more than \$21 million, hire an accountant!") Although most of the entry forms can't be customized, they're well designed and thorough; many include multiple data-entry screens (see "Covering All the Bases").

My main complaint is that I can't move an entire record from one subcategory to another. For example, I entered information for a lamp in the Antiques subcategory; when I decided it should go in the Collectibles subcategory, I had to open Collectibles and retype the entry.

Once you've entered information, Personal RecordKeeper lets you search the database, sort items, add cross-references among categories, and print reports. You can also export data to a word processor, spreadsheet, database, or Intuit's Quicken. If you wish to keep information confidential, you can password-protect a particular category or an entire database.

The Last Word Personal RecordKeeper is well designed, simple to use, and reasonably priced. Although I wish some of the forms offered more customization options, this flaw isn't serious enough to prevent me from heartily recommending the program to anyone who wants a place to consolidate and organize personal records.—ERFERT FENTON

RATING: ★★★★★/8.9 **PROS:** Well organized; easy to use. **CONS:** Can't customize all data-entry forms; can't copy records from one subcategory to another. **COMPANY:** Nolo Press (510/549-4660, <http://www.nolo.com>). **LIST PRICE:** \$49.95.

way to get on the Internet.



like, "This was so easy, why didn't I do this sooner?" The days of plodding along with complicated connections are over. With Apple, getting on the Internet now happens at warp speed. Visit your nearest Apple reseller, or order by calling 1-800-950-5382, ext. 1401. Apple. The power to be your best.

In Canada please call 1-800-361-6075 ext. 245. ©1996 Claris Corporation. All Rights Reserved. Apple, the Apple logo and QuickTime are registered trademarks of Apple Computer, Inc. Claris Em/er is a trademark of Claris Corporation. Adobe and Acrobat are trademarks of Adobe Systems Incorporated or its subsidiaries and may be registered in certain jurisdictions. Netscape Navigator is a trademark of Netscape Communications Corporation. RealAudio is a trademark of Progressive Networks, Inc. All other trademarks are property of their respective owners.

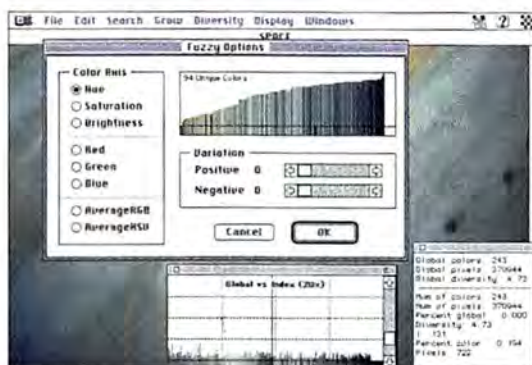


FullPixelSearch 2.0

IMAGE-ANALYSIS PROGRAM FINDS A PIXEL IN A HAYSTACK

JUST IMAGINE BEING ABLE TO pinpoint an oil rig in a satellite scan of Texas, a minute fracture in an ultrasound scan of a welded part, or anomalies in an MRI scan of a corpus callosum. Avian Systems' FullPixelSearch 2.0 lets you search for a tiny piece of a medical or scientific image—something none of the more notable programs in the image trade, such as Adobe Photoshop, can offer. This specialized program isn't for everyone—for example, you wouldn't use it to search Web graphics—but in the right hands it's extremely useful.

The most important new feature in version 2.0 is "fuzzy" searching. To understand what that means, consider what happens when you search for a word in a document: you look for an exact match of a set of letters, each of which is stored as an 8-bit value. To match a piece of gray-scale or 8-bit-color image, however, you need to allow for inexact matches arising from differences in image digitization. Besides digital color variation, the search has to allow for spatial distortions of the pixels. Full-



Purple Haze The "fuzz" in FullPixelSearch's fuzzy image searching lets you pick color ranges rather than exact colors in your target image (such as the chunk of Jupiter's atmosphere shown here).

PixelSearch's implementation of fuzzy matching is impressive not only for its wide, easily selected range of conditions (see "Purple Haze"), but also for its speed; a less clever search algorithm could take a week to fuzzy-search a mere snapshot scan.

Another significant improvement over version 1.0 is the ability to lasso irregularly shaped areas for the search template. After all, neither a kneecap nor the Great Red Spot is a square image.

You can't beat Avian Systems' technical support: the scientist who wrote FullPixelSearch answers your e-mail. Users are tak-

ing advantage of this direct contact to demand batch processing (the most important missing feature), in-program conversion of JPEG and other graphics-file formats, and the ability to search on 24-bit images (which aren't that common in medical or scientific applications). Given the high level of user-developer interaction, there's a good chance these enhancements are already in place as you read this.

The Last Word Professionals who analyze images need FullPixelSearch 2.0; it makes possible a wide range of medical and scientific image studies

that would otherwise be prohibitively tedious. There's nothing else like it, and it brings real innovation to a field that's been using variations on the same old techniques for decades.—CHARLES SEITER

RATING: ★★★★★/8.3 **PROS:** Great implementation of fuzzy search mode; first-rate support. **CONS:** Desperately needs batch mode. **COMPANY:** Avian Systems (201/568-9494, <http://www.ideo.columbia.edu/~podolsky/>). **LIST PRICE:** \$295.

New! DiskExpress Pro now accelerated for Power Mac and much more!

DOUBLE YOUR DISK SPEED!

ALSOFT DiskExpress Pro



Without optimization, your disk performance slows to a crawl. Basic optimization may restore some of your disk's original performance. Only DiskExpress Pro can double your disk speed by providing faster access to the files you actually use!

DiskExpress Pro 3.0 vs Norton Speed Disk 3.2

	DiskExpress Pro 3.0	Norton Speed Disk 3.2
Makes your Mac faster than new by monitoring actual file usage?	YES	NO
Groups frequently used files together for optimum speed?	YES	NO
Allows you to schedule or immediately perform a complete optimization of all disks without having to restart your Mac?	YES	NO
Verifies accuracy of read and write activity to ensure data safety during optimization?	YES	NO
Optimizes the busiest of AppleShare™ and File Share™ servers without interrupting productivity or taking the server off-line?	YES	NO

©1997 Alsoft, Inc. P.O. Box 927, Redwood City, CA 94063. All rights reserved. DiskExpress Pro and Speed Disk are registered trademarks of Alsoft, Inc. Other product names are trademarks of their respective companies.

THE UTILITY COMPANY

Sales.Info@AlsoftInc.com

ALSOFT

800-ALSOFT1

Circle #140 on reader service card

Nothing comes closer to reality.



**"SuperScan took top honors
in every important performance category"**

Macworld

Check out the monitor Macworld editors voted their "runaway favorite for focus, brightness, contrast, and color." The SuperScan Mc 21 gives you the sharpest image money can buy (0.22 mm horizontal dot pitch, 0.16 mm vertical). It also displays 40% more pixels than competing aperture grill monitors for crisper graphics and improved readability of small text. Plus it's flatter than other displays so you get a more accurate image with consistent brightness and precise focus even in the corners. Call for the full story, 800 441-4832.

	NEW SuperScan Mc 801HR	SuperScan Mc 21	SuperScan Mc 20	SuperScan Mc 17	SuperScan Mc 17s
CRT size	21 inch	21 inch	20 inch	17 inch	17 inch
Viewable image	20.0"	20.0"	18.7"	15.9"	15.7"
Dot pitch	.22 mm horizontal .16 mm vertical		.28 mm	.26 mm	.28 mm
Max. resolution	1600 x 1200	1600 x 1200	1600 x 1200	1600 x 1200	1280 x 1024
Scan frequency	31-96 KHz 50-160 Hz	31-85 KHz 50-160 Hz	30-82 KHz 50-120 Hz	24.8-82 KHz 50-120 Hz	30-64 KHz 47-104 Hz



SuperScan
An advantage you can clearly see.

NSA 100 Lowder Brook Drive, Westwood, MA 02090
Tel: 800 441-4832 Faxback: 800 555-8552
<http://www.nsa-hitachi.com> The ENERGYSTAR™ emblem does not represent EPA endorsement of any product or service

RASTEROPS

Circle 74 on reader service card

HITACHI

Club Mac
800 258-2622

DTP Direct
800 643-3328

Express Direct
800 290-4637

Mac Connection
800 800-1111

Mac Mall
800 222-2808

Mac Warehouse
800-255-6227

Mac Zone
800 248-0800

PrePress Direct
800 443-6600

Interactive Physics 3.0

NEARLY AUTOMATIC PHYSICS INSTRUCTION FOR HIGH SCHOOLS

AMERICA'S MASSIVE INVESTMENT in classroom computers has made first-rate instructional software a national priority. A ray of hope has appeared in the form of Interactive Physics, the instructional companion to Knowledge Revolution's Working Model engineering software (see *Reviews*, December 1995). Geared toward the high school level, Interactive Physics lets students build computer simulations of laboratory experiments and large-scale events.

Interactive Physics 3.0 is PowerPC native and the fastest version yet—and if you're willing to sacrifice some numerical accuracy, you can run the simulations even faster in the nondefault mode. The new version also has more tools, including a new curved-polygon body type and Join/Split and Object Snap features that help you build complex mechanisms. It's now easier to draw curved slots for mechanisms, and you can adjust most physical parameters with sliders. Not only can you set up and recall data for simulations from Microsoft Excel, but Interactive Physics can now access and run external scripts.



Passing Lane If you'd had a physics instructor as good as Richard Vawter, who contributed this Interactive Physics demo on acceleration and velocity, you might be a rocket scientist today.

These capabilities may seem like overkill for high school physics, but they let instructors produce specialized combinations of data and scripts to illustrate basic physics concepts in detail (see "Passing Lane"). The performance and quality of these instructional demos (the package includes 20 or so) make Interactive Physics 3.0 more useful than its closest competition in the physics problem-solving field.

Interactive Physics has only a few minor imperfections: some Mac conventions are implemented oddly (for example, 1-R means Run, but it also means Stop if something is running), and the labor involved in simulating a big gears-and-linkages mechanical model is nearly comparable to that needed to master a CAD program. Fortunately, the abundant teacher-contributed demos give you a good head start on understanding complex mechanics.

The Last Word With Interactive Physics, Knowledge Revolution shows us how good instructional software can be. It doesn't replace a real physics lab and a good teacher—in reality, there are no perfectly elastic collisions, ideal springs, or any of the other beginning-physics concepts designed to simplify calculations—but it's a great companion. Let's just hope that physics students will continue to see real metal springs disobeying Hooke's Law.—CHARLES SEITER

RATING: ★★★★★/8.3 **PROS:** Fast execution; PowerPC native at last; helpful new tools; useful selection of teacher-contributed demos. **CONS:** Setting up some mechanisms takes considerable practice. **COMPANY:** Knowledge Revolution (415/574-7777, <http://www.krev.com>). **LIST PRICE:** \$249; educational discounts available.

Some people
donate money
to keep
the air clean.
Jeff Angus
wrote 2000 lines
of code.

Jeff Angus has regularly donated money to the Natural Resources Defense Council. Now he also supports them in a different and maybe even more valuable way. By donating his skills to modify a dBASE program that generates customized reports about toxic substances.



If you'd like to put your own special skills to good use, call 1-800-659-3579. And we'll match you with a local non-profit organization whose needs are compatible with your area of expertise. Call us now, and we'll show you a great way to make a real difference in the world. By doing what you do best.

CompuMentor[®]

People helping computers help people.
89 Stillman Street, San Francisco, CA 94107

GREAT COLOR. GREAT PRICE. GREAT REVIEWS.

PC Magazine, November 5, 1996

“Full-color 24-bit images look far more realistic than those from many color ink jet printers, with fully saturated and vibrant colors.”

BYTE Magazine, November, 1996

“...for the small office or home, the attraction is clear: durable, high-quality color printing and high-resolution scanning at an affordable price.”

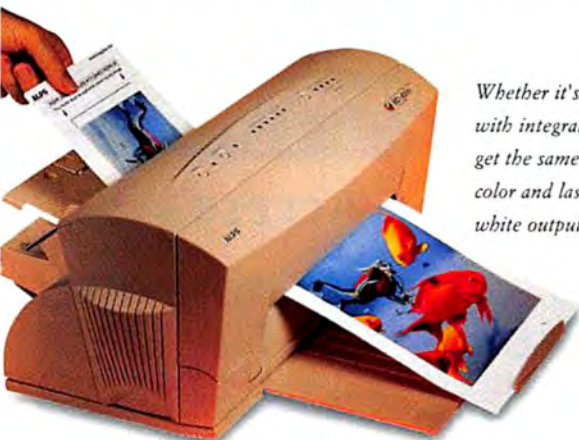
Windows Sources, December, 1996

“...the MD-4000 output quality was remarkable. We found deep, rich blacks and well-saturated, vibrant colors...we even spilled water on them, but the inks remained waterfast.”



“Rich.” “Realistic.” “Vibrant.” “Affordable.” They can only be talking about the new Alps Color Printers for the PC and Macintosh[®], with the revolutionary, patented Micro Dry™ inks. Unlike inkjet printers, Micro Dry™ inks go on dry to give you the brightest color, laser-sharp black-and-white, and even

sparkling metallics. Micro Dry™ inks are also brilliant on virtually any printing media—ordinary laser paper, T-shirt transfers, and even glossy papers and cards. Plus, they're waterproof, smearproof and won't fade with age or sunlight. But why not see for yourself by seeing your Alps dealer today. We guarantee, it'll be a dazzling experience.



Whether it's the Alps MD-2010, or the MD-4000 with integrated color scanner (shown here), you get the same rich, fully saturated 600 x 600 dpi color and laser-sharp 1200 x 600 dpi black-and-white output.

Call 1-800-720-ALPS (2577)
for your nearest Alps dealer

ALPS



© 1996 Alps Electric (USA), Inc. ALPS and Micro Dry are trademarks of Alps Electric, Co., Ltd., Japan. All other names identified by ™ or © are trademarks or registered trademarks of their respective manufacturers.

Circle 43 on reader service card

Police Quest: SWAT

SIERRA'S ACTION-ADVENTURE MISFIRES

DESIGNED BY FORMER POLICE CHIEF Daryl Gates—the founder of the original Los Angeles Police Department SWAT team—Police Quest: SWAT could have been a realistic urban adventure. Unfortunately, despite its potential, this game shoots itself in the foot.

The latest game in Sierra On-Line's Police Quest series begins with a tone-setting sequence that's more like an encyclopedia of SWAT history, weapons, and tactics than a game. Toward the end of this information-packed interactive segment, you get to unload a few rounds using various weapons in a firing range.

After completing your training, it's time to switch CDs and prepare for your first mission. If you're running System 7.5.3, though, you'll have some problems—the first is an annoying screen freeze when you change discs. Audio frequently runs seconds behind the video, and other glitches spring up along the way. Sierra's support team recommended switching off extensions and increasing virtual memory, but the game remained buggy. Updating to System 7.5.5 ultimately took care of most problems.



Friendly Fire The difficult-to-master sniper rifle offers one of Police Quest: SWAT's few diversions.

After you finish tweaking your system, you face another problem: Police Quest: SWAT's interface is virtually impenetrable. The game appears to have been ported directly from the PC version, and its designers poorly compensated for the Mac's lack of a two-button mouse. After 15 attempts—in which I frequently shot my team leader or got blasted by the bad guys for running into areas I had no intention of exploring—I was ready to give up.

SWAT's movement, communications, and weapons interfaces are separate elements, and you're forced to switch between them during missions. In a game where response time is important, one wrong mouse-click can cost your life.

Even if you do master its tricky interface, SWAT doesn't offer the tense, exciting atmosphere you'd expect from a police adventure. Because the game relies on eye-catching full-motion video, game play follows a rigid format that doesn't let you try new approaches. You're trapped in a set script—a design flaw more lethal than a burst of automatic-weapons fire.

SWAT's soundtrack is a strong candidate for improvement, too. Pseudomilitary theme music accents the training phase, but mission sequences have no background at all. A simple tune might've given the game an edge it sorely lacks.

The Last Word Police Quest: SWAT is seriously flawed by a cryptic interface, an inexcusable reliance on full-motion video, and an inability to run on any but the most recent system software. Its lackluster atmosphere puts the final nail in its coffin. I'd hesitate to recommend this game to anyone.—DANIEL MADAR

RATING: ★★/3.0 **PROS:** Interesting material on SWAT history and tactics. **CONS:** Impenetrable interface; problems running under System 7.5.3; rigid game play. **COMPANY:** Sierra On-Line (206/649-9800, <http://www.sierra.com>). **COMPANY'S ESTIMATED PRICE:** \$49.95.

Join us.



Advice.

Community

Discounts

Benefits

Connections

Online Access

Find out what it's all about.
www.club.macworld.com

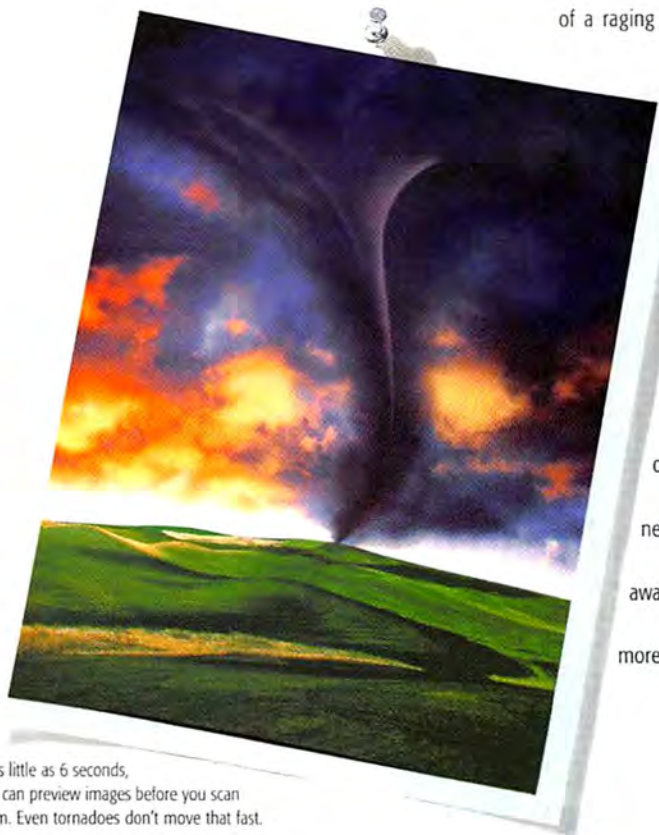
If our amazingly fast and accurate scan doesn't impress you, maybe you should consider a re-shoot.

INTRODUCING THE EPSON® EXPRESSION® 636 COLOR SCANNER

Everything the camera sees, it sees. And we mean everything. Because Epson TrueScan™ technology with 36-bit scanning gives you the power to accurately recognize 68.7 billion colors and 4,096 levels of gray—more than you'll ever need. 600 dpi optical resolution (4,800 dpi max) lets you capture the most minute detail with incredible clarity—like the soft edge of a raging storm cloud. And you'll get your perfect image in a lot less time than

from other high-end graphics scanners. For a lot less money.

But the Expression 636 isn't only about great images. Text Enhancement Technology and Auto Area Segmentation let you accurately scan both text and graphic images from the same page—even from colored backgrounds. SCSI and bidirectional parallel ports allow easy, simultaneous hook-up to both Mac and PC systems. And our TWAIN driver is full of features like PhotoQuick™, which lets you turn negatives into high-quality positives. So you'll have images that will blow you away. And if by chance they don't, what you need is a better photograph. For more info, call 1-800-GO-EPSON. Ask for operator 3020.



In as little as 6 seconds, you can preview images before you scan them. Even tornadoes don't move that fast.



Our professional Mac bundle comes with full versions of Live Picture™, Claris HomePage™, e. Paper™, Ka's Power Tools™, SCSI cable, and a transparency unit. Because a scan this intense is bound to inspire.

YOU'VE GOT TO SEE IT IN **EPSON** COLOR™

Professional PC bundle also available with full version Adobe Photoshop™, Xerox TextBridge Pro™ '96, NewsSoft™, Prestol PageManager™ LE, Claris HomePage, Kai's Power Tools, SCSI interface and cable, and a transparency unit. Other scanner configurations available. Awards given to the ES-1200C, one in the line of Epson award-winning scanners. Do not scan published material without permission of the copyright holder. EPSON is a registered trademark of Seiko Epson Corp. Expression and TrueScan are trademarks of Epson America, Inc. All other trademarks are the property of their respective owners. © 1996 Epson America, Inc. www.epson.com



Now there's a Pilot for the rest of us.



Pilot™ is your automatic link to the personal info on your Apple® Macintosh® computer.

Pilot includes its own Personal Information Manager software that lets you edit, import and export info to and from your Macintosh.

Pilot stores thousands of addresses, phone and fax numbers, personal notes — you name it

Touch here to see the day's agenda. Make recurring meetings appear automatically.

Delete old records from your Pilot, and keep for future reference in an archive file on your Macintosh.

Enter any word and touch "Find" to retrieve a stored item instantly.

It's easy to add memory, upgrade software, or in the future, attach products like modems.

Prepare a To-Do list, prioritizing items by due date. Make items disappear as you complete them.

Take notes on the road, then later copy and paste them into programs like Word and Excel on your Macintosh

Enter data once into your Pilot or Macintosh. Then press the HotSync™ button to keep your Pilot and Macintosh up-to-date.

One touch automatically keeps the data on your Pilot safe and backed up on your Macintosh.



At about 4.5" tall, and 5.5 oz. and at \$299,* the new Pilot organizer fits your shirt pocket — and your budget. Yet it's huge on functionality. But instead of telling you all it

pilot™
The one touch organizer

can do, we think you'd rather try it out yourself. To find out where to get your hands on one, give us a call at 1-800-881-7256. To arrange a demo, visit our web site at <http://www.usr.com/palm>.

*The average U.S. street price for Pilot 1000, complete with all desktop PIM software and organizer software, docking cradle and accessories. Additional Mac Pac required at \$14.95. © 1996 U.S. Robotics, Inc. U.S. Robotics and the U.S. Robotics logo are registered trademarks and Pilot and HotSync are trademarks of U.S. Robotics and its subsidiaries. All other product names are registered trademarks or trademarks of their respective owners.

U.S. Robotics

Star Ratings

HARDWARE AND SOFTWARE PRODUCTS AT A GLANCE

Macworld's Star Ratings let you compare Macintosh products based on the authoritative assessments in our reviews and features.

What the Scores Mean The number of stars indicates the product's level of quality; each product also gets a numeric score that provides a more exact assessment of the product's quality within that level. The chart below shows the meaning for each level.

We evaluate seven factors to derive the Star Rating: feature set, design implementation, performance, reliability, ease of use, innovation, and value. We take these evaluations, weight their importance for each class of product, and calculate the final score. The higher the score, the better a product is, even among products with the same number of stars.

Editors' Choice This section also lists products that have been awarded an Editors' Choice designation in a Macworld product comparison. That designation indicates a best-of-class product for a particular need.

Ratings Online The ratings listed here are of recently reviewed products in select categories. For a complete, searchable list, go to Macworld Online, at <http://www.macworld.com/pages/star/ratings.html>.

Full Reviews To read a full review of any product in the listing, please consult the issue indicated at the end of the listing or search for the product via Macworld Online (keyword *Macworld* on America Online; URL <http://www.macworld.com> on the World Wide Web). If a product has been upgraded since our last assessment, the most recent version number appears in parentheses after the main reviewed version number.

Vendors: Please write to Macworld Star Ratings, 501 Second St., San Francisco, CA 94107, to inform us of changes in the version number or list price of your product, or of changes to your phone number.

Software

BUSINESS

- ★★★★/7.9 **Big Business 2.0**, Big Software, 408/725-7200, \$199 to \$999. All-in-one business application integrates sales, marketing, ordering, and accounting. *Jan 97, p. 64*
- ★★★★/8.1 **Claris Organizer 2.0**, Claris, 408/727-8227, \$69. Solid upgrade is worth the wait. *Jan 97, p. 62*
- ★★★★/8.4 **ClarisWorks 4.0**, Claris, 408/727-8227, \$129 (estimated). The program has speed, a clean

design, and low resource requirements. *Jun 96, p. 98*

- ★★★★/9.5 **DeltaGraph 4.0**, DeltaPoint, 408/648-4000, \$195. Top Mac graphing application still excels. *Sep 96, p. 90*
- ★★★/6.3 **Map Factory**, ThinkSpace, 519/858-5047, \$996. Unique raster-based mapping program. *Nov 96, p. 70*
- ★★★★/7.1 **Microsoft Excel 5.0**, Microsoft, 206/882-8080, \$295 (estimated). Although it's the only game in town, Excel 5 is a glutton for RAM and disk space. *Jun 96, p. 98*
- ★★★/6.7 **Microsoft Word 5.1**, Microsoft, 206/882-8080, \$320 (estimated). Fast, sleek, stable, and probably the most widely used Mac word processor on earth. *Jun 96, p. 98*
- ★★★/6.9 **Quicken Business Law Partner 2.0**, Parsons Technology, 319/395-9626, \$49. Suffices if you want to get the job done with a minimum of fuss. *Feb 97, p. 84*
- ★★★★/8.7 **Quicken Deluxe 7.0**, Intuit, 520/295-3220, \$59.95. Indispensable financial manager. *Feb 97, p. 64*
- ★★★★/7.6 **Small Business Legal Pro Deluxe 2.0**, Nolo Press, 510/549-1976, \$59.95. A great value if you want to be fully informed. *Feb 97, p. 84*
- ★★/4.5 **Street Atlas USA 3.0**, DeLorme Mapping, 207/865-1234, \$79. Map program update is better and cheaper, but still flawed. *Nov 96, p. 100*
- ★★★/5.1 **TakeNote 1.0**, Academix Software, 415/493-3003, \$79.95. Reference tool goes halfway to replacing the familiar index card. *Jan 97, p. 88*
- ★★★★/7.1 **Timeslips 4.0**, Timeslips, 214/248-9232, \$299.95. Time-tracking and -billing package is unnecessarily complex. *Jan 97, p. 86*
- ★★★★/7.4 **WordPerfect 3.5**, Corel, 613/728-8200, \$129 (estimated). In speed, interface efficiency, and Macintosh integration, WordPerfect beats all competitors. *Jun 96, p. 98*

GRAPHICS

- ★★★★/7.1 **Adobe Illustrator 6.0.1**, Adobe Systems, 415/961-4400, \$595. Efficient and well-organized drawing program doesn't surpass FreeHand 5.5. *Jan 97, p. 112*
- ★★★/5.7 **Canvas 5.0**, Deneba, 305/596-5644, \$599.95. Midrange graphics program has professional price. *Jan 97, p. 112*
- ★★/4.8 **Chromatica**, Chroma Graphics, 415/375-1100, \$149.95. This Photoshop plug-in is

handy but limited. *Feb 97, p. 80*

- ★★/4.6 **CorelDraw 6 Suite**, Corel, 613/728-8200, \$595. Graphics suite lacks solid image-editing and drawing programs. *Jan 97, p. 112*
- ★★★★/8.9 **Detailer**, Fractal Design, 408/430-4000, \$449. Wonderful imaging tool lets you paint directly on 3-D models. *Feb 97, p. 72*
- ★★★★/7.8 **ElectricImage Broadcast 1.0**, Electric Image, 818/577-1627, \$2495. 3-D animation tool gets new price, new features. *Nov 96, p. 88*
- ★★/4.7 **Fastedit/Deluxe**, Total Integration, 847/776-2377, \$249. Photoshop plug-in lets you edit quickly, but is expensive. *Nov 96, p. 92*
- ★★★★/7.5 **Form-Z RenderZone 2.8**, Autodesk, 614/488-9777, \$1995. Impressive 3-D modeler gets rendering know-how. *Oct 96, p. 75*
- ★★★★/8.7 **FreeHand 7**, Macromedia, 415/252-2000, \$399. Near-perfect draw program. *Feb 97, p. 56*
- ★★★★/7.9 **FreeHand Graphics Studio 7**, Macromedia, 415/252-2000, \$449. Suite provides professional-level power at an affordable price. *Feb 97, p. 56*
- ★★★★/7.9 **Infini-D 3.5**, Specular, 413/253-3100, \$649. Approachable, practical mix of 3-D design ingredients. *Jan 97, p. 70*
- ★★★★/8.3 **Kai's Power Goo**, MetaTools, 805/566-6200, \$49.95. Family image-editing software that pros will use. *Jan 97, p. 84*
- ★★★★/7.7 **Paint Alchemy 2.0**, Xaos Tools, 415/487-7000, \$199. Photoshop filter applies brushstrokes to create impressionistic effects. *Sep 96, p. 120*
- ★★★★/8.9 **Painter 4.0**, Fractal Design, 408/688-5300, \$549. Most artists should own Painter 4.0; its painting and special-effects capabilities simply can't be beat. *Jun 96, p. 78*
- ★★★★/7.7 **PhotoMatic 2.0.1**, DayStar Digital, 770/967-2077, freeware. Photoshop filter adds batch processing and AppleScript support. *Sep 96, p. 120*
- ★★★/6.9 **PhotoNavigator 1.0**, Extensis, 503/274-2020, freeware. This Photoshop filter provides a thumbnail view of an image for quick and easy scrolling. *Sep 96, p. 120*
- ★★★★/8.3 **Photoshop 4.0**, Adobe Systems, 415/961-4400, \$895. New version cements image editor's position as the top product. *Feb 97, p. 132*
- ★★★/5.7 **PhotoTools 1.0**, Extensis, 503/274-2020, \$99.95. Useful Photoshop plug-in. *Feb 97, p. 80*
- ★★★/6.2 **PlateMaker 1.0.2**, A Lowly Apprentice Pro-

continues

REAL PRODUCTS REAL RATINGS

Reviews you can trust: Unlike other publications, Macworld rates only final shipping products, not prototypes. What we review is what you can actually buy. Outstanding ★★★★★ = 9.0-10.0 Very Good ★★★★ = 7.0-8.9 Good ★★★ = 5.0-6.9 Flawed ★★ = 3.0-4.9 Unacceptable ★ = 0-2.9

Star Ratings

ductions, 619/438-5790, \$295. This Photoshop filter exports CMYK with spot-color channels to DCS 2.0 format. *Sep 96, p. 120*

★★★/4.4 **Power/Pac 1**, Auto F/X, 603/875-4400, \$249. Macros for Photoshop are useful but restrictive. *Feb 97, p. 80*

★★★★/8.2 **PowerCADD 3.0**, Engineered Software, 910/299-4843, \$795. Fast, pro-level drafting program gets some refinements. *Jan 97, p. 74*

★★★★/7.0 **Sculpt 3D 4.1**, Byte by Byte, 512/305-0360, \$495. High-end 3-D for the mainstream. *Sep 96, p. 87*

★★★★/8.2 **Series 2, 3-D Filter 2.11**, Andromeda Software, 805/379-4105, \$129. Photoshop filter projects images onto three-dimensional cubes, spheres, and cylinders. *Sep 96, p. 120*

★★★★/9.2 **Series 3, Screens Filter 1.4**, Andromeda Software, 805/379-4109, \$159. Converts a Photoshop image into alternative halftone patterns from mezzotints to wavy lines. *Sep 96, p. 120*

★★★★/8.1 **Slicer 1.0**, Fortner Research, 703/478-0181, \$695. View 2-D slices of 3-D images. *Nov 96, p. 98*

★★★★/6.5 **Stencil It 1.0**, Kaetron Software, 713/298-1500, \$99. Low-cost program is good for charts, but not for art. *Jan 97, p. 72*

★★★★/8.2 **Stylist 1.0**, Alien Skin Software, 919/832-4124, \$199. Plug-in adds graphic and text style sheets to Illustrator. *Oct 96, p. 64*

★★★★/6.6 **Sucking Fish 1.01**, Naoto Arakawa, gca00443@nittyserve.or.jp, freeware. Offbeat, undocumented Photoshop gradient and pattern filters with encryption as an added bonus. *Sep 96, p. 120*

★★★★/6.8 **Terrazzo 1.0**, Xaos Tools, 415/487-7000, \$199. Photoshop filter repeats images to create seamless, organic pattern. *Sep 96, p. 120*

★★★★/7.9 **The Black Box 2.0**, Alien Skin Software, 919/832-4124, \$119. Straightforward Photoshop filters for creating drop shadows, bevels, and glass refraction effects. *Sep 96, p. 120*

★★★★/7.4 **TurboCAD 2D/3D 3.0**, IMSI, 415/257-3000, \$149. Nearly high-end CAD program with educational-software price. *Dec 96, p. 61*

★★★★/7.5 **TypeCaster 1.0**, Xaos Tools, 415/487-7000, \$199. Adds three-dimensional text to any Photoshop image. *Sep 96, p. 120*

INTERNET/NETWORKING

★★★★/6.5 **3-D Website Builder**, Virtus, 919/467-9700, \$159. VRML authoring program is straightforward but limited. *Feb 97, p. 82*

★★★★/7.7 **Adobe PageMill 2.0**, Adobe Systems, 408/536-6000, \$149. WYSIWYG approach to Web design is appealing and efficient. *Feb 97, p. 58*

★★★/5.7 **Amapi 2.11**, Yonowat, 415/788-1652, \$398. 3-D modeler marred by awkward interface. *Nov 96, p. 87*

★★★★/7.2 **Apple Network Administrator's Toolkit**, Apple Computer, 408/996-1010, \$599. Suite automates the most important chores of classroom management. *Dec 96, p. 70*

★★★★/7.0 **AppleScript 1.1**, Apple Computer, 408/996-1010, free. Standout CGI scripting tool is built into System 7.5. *Oct 96, p. 104*

★★/4.6 **Arachnid 1.6**, University of Iowa, robert-mcburney@uiowa.edu, free. This HTML editor helps you manage your site as a whole. *Oct 96, p. 114*

★★★/5.4 **BBEdit 4.0**, Bare Bones Software, 508/651-3561, \$119. BBEEdit is a useful tool for any active Webmaster. *Oct 96, p. 114*

★★★★/7.0 **BeyondPress 2.0**, Astrobyte, 303/534-6557, \$595. XPress-to-HTML conversion program whisks you from XPress to the Internet. *Oct 96, p. 57*

★★★★/7.7 **Bookends Web 3.2**, Westing Software, 415/945-3870, \$179. Useful, flexible tool for creating bibliographies on the Web. *Dec 96, p. 82*

★★★/5.5 **cc:Mail Mobile for Macintosh 2.0**, Lotus Development, 617/577-8500, \$145. Speedy and straightforward choice for PC-centric environments, but lacks many features competitors offer. *Oct 96, p. 134*

★★★/6.6 **ChameleonNFS 3.6**, NetManage, 408/973-7171, \$395 per user. Collection of small, fast Internet apps. *Nov 96, p. 87*

★★★★/8.6 **Claris Mailer 1.03**, Claris, 408/987-7000, \$49 (estimated). The only application that dumps (almost) all of your messages in one in-box. *Oct 96, p. 134*. **Editors' Choice** for best e-mail over the Internet.

★★★/6.9 **Claris Home Page 1.0**, Claris, 408/727-8227, \$99 (estimated). Home Page leads the pack of HTML editors. *Dec 96, p. 58*

★★★/6.8 **COPStalk 2.0 for Windows 95**, CoOperative Printing Solutions, 770/840-0810, \$159. Cross-platform networking for PC users who need access to Mac servers. *Nov 96, p. 68*

★★★/6.9 **Cyberdog 1.0**, Apple Computer, 408/996-1010, free. Internet tools are an interesting but incomplete showcase for OpenDoc technology. *Sep 96, p. 96*

★★★★/8.0 **CyberGauge**, Neon Software, 510/283-9771, \$139. Network monitoring for the masses. *Nov 96, p. 83*

★★★/6.8 **DigiPhone 1.0**, Third Planet Publishing, 972/733-3005, \$39.95. Make low-cost calls over the Internet. *Jan 97, p. 68*

★★★★/8.1 **Electronic Commerce Suite 2.0**, iCAT, 206/623-0977, \$4995. Electronic Commerce Suite builds complex yet robust Web sites quickly and easily. *Oct 96, p. 104*. **Editors' Choice** for best software for building dynamic Web sites.

★★★★/9.1 **EtherPeek 3.0**, The AG Group, 510/937-7900, \$995. Sleek enhancements will make this network analyzer your right hand. *Dec 96, p. 77*

★★★/6.1 **Eudora Pro 3.0**, Qualcomm, 619/658-1200, \$89. Internet e-mail reader improves, but not by much. *Nov 96, p. 77*

★★★★/7.8 **Excel Internet Assistant 1.0**, Microsoft, 206/882-8080, free. Excel Internet Assistant converts existing Excel files to HTML. *Oct 96, p. 114*

★★★★/8.1 **FirstClass 3.11**, SoftArc, 905/415-7000, \$495 to \$1495. Offers robust e-mail, conferencing, and other features, yet easy to use. *Oct 96, p. 134*. **Editors' Choice** for best company-wide e-mail.

★★★★/7.5 **Frontier 4.1**, UserLand Software, <http://www.scripting.com/ironier>, free. Fast and powerful scripting environment requires advanced programming knowledge. *Jan 97, p. 152*. **Editors' Choice** for best Internet tools.

★★★/5.3 **Front Office 1.5**, STF Technologies, 213/259-1710, \$299. Being able to retrieve a call that's gone to voice mail is great, but easier setup is necessary. *Nov 96, p. 132*

★★★/6.7 **GlobalTransfer 1.0**, Global Village, 408/523-1000, \$29.95. Transferring files the easy way. *Oct 96, p. 82*

★★★/6.1 **GNNPress 1.1**, PrimeHost, 800/879-6882, \$199/month for commercial site. GNNPress combines a powerful HTML editor with a site-management tool. *Oct 96, p. 114*

★★/4.9 **golive Pro 1.1**, gonet communication, 415/463-1580, \$99. Attractive HTML editor needs polishing. *Dec 96, p. 58*

★★★/5.6 **HexWeb XT 2.0**, HexMac International, 415/864-7592, \$349. XPress-to-HTML conversion program whisks you from XPress to the

Internet. *Oct 96, p. 57*

★★/4.2 **HoTMetaL Pro 3.0**, SoftQuad, 416/544-9000, \$159. Dramatically improved Web editor is powerful but still quirky. *Feb 97, p. 58*

★★/3.8 **HTML Author 1.0**, Adobe Systems, 415/961-4400, included with PageMaker 6.0. This plug-in converts Adobe PageMaker files to HTML. *Oct 96, p. 114*

★★★★/7.9 **HTML Editor 1.1.4**, Rick Giles, rick.giles@acadiu.ca, \$25. This text editor is a great all-around HTML coding aid. *Oct 96, p. 114*. **Editors' Choice** for best Web authoring tools.

★★★/6.8 **HVS Color 1.2**, Digital Frontiers, 847/328-0880, \$99. Keep Web graphics small, colors true. *Oct 96, p. 72*

★★★★/7.7 **InterMapper 1.0.1**, Dartmouth College, 603/646-2643, \$795. World-class network management. *Jan 97, p. 83*

★★★★/7.3 **Internet Phone 3.0.1**, VocalTec, 201/768-9400, \$49.95. Novices may like this software that lets you make low-cost calls over the Internet. *Jan 97, p. 68*

★★★/6.5 **LAN Commander**, Power On Software, 612/879-9190, \$299.95 five-station pack. Network management made simple. *Oct 96, p. 79*

★★★/6.2 **MacHTPL 2.2.2**, Tim Endres, tme@ice.com, free. This preprocessor can help you tailor your HTML for specific browsers. *Oct 96, p. 104*

★★★/6.3 **MacPerl 5.0.6**, Matthias Neeracher, neeri@iis.ee.ethz.ch, free. This CGI scripting language is portable to other platforms. *Oct 96, p. 104*

★★★/6.8 **MacSOUP 2.1**, Stefan Kurth, stk@kagi.com, \$20. Strong offline e-mail and news reader; that's all it handles, though. *Jan 97, p. 152*

★★★/6.7 **Marionet 1.1.1**, Allegiant Technologies, 619/587-0500, \$149. Flexible scripting and search tool for authoring environments, but it requires significant programming knowledge. *Jan 97, p. 152*

★★★★/7.0 **MegaPhone 1.02**, Cypress Research, 408/486-7900, \$100. Great for automated dialing, but limited phone-book capability is disappointing. *Nov 96, p. 132*

★★★★/7.0 **NetCloak 2.1**, Maxum Development, 630/830-1113, \$195. Quirky WebStar add-on is a must-buy. *Jan 97, p. 66*

★★★/8.7 **NetDoubler 1.0**, Asanté, 408/435-8388, \$69.95 to \$99. Boosts network speeds for large files. *Dec 96, p. 68*

★★★/6.5 **NetForms 2.0**, Maxum Development, 630/830-1113, \$195. WebStar add-on fills gaps in server software. *Jan 97, p. 66*

★★★★/7.4 **Netscape Navigator 3.0**, Netscape Communications, 415/937-2555, \$49. Still the best browser, but could use a diet. *Nov 96, p. 62*

★★★★/7.1 **NewsHopper 1.2**, SW15 Software, <http://www.demon.co.uk/sw15/>, \$59. Powerful, scriptable reader, but can't be scheduled and handles only Usenet news. *Jan 97, p. 152*

★★★/6.6 **Now Up-to-Date Web Publisher 1.0**, Now Software, 503/274-2800, \$129.95. Publish your calendars and contact lists on the Web. *Dec 96, p. 78*

★★★/6.7 **PageMill 1.02**, Adobe Systems, 415/961-4400, \$149. This WYSIWYG HTML editor does its job with reliability and flair. *Oct 96, p. 114*

★★★★/7.5 **PC MacLAN 6.0 for Windows 95**, Miramar Systems, 805/966-2432, \$199. The choice for peer-to-peer cross-platform networking. *Nov 96, p. 68*

★★★/6.9 **Phantom 1.1**, Maxum Development, 708/830-1262, \$395. Wonderful Web robot for the Mac is server-friendly, but also expensive and useful primarily for Webmasters. *Jan 97, p. 152*

★★★/6.3 **QuickMail 3.6**, CE Software, 515/221-1801, \$199 to \$1449. Easy to use, but message-tracking features are limited. *Oct 96, p. 134*

★★★★/7.6 **Retrieve It 2.5**, MVP Solutions, 415/562-continues

"They thought my new Multipath Back-UPS Office™ was just a big surge suppressor – then the lights went out."

At last, a safe place to plug everything: Multipath Back-UPS Office for Mac workstations and peripherals

Facing the darkness is hard, but inevitable: You have a better chance of winning the lottery than of escaping power problems: They're the single largest cause of computer data loss and hardware damage.

Back-UPS Office provides reliable power for your entire system. Instantaneous battery backup ensures uninterrupted operation of your CPU, monitor and an external storage device. Full-time surge suppression and site-wiring fault protection spreads a true Multipath safety net under any remaining integrated peripherals, like modems, printers, faxes and phone systems. Back-UPS Office also provides convenient BlockSafe™ outlet spacing to handle all size plugs – even large block transformers.

Unique Multipath protection keeps your Mac and data safe

Plugging a phone line into your computer doubles your vulnerability to power



problems; add any peripheral, and it triples. Even if your AC power-line is shielded, when a surge hits an unprotected peripheral, it can blaze down serial and data lines, and toast your expensive Mac.

Back-UPS Office's compact design installs easily on desktop, floor or mounts to wall.

Multipath Means Total Power Protection



Multiple peripherals and data lines to and from your system are vital, but dangerous. Without them, you can't do your job. However, if a power sag makes your modem drop the line while you're downloading from the Internet, or locks your keyboard before you've saved work, you lose time, money and spend another late night at the office to meet your deadline.

Back-UPS Office protects your entire system

Until now, protection for your entire system required several devices. But multi-device protection can leave you vulnerable to line noise and unwanted data glitches created by the voltage differential between outlets. Those glitches are prevented with the Back-UPS Office common voltage reference.

Back-UPS Office means true Multipath protection, clean, safe power to every

peripheral, and instant battery backup to keep your cutting edge system and OS from crashing. It means protection for less by integrating the security of a surge suppressor with the power of a UPS, guaranteed up to \$25,000.

APC has won more awards for reliability than all other brands combined



THE MULTIPATH POWER PROTECTION ADVANTAGE	TRADITIONAL SURGE PROTECTOR	TRADITIONAL UPS	BACK-UPS OFFICE
Protected Paths:			
AC	*	*	*
Data			*
Phone			*
Total Outlets:	2	3	6
Number of Block Outlets:			2
Protection from:			
Surges	*	*	*
Spikes	*	*	*
Blackouts	*	*	*
Brownouts	*	*	*
Over-voltages	*	*	*
Typical Runtime in Minutes:			
with Postion 100 w/1" monitor		10	10
Battery backup for:			
AC	*	*	*
Printer	*	*	*
Storage Devices/Tape Drives	*	*	*
Full-line surge protection for:			
Fax/Modem	*	*	*
Line Printer	*	*	*
Telexes	*	*	*
Distance protection for:			
Internet or Network	*	*	*

Traditionally, protecting all your equipment means buying a surge suppressor and a UPS. Even then, only your AC line was protected. Now Back-UPS Office protects all paths to your equipment. Back-UPS Office. Multipath protection.

Protect yourself before you kick yourself. Get your new Back-UPS Office today (list price: \$179.99), or call APC for a FREE 60-page catalog!

APC
AMERICAN POWER CONVERSION
(888)BUY-APCC x 8008
<http://www.apcc.com/8008.htm>

(401)788-2797 Fax + (800)347-FAUX PowerEsa
CompUSA, G.O. APC/SUPCORP • Email: baufw@apcc.com
132 Fairgrounds Road, West Kingston, RI 02892 USA

Dept: D7

Star Ratings

3457, \$65. Speedy, complex searches of your computer and the Web. *Dec 96, p. 80*

- ★★★/6.3 **SiteMill 1.0.3**, Adobe Systems, 415/961-4400, \$595. SiteMill is a powerful management tool for your Web site. *Oct 96, p. 114*
- ★★/4.8 **SuperVoice 2.0**, Pacific Image Communications, 818/457-8880, \$130. Hampered by bugs, glitches, and inability to import phone numbers. *Nov 96, p. 132*
- ★★★/6.7 **SupraSonic VoiceMail**, Diamond Multimedia, 360/604-1400, \$289. Still looks like fax software with voice capability added on, but it's got potential. *Nov 96, p. 132*
- ★★★/6.6 **Tango 1.5**, EveryWare Development, 905/819-1173, \$495. This CGI program forwards queries to a SQL database and reformats the responses into HTML. *Oct 96, p. 104*
- ★★★★/7.3 **Tango for FileMaker Pro 3.0**, EveryWare, 905/819-1173, \$349. Tool kit for putting your FileMaker database on the Web. *Oct 96, p. 59*
- ★★★/6.7 **Tapestry 1.1**, Concept 1, 905/305-8655, \$69. Beginners get help weaving the perfect Web site. *Oct 96, p. 80*
- ★★★/6.8 **tcpConnect4 4.0 Enterprise**, InterCon, 703/709-5500, \$495 per user. Internet access suite is easy to set up, but lacks some conveniences. *Nov 96, p. 81*
- ★★★/6.9 **TCP/IP Scripting Addition**, Mango Tree Software, 617/327-8663, \$49. Tool for AppleScript provides access to TCP/IP commands. *Jan 97, p. 152*
- ★★★/7.2 **Timbuktu Pro 3.0**, Farallon Communications, 510/814-5000, \$139. Network access tool extends its reach. *Jan 97, p. 69*
- ★★★/5.5 **Timbuktu Pro for Networks 2.0**, Farallon Communications, 510/814-5000, \$139 to \$3999. Despite some drawbacks, this is the next-best thing to being there. *Oct 96, p. 134*
- ★★★★/7.4 **Tumbleweed Publishing Essentials 1.0**, Tumbleweed Software, 415/363-7022, \$695. A faster, cheaper alternative to Acrobat. *Oct 96, p. 70*
- ★★★/5.5 **Voice Messenger**, Cypress Research, 408/486-7900, \$149. A clean and simple interface, but easier setup is necessary. *Nov 96, p. 132*
- ★★★/5.8 **WebArranger 2.0**, CE Software, 515/221-1801, \$79. Powerful bookmark manager is good at managing large quantities of information. *Jan 97, p. 152*
- ★/2.6 **Web Buddy 1.0**, DataViz, 203/268-0030, \$50. Offline Web browser makes it easy to set up a schedule, but is a memory hog. *Jan 97, p. 152*
- ★/1.0 **WebDoor 1.2**, Open Door Networks, 541/488-4127, \$20 to \$60/month. WebDoor's authoring software is abysmal. *Oct 96, p. 114*
- ★★★★/7.9 **Webmaker 2.2**, Harlequin, 617/374-2400, \$99. For converting FrameMaker documents to the Web, WebMaker has no equal. *Oct 96, p. 114*. **Editors' Choice** for best Web authoring tool.
- ★★★/7.2 **Web-Motion 1.0**, Terran Interactive, 408/278-9025, \$99.95. Web-savvy plug-in for first-rate compression utility. *Jan 97, p. 81*
- ★★/4.4 **WebWhacker 1.0.8**, Forefront Group, 713/961-1101, \$70. Clean, simple interface, but offline Web browser lacks scripting and scheduling. *Jan 97, p. 152*
- ★★★★/7.8 **Word Internet Assistant 1.0**, Microsoft, 206/882-8080, free. Word Internet Assistant converts existing Word files to HTML. *Oct 96, p. 114*
- ★★★★/8.0 **YoYo 1.2**, Big Island Communications, 408/342-8300, \$149. Innovative telephony software is an amazing productivity tool. *Nov 96, p. 64*

MEDIA

- ★★★★/7.1 **3D Web Workshop 1.0**, Specular International, 413/253-3100, \$249. Instant Internet presence in 3-D. *Oct 96, p. 68*
- ★★★/8.2 **AD-1 Pro Audio Analyzer 2.0**, Intelligent Devices, 410/744-3044, \$349 to \$449. Audio meters for the discriminating producer. *Dec 96, p. 84*
- ★★★★ **Adobe PageMaker 6.0**, Adobe Systems, 206/622-5500, \$895. Page-layout program's upgrade includes practical and powerful improvements. *Nov 95, p. 60*
- ★★★★/7.4 **Adobe Premiere 4.2**, Adobe Systems, 415/961-4400, \$795. Video editor offers significant enhancements, including CD-ROM Movie Maker plug-in. *Mar 96, p. 90*
- ★★★★/7.5 **Boris Effects 2.0**, Artel Software, 617/566-0870, \$350 to \$695. Inexpensive, multichannel digital-video-effects program is a worthwhile investment. *Jan 97, p. 76*
- ★★★/6.8 **ClickWorks 1.0.2**, Pitango, 617/280-7163, \$985. Presentation program is a solid choice. *Feb 97, p. 74*
- ★★★/6.7 **Digital Chisel://HTML 2.1.3**, Pierian Spring Software, 503/222-2044, \$109 to \$995. Multimedia authoring doesn't make it on the Web. *Jan 97, p. 78*
- ★★★★/7.5 **Digital Performer 1.71**, Mark of the Unicorn, 617/576-2760, \$895. Audio program does an unparalleled job of altering pitch and tempo. *Sep 96, p. 76*
- ★★★★ **FrameMaker 5.0**, Adobe Systems, 408/975-6000, \$895. Page-layout program is a good choice for technical-document creation. *Nov 95, p. 63*
- ★★★/6.0 **MasterJuggler Pro 2.0**, Alsoft, 713/353-4090, \$89.95. MasterJuggler wants to be your favorite font manager. *Sep 96, p. 72*
- ★★★★/7.4 **Movie Cleaner Pro 1.2.1**, Terran Interactive, 408/278-9025, \$189.95. First-rate movie compression utility is a must-have. *Jan 97, p. 81*
- ★★★★/7.2 **MovieFlo' 2.0.2**, The Valis Group, 415/435-5404, \$699. Image-distortion software for pros. *Jan 97, p. 92*
- ★★★/5.5 **MovieStar 1.5**, Intelligence at Large, 215/387-6002, \$149.95. Easy QuickTime moviemaking and animation for the Internet. *Feb 97, p. 92*
- ★★★★/7.3 **mTropolis 1.1**, mFactory, 415/548-0600, \$1195. Sophisticated authoring environment is a terrific tool for game developers. *Feb 97, p. 74*
- ★★★★/7.8 **Pro View 1.3**, E-magine, 800/603-1474, \$99.95. Back-to-basics presentation tool. *Nov 96, p. 95*
- ★★★★/8.0 **QuarkImmedia 1.0**, Quark, 303/894-8888, \$995. An easy move from print to multimedia. *Dec 96, p. 57*
- ★★★/6.1 **Ready,Set,Go 7.0.2**, Abbott Systems, 914/747-3116, \$395. Revamped page-layout software offers more than the basics. *Sep 96, p. 83*
- ★★★★/7.2 **Studio Vision Pro 3.0.3**, Opcode Systems, 415/856-3333, \$895. For MIDI-audio conversion, this audio program is the one to buy. *Sep 96, p. 76*
- ★★★/6.1 **Suitcase 3.0.1**, Symantec, 503/334-6054, \$69.95. Suitcase vies with MasterJuggler for superiority, and still no clear winner. *Sep 96, p. 72*

UTILITIES

- ★★★/6.7 **After Dark 4.0**, Berkeley Systems, 510/540-5535, \$30 to \$40. Glitzy, but not necessarily better, than previous versions. *Feb 97, p. 76*
- ★★/4.1 **At Ease 3.0**, Claris, 408/987-7000, \$49. Can be easily defeated with a Disk Tools floppy or separate start-up disk. *Nov 96, p. 146*
- ★★★★/7.9 **BorderGuard Access Router**, Network Systems, 612/424-4888, \$1700. Transparent

encryption of AppleTalk and TCP/IP that lets you use the Internet instead of a private WAN. *Nov 96, p. 146*

- ★★★★/7.6 **CanOpener 3.5**, Abbott Systems, 914/747-4171, \$65. Reliably recovers text and graphics from damaged files. *Feb 97, p. 88*
- ★★★/6.2 **cypherPad**, usrEZ Software, 714/756-5140, \$49. Easy setup and usage; good basic security. *Nov 96, p. 146*
- ★★★★/7.3 **DiskGuard 1.5**, ASD Software, 909/624-2594, \$79. Good combination of low price and easy installation. Solid, basic protection. *Nov 96, p. 146*
- ★★★★/7.9 **DiskLock 4.0**, Symantec, 541/984-2490, \$129. Easy automatic setup makes this a snap to configure; has most protection features you need. *Nov 96, p. 146*
- ★★/4.9 **DiskWorks 3.0.2**, MicroNet Technology, 714/453-6100, \$299. Disappointing hard-drive formatter has an awkward interface. *Dec 96, p. 62*
- ★★★/6.1 **Dr. Solomon's Anti-Virus Toolkit 7.6.1**, S&S International, 617/273-7400, \$85. Antivirus utility can check DOS disks. *Dec 96, p. 60*
- ★★★/6.0 **Empower 5.0.4**, Magna, 408/879-7907, \$129. Decent design, but overpriced for features offered. *Nov 96, p. 146*
- ★/1.8 **Executor 2.0**, Abacus Research & Development, 505/766-9115, \$249. Mac emulator for PCs falls far, far short. *Feb 97, p. 78*
- ★★/3.9 **Faxstf 3.2**, STF Technologies, 816/463-1412, \$99 to \$295. Faxing application suffers from its revision. *Oct 96, p. 66*
- ★★★★/8.0 **FileGuard 3.0**, ASD Software, 909/624-2594, \$139. Most of the features you need, combined with ease of installation, reliable performance, and robust protection. *Nov 96, p. 146*. **Editors' Choice** for best desktop security software.
- ★★★/6.6 **Font Box 1.8.3**, Insider Software, 619/622-9900, \$79.95 to \$169.95. Font fixer could use some repairs. *Nov 96, p. 90*
- ★/4.9 **FoolProof 2.5**, SmartStuff Software, 503/231-4300, \$39. Decent design, but lacks features and is too easy to defeat. *Nov 96, p. 146*
- ★★★★/7.0 **Hard Disk Toolkit 2.0.1**, FWB, 415/463-3500, \$199. Reliable hard-drive formatter can actually tweak a drive to run faster. *Dec 96, p. 62*
- ★★★★/8.2 **Here & Now 2.0**, Software Architects, 206/497-0122, \$75. The best choice for helping Windows 95 files work with the Macintosh. *Sep 96, p. 60*
- ★★★★/8.5 **HSM Toolkit 1.0**, FWB, 415/325-4392, \$79. Infinite storage made infinitely more simple. *Oct 96, p. 77*
- ★★★/6.8 **KeyQuencer 2.0**, Binary Software, 310/449-1481, \$39.95 direct. Macro program for speed addicts and control freaks. *Dec 96, p. 59*
- ★★★/7.8 **KeyServer 4.1**, Sassafras Software, 603/643-3351, \$800. Easy-to-install tool enforces usage thresholds and lets you track applications. *Nov 96, p. 146*
- ★★★/5.6 **LaserMerge Electronic Paper 2.0**, MindGate Technologies, 615/937-6800, \$95. Souped-up printing utility multiplies your output options. *Sep 96, p. 87*
- ★★★/5.9 **Mac Drive 95 1.0**, Media4, 515/225-7409, \$60. Mac Drive 95 offers acceptable, if inelegant, file sharing with Windows 95. *Sep 96, p. 60*
- ★★★★/8.3 **Mac Manager 3.1**, ELS, 352/375-0558, \$299. Provides both safe and impenetrable access protection and data encryption. *Nov 96, p. 146*
- ★★★/6.7 **MacOpener 2.0**, DataViz, 203/268-0030, \$50. A marked improvement over the flawed original, but its reliance on DOS extensions is disappointing. *Sep 96, p. 60*
- ★★★/6.8 **MacTransfer 1.0**, Insignia Solutions, 408/327-6000, \$55. For inexpensive simplicity with some

continues



netOctopus.

When it comes to network control, it's like having eight arms.



Today, it's not enough to simply "own" information resources. You've got to be able to reach out, identify and control them, to make them truly work for you. netOctopus allows you to supervise, manage, and update an entire network of Mac and PC workstations from your desktop computer. Install and update software remotely.

Inventory hardware and software. Troubleshoot. Meter software usage. Find out why network control is no longer a luxury. It's absolutely indispensable. **Call 1-800-847-3982 (Ext. 727)** and find out how control is just a few clicks away.

DATAWATCH®

Star Ratings

limitations, MacTransfer is a solid choice for cross-platform file exchanges. *Sep 96, p. 60*

- ★★★★7.5 **MATLAB Statistics Toolbox 2.0**, The MathWorks, 508/647-7000, \$395. Statistical analysis tool on steroids. *Dec 96, p. 75*
- ★★★★9.3 **MATLAB Wavelet Toolbox 1.0**, The MathWorks, 508/647-7000, \$895. Powerful wavelet-analysis tool. *Dec 96, p. 75*
- ★★★★7.7 **McAfee VirusScan 2.0**, McAfee Associates, 408/988-3832, \$65. World-class virus protection has little impact on Mac's performance. *Dec 96, p. 60*
- ★★★★8.1 **NetShade 1.1**, Atemi, 217/352-3689, \$299. Easy to install and configure, it scrambles data and foils all but the most determined sniffers. *Nov 96, p. 146*
- ★★★★8.1 **Network Security Guard 3.1**, Mr. Mac Software, 619/453-2845, \$289. Scans your network for unintentional guest access, poorly chosen passwords, and other security loopholes. *Nov 96, p. 146*
- ★★★★7.1 **On Guard 2.1**, Power On Software, 216/735-3116, \$70. Easy install, attractive Finder-like configuration menu; low-priced. *Nov 96, p. 146*
- ★★★★8.2 **QuickKeys 3.5**, CE Software, 515/224-1995, \$119. QuickKeys exists to make macros easier. *Dec 96, p. 59*
- ★★★★8.6 **RAM Doubler 2.0**, Connectix, 415/571-5100, \$99. Control panel now triples your RAM. *Dec 96, p. 67*
- ★★★★6.4 **SAM 4.5**, Symantec, 408/253-9600, \$69.95. Industrial-strength virus protection. *Feb 97, p. 86*
- ★★★★6.1 **SecretAgent 3.0**, AT&T, 847/405-0390, \$249. An overpriced one-trick pony; its advantage is cross-platform compatibility. *Nov 96, p. 146*
- ★★★★7.8 **Spell Catcher 1.5.6**, Casady & Greene, 408/484-9228, \$59.95. Resurrected Thunder 7 is still much more than a spelling checker. *Dec 96, p. 73*
- ★/2.7 **StellarFax 1.1**, TechPool, 216/291-1922, \$249. Sends inferior-quality faxes faster. *Feb 97, p. 90*
- ★★★★7.3 **StuffIt Deluxe 4.0**, Aladdin Systems, 408/761-6200, \$129.95. Same compression format, but faster and with a brilliant Finder twist. *Oct 96, p. 61*
- ★★★★5.1 **TransferPro 1.0**, Digital Instrumentation Technology, 505/662-1459, \$189. File-transfer capabilities needs to work better in the Windows 95 world. *Sep 96, p. 60*
- ★★★★7.0 **ultraSecure**, usrEZ Software, 714/756-5140, \$239. A textbook of required security features, hampered by so-so manual and complex installation. *Nov 96, p. 146*
- ★★★/6.4 **ultraShield**, usrEZ Software, 714/756-5140, \$149. Mixed combination of terrific features with complex installation and multiple warnings about use with other software. *Nov 96, p. 146*
- ★★/4.3 **UnderCover**, SmartStuff Software, 503/231-4300, \$39. A slightly buggy one-trick pony. *Nov 96, p. 146*
- ★/2.1 **ViaCrypt PGP 4.0**, ViaCrypt, 602/944-0773, \$129. Hard to install, hard to use; few saving graces. *Nov 96, p. 146*
- ★★★★6.9 **Virex 5.6.7**, Datawatch, 508/988-7000, \$100. Fast scanning, but caused general system slowdown. *Nov 96, p. 146*
- ★★★★7.0 **WebLock 1.0**, Maxum Development, 708/830-1113, \$195. Gives your Web server access protection via password log-in to protect private pages. *Nov 96, p. 146*
- ★★★★8.5 **WebStar SSL 1.2.4**, Quarterdeck, 310/309-3700, \$1295. Lets you use transparent encryption to exchange sensitive data safely with encryption

socket layer-capable Web browsers. *Nov 96, p. 146*. **Editors' Choice** for best network security.

- ★★★/6.5 **Working Papers**, Dominion Software, 617/332-1144, \$199.95. Manage your documents with OCR program and document organizer. *Feb 97, p. 94*
- ★★/3.7 **XChange 1.2**, Optima Technologies, 714/476-0515, \$49. Cross-platform transfer capabilities are a buggy, premature disappointment. *Sep 96, p. 60*

Hardware

MISCELLANEOUS HARDWARE

- ★★★★8.9 **3M Precise Mousing Surface**, 3M, 612/733-1110, \$15. Throw out your neoprene pad and treat your mouse to a deluxe surface. *Jan 97, p. 56*
- ★★★★7.5 **Agfa StudioStar**, Agfa, 508/658-5600, \$989. Graphics pros will treasure scanner's high-quality scans and powerful software. *Feb 97, p. 62*
- ★★★★8.2 **AirCommunicator Lite**, Air Communications, 408/567-8000, \$695. Cellular fax modem with flair offers a complete solution. *Nov 96, p. 79*
- ★★★/6.4 **Alps Adjustable Mouse**, Alps Electric, 408/432-6000, \$39.95. Mouse's movable shell tilts for optimum angle. *Sep 96, p. 98*
- ★★/4.8 **Apple Color OneScanner 1200/30**, Apple Computer, 408/996-1010, \$799. A big disappointment; offers little advantage over its lower-priced predecessor. *Feb 97, p. 62*
- ★★★/6.5 **Color QuickCam 1.0**, Connectix, 415/571-5100, \$299. Low-cost camera for passable digital video. *Sep 96, p. 79*
- ★★★★8.4 **Epson Expression 636**, Epson America, 800/922-8911, \$899 as tested. Low-cost color scanner gets the nod for all-around use. *Feb 97, p. 62*
- ★★/4.6 **Fujix DS-220**, Fuji, 914/789-8100, \$1200. Digital camera misses the mark. *Sep 96, p. 85*
- ★★★★8.8 **MicroWorks**, Cambridge SoundWorks, 617/332-5936, \$349. In terms of price for performance, speaker system is in a class by itself. *Dec 96, p. 66*
- ★★/3.1 **Midi Land 535/818 Systems**, Midi Land, 909/592-1168, \$188. 818 desktop speaker \$79.95, 535 subwoofer \$239.95. Speaker system has mediocre sound quality. *Nov 96, p. 72*
- ★★★/6.0 **NovaModem 288 1.0**, NovaLink Technologies, 510/249-9777, \$229. Decent performance from PowerBook PC Card modem. *Nov 96, p. 94*
- ★★★★7.6 **SoundWorks**, Cambridge SoundWorks, 617/332-5936, \$219.95. High-quality audio product at an affordable price. *Dec 96, p. 66*
- ★★★/5.5 **Stingray 4.0**, CoStar, 203/661-9700, \$55. Trackball offers flexible design but limited programmability. *Feb 97, p. 70*
- ★★★★7.0 **Supra Simple Internet 33.6 1.0**, Diamond Multimedia, 360/604-1400, \$159.95. Modem makes Internet access quick and easy. *Jan 97, p. 90*
- ★★★/5.2 **TrackMan Marble**, Logitech, 510/795-8500, \$99. Restrictive design and unimpressive software. *Feb 97, p. 70*
- ★★★★8.5 **Turbo Mouse 5.0**, Kensington, 415/572-2700, \$110. MouseWorks software makes programmable trackball a standout. *Feb 97, p. 70*
- ★★★/6.9 **Viewpoint Model 100**, Lightware, 503/641-7873, \$579.5. Much light, some sound in a surprisingly small projector. *Nov 96, p. 85*
- ★★★★7.1 **Yamaha System 45**, Yamaha, 714/522-9240, \$249.95. Speakers give you decent sound at a decent price. *Nov 96, p. 72*

PRINTERS

- ★★★/5.7 **4039 10plus**, Lexmark, 606/232-2000, \$1249. Fast on text, but slow Postscript emulation; high-quality output; expensive. *Sep 96, p. 181*

- ★★★/6.9 **Apple Color StyleWriter 1500**, Apple Computer, 408/996-1010, \$249. Lackluster performance and image quality mark this color ink-jet. *Feb 97, p. 140*
- ★★★★7.5 **Apple Color StyleWriter 2500**, Apple Computer, 408/996-1010, \$349. Relatively fast color ink-jet has fair image quality. *Feb 97, p. 140*
- ★★★★7.3 **BJC-4550**, Canon Computer Systems, 714/438-3000, \$499. Ink-jet produces beautiful images with optional photo ink kit. *Feb 97, p. 140*
- ★★★/6.5 **Canon CLBP 360PS**, Canon USA, 516/328-5000, \$12,500. Color laser printer had good text output, but other tests were mediocre. *Nov 96, p. 157*
- ★★★/6.7 **Color LaserWriter 12/600 PS**, Apple Computer, 408/996-1010, \$6989 (estimated). Slow speed but excellent text output. *Nov 96, p. 157*
- ★★★★7.8 **DeskJet 870Cse**, Hewlett-Packard, 408/246-4300, \$499. Outstanding color ink-jet for inexpensive office printing. *Feb 97, p. 140*
- ★★★/6.9 **DeskJet 1600CM**, Hewlett-Packard, 408/246-4300, \$1999. Expensive ink-jet printer offers good speed and crisp text. *Feb 97, p. 140*
- ★★★/5.9 **DeskWriter 600**, Hewlett-Packard, 408/246-4300, \$199. Decent speed and average print quality at a nice price. *Feb 97, p. 140*
- ★★★★7.2 **DeskWriter 680c**, Hewlett-Packard, 408/246-4300, \$279. Color ink-jet offers above-average image quality. *Feb 97, p. 140*
- ★★★★7.2 **Digital Science 8650 PS**, Eastman Kodak, 800/235-6325, \$10,795 plus \$995 for Ethernet. Top performance and solid image quality highlight Kodak's newest dye-sub printer. *Oct 96, p. 60*
- ★★★/5.1 **HP Color LaserJet 5M**, Hewlett-Packard, 408/246-4300, \$9195. Inferior output; slow; messy consumables. *Nov 96, p. 157*
- ★★★★7.1 **HP LaserJet 5MP**, Hewlett-Packard, 408/246-4300, \$1299. Consistently quick performance and high-quality output. *Sep 96, p. 181*. **Editors' Choice** for best personal laser printers.
- ★★★/5.6 **LaserWriter 4/600 PS**, Apple Computer, 408/996-1010, \$929 (estimated). Slow overall performance, good text and adequate-quality graphics output. *Sep 96, p. 181*
- ★★★/5.8 **LaserWriter 12/640 PS**, Apple Computer, 408/996-1010, \$1599 to \$1829. Workgroup printer is slower—but cheaper—than HP's LaserJet 5M. *Oct 96, p. 62*
- ★★★/6.6 **magicolor CX/32**, QMS, 334/633-4300, \$7999. Unexceptional output for this color laser printer. *Nov 96, p. 157*
- ★★★/5.4 **MD-2010**, Alps Electric, 408/432-6000, \$499. Low-end color printer is slow, with poor-quality output. *Feb 97, p. 140*
- ★★★/6.5 **microLaser Pro/8**, Texas Instruments, 800/848-3927, \$1299. Speedy performance, but poor-quality graphics output. *Sep 96, p. 181*
- ★★/4.9 **OL610e/PS**, Okidata, 609/235-2600, \$949. Middling performance; poor text and graphics output quality. *Sep 96, p. 181*
- ★★★/6.1 **OL810e/PS**, Okidata, 609/235-2600, \$1439. Quick performance; 1200 by 600 dpi resolution; excellent text but poor graphics output. *Sep 96, p. 181*
- ★★★★7.0 **Opra C**, Lexmark International, 606/232-2000, \$6849. This color laser printer has easy-to-use controls; good text and graphics output. *Nov 96, p. 157*
- ★★/4.3 **Personal LaserWriter 300**, Apple Computer, 408/996-1010, \$652 (estimated). Slow performance, grainy output, low price. *Sep 96, p. 181*
- ★★★★7.9 **Phaser 350**, Tektronix, 503/682-7377, \$3495. Solid-ink printer delivers laser-quality output. *Nov 96, p. 67*

continues

"My Microtek ScanMaker® III Pays For Itself Everytime I Use It."

— C. David Piña, designer



Main Title Design by C. David Piña
©NARAS courtesy of Cossette Productions



Main Title Design by C. David Piña ©Smith-Hemion Productions courtesy of The American Theatre Wing

The Deadline. Less than a month before air date. You are the designer for a major awards telecast. You will design every graphic and logo used in the program to be seen by millions of people around the world. You don't have time to waste. You need to rely on a fast, solid color scanner to come through in the clutch.

Best Performance By A Scanner In A Supporting Role. If you're C. David Piña, Hollywood's preeminent designer of main titles for the *Academy Awards*®, *Tony Awards*®, *Grammy Awards*®, and *Emmy Awards*® telecasts, this is routine. If you're C. David Piña, you rely on another award-winner—Microtek's fast, accurate 36-bit, high-resolution *ScanMaker*® III color flatbed scanner.

For Best Pictures, the winner is... The *ScanMaker* III with its 36-bit color depth along with *ScanWizard*™ Microtek's award-winning scanner controller software delivers superb color images, and cuts down production time as well. "It used to take me two to four hours after I scanned, to retouch images. Now with *ScanWizard*, I've cut my image-manipulation time literally down to a few minutes per image." — C. David Piña

The envelope please. For the full story of how Microtek helps Piña Design meet its deadlines, call 1-800-654-4160 and ask for the "Nick of Time" case study. For additional product information, use our Auto Tech fax-back line at (310) 297-5101 or point your Web browser to www.microtekusa.com.



New Lower Price:
\$1,499!
Suggested Street Price



The ScanMaker III features: Free Transparent Media Adapter • Incredibly fast single-pass scanning • 600 X 1200 dpi optical resolution; 4800 dpi max. • 3.4 dynamic range • Up to 68.7 billion colors • Adobe Photoshop full-version (Windows and Macintosh models) • MicroFrontier's ColorIt! (Mac models) • Caere's OmniPage Limited Edition (Mac or Windows models) • Microtek's DCR Color Calibrator with IT-8 targets (Mac or Windows models) • Windows 95 Installation Video & Adaptec SCSI Interface Card (Windows models) • Works with Windows® 3.1x, 95 & NT 4.0 • **ScanWizard features:** Resizable preview • Descreening • High-resolution zoom • Batch scanning • Sharpen, blur, tint & emboss filters • Adjustable & storeable gamma Curves • "Before & after" preview of each effect and much more!

MICROTEK
Better Images Through Innovation.

All trademarks or registered trademarks are the property of their respective holders. Price mentioned is United States of America suggested street price. Prices, specifications and software bundles are subject to change without notice. SM3996

Circle 105 on reader service card

YOU'VE GOT TO GET YOUR ESSENTIALS!



CANVAS BAG

Carry your possessions in style with this quality canvas tote bag. Measures 13 1/4" x 4" with 15" handle.



ECO-FIBER CAP

Macworld's got you covered with this 100% recycled eco-fiber, one-size-fits-all cap.



LATTE MUG

This huge ceramic mug will hold 16 oz. of your favorite beverage. Also great for soup and cereal.



DENIM SHIRT

You've seen them modeled by our employees at Macworld Expo, now these preshrunk cotton shirts can be yours. Sizes : S,L,XL

MAIL ORDER
Macworld Merchandise
501 Second Street
San Francisco, CA 94107
(please fill out form below)

PHONE ORDER
1.800.257.0374

ORDER TODAY!



ITEM	QTY	PRICE	AMOUNT
Latte Mug		\$9.99	
Canvas Bag		\$10.99	
Eco-Fiber Cap		\$14.99	
Commuter Mug		\$8.99	
Denim Shirt		\$39.99	
		SUBTOTAL	
Add sales tax for CA, IL, NJ, or MA			
		SHIPPING	
		TOTAL	

Name			
Address			
City	State	Zip	
Phone			
<input type="checkbox"/> Visa <input type="checkbox"/> Mastercard <input type="checkbox"/> Check <input type="checkbox"/> Money Order			
Card Number			
Signature			

SHIPPING INFORMATION

Item(s) value	Shipping Cost
\$0-\$9.99	\$4.99
\$10-\$19.99	\$5.99
\$20-\$29.99	\$6.99
\$30-\$49.99	\$7.99
over \$50	\$8.99

For Non-domestic orders please add \$20.00 for shipping and handling. Please allow 2-4 weeks for delivery.

Star Ratings

- ★★★★/7.6 **Phaser 550**, Tektronix, 503/685-3067, \$6995. Fastest color laser printer tested; superior output; true 1200-dpi resolution. *Nov 96, p. 157.* **Editors' Choice** for best color laser printers.
- ★★★★/7.8 **Stylus Color 500**, Epson America, 310/782-0770, \$279. Good price, output, and speed, but this color ink-jet is messy. *Feb 97, p. 140*
- ★★★★/7.2 **XPrint 4915 Plus**, Xerox, 716/442-4028, \$4995. Top-notch graphic output, a great color laser printer value. *Nov 96, p. 157.* **Editors' Choice** for best color laser printers.
- ★★★/6.9 **XPrint 4925 Plus**, Xerox, 716/442-4028, \$8995. Color laser printer's graphics results are among the best, but speed was unimpressive. *Nov 96, p. 157*

VIDEO/DISPLAY

- ★★★/6.3 **Diamond Pro 91TXM**, Mitsubishi Electronics America, 714/220-2500, \$1699. Pricy for an average product, with below-average image quality. *Jan 97, p. 125*
- ★★★/6.1 **G200**, IBM, 914/766-1900, \$1469. Easy to use, but the image quality is below average. *Jan 97, p. 125*
- ★★★★/7.6 **G810**, ViewSonic, 909/869-7976, \$1595. A great price for a top pick in both usability and image quality. *Jan 97, p. 125.* **Editors' Choice** for best two-page monitors.
- ★★★/6.7 **Multigraph 445Xi**, Nokia Display Products, 415/331-4244, \$1899. A little pricy for a monitor that offers only medium image quality. *Jan 97, p. 125*
- ★★★/6.7 **Multiple Scan 20**, Apple Computer, 408/996-1010, \$2149. Good overall image quality, but pricy for its category. *Jan 97, p. 125*
- ★★★/6.6 **MX21F-M**, Mag InnoVision, 714/751-2008, \$1699. Average price for average usability and image-quality scores. *Jan 97, p. 125*
- ★★/4.7 **P201**, IBM, 914/766-1900, \$2635. Poor image quality and hard to use. *Jan 97, p. 125*
- ★★★/6.2 **PanaSync S21**, Panasonic, 201/348-7000, \$1899. Good controls, but a little expensive for below-average image quality. *Jan 97, p. 125*
- ★★★/5.8 **PrecisionView 21**, Radius, 408/541-6100, \$2749. Overpriced for only average test scores and a one-year warranty. *Jan 97, p. 125*
- ★★★/6.9 **Pro P810**, ViewSonic, 909/869-7976, \$1745. Superb image quality, but costlier than its sibling, the G810. *Jan 97, p. 125*
- ★★★★/7.4 **RasterOps SuperScan Mc20**, Hitachi NSA, 617/461-8300, \$1599. Good bargain for an overall good performer. *Jan 97, p. 125*
- ★★★/6.6 **RasterOps SuperScan Mc801HR**, Hitachi NSA, 617/461-8300, \$2199. A bit costly for only above-average image quality, mediocre controls. *Jan 97, p. 125*
- ★★★/6.4 **SyncMaster 21 GLs**, Samsung Electronic America, 201/971-0400, \$1959. Expensive unit for overall average performance. *Jan 97, p. 125*
- ★★★/5.6 **Ultra 20-M**, Princeton Graphic Systems, 714/751-8405, \$1249. Inexpensive, but you get what you pay for—not high quality. *Jan 97, p. 125*
- ★★★/6.4 **VisionMaster 21**, Iiyama North America, 215/957-6543, \$1945. Overall a good unit, but not good enough to justify the price. *Jan 97, p. 125*
- ★★★★/8.3 **VisionMaster Pro 21**, Iiyama North America, 215/957-6543, \$1995. Top overall image quality with clear on-screen controls. *Jan 97, p. 125.* **Editors' Choice** for best two-page monitors. **m**

Macworld

Your Essential Resource

Have You Played It Yet?

THE MOST ADVANCED MAC 3D SHOOT-EM-UP EVER!

Election Eve, 2004 A.D.

A powerful senator is brutally murdered while working late in her Washington D.C. office. Now you must solve the mystery of her death in this action-packed 3D shoot-em-up. Prime Target thrusts you into the most dynamic Mac gaming world ever. Blood splatters on the wall. Glass shatters in your face.

And the interactive mystery challenges

your intellect as you hunt the senator's killers in Washington's corridors of power.



\$34.99

MSRP: \$49.99

System Requirements: Any PowerMac or compatible with a CD-ROM drive and color monitor.

BATTLE YOUR FRIENDS WITH AWESOME NETWORK GAMES!



Incredibly intense 3D shoot-em-up action.



Weapons recommended when entering the Senate chambers.



A skinhead spills his guts in the National Gallery of Art.



Includes 9 deadly weapons plus a barrage of ruthless killers.

MACSoft®

A GT Interactive Company
2300 Berkshire Lane, Plymouth, MN 55441

Available now from your favorite reseller,
or by calling **800-229-2714**

Please add \$2.95 per order for shipping and handling if ordering by phone.

WEB TECHNOLOGY LICENSED FROM
BUNGIE

Call for a free catalog or visit our website at www.wizworks.com

Mac Superguide

MACWORLD SELECTS THE BEST MAC OS SYSTEMS

Looking for a new Macintosh but confused about which of all the new models to buy? Look no further. Each month, the *Mac Superguide* section provides *Macworld's* picks for the best Mac OS systems. Typically we recommend three top choices: an Editors' Choice winner and two runners-up. Occasionally we'll have more or fewer top choices in categories with unusually competitive—or uncompetitive—options.

You'll also find *Macworld* Star Ratings and Macworld Lab performance benchmarks for all Mac OS systems shipping as we went to press in late December 1996. You may read about other Mac models in *Macworld* and elsewhere, but those are prototypes not yet available—the only systems rated here are those you can actually buy.

For Mac systems reviewed earlier, the summaries below include the issue date and page number of the article. In some cases, such as faster versions of existing Macs, there is no full review and thus no cross-reference. New systems are indicated in the benchmark by the ► icon.

Star Ratings and Editors' Choice designations may have changed since previous issues, based on the current lineup of systems and any price changes; the winners listed here are the current ones.

All prices but Power Computing's are company-estimated street prices; actual price may vary. Power Computing sells direct, so the prices listed here are the ones you would actually pay. Unless otherwise noted, all systems include a keyboard and mouse, but not a monitor or modem. Apple systems do not include a keyboard except for Performa and PowerBook models. DayStar systems do not include a hard drive, RAM, keyboard, or mouse, although we add their cost in determining the prices reported here.

For price comparisons, figure on spending about \$800 for a monitor and, if they're needed, \$175 for a 28.8-Kbps or 33.6-Kbps modem, \$100 for an extended keyboard, \$50 for a mouse, \$750 for a 2GB hard drive, \$125 for 2MB of VRAM, and \$275 for 16MB of RAM.

OFFICE SYSTEM

Editors' Choice

★★★★/7.3 **PowerCenter 150** A great price, plus more expansion and better performance than Apple's Power Mac 7600/132, make the PowerCenter 150 minitower the ideal general-purpose office Mac for most people. Power Computing does skimp on the video RAM but is generous on the cache. Power Computing (512/388-6868): \$2095, 16MB RAM, 512K cache, 1MB VRAM (4MB maximum), 1.0GB hard drive, 8x CD, 3 free drive bays, 3 PCI slots. Dec 96, p. 106

Editors' Choice

★★★★/6.9 **SuperMac J700/180** Top speed for an office Mac and good expansion capabilities distinguish this desktop system from others. It's a bit pricey, but the extra money gives you a real performance difference. Umax Computer (510/226-6886): \$3095, 16MB RAM, 512K cache, 2MB VRAM (4MB maximum), 2.1GB hard drive, 6.7x CD, 2 free drive bays, 4 PCI slots. Feb 97, p. 37

★★★★/6.2 **Power Macintosh 7600/132** Thanks to a recent price reduction, Apple's flagship office Mac is now only \$200 more than the PowerCenter 150. While the 7600 is a bit slower and less expandable than the PowerCenter, it is



The Umax SuperMac J700/180 brings tower-level performance and expansion to the desktop.

nonetheless a strong performer. An added bonus for some people is the built-in video-input circuitry. Apple Computer (408/996-1010): \$2295, 16MB RAM, 256K cache, 2MB VRAM (4MB maximum), 1.2GB hard drive, 8x CD, 1 free drive bay, 3 PCI slots. Dec 96, p. 106

PORTABLE SYSTEM

Editors' Choice

None Apple's portables have been lackluster recently, and none warrants this ultimate recommendation.

★★★★/6.4 **PowerBook 1400cs/117** Apple's newest notebook accommodates an optional CD-ROM drive. The result is a better system than the old 5300 series, but no barn burner. The new, larger LCD screen is nice, even though it's passive matrix. Apple Computer (408/996-1010): \$2495, 12MB RAM, 750MB hard drive, optional 6x CD, 11.3-inch passive matrix LCD, 1 drive bay, 2 PC Card slots (\$3500 model 1400c/117 has active matrix LCD and 1.0GB hard drive). Jan 97, p. 58

★★★★/5.9 **PowerBook Duo 2300c/100** A lot of power in a small package, this system could double as a desktop if you use a docking station. However, it's not cheap. Apple Computer (408/996-1010): \$4699, 20MB RAM, 1.1GB hard drive, 14.4-Kbps modem, 8.5-inch active matrix LCD. Apr 96, p. 58

SMALL-OFFICE/HOME-OFFICE SYSTEM

Editors' Choice

★★★★/7.6 **PowerBase 240** Pro-level performance for a price comparable to that of Apple's Performa 6400/200, plus a strong selection of features and greater expansion capability, make this hard-to-get tower a great buy for consultants and small businesses. Power Computing (512/388-6868): \$2295, 16MB RAM, 256K cache, 2MB VRAM (4MB maximum), 1.2GB hard drive, 8x CD, 3 free drive bays, 3 PCI slots. Jan 97, p. 60



Apple's Power Mac 5400/180 offers the right mix of price, simplicity, and performance for schools.

★★★★/7.4 **Performa 6400/200** Good performance contrasts with limited internal expansion. But a good price makes this tower more attractive despite its limitations. A unique feature is its TV tuner slot. Apple Computer (408/996-1010): \$2119, 16MB RAM, 256K cache, 1MB VRAM (1MB maximum), 2.4GB drive, 8x CD, 1 free drive bay, two 7-inch PCI slots, TV/FM tuner slot, 28.8-Kbps modem. Dec 96, p. 106

EDUCATION SYSTEM

Editors' Choice

★★★★/7.3 **PowerBase 180** Strong performance, low price, good expandability, and features such as 3-D video acceleration make this tower a great buy for cash-strapped schools and students. Power Computing (512/388-6868): \$1595, 16MB RAM, 256K cache, 2MB VRAM (4MB maximum), 1.2GB hard drive, 8x CD, 3 free drive bays, 3 PCI slots. Jan 97, p. 60

Editors' Choice

★★★★/7.1 **Power Macintosh 5400/180** This all-in-one Mac—available only to schools—eliminates the need for several cables that could get damaged or stolen in a school setting. Rich in features—including a good monitor—and moderate in speed, the 5400 is a good classroom Mac. Apple Computer (408/996-

REAL PRODUCTS
REAL RATINGS

Reviews you can trust. Unlike other publications, Macworld rates only final shipping products, not prototypes. What we review is what you can actually buy. Outstanding ★★★★★ = 9.0–10.0 Very Good ★★★★ = 7.0–8.9 Good ★★★ = 5.0–6.9 Flawed ★★ = 3.0–4.9 Unacceptable ★ = 0–2.9

1010): \$1999, 16MB RAM, 1MB VRAM (1MB maximum), 1.6GB hard drive, 4x CD, no free drive bays, 7-inch PCI slot, TV/FM tuner slot, Ethernet card, internal stereo speakers, monitor included.

IMAGE-EDITING AND 3-D GRAPHICS SYSTEM

Editors' Choice

★★★★7.4 **Genesis MP 720+** The ultimate Mac system speeds through multiprocessor (MP)-enabled programs like Adobe Photoshop and Strata StudioPro Blitz. Its high expandability means you could equip it with an internal RAID system and a recordable CD-ROM drive and still have free bays. The oversize tower is a bit imposing, but it leaves room for everything you might need. DayStar Digital (770/967-2077): \$10,714, 16MB RAM, 512K cache, 4MB VRAM (4MB maximum), 2.0GB hard drive, 8x CD, 7 free drive bays, 6 PCI slots. Dec 96, p. 120

★★★★7.5 **Power Macintosh 9500/180MP** A solid second in performance at half the price—a terrific deal for pros who need a multiprocessor system. The case doesn't hold as much as the Genesis MP's, and it's not as easy to add internal peripherals, but it's still sizable. Apple Computer (408/996-1010): \$5199, 32MB RAM, 512K cache, 2MB VRAM (4MB maximum), 2.0GB hard drive, 8x CD, 2 free drive bays, 6 PCI slots. Dec 96, p. 120



Power Computing's PowerTower Pro 225 offers ultimate Mac performance at an affordable price.

★★★★7.2 **Genesis MP 360+** Like the Genesis MP 720+, the MP 360+ features a cavernous tower case to hold an impressive array of peripherals. Like the 9500/180MP, it offers strong performance at a lower price than the 720+. But the 9500/180MP is a better deal unless you need the internal expansion. DayStar Digital (770/967-2077): \$7814, 16MB RAM, 512K cache, 4MB VRAM (4MB maximum), 2.0GB hard drive, 8x CD, 7 free drive bays, 6 PCI slots. Dec 96, p. 120

PUBLISHING AND DESIGN SYSTEM

Editors' Choice

★★★★8.0 **SuperMac S900/225** Nearly as fast as Power Computing's Power-

Tower Pro 225 for a significant \$700 less, and with an extra free drive bay, the SuperMac S900/225 is the best high-performance deal around. The S900 also has an easier-to-upgrade case design than competing Apple and Power Computing towers. Expect availability to be limited until late winter 1997 as chip production ramps up. Umax Computer (510/226-6886): \$4295, 16MB RAM, 512K cache, 8MB VRAM (8MB maximum), 2.1GB hard drive, 8x CD, 4 free drive bays, 6 PCI slots. Dec 96, p. 120

Editors' Choice

★★★★7.9 **PowerTower Pro 225** The fastest single-CPU Mac offers the top performance needed for publishing pros. For many people, the \$700 extra cost compared to the Umax SuperMac S900/225 won't be worth the 5 percent faster performance. Although the included Speed Doubler software increases the Pro 225's performance difference, you can buy that software for about \$70 and still pocket more than \$600 in savings. Power Computing (512/388-6868): \$4995, 16MB RAM, 1MB cache, 8MB VRAM (8MB maximum), 2.0GB hard drive, 8x CD, 3 free drive bays, 6 PCI slots. Dec 96, p. 120

★★★★7.8 **SuperMac S900/200** Running close behind the 225MHz Macintoshes at a great price, this system is an excellent choice for the cost-conscious power user. Umax Computer (510/226-6886): \$3795, 32MB RAM, 512K cache, 8MB VRAM (8MB maximum), 2.1GB hard drive, 8x CD, 4 free drive bays, 6 PCI slots. Dec 96, p. 120

MULTIMEDIA AND VIDEO CREATION SYSTEM

Editors' Choice

★★★★7.4 **Genesis MP 720+** The ultimate Mac system speeds through multiprocessor (MP)-enabled programs like Adobe Premiere and After Effects. Its oversized tower case's high expandability means you could equip it with an internal RAID system and a recordable CD-ROM drive and still have free bays. DayStar Digital (770/967-2077): \$10,714, 16MB RAM, 512K cache, 4MB VRAM (4MB maximum), 2.0GB hard drive, 8x CD, 7 free drive bays, 6 PCI slots. Dec 96, p. 120

WEB AND INTRANET SERVER SYSTEM

Editors' Choice

★★★★7.8 **SuperMac S900/200** With great performance at a great price, plus a simple-to-upgrade case design and plenty of expansion capability, this system is well suited to being a departmental intranet or moderate-demand Web server. Umax Computer (510/226-6886): \$3795, 32MB RAM, 512K cache, 8MB VRAM (8MB maximum), 2.1GB hard drive, 8x CD, 4 free drive bays, 6 PCI slots. Dec 96, p. 120



Every Mac Tested and Rated

Longer bars are better. Core results are times as fast as a Centris 650 (Centris 650 = 1.0). Multiprocessor results are times as fast as a Power Mac 9500/150 (9500 = 1.0). Only shipping systems are tested and rated.

	Core Mac Performance	Star Rating*
► New this issue.		
Editors' Choice winners in red.		
Apple Computer		
Performa 6360	4.0	★★★/5.3
Performa 6400/180	4.0	★★★/6.6
Performa 6400/200	5.6	★★★★/7.4
PowerBook 1400c/117 ***	2.7	★★★/6.4
PowerBook 1400cs/117	2.8	★★★/6.4
PowerBook Duo 2300c/100 ***	2.3	★★★/5.9
Power Macintosh 5260/120 **	2.6	★★★/5.5
Power Macintosh 5400/180 **	4.3	★★★★/7.1
Power Macintosh 6400/200 **	4.5	★★★/6.4
Power Macintosh 7200/120	4.1	★★/4.8
Power Macintosh 7600/132	5.0	★★★/6.2
Power Macintosh 8500/150	5.9	★★★/6.2
Power Macintosh 8500/180	6.7	★★★/6.4
Power Macintosh 9500/180MP	6.9	★★★★/7.5
Power Macintosh 9500/200	7.7	★★★/6.8
DayStar Digital		
Genesis MP 360+	7.4	★★★★/7.2
Genesis MP 720+	7.3	★★★★/7.4
Motorola Computer Group		
StarMax 3000 DT603e-160	5.1	★★★/5.7
StarMax 3000 DT603e-200	5.8	★★★/6.8
StarMax 3000 MT603e-160	5.1	★★★/5.5
StarMax 3000 MT603e-200	5.8	★★★/5.8
StarMax 4000 DT604e-160	6.6	★★★/6.2
StarMax 4000 MT604e-160	6.9	★★★/6.0
StarMax 4000 MT604e-200	7.7	★★★/6.0
Power Computing		
PowerBase 180	5.4	★★★★/7.3
PowerBase 200	5.8	★★★★/7.3
PowerBase 240	6.4	★★★★/7.6
PowerCenter 150	5.6	★★★★/7.3
PowerTower 180e	7.9	★★★★/7.1
► PowerTower 200e	8.2	★★★★/7.1
PowerTower Pro 180	7.8	★★★★/7.6
PowerTower Pro 200	8.5	★★★★/7.7
PowerTower Pro 225	9.2	★★★★/7.9
Umax Computer		
SuperMac C600/180	5.2	★★★/6.2
SuperMac C600/200	5.8	★★★/6.2
SuperMac C600/240	6.3	★★★/6.5
SuperMac J700/180	7.3	★★★/6.9
SuperMac S900/200	8.3	★★★★/7.8
SuperMac S900/225	8.8	★★★★/8.0
Multiprocessor Performance		
		Star Rating*
Apple Power Macintosh 9500/180MP	1.8	★★★★/7.5
DayStar Genesis MP 360+	1.8	★★★★/7.2
DayStar Genesis MP 720+	2.6	★★★★/7.4

*Based on features, implementation, innovation, performance, reliability, ease of use, and value. (See Star Ratings section for full explanation.) **Available only to educational institutions. ***Had less than 32MB of RAM, so some tests were conducted with virtual memory, which slows performance.

Behind Our Tests

For details on our methodology, see *Mac SuperGuide*, January 1997.—Macworld Lab testing supervised by Mark Hurlow

★★★★6.8 **Power Macintosh 9500/200** Computer (408/996-1010): \$4195, A bit pricey for a server, the 9500/200 did offer the best Net server performance in Macworld Lab tests, edging out the less-expensive SuperMac S900/200. Apple

LACIE
LIMITED

The tradition

Silverscan 1989

Silverscan

Plug-in Modules
and
Apple Compatible
Scanner Driver

LACIE
LIMITED



Silverscanner 1990



Silverscanner II 1993



Silverscanner III 1995



Scan with
perfection.

silverscanner IV

Capture every nuance of your masterpiece with the power and convenience of high-resolution 36-bit desktop color.

La Cie's professional color management system – including the new Silverscanner IV – provides tools to capture or create images with razor sharp, correct color every time.

Advanced Silverscanner optics deliver a 4800 dpi resolution* that will exceed the expectations of the most critical eye. Scan full pages of art in a single pass in less than a minute or preview them in seconds.

Silverscan's plug-in software modules make scanning easier than ever. Scan, crop, size and adjust color from within your favorite application for professional results.



ScanPrep

Make perfect scans with Scan-Prep's powerful features. The image processing tools available in Photoshop are automatically applied to your scan according to your job description. A simple interface makes it easy and fun to achieve high quality results.



continues with our new color imaging tools.

LACIE LIMITED



electron21

Display perfection.
View your pre-press
and digital video creations in full 21" color...
as accurate and as bright as your imagination.

La Cie's
breakthrough color
management system:



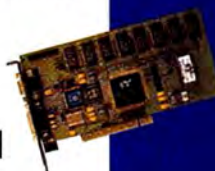
Ultra-fine detail
0.28mm aperture grille pitch

The industry's most advanced aperture grille display technology is available now to deliver crisp, realistic color images for all your professional applications.



Incomparable Sharpness
1600x1200dpi@75Hz

Advanced electron technology brings superior edge-to-edge focus across its large 19.7" diagonal viewing area - ideal for working on two-page spreads.



Turbo 128
Real-time 128-bit
accelerator card.



Colortron
Advanced color calibration
from scanner to monitor
to print.



Fast and Easy
28 on-screen controls

From pixel to print, **electron21** Color Monitors and La Cie's coordinated system of color management products gives you the power to create, control and correct color. With confidence. With perfection.



d2storage
Reliable and fast, Jaz,
SyQuest, CD-R, opticals
and hard drives.

DRAMATIC



The

COLLECTOR'S ITEM MARKS TWO DECADES OF DESIGN INNOVATION

20th

ANNIVERSARY MACINTOSH

BY PAUL KUNKEL For the past three and a half years, Apple has been working on a product whose design is as radical as the original Macintosh was in its day. ••• Like the first Mac, this one began with a small group of designers and engineers who were driven by a bold idea—to pack the functionality and performance of a high-end Mac into a design that would have maximum visual impact but consume minimal desk space, then wrap it in upscale materials such as leather, fabric, and

Special Edition The luxe Twentieth-Anniversary Macintosh is a home entertainment center as well as a computer. The curved desktop unit connects to a Bose Acoustimass subwoofer, which sits on the floor and also contains the computer's power supply. The computer's hooped foot folds up to serve as a carrying handle and allows the keyboard to be stored underneath. (Final product details may differ from this prototype unit.)

polished metal that one would associate with a sophisticated home rather than a classroom or office. ••• Sound surprising? Not to those who have seen the slick concepts that come from Apple's Industrial Design Group (see "Inside Apple's Design," *Macworld*, May 1995). The surprise is that Apple has finally turned one of these designs into something real.

PHOTOGRAPHS BY RICK ENGLISH



A SLIM ENCLOSURE COMBINES THE LOOK OF THE ORIGINAL MAC WITH THE LUXURY OF

Home Entertainment Hybrid

Known as the Twentieth-Anniversary Macintosh, this hybrid product combines the functionality of a computer with that of a home entertainment center. Apple CEO Gilbert Amelio is scheduled to unveil its design during his keynote at the Macworld Expo in San Francisco on January 7. An official product launch is slated to follow at Macworld Tokyo in February, with products shipping in late spring.

Inside, you'll find at least a 200MHz PowerPC 604e CPU (or a faster chip, if the final design can accommodate the heat it would generate), a 3-D-graphics accelerator chip, and 32MB of RAM (expandable to 128MB), with a 12.1-inch active matrix color LCD panel. There's also a PCI expansion slot; a communications slot for a modem or Ethernet card; a PowerBook-size floppy drive; a 2GB hard drive; and a slim, vertically mounted 4X CD-ROM drive (the fastest drive that can function in an upright position). Everything is packed together as tightly as the components inside a PowerBook.

Entertainment-related components include a cable-ready TV tuner (with a handheld remote), an AM/FM tuner, and

a 40-watt stereo amplifier connected to a Bose sound system, with upper- and mid-range speakers mounted at the sides of the display and a subwoofer on the floor that sounds so good, it could easily replace your home stereo. (The start-up chime will make you jump the first time you hear it.)

Objet d'Art

The Twentieth-Anniversary Macintosh is also a piece of desktop sculpture, with the components housed in an impossibly slim curved enclosure that combines the all-in-one look of the original Mac with the svelte luxury of a Bang & Olufsen stereo system. The subwoofer and the Mac's power supply, linked to the main unit by a half-inch-thick cable, reside in a separate oval enclosure that resembles the smokestack on a 1930s ocean liner, with a rubber ring around the top. Visually, it's a knockout.

Aimed at hard-core aficionados and wealthy collectors, this new Mac is mainly a commemorative item celebrating Apple's 20th year on the planet—a three-dimensional thank-you note to the millions of Mac fans who remained loyal through the recent dark period, as well as

a reminder to the PC crowd that the people in Cupertino still make the most innovative products around.

The Twentieth Anniversary Mac also serves as the opening salvo in a marketing and product-announcement blitz that Apple calls its "third decade"—the first in a new line of desktop Macintoshes, printers, displays, and portables that the company will unveil in 1997 (see the sidebar, "Apple's New Design Direction").

Now for the bad news. Apple plans to sell no more than 20,000 of these units, which means that putting this dream machine on your desktop could be as difficult as buying a ticket to the World Series. Be prepared to shell out around \$9000—a stiff price for a product that offers good, but not great, performance. But before you throw up your hands, take a look.

Firsthand Experience

When you sit in front of the machine, everything is new, yet still oddly familiar. Having the same upright stance as the original Mac, the front bezel is restrained, with the flat-panel display at the top and the vertically mounted CD-ROM drive below. Surrounding the CD drive are control buttons (for the CD-ROM, TV, AM/FM tuner, brightness, volume, and mute), a headphone jack, and an infrared window (for the TV remote)—all arranged on a graceful convex surface framed by narrow fabric-covered speakers that curve inward at the edges, focusing your attention on the screen.

As you cast your eyes around the side to view the back, you notice: there *is* no back—just a simple curved surface that kicks out at the bottom and leans against a hoop-shaped aluminum foot (known as a bale). The bale allows the machine to tilt at various angles and folds up to serve as a handle, so you can carry the new Macintosh under your arm just as you could the original. The computer measures 17 inches high and 15 inches wide, and weighs about 10 pounds.

To make the computer's case as small and thin as possible—less than 4 inches at its thickest point—Apple designed it around a standard desktop motherboard (the same one, called *Alchemy*, used in the Performa 6400), which sits directly



An Upright Stance So as not to interfere with the on-screen interface, the front of the design is quite restrained. The vertically mounted 4X CD-ROM drive (the fastest model that can function in an upright position) is surrounded by buttons for controlling display brightness and sound volume; accessing TV, AM/FM, and CD-ROM functions; and sound muting. The speakers are at the sides of the display; a separate subwoofer is also included.



Making Room Inside, the components are packed as tightly as those inside a PowerBook. Removing the back center panel reveals the motherboard, a PCI expansion slot (top left), a communications slot for adding Ethernet (right), and a lithium battery (bottom left), which may need changing around the year 2006. To fit add-on cards, you need to replace the slim center panel with an auxiliary panel, a "back-pack," that kicks out near the top.

A BANG & OLUFSEN STEREO

behind the display; mounted the floppy, CD-ROM, and hard drives around the board at three-, six-, and nine-o'clock positions, leaving almost zero clearance inside; and then tucked the TV tuner and I/O ports into the bulge at the back.

TV and AM/FM antenna ports, SCSI, 16-bit stereo microphone and headphone jacks, and a video-out port remain exposed. ADB, printer, and modem ports hide behind a locking door, making it easier to manage the cables.

With so much hardware packed into so little space, adding a card to the PCI or comm slot requires replacing the center of the back panel with an auxiliary panel (included with each unit). This "backpack" has a squarish protrusion near the top that allows clearance and cooling space for add-on cards. Those who want to preserve the original look can attach the 33.6-Kbps external modem, based on the GeoPort, which is also included with each unit.

The keyboard, which has leather wrist rests and a detachable PowerBook-style TrackPad, is slim enough to fit under the unit when it's not being used, for more efficient use of desk space.

Added Color

To go with its radical shape, the Twentieth-Anniversary Mac also has a new color—so new it doesn't yet have a name. A mixture of green and gold, it resembles bronze and has a subtle metallic quality that gives the surface a chameleon effect, absorbing and reflecting surrounding colors so that it works in almost any interior. Gray-green fabric speaker covers and black leather wrist rests on the keyboard complete the look.

The subwoofer on the floor contains the power supply and a Bose Acoustimass speaker encased in a series of specially designed baffles that make the incredible sound possible. To highlight the Bose connection, Apple allowed Bose to put its name on the subwoofer case, directly below the six-color Apple badge. The cross-marketing potential is obvious.

Indeed, everything about this new Mac will be marketed to the limit. To herald its arrival, Apple is assembling a lavish Web site where you will be able to place an order for the machine (the URL was

Sculptured Lines The industrial designers at Apple arranged the Twentieth-Anniversary Mac's components into an extremely thin curved panel, allowing the new Mac to function as a piece of desktop sculpture (seen here from the top), as well as a multimedia computer and home entertainment center.



Future Shock This all-in-one machine has a forward-looking design that seems remarkably simple, and a \$9000 price tag that includes the cost of onsite setup and a leather-bound owner's manual.



DON'T JUDGE THIS MACHINE

not available at press time; use <http://www.apple.com>, click on Find It, and type **Twentieth Century** as keyword). Quick-Time video tours will show how the board and components are laid out, how the bale is cast, how the case is molded and painted, final assembly at the factory, and other nifty details.

Is It Worth It?

With the cost of computer performance falling year after year, can any Macintosh be worth \$9000? That depends. At a time when a Power Mac 9500 with a 200MHz 604e chip, 32MB of memory, a 2GB hard drive, an 8x CD-ROM, and a 33.6-Kbps modem can be had for less than \$4500 (plus the cost of a display), the limited-edition Mac looks pricey. Artistic types will adore its beautiful lines. Music lovers will be amazed by its gutsy sound. But power users will wish it had a larger screen, a faster processor, and an 8x CD-ROM drive. Then again, don't judge this machine by specs alone. It's not about work. It's about Making a Statement.

To make sure its pricing was on target, Apple conducted focus groups with likely buyers in New York, Chicago, and Los Angeles; demonstrated the product at length; and then asked the participants to price it. Typical responses ranged from \$8000 to nearly \$10,000.

At nine grand apiece, these Macs are more likely to show up bolted inside a Learjet, positioned just so in a Trump Tower apartment, or sitting in a high-powered office in Milan or Djakarta than on the desk of the average Macintosh user. For this reason, each unit will be delivered by a specially trained "concierge" who will set it up, install add-on cards, instruct you in how to achieve maximum performance, then hand you a leather-bound owner's manual confirming you as one of the Chosen Few.

And after the final unit comes off the line, Apple promises to break the mold. Thus, unlike that of conventional computers, this one's value will probably rise over time (a limited-edition, all-white version of the PowerBook 170, which Apple issued in 1992, is now worth nearly \$20,000). For that reason alone, buying a Twentieth-Anniversary Mac might

be a wise move. If you can't wait for the Web site, call the best-connected dealer you can find, place an order, then pray.

The Last Word

Not since the original Mac has Apple given us a more design-driven product—a true hybrid that delivers on so many levels that it redefines what we mean when

we say the word *Macintosh*. The new design extends the all-in-one Mac into the future without losing touch with the original. With clone makers blurring the Mac's distinct physical identity and Apple seeming to have lost touch with its own design heritage, this new Mac comes not a moment too soon.

It's more than a bauble for the super-

rich. It's a taste of things to come. Inside, it packs a wallop (of sorts). Yet on the outside, it speaks in a more controlled voice. What is it telling us? That Apple is back. Perhaps it never went away at all. **m**

PAUL KUNKEL, a freelance writer based in New York City, has just completed a book on the Apple Industrial Design Group (Graphis, 1997).

Apple's New Design Direction

Like the Twentieth-Anniversary Mac, Apple's future products will target specific markets by repackaging familiar technology in ways that are more user-oriented and task-specific.



Right at Home

Hints at future desktop designs appear in the Domesticated Mac concept, which recasts the Color Classic into a post-modern cabinet-on-a-stand, with twin doors (made of wood, metal, or other material) covering the screen when it's not in use. The soft plastic exoskeletons inside the doors rest against the screen, allow the user to tuck a note or a disk inside the door for quick access, and provide a place to mount a clock, which pivots inside an aperture on the door to the right. Rounded corners and sinuous (almost snake-like) lines of the surface indicate that future Macs will look more organic, with lively details that could make clone makers' products seem drab by comparison.

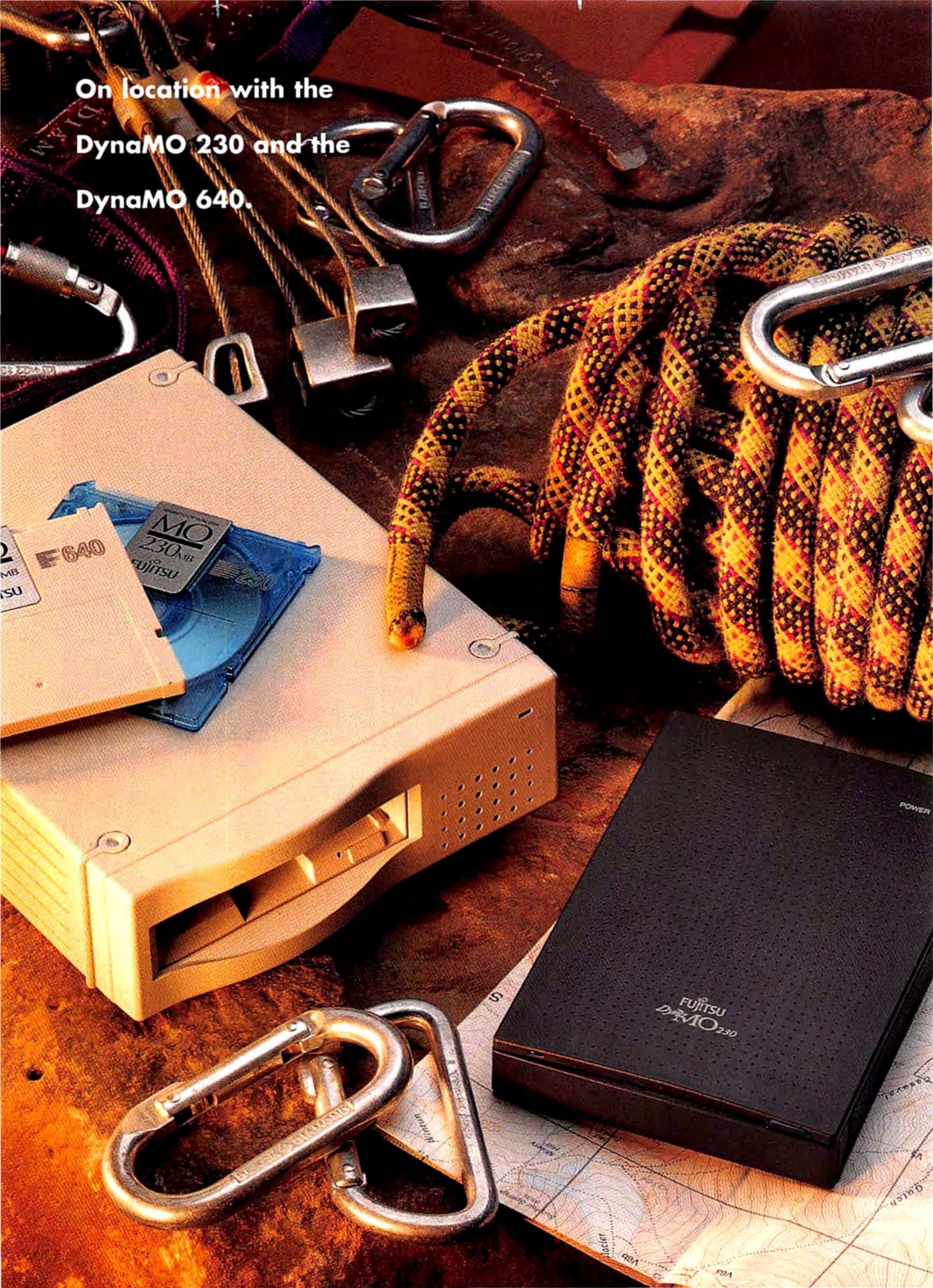


Same Technology, Different Looks

The eMate 300 combines Newton technology with a keyboard in a sculpted translucent case. Aimed at the K through 12 education market, where space is limited, budgets are tight, and users are often intimidated by computers, the \$800 product is small, brightly colored (note the red prototype), and specially tuned to fulfill a child's needs, expectations, and education.

An adult-oriented eMate, now under development, will have a more sober look—not unlike the new MessagePad 2000, which updates the notepad analogy used on previous Newtons by positioning the lid at the side, like a book cover. The stylus, which stores in an "inkwell" in the upper corner, can rotate the 2000's backlit screen from portrait to landscape mode. Screen data repositions automatically.

On location with the
DynaMO 230 and the
DynaMO 640.



Only One Company Can Give You **Removable Storage** This Rugged and Reliable. **Fujitsu.**



When rock climbing, you'd never compromise with the tools you use. The same idea applies to backing up, transferring and transporting critical files. You need no-nonsense tools you can rely on every day. • That's where the DynaMO® 230 and the DynaMO 640 come into the picture. They combine the storage capacity you want with the reliability you absolutely need. • This high level of security makes DynaMO the perfect tool for designers who need to transport and transfer graphics files, for sales organizations that need to store multimedia presentations on a single disk, and for government agencies that need to archive records. • In fact, you won't find removable storage that's more rugged or reliable. A single MO disk has a life span of over 10 million writes and over 100 million reads • Which leads us to Fujitsu's customer support policy. No Excuses™. More than just a slogan, it's our commitment to provide you with the ultimate in service, including technical support at no charge. Which is just another way of saying, Fujitsu has set a new standard of excellence in removable storage. • The DynaMO 230 and DynaMO 640. When you add it all up, everything that matters is DynaMO

driven. • DynaMO 230 and the DynaMO 640 are available wherever quality removable storage drives are sold. For more information, call 1-800-626-4686, ext. 3141. Or discover DynaMO on our website at <http://www.fcpa.com>.

DynaMO 640

- 640MB per disk
- Backwards compatible with 540MB, 230MB and 128MB media
- Internal or external versions for desktop systems
- Interface: SCSI-2
- Access Rate: 35ms
- Maximum Transfer Speed: 3.9MB/Sec.
- Cache: 512KB/2MB

DynaMO 230

- 230MB per disk
- Backwards compatible with 128MB media
- Maximum Transfer Rate: 1.6MB/Sec.
- Cache: 128KB/512KB
- External and internal versions for portable and desktop systems



You're looking at the most reliable ways to backup, transport and transfer data ever devised—the DynaMO Portable PC Card, DynaMO 640 and DynaMO 230. The perfect solutions for people who want it all: price, performance and dependability.

FUJITSU



For your chance to win a vehicle as rugged as our drives, discover our website at www.fcpa.com

© 1997 Fujitsu Computer Products of America, Inc. All rights reserved. DynaMO is a registered trademark and No Excuses is a trademark of Fujitsu Computer Products of America, Inc. All trademarks are property of their respective companies.

No purchase necessary. Sweepstakes is open to legal US residents 18 years and older. To enter Fujitsu Land Rover Discovery General Sweepstakes, visit the Fujitsu Computer Products of America website at <http://www.fcpa.com>. To enter by mail, hard print your name and complete address (including zip code) plus day time and evening telephone numbers on a plain piece of 3" x 5" paper. Mail your entry in a hand addressed #10 envelope with first class postage affixed to: Fujitsu Land Rover Discovery General Sweepstakes, PO Box 18829, Irvine, CA 92623-8829. Limit one entry per person. No mechanically reproduced entries permitted. Entries must be received no later than May 12, 1997. Random drawing will be held on or about June 10, 1997. One Grand Prize: 1997 Land Rover Discovery 5D, approximate retail value \$34,000. All taxes (except first year vehicle registration) are the sole responsibility of the winner. Odds of winning depend on the number of eligible entries received. This sweepstakes subject to Official Rules. For a copy of Official Rules write to: Fujitsu Land Rover Discovery General Sweepstakes Rules, PO Box 18829, Irvine, CA 92623-8829. Void where prohibited by law. The vehicle awarded may differ in color and equipment from vehicle shown.

Circle 202 on reader service card



Top to bottom: Polaroid PDC-2000/40, Kodak DC20, Ricoh RDC-2

by Deke McClelland

Digital Cameras

Picture It

Now

IF YOU WANT to strike up a conversation with an absolute stranger—and have the stranger make the first move—whip out a digital camera. Never in my life have I had so many people peek over my shoulders and proffer unsolicited inquiries as I have when snapping computerized photos. On a recent trip abroad, bodies routinely clustered around me every time I fired off a shot of a stunning landmark or picturesque café. Imagine my relief upon discovering that they didn't covet my wallet; they merely craved a piece of my Polaroid.

Digital cameras entice by promising immediate gratification and unprecedented flexibility. You can take as many pictures as you want without incurring development costs, correct and modify the images as you please, and store them forever without risk of scratching or fading. And that's just the beginning.

Depending on the camera, you can precisely frame your subject on an LCD screen, switch out the storage media when the camera's memory fills up, and delight friends and family with your pictures the very same day you shoot them—all without so much as connecting the camera to a computer. Provided that you're willing to accept today's technology trade-offs, such as low resolution and choppy image quality, these cameras are a shutterbug's dream come true. In time, they are certain to make consumer film cameras as obsolete as Super 8 movie projectors.

Professional-quality digital cameras have been around for a while now, but the low end is where the action is. Ever since Apple (<http://www.apple.com>) presented its groundbreaking QuickTake three years ago, I haven't encountered a

single consumer-level camera that hasn't pushed the envelope in ease of use, convenience, and sheer picture-snapping joy. This time around I looked at ten digital cameras, from the midrange \$3695 Polaroid (<http://www.polaroid.com>) PDC-2000/40 to the pint-size \$350 Kodak (<http://www.kodak.com>) DC20. Except for the Polaroid model, all of these cameras can be had for under \$1000, and three fall below the \$500 mark.

Bear in mind that at this price point you can't expect pictures on a par with 35mm prints. With the exception of the Polaroid, these cameras vary little in terms of resolution, and their output certainly doesn't measure up to Kodak's Photo CD or 35mm slides processed with a scanner. So in judging the cameras, I looked at four criteria that seem more in keeping with the current state of technology: storage capacity, color accuracy, extras like LCD previews and zoom lenses, and software. Which camera is best for you depends on the criteria you value most, and just how much you're prepared to spend.

The current prices may not be your idea of inexpensive, and the image quality is still a ways from picture-perfect. But if you desire immediate results and your own on-screen darkroom, then there's nothing quite like digital cameras. They merge the immediacy of videotape with the postproduction control only pixel-based media can provide. Film may not be dead yet, but its emulsion is drying up and blowing in the wind.

Housing All Those Pixels

Digital cameras may be the only variety of hardware that seems to be priced according to how big it is and how much it weighs. The most expensive camera, the Polaroid PDC-2000/40, is an awkwardly shaped 2-pounder that doesn't feel quite secure in any of the camera bags I own. In contrast, the inexpensive Kodak DC20 is a 4-ounce model that slides easily into a shirt pocket. Most of the others fit snugly into a fanny pack. The oversize exceptions are the Apple QuickTake 150 and Kodak DC50, both of which are based on older housing designs.

Photographic Memory The primary reason behind the difference in bulk is storage capacity and gadgetry. The DC20 can afford to be dinky because it contains a scant 1MB of memory and no extras whatsoever. You can take just eight under-size pictures before you have to return to your computer and download them. In contrast, the PDC-2000/40 has 40MB of on-board memory—ten times as much as any other model and enough to store 40 images of a million pixels each.

Some cameras permit you to augment the memory with specialized cards. The Kodak DC50 and the Ricoh (<http://www.ricohcpg.com>) RDC-2 offer PC Card slots. For about \$300, you can increase either camera's capacity by another 50 images. The cards aren't intended for permanent

you're stuck with it. Epson won't let you swap a full board with a fresh one or upgrade the board from 2MB to 4MB. It's hardly better than no expandability at all.

The World as You See It

While lots of pixels and large storage capacity are important, they alone aren't sufficient reason to purchase a camera. But as luck would have it, the most storage-intensive device also shoots the best pictures. The PDC-2000/40 captures colors more accurately than cameras costing three times as much. And while the detail tends to be a little soft, you can easily correct the focus in Adobe Photoshop or another image editor without fear of bringing out JPEG artifacts (geometric patterns that JPEG creates to facilitate

light that mix to form the colors you see on screen.) In one image, the highlights on a smiling girl's teeth turned bright blue, thanks not to the wrong brand of toothpaste but rather to inexplicably black pixels in the red color channel.

Wayward Hues In a digital environment, we take for granted that many color problems are correctable. However, some problems don't lend themselves to repair. For example, many of the cameras suffered from blown highlights, in which large areas of an image turn absolutely white, resulting in flat "hot spots" that give the image an overexposed appearance. No image editor lets you restore detail where none exists.

The Casio (<http://www.casio.com>) cameras—the QV-10A and QV-100—and the

A Question of Quality: Image Color and Resolution Vary



Polaroid PDC-2000/40



Ricoh RDC-2



Casio QV-10A

For image quality, the PDC-2000/40 (left) is far and away the best camera under \$5000. The color is unfailingly accurate; while the images initially appear soft, the low compression makes sharpening a breeze. The RDC-2 has good image resolution, but the color response is flawed, as the center example shows. The QV-10A is limited to its-itsy 320-by-240-pixel pictures (down-sampled from 480 by 240)—just 12 percent as many pixels as the PDC-2000/40 captures. The QV-10A's color response tends toward purple, with occasional green flares.

storage—you erase them after transferring the photographs to your hard drive—so you can use them repeatedly and even switch them to another camera.

PC Card Alternatives Even credit card-size PC Cards can bloat the size of the housing. Fuji Photo Film (<http://www.fujifilm.com>) shaved a few inches off its DS-7 by opting for a smaller removable card called the SmartMedia. About the size of a watch face and thinner than a dime, these bits of plastic hold up to 30 screen-size images apiece. It's like something out of *Mission: Impossible*—easily the smallest removable media I've seen.

The Epson (<http://www.epson.com>) PhotoPC also lets you expand the storage, but it does a poor job of it. You can insert a 2MB or 4MB circuit board into the casing, but once you make your decision,

compression and reduce file size).

The Best Midrange Color The next best cameras after the PDC-2000/40 in terms of color quality are the two Kodak devices—the DC20 and the DC50—and the D-200L from Olympus (<http://www.olympus.com>). Though not quite as accurate as the PDC-2000/40, the Kodak cameras produce rich, saturated colors with expertly understated highlights and shadows. The D-200L produces brighter colors—sometimes a tad garish—and surprisingly crisp details, a fact that Olympus attributes to its all-glass lens design.

When using the D-200L's flash, however, I encountered problems with clipping—where pixels that ought to be white are misinterpreted as black in one or more color channels. (Color channels are the layers of red, green, and blue primary

Ricoh RDC-2 are the worst highlight offenders, with around 10 to 20 percent of their images beyond repair. These cameras also had significant color-cast problems, with the Casio models favoring violets and greens and the Ricoh overstating blues and yellows. The higher-resolution and more expensive QV-100 produced the most errant colors of all—not only clipping and blowing highlights, but also producing mottled patterns in open patches of sky and water—ultimately it was the least satisfactory camera of the lot.

Point, Click, and Ogle

The other big criterion for digital cameras is usability, and here a behemoth like the PDC-2000/40 comes up short. Though it's blessed with autofocus and an excellent fill flash (a subtle flash that fills in

shadows), the camera lacks previewing and zoom capabilities. You can erase individual pictures, but unless you label each picture as you take it—an unwieldy chore that only the fussiest of fussy budgets might attempt—you have no idea which picture is which until you cable the camera to your computer. Add in its strange penchant for flash and focusing delays, and you have one challenging piece of hardware. The best digital camera also happens to be the

most difficult to use.

The most straightforward cameras provide LCD screens that allow you to preview and play recorded images. You can frame images every bit as well as when using a camcorder, because what you see is precisely what you get. At the end of the day, after you've gone and snapped everything that attracted your wandering eye, you can peruse your pictures and delete the ones that look too atrocious for words.

Only LCD cameras permit you to assess pictures without the aid of a computer.

Screening the Competition The Casio QV-10 was the first digital camera to feature an LCD preview, but one year later Casio is at the back of the pack. The QV-10A and QV-100 offer clunky previews that update just a few times per second. Meanwhile, the DS-7, D-200L, and RDC-2 have screen refresh rates as high as 60 times a second, sufficient to pro-

The Happy Death of VHS

If you're excited by snapping digital still photographs, imagine the possibilities when you're filming fully digital movies. No more worrying about magnetic VHS or 8mm tapes' degrading over time, no more flickering pauses, no more half-baked audio—your home or business videos

can enjoy the same boost in quality and integrity that compact disc technology brought to music.

I suppose the ideal digital camcorder might capture high-resolution QuickTime movies, or at least record to a durable, searchable medium, like a miniature laser disc. But the current generation of digital video cameras record to cassette tapes, similar to digital audio-tapes (DATs). The tapes have the same potential for stretching and mangling as analog video-tapes; the primary difference is that frames are converted to discrete binary signals instead of relatively muddy electromagnetic waves. Even if the tape gets chewed, the playback device stands a reasonable chance of reading and correctly interpreting the data.

I tested the \$3595 consumer-level Sharp (800/237-4277, <http://www.sharp-usa.com>) VL-

DC1U Digital Viewcam. Like many recent digital still cameras, the VL-DC1U features a high-speed LCD preview, but the 4-inch screen covers about four times the area of the still-camera LCDs.

The Mini DV tape is slightly smaller than a DAT, or about half the size of an 8mm tape (picture a stack of credit cards). The tapes are expensive, costing \$30 for 60 minutes of recording time, but they make for compact camcorders. Weighing a scant 29 ounces, the VL-DC1U is slightly shorter and narrower than a VHS tape.

The VL-DC1U boasts CD-quality (16-bit, 48KHz) stereo sound with sharp, colorfast images, more in line with profes-



PAUL FRANZ WOODIE

Video Goes Digital Like many of the new digital video cameras, Sharp's VL-DC1U features a nice-size LCD preview.



More to It Compare a movie frame (top) from the Sharp VL-DC1U with the same image shot with the similarly priced Polaroid PDC-2000/40 camera. Although I've sized the two images to include precisely the same number of pixels, the PDC-2000/40 photograph contains a lot more information (see the magnified views on the right).

sional-quality BetaCam than Hi-8 or S-VHS images. But don't expect to use a digital video camera as a still-camera substitute. Like any NTSC device such as a TV, a digital video camera records interlaced frames with alternating even and odd fields. And although the camera purports to record 410,000 square pixels, comparable in resolution to the Ricoh RDC-2, there's no way to dump the data directly to your disk. You have to transfer the data via an S-Video link to your computer's AV board, just as you would with a standard analog camcorder.

But if you've ever tried to capture pictures from S-VHS or comparable media, digital makes all the difference. As the

sample frame grab "More to It" shows, the colors may not be as on-target as those captured by the PDC-2000/40, but they are stable and reliable. The VL-DC1U also features its share of digital extras, including time and date stamping (which you can view or hide when playing the tape), an interpolated zoom for up to 30X magnification, and a special brightness gain for interior and night filming. The camera design could use further work—the menu-driven controls are quite difficult to use, and I'd like to see a few digital postproduction tricks like flipping and cropping—but all in all, it makes VHS look about as relevant to the next decade as the eight-track tape is to ours.

duce a continuous and reliable preview. Because the LCD gobbles up battery power, the D-200L and RDC-2 also include standard viewfinders, which come in handy under bright conditions that render LCD screens unreadable.

Still, my favorite LCD camera is the Fuji DS-7. Every bit as compact as either Casio, the DS-7 supplies the most intuitive on-camera controls of the bunch, including a convenient brightness knob for the LCD, which the D-200L lacks. It properly acknowledges a voracious appetite for energy by shipping with four NiCd batteries and a charger. Except for the PDC-2000/40, the other cameras ship with disposable, short-lived alkaline cells.

Epson is planning to add a detachable LCD screen to its upcoming PhotoPC 500, and Kodak has plans for an LCD-equipped DC20 (dubbed the DC25). The latter especially needs a preview; the camera's tiny viewfinder and limited resolution make it nearly impossible to center a shot.

Zooming In If you're looking for bells and whistles, Ricoh's RDC-2 can't be beat. Its LCD screen is detachable, permitting you to lighten the load and shoot

from the viewfinder. Two fixed zoom levels let you go in for a slightly closer look. And if you're a multimedia fan, you can record voice annotations and even take sequential pictures. It's all great fun, but it's hardly enough to distract from the fair-to-middling quality of its images. Frankly, Ricoh needs to work on getting a decent still picture before it dabbles in sounds and video.

If you're looking for a good zoom camera, the only practical choice is the Kodak DC50. It lets you zoom continuously up to 300 percent. Rather than superimposing a cheesy magnifying lens over the viewfinder, as with the RDC-2, the DC50's viewfinder magnifies continuously as well. Except when shooting close-ups, I have never had a problem framing images with this camera.

The Long Road to the Computer

The cameras' software for downloading images to disk is rarely implemented with the care invested in the hardware. Most cameras include utilities for batch-downloading photographs. But the utilities are often confusing and nonintuitive, requiring you to jump through unnecessary

hoops and tossing out your images if you're not careful. Only the D-200L lacks a batch-downloading utility, providing nothing more than a Photoshop acquisition module; you have to open the images in Photoshop and save them one at a time, or devise a custom script from the Actions palette. (Olympus is aware of this problem and plans to offer batch-processing early in 1997.)

The DC20 ships with the most software, including a straightforward image-editing package from PictureWorks and the playtime utility Kai's Power Goo from MetaTools. Yet somehow, it takes more time to extract an image from a DC20 than from any other camera. The acquisition software requires you to preview an image before downloading it, a process that takes more than 30 seconds. Then you have to spend half again as long copying the image to disk.

All of the cameras except the Quick-Take 150 have to decompress the images as they retrieve them. Of these, the speediest downloader is the Fuji DS-7, which takes about 7 minutes to clear out all 30 images from a standard 2MB SmartMedia card.

Snap Facts: The Range of Digital Camera Features

Company	Apple	Casio	Casio	Epson	Fuji Photo Film
Product	QuickTake 150	QV-10A	QV-100	PhotoPC	DS-7 Editors' Choice
Star Rating *	★★★/6.2	★★★/5.8	★★★/3.9	★★★/6.0	★★★★/7.1
Price **	\$739	\$399	\$599	\$499	\$699
Other costs	none	none	none	4MB RAM, \$250	none
Phone number	408/996-1010	201/361-5400	201/361-5400	310/782-0770	914/789-8100
Camera dimensions (W x H x D, in inches)	5.3 x 2.2 x 6.1	5.1 x 2.6 x 1.6	5.3 x 2.6 x 1.6	6.5 x 3.5 x 1.9	5.1 x 3.0 x 1.9
Weight (with batteries, in ounces)	17	9	9	14	12
Maximum image size (in pixels)	640 x 480	320 x 240	640 x 480	640 x 480	640 x 480
On-board memory	1MB	2MB	4MB	1MB	none
Expandable storage	no	no	no	yes	yes
Storage capacity (images at maximum size)	16	96	64	80 with 4MB card	30 with 2MB RAM (included)
Optics	fixed focus	fixed focus	fixed focus	autofocus	fixed focus
Closest focal distance (in inches)	10	4	4	24	3.5
Zoom function	no	no	no	no	no
Built-in flash	yes	no	no	yes	no
Image quality	good color, good detail	blown highlights, violet cast, acceptable detail	blown highlights, frequent clipping, acceptable detail	occasional blown highlights, bright colors, good detail	dark colors, red cast, acceptable detail
LCD preview and playback	no	yes	yes	no	yes
Selectively erase images	no	yes	yes	no	yes
Save Photoshop-compatible image previews	yes	no	no	no	no
Date-stamp photos	yes	no	no	yes	yes
Photoshop acquire module	no	yes	yes	yes	no
Time required to retrieve one image to disk in standardized format	3 seconds (300K/second)	24 seconds (14K/second)	32 seconds (28K/second)	20 seconds (45K/second)	14 seconds (64K/second)
Bundled image-editing software	PhotoFlash (Apple)	PhotoDeluxe (Adobe)	PhotoDeluxe (Adobe)	EasyPhoto (Storm)	PhotoDeluxe (Adobe)

* Based on features, implementation, innovation, performance, reliability, ease of use, and value. (See Star Ratings section for full explanation.) ** All prices are company estimated, except for the Polaroid

Closing In on Your Subject: Some Cameras Do It Better



Epson PhotoPC



Olympus D-200L



Kodak DC50

Framing is difficult with any rangefinder camera, so some cameras provide framing aids to help you center your shots. For example, the PhotoPC and Olympus take very similar pictures (left and middle). But the D-200L previews the subject on an LCD screen, permitting me to capture more sphinx and less empty sky. The DC50's zoom function is an even better framing tool; with 300 percent magnification, I can get right in the sphinx's face.

With the QuickTake 150 you mount the camera onto the desktop as if it were a disk and drag-copy the images to your hard drive. You can copy all 16 images from the camera in less than a minute. To open the images, you have to install a QuickTime-compatible system extension that decompresses each image on the fly. This adds a second or two to the open operation, but it's well worth it.

The Pick of the Pix

Digital cameras are still in early stages of development. To curb expenses, vendors have to pick and choose from a truckload of possible features. So the best camera for you depends on what you value most. If your number one concern is image quality, and you have some money to throw around, then the Polaroid PDC-2000/40 is your best bet. Whenever I set

off to round up digital photographs, this is the first camera I grab.

If you want to keep your costs below \$1000, you have two alternatives: zoom lens or LCD. (No digital camera I tested does a good job on both fronts.) If you want to magnify faraway subjects or frame pictures better without moving yourself or your subject, then the Kodak DC50 is the only way to go. Although marred by

Kodak	Kodak	Olympus	Polaroid	Ricoh
	Editors' Choice		Editors' Choice	
DC20	DC50	D-200L	PDC-2000/40	RDC-2
★★/4.6	★★★/6.8	★★★/6.6	★★★★/7.9	★★★/5.8
\$350	\$979	\$599	\$3695	\$999
none	5MB card, \$300	none	none	5MB card, \$300
716/724-4000	716/724-4000	516/844-5000	716/256-4436	702/352-1600
4.0 × 2.5 × 1.2	4.3 × 2.5 × 5.8	5.7 × 2.8 × 1.8	7.9 × 2.2 × 6.3	5.7 × 1.4 × 3.0
4	22	15	32	15 (18 with LCD)
493 × 373	756 × 504	640 × 480	1600 × 1200	768 × 576
1MB	1MB	2MB	40MB	2MB
no	yes	no	no	yes
8	63 with 5MB card	20	40	70 with 5MB card
fixed focus	autofocus	fixed focus	autofocus	autofocus
24	19	8	10	0.5
no	yes (3x)	no	no	yes (1.5x)
no	yes	yes	yes	yes
very good color, good detail	very good color, good detail	bright colors, occasional clipping, crisp detail	excellent color, soft detail (easily corrected)	blown highlights, blue-green cast, acceptable detail
no	no	yes	no	yes
no	no	yes	yes	yes
yes	yes	yes	yes	yes
no	yes	yes	yes	yes
yes	no	yes	yes	no
53 seconds (10K/second)	49 seconds (23K/second)	31 seconds (29K/second)	109 seconds (52K/second)	57 seconds (23K/second)
PhotoEnhancer (PictureWorks)	PhotoEnhancer (PictureWorks)	PhotoDeluxe (Adobe)	none	PhotoStudio (Microspot)

PDC-2000/40, which is a list price. Actual prices could be higher or lower than the estimated street price provided by the company.

From Camera to Disk: The Poky Pace of Pixels



Kodak DC20 (53 seconds)



Fuji DS-7 (14 seconds)



Apple QuickTake 150 (3 seconds)

Digital cameras promise instantaneous gratification, but in some cases getting an image from camera to disk can be excruciatingly slow. The DC20 takes nearly a minute to select a single image such as the one shown and download it to a hard drive. The DS-7 takes only one-fourth as long. But by far the quickest downloader is the QuickTake 150, which lets you copy images without first decompressing them. In the time it takes to download one DC20 image, you can copy the full 16-image contingent from a QuickTake 150.

slow downloading and a boxy housing, it combines expandability, good image quality, and continuous zooming.

Many of the folks I've talked to seem to value LCD preview and playback over other considerations. If you fall into this camp, it's a close race between the Olympus D-200L and the Fuji DS-7.

The D-200L offers better image quality (despite its clipping problems), a built-in flash, and both an LCD screen and a traditional viewfinder. But I come down on the side of the DS-7, which provides expandability, batch-downloading software, closer close-ups (down to 3.5 inches), an LCD brightness knob, and four NiCd batteries and a charger. Plus it downloads images twice as fast as the D-200L. It's a tough call, but most casual users are likely to appreciate the DS-7's convenience features over the D-200L's sharper photographs.

The Last Word

If you've been waiting for an affordable, reliable digital camera, now is a good time to buy. The PDC-2000/40, DC50, and DS-7 are all significant improvements over what was available a year ago. Then again, if you keep waiting, things can only get better. The consumer market promises to explode by the end of the decade, with more vendors, including Sony, Canon, and Agfa, joining the fray.

New hardware isn't the only exciting development looming in the future. Apple hopes to open up the digital camera market with the Image Capture Plat-

form, a technology that permits developers to write applications for digital cameras with compatible microprocessors, such as the MPC823 from Motorola. The core image-capture software—QuickTime IC—might make digital cameras more customizable and less dependent on a host computer. For example, a developer might write a bit of code that instructs the camera to shoot a series of time-lapse images and output the frames as a QuickTime movie. Apple also suggests that images might be stitched together to create a panoramic QuickTime VR scene. Minolta has been named as a possible partner, but prototype cameras aren't due out until later this year.

Whatever the future brings, the primary advantages of digital cameras continue to be convenience and immediacy. If you insist on drum-scanner quality, you'll be disappointed. You can purchase an excellent 35mm single-lens reflex camera and develop 200 images to Photo CD for less than it costs to buy a DS-7—and the images will look a lot better than those shot with the PDC-2000/40.

But if you want pictures quick and want to be in charge of the development cycle, then digital cameras bring the world to your computer in record time. If you're a technology buff, I'm willing to bet you'll own a digital camera before the century is out. **m**

Contributing editor DEKE McCLELLAND (<http://www.dekmc.com>) has taken more than 5000 pictures using consumer digital cameras.

ENTRY-LEVEL DIGITAL CAMERAS



We judged digital cameras on color accuracy, storage, framing tools, and software. No camera gets it exactly right, so the best brand for you depends on which of the three following features you value most.

Image Quality

★★★★/7.9 PDC-2000/40 Comparatively expensive and difficult to use, the PDC-2000/40 produces far and away the best images of the bunch. Company: Polaroid (716/256-4436, <http://www.polaroid.com>). List price: \$3695.

Zoom Capability

★★★/6.8 DC50 Good color, expandability, and an excellent zoom lens set the DC50 apart from the rest. Company: Kodak (716/724-4000, <http://www.kodak.com>). Company's estimated price: \$979.

LCD Preview and Playback

★★★★/7.1 DS-7 The DS-7's LCD screen makes framing and reviewing photographs so easy, a child could do it. Company: Fuji Photo Film (914/789-8100, <http://www.fujifilm.com>). Company's estimated price: \$699.



Reviews you can trust: Unlike other publications, *Macworld* rates only final shipping products, not prototypes. What we review is what you can actually buy.

"Wow, look what's inside the best color scanners!"

The world's best color scanning software. If you think all scanners are pretty much alike, you're partially right. The hardware *is* similar. But what makes a scanner perform is the software. And when it comes to software, there is nothing like LinoColor™ VisuaLab™. VisuaLab is based on our more than 40 years' experience working with professional quality color. Recently, *Computer Reseller News* named VisuaLab

as the software that gives the best results in color scanning. So why settle for just a scanner when a LinoColor SAPHIR, OPAL or JADE scanner delivers what you really want – great scans?

To learn more about how easy great scanning can be, call for our free brochure today: **888-LINOCOLOR**. Or get it on the Web at www.linocolor.com



JADE Scanner:
"The color accuracy is the best we've seen from a scanner costing under \$1,000." *MacUser LABS*



LinoColor
Color is child's play.

Linotype-Hell

©1997 Linotype-Hell. Hell and Linotype are registered trademarks, and LinoColor and VisuaLab are trademarks of Linotype-Hell AG and/or its subsidiaries. Macintosh is a registered trademark of Apple Computer, Inc. Windows is a registered trademark of Microsoft Corporation.

Circle 17 on reader service card

For Macintosh® or Windows®


ADOBE® PAGE MAKER® 6.5 ONLINE

Netscape: Adobe PageMaker 6.5


Back Forward Home Edit Reload Images Print Find Stop

Location: <http://www.adobe.com>


What's New? What's Cool? Destinations Net Search People Software



"It is revolutionary - not evolutionary."



64-bit MIPS RISC Processing
Until now, it all seemed so predictable, 8-bit video gaming ruled the TV screen for five years. 16-bit gaming reigned for another five. But TV-based 32-bit gaming will be supplanted in a matter of months. Because in a heartbeat, Nintendo Ultra 64 will surpass everything that has come before. True 64-bit processing. 100 MHz system speed. 500 MHz memory speed. Real time rendered environments. Too much, too soon? Nope. More than enough — just in time.



What Game Designers are saying about Nintendo Ultra 64.

"Cutting edge advanced - everything else is antiquated." - Graphics like never before - either on the PC or any of the other game console."

THE
BEST TOOL
FOR
ONLINE.

Hyperlinks
palette for
online
authoring.

Export
and import
HTML files.

Automatic
graphic
conversion to
JPEG & GIF
format.

Full
Adobe
Acrobat®
support.

Adobe, the Adobe logo, Adobe PageMaker, Adobe Acrobat and the tagline, "If you can dream it, you can do it" are trademarks of Adobe Systems Incorporated. Netscape Communications, the Netscape Communications logo, Netscape, and Netscape Navigator are trademarks of Netscape Communications Corporation. Macintosh is a registered trademark of Apple Computer, Inc. Windows is a registered trademark of Microsoft in the U.S. and other countries. All other marks are the property of their respective companies. ©1996 Adobe Systems Incorporated. All rights reserved.

is revolutionary — not evolutionary.*

64 bit MIPS RISC Processing
 Until now, it all seemed so predictable. 8 bit video gaming ruled the TV screen for five years. 16 bit gaming reigned for another five, but TV-based 12 bit gaming will be supplanted in a matter of months. Because in a heartbeat, Nintendo Ultra 64 will surpass everything that has come before. True 64 bit processing. 100 MHz system speed. 500 MHz memory speed. Real time rendered environments. Too much, too soon? Nope. More than enough — just in time.

"Cutting-edge advanced — everything else is antiquated."
 -Graphics like never before — either on the PC or any of the other game consoles."

What Game Designer's are saying about Nintendo Ultra 64.
 "Our artists see their work represented at a level that's never been possible before."

Design and art direction for the Nintendo Co., Ltd. 1995 annual report by Leimer Cross Design, Seattle. Photography by Tyler Boley.

THE
 BEST TOOL
 FOR THE
 PRINTED
 PAGE.

Document-wide
 layers.

Automatic
 reformatting and
 adjustment for
 publications.

Native
 import of
 Adobe Illustrator
 files.

Text and
 graphics frames.

Complete
 hi-fi color
 support.

Save for
 Service Provider
 plug-in.

Interactive
 tabbed
 palettes.

ADOBE PAGEMAKER 6.5 ON PAPER



One world is too small for today's documents. Which is why Adobe PageMaker 6.5 offers you the most professional and accessible way to publish on paper or online. On Windows® 95 and NT 4.0 or Macintosh® platforms. Its groundbreaking layout capabilities offer far greater flexibility in page design. What's more, Adobe PageMaker 6.5 is smoothly integrated into the entire family of Adobe products, so there is nothing to stop your work from being the best it can be. From wood pulp to the World Wide Web, it all starts here. For more information call 1-800-422-3623, offer code 25901, or visit us at www.adobe.com.



If you can *dream* it, you can *do* it.™

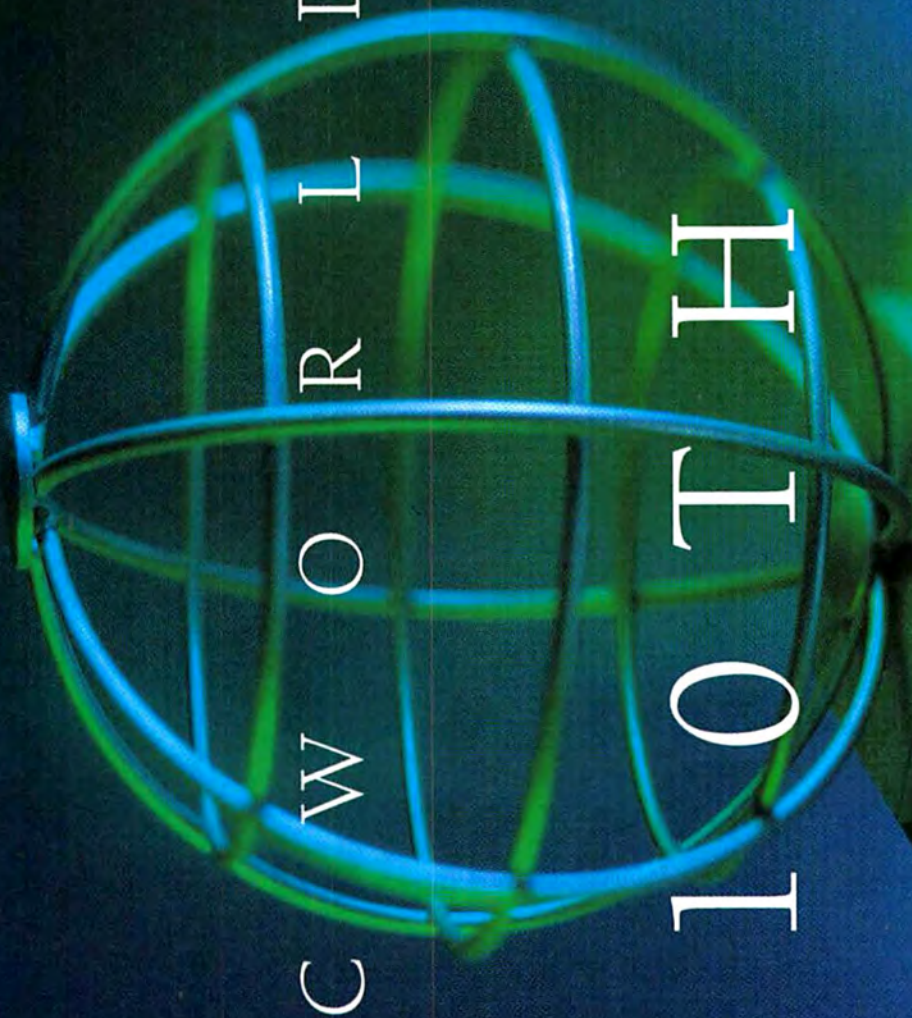
Adobe

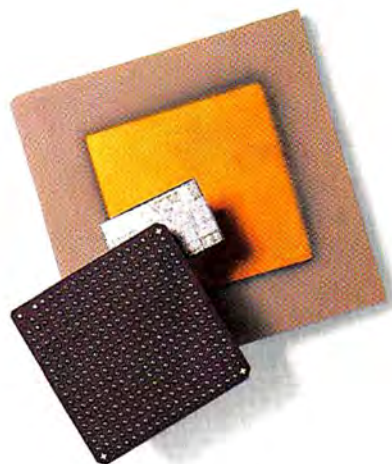
Circle 253 on reader service card

M A C W O R L D ' S

10TH

A N N U A L





X704

Applying semiconductor ideas from other computers and consumer electronics, Exponential Technology (<http://www.exp.com>) is on the fast track toward the processor of the future, a PowerPC-compatible chip that will fairly scream at 533MHz. Systems using the X704 chip are slated to debut later this year. Though Apple's mum about using the X704, it'd be funny if it didn't, since it owns a chunk of Exponential. And you can certainly expect the other Mac makers to pick up this chip for their next-generation speed demons.

W I N N E R S • W I N

Systems

POWERBASE 240

Power Computing (<http://www.powercc.com>) struck gold at the entry level with this affordable and expandable system. For about \$2200, you get a Mac comparable to a Power Mac 8500/180, and it has 3-D acceleration to boot. Power Computing to home market: Now you've got a choice.

Finalists: We've already gushed over the Power Computing PowerTower Pro 225, but it deserves to be said again: for power users, this system raises the clone manufacturing bar. At the same time, DayStar Digital's (<http://www.daystar.com>) dual-processor **Genesis MP 360+** has made multiprocessing on the Mac affordable.

Storage

JAZ

Iomega's (<http://www.iomega.com>) Zip drive won in this category last year, but this year the honor goes to

**POWERBASE 240**

its hulking big brother. Walking around with a gigabyte in your hand brings on the same heady feeling of power that you get from ready cash and a full tank of gas.

Finalists: The Jaz's gigabyte of data is going to have to come to rest somewhere, hence our selection of Quantum's (<http://www.quantum.com>) **DLT** (digital linear tape) drives. They're available from a variety of vendors (the DLT technology actually originated with Digital Equipment Corporation), but our tests showed Quantum's model to be a speedy way to back up 25GB of uncom-

pressed data. At the other end of the scale, we're also honoring a magneto-optical drive that's remarkably small and elegant, thanks to some intelligent design and miniaturization: Olympus Image Systems' (<http://www.olympus.com>) **Sys.230** drive costs more than a Zip drive, sure, but its cartridges cost half as much.

Input Devices

PAPERPORT VX

If we're ever going to reach the Holy Grail of the paperless office, this handy scanner and document-man-

agement software from Visioneer (<http://www.visioneer.com>) is going to lead the way. A true symbol of Thoreau's mandate to simplify.

Finalist: There's no easier way to scribble digitally than with Wacom's (<http://www.wacom.com>) **Erasing UltraPen**—especially for graphics professionals who change their minds a lot.

Display

PRESSVIEW SR 21

Although it's pricier than most monitors, Radius's (<http://www.radius.com>) **PressView** is once again our top pick for the way it incorporates color-management software so smoothly and displays colors so accurately that you can truly proof on screen.

No finalist.

Graphics Printers

PHASER 350

Richly saturated colors make Tektronix's (<http://www.tek.com>) solid-

MACWORLD CELEBRATES THE BEST MAC PRODUCTS

It's been a difficult year for Apple and the Macintosh, one in which the company lost more than \$800 million and admitted that two years of work on its Copland operating system were wasted. But tough times build character, and the Mac market saw many positive developments amid the gloom in Cupertino. Thanks in part to Apple's decision to sublicense the Mac OS to IBM and Motorola, 1996 featured a proliferation of clone manufacturers offering systems. Dozens of vendors showed their loyalty to the Mac platform by releasing useful and innovative products. And Apple's new management team made some important steps to turn the company around.

In this, our Tenth Annual World Class Awards, *Macworld* honors the products that have helped make the Macintosh the preferred platform for more than 25 million computer users worldwide. And, for the first time, we also recognize three individuals who made outstanding contributions to the Macintosh community in 1996.

What makes a product World Class? It can be one that makes you more efficient, or one that lets you express your creativity in new and different ways. It can be a simple e-mail client or a complex digital video editing package. But it must also be true to the qualities we've always associated with the Macintosh: easy to learn, easy to use, and imbued with a certain creative spirit.

This year, we honor 80 such products from 62 companies in 39 categories. To determine the winners and finalists, we cast a wide net. We consulted our editors and contributors. We tested products and ranked products' ratings. We polled more than 75 experts in the Macintosh community, including user-group leaders. In some cases we even conducted additional testing just to be sure.

To be considered, products had to be shipping by November 29, 1996; but we did not restrict our candidates to those that had shipped in the previous 12 months. A great product is a great product, no matter when it becomes available. As a result, you'll see some familiar names, such as Adobe and Claris, and some new ones as well, such as Exponential Technology and Big Island Communications.

We've bestowed three special awards: for most significant technology, for most promising technology, and for what we consider to be the product of the year. Given that 1996 was a year of rebirth for the Macintosh, it's appropriate that two of these awards honor the fundamental of a computer system—the CPU—and the other recipient is a clone, Power Computing's PowerTower Pro 225. As last year's Macworld Expo opened, we predicted that this would be the year of the platform, and indeed it was.

Thanks and kudos to all those honored!

W O O

L D

R

C L

S S

A

A W A

R

D S



P O W E R T O W E R P R O 2 2 5

While PCs are chugging along at 200MHz, Power Computing's (<http://www.powercc.com>) PowerTower Pro has spurred ahead with this amazing speed boost. The megahertz rating isn't the only gauge of speed, but this is the fastest Mac we've ever tested. And in a year of concern about Apple's future, this system kept pumping new excitement into the Mac market. Admit it, didn't you want one, too?

N E R S • W I N N E R

ink entry a cost-effective knockout for anyone who hates red ink on the bottom line.

Finalist: Kodak's (<http://www.kodak.com>) Digital Science 8650 PS dye-sublimation printer dishes up output that's as good as that of printers costing twice as much.

*Business Printers***PHASER 550**

It's fast, it's got 1200-dpi resolution, and it's a color-laser printer with stunning output. Tektronix continues its dominance.

Finalist: If you're looking for a smashing addition to a small office or home office that needs to accommodate both Macs and PCs, look no further than Hewlett-Packard's (<http://www.hp.com>) LaserJet 6MP.

*Personal Printers***STYLUS COLOR 500**

So what do you want to print—presentations, photographs, newslet-

ters, charts? This Epson (<http://www.epson.com>) powerhouse delivered all of them brilliantly.

Finalist: Apple's (<http://www.apple.com>) Color StyleWriter 2500 represents a leap forward for Apple's ink-jet printers, with great output and networking options.

*System Utilities***CONFLICT CATCHER 3.0**

If your computer is an engine and the operating system is its fuel, Casady & Greene (<http://www.casadyg.com>) provides this impor-



F I L E M A K E R P R O 3 . 0

tant STP counterpart that helps everything run cleanly and smoothly.

Finalist: Even though the price of RAM has dropped to comfortable levels, you can still benefit from loading up RAM Doubler 2.0, Connectix's (<http://www.connectix.com>) seemingly magical way of boosting performance.

*Storage Utilities***RETROSPECT 3.0**

Like flossing, data backup is a necessary part of life that you ignore at your own risk. At least Dantz

Development's (<http://www.dantz.com>) backup software is so easy to set up and configure that you'd never confuse it with a trip to the dentist.

Finalist: If you've ever wanted a trouble-free way to keep your hard disk lean and mean, FWE Software's (<http://www.fwb.com>) HSM Toolkit 1.0 can help—it identifies little-used files and moves them to offline storage.

*Personal Utilities***QUICKEYS 3.5**

Are you typing more but enjoying it less? CE Software's (<http://www.cesoft.com>) tool for easily creating macros and shortcuts is a godsend especially for Internet signatures and other priorities.

Finalist: If you think sending mail over the Internet is slow now imagine what it would be like if no one could use Aladdin Systems (<http://www.aladdinsys.com>) Stuffit Deluxe 4.0 compressor software.



POWERPC 604E

From the joint efforts of IBM Microelectronics (<http://www.chips.ibm.com>) and Motorola's (<http://www.mot.com/computer>) RISC Microprocessor division comes the latest processor powerhouse, keeping the Macintosh ahead of the competition at Intel. The original PowerPC was fast, but the new model is faster at what most programs use—integer calculations—not just at the floating-point calculations that have been a PowerPC hallmark since day one. And the ability to process more commands at once makes the PowerPC 604e the undisputed best CPU for any personal computer. Sorry, Pentium Pro.

W I N N E R S • W I N N I N G

Business Productivity

FILEMAKER PRO 3.0

We loved Claris's (<http://www.claris.com>) database even before it went relational with version 3.0; now it's even more indispensable.

Finalists: Bravo for **Now Contact and Up-to-Date 3.6**, Now Software's (<http://www.nowsoft.com>) calendar that can download items from the Web. On the heavy-duty side of big business, a big round of applause to **Big Business 2.0** from Big Software (<http://www.bigbusiness.com>), which combines all the necessary pieces of an enterprise accounting system with the ease of a Mac.

Personal Productivity

CLARISWORKS 4.0

The Mac isn't known for its lean-and-mean applications, but this is the exception. And it's especially refreshing to discover how fast Claris's (<http://www.claris.com>) integrated office package runs.

Finalist: A banking application



YOU DON'T KNOW JACK XL

like Intuit's (<http://www.intuit.com>) **Quicken Deluxe 7** is like a microwave oven—once you get one, you'll wonder how you lived without it.

Data Presentation

DELTAGRAPH 4.0

Working with Microsoft Excel, Delta-Point's (<http://www.deltapoint.com>) application holds the answer to any graphing question you're likely to have. And, appropriate for number-crunchers, the price is right.

Finalist: Turning chaos into process is easy with flowcharts and

presentations in Claris's (<http://www.claris.com>) **ClarisImpact 2.0**.

Entertainment

YOU DON'T KNOW JACK XL

Everyone who ever bombed out of *Jeopardy!* tryouts can exact revenge with Berkeley Systems' (<http://www.berksys.com>) wacky retro quiz CD, a delightful use of technology.

Finalists: If Franz Kafka were designing game CDs, Pulse Entertainment's (<http://www.badmojo.com>) **Bad Mojo** would be the eerie result. For brighter times at the old key-

board, MetaTools' **PowerGoo 1.0** is the technological equivalent of finger-painting and silly putty.

Reference

CINEMANIA 97

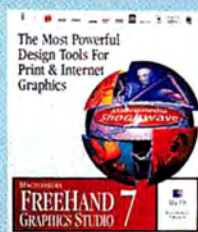
Even before you go to the video store, pop this guide to 20,000 films in your CD player. You can search by mood (yours) or genre (the film's). Plus you can download updated reviews from Microsoft's (<http://www.microsoft.com>) Web site.

Finalist: When it comes to electronic reference material, Microsoft's **Bookshelf 97** wrote the book. In this year's version, a zip code directory, a Web directory, and Microsoft Internet Explorer have been added.

Graphics/Publishing
Utilities

DEBABELIZER 1.6

For moving files from any one of 70 graphics formats to another, this utility from Equilibrium (<http://www.equilibrium.com>) is a must-have.



FREEHAND 7.0

Scaling, cropping, and color adjustments are done at no extra charge. A service bureau's dream.

Finalist: Markzware's (<http://www.markzware.com>) **FlightCheck 2.8** is the best way to avert bad pre-press dreams before they become nightmares.

Graphics Plug-Ins

SERIES 3, SCREENS FILTER 1.4

Sure it lets you erase stray dots and lines from CMYK images, but *Andromeda's* (<http://www.andromeda.com>) plug-in also gives a helping hand to novices and gets out of the way of experts.

Finalist: Alien Skin's (<http://www.alienskin.com>) **Stylist 1.0** picks up where Adobe Illustrator leaves off, letting you combine progressive sets of fill-and-stroke attributes. It's a heck of a productivity tool.

Illustration

FREEHAND 7.0

With the latest version of this great program, you get better gradients and blending features, and wonderfully sophisticated autotracing. Macromedia (<http://www.macromedia.com>) continues to rule the roost here.

Finalists: Adobe (<http://www.adobe.com>) **Illustrator 6.0** comes in a really close second, and it gets points for being organized and efficient so that artists can be creative. With its ability to treat complex graphics as simple objects, *Fractal Design's* **Expression** (<http://www.fractal.com>) adds new wrinkles to an established category.



VISTA-S6E

Image Editing

PHOTOSHOP 4.0

Although Photoshop experts may be perturbed by the revamped look of this brand new version from Adobe (<http://www.adobe.com>), we're confident that in no time at all their opinion will be "transformed."

Finalist: When it comes to image editing, *Fractal Design's* (<http://www.fractal.com>) **Painter 4.0** is the palette, the easel, the atelier, and southern exposure all rolled into one.

Publishing Plug-Ins

QX-TOOLS 2.0

Extensis (<http://www.extensis.com>) figured out what extras QuarkXPress users need and put them all in this extensions package. The publishing professional may not even need everything that's there.

Finalists: And what *Extensis* did for QuarkXPress users it also did for Adobe PageMaker 5.0 and 6.0 users—the result is **PageTools 2.0**. When it comes to setting up tables in QuarkXPress, *Npath's* (<http://www.npath.com>) **Tableworks Plus** can't be beat, even by *Martha Stewart*.

Page Layout and Design

PAGEMAKER 6.0 AND QUARKXPRESS 3.32

Nothing's changed since last year: Adobe Systems (<http://www.adobe.com>) and Quark (<http://www.quark.com>) are still the undisputed leaders in this crucial arena for the Macintosh, despite their differences.

No finalist.

Scanners

VISTA-S6E

The view is great from here—the scanner's images and the ease in getting them will take your breath away. Best of all, this scanner from *Umax Technologies* (<http://www.umax.com>) has a price that's unbelievably low for the high quality you get.

No finalist.

Video-Display Cards

XCLAIM VR

This is not your everyday graphics card—this is the one that'll take you so far into virtual reality, you may never want to come back. Not only does *ATI Technologies* (<http://www.atitech.com>) give you fast video display at a low price, you also get accelerated 3-D playback for gaming.

No finalist.

Digital Cameras

PDC-2000

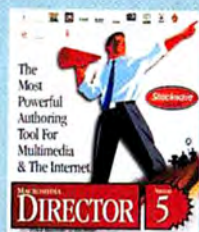
This is easy to picture—a camera from *Polaroid* (<http://www.polaroid.com>) that makes digital photography a snap. This company keeps pushing the envelope of photo technology.

Finalist: A low-cost but agile performer, *Fujifilm's* (<http://www.fujifilm.com>) **Fuji DS-7** is an excellent contender in the camera panorama.

Multimedia Authoring

DIRECTOR 5.0

What can you say about the tool of choice for professional developers—the one with painting and animation features and a scripting language—



DIRECTOR 5.0

other than . . . thanks, Macromedia (<http://www.macromedia.com>).

Finalist: Presentations, CDs, and Web sites come alive with **QuarkImmedia 1.0**, an add-on to QuarkXPress that takes advantage of everything you already know about Quark (<http://www.quark.com>).

Web Authoring

BBEDIT 4.0

Only a text editor? Byte your tongue. None of the Web masters we polled can live without *Bare Bones Software's* (<http://www.barebones.com>) HTML editor for building their Web sites.

Finalist: For the Web aficionado needing more basic tools and the comfort of WYSIWYG, look no further than Adobe's (<http://www.adobe.com>) **PageMill 2.0**.

Video Production

AFTER EFFECTS 3.1

Until a time machine is invented, this is the only way you have to control time and motion. Adobe (<http://www.adobe.com>) has made it a breeze.

Finalist: Digital-video cards are not necessarily easy to use, nor do they always deliver the video quality promised. **Media 100's** (<http://www.media100.com>) PCI card delivers.

Audio Production

DIGITAL PERFORMER 1.71

When it comes to a digital-audio tool with built-in pitch and tempo shifting, *Mark of the Unicorn* (<http://www.motu.com>) is right on the mark.

Finalist: Taken over by Macromedia (<http://www.macromedia.com>)



PDC-2000

this year, Deck II 2.5 lets you do multitrack recording without investing in expensive audio hardware.

3-D Graphics

INFINI-D 3.5

Specular International's (<http://www.specular.com>) product combines the best of rendering and animation tools for both novice and expert applications.

Finalist: **Detailer 1.0** from Fractal Design (<http://www.fractal.com>) lets you paint directly on 3-D objects using the same natural media tools that made Painter so popular.

Developer Tools

CODEWARRIOR GOLD 10

This complete package for building applications is to Macintosh developers what Toys "R" Us is to kids. Kudos to Metrowerks (<http://www.metrowerks.com>) for helping Macintosh applications thrive.

Finalist: Thanks to Natural Intelligence's (<http://www.roaster.com>) **Roaster DR 2.3**, developers can caffeinate Java applications on the Mac.

Technical/Engineering

DATA DESK 5.0

One of the highest-rated applications we've ever reviewed, Data Description's (<http://www.datadesk.com>) product makes data analysis easier than statistics has a right to be.

Finalist: For students pondering how to jump into statistics, Duxbury Press's (<http://www.duxbury.com>) **Jmp In 1.0** provides a comfortable diving platform.



YOYO 1.5

Communication Hardware

YOYO 1.5

It doesn't look like a yo-yo or sound like a modem, but Big Island's (<http://www.big-island.com>) compact hardware and easy-to-use software are the best things that ever happened to telephony on the Macintosh.

Finalist: If your ISDN setup was a nightmare, then you didn't use Farallon's (<http://www.farallon.com>) **Netopia ISDN Modem 412**.

Network Software

NETDOUBLER 1.2

Asanté Technologies' (<http://www.asante.com>) software is the best way to speed up your network short of tearing out the whole thing and starting over with fiber. For graphics or prepress professionals shooting large files back and forth, it's a rocket.

Finalist: If you need to share files across a network or over the Internet, or troubleshoot a user's system remotely—whether it's a Mac or a PC—**Timbuktu Pro 3.0** from Farallon Communications (<http://www.farallon.com>) does the trick.

Internet Client Software

REALAUDIO 2.0

When the twenty-first-century version of Woodstock takes place solely on the Internet, the concert will begin with thanks given to Progressive Networks (<http://www.realaudio.com>) for bringing sound to the Web.

Finalists: Macromedia's (<http://www.macromedia.com>) **ShockWave**

gives us the Web's version of early TV's Uncle Miltie dancing on our monitors. And while it may upset Ma Bell, VocalTec's (<http://www.vocaltec.com>) **Internet Phone 3.0** is taking Internet chat to the next level.

Internet Server Software

WEBSTAR 1.3

Quarterdeck's Web server software (<http://www.quarterdeck.com>) was an instant hit in its original incarnation as MacHTTP, putting the Mac on the map of Web serverdom.

Finalists: The two it takes to **Tango for FileMaker Pro** are the Web and the database; kudos to EveryWare Development (<http://www.everyware.com>) for bringing them together. And for a WebStar add-on, you can't beat Maxum's (<http://www.maxum.com>) **NetCloak 2.1**, a slick way to help users have the best Web experience based on which browser they're using.

Electronic Mail

EMAILER 1.0

The closest thing we have to a universal in-box, this Claris (<http://www.claris.com>) godsend gets the mail to its recipient, rather than making the recipient go get the mail.

Finalist: Its name is its description: **FirstClass 3.11** from SoftArc (<http://www.softarc.com>) combines the best of electronic mail for a departmental or corporate network.

Features editor HOWARD BALDWIN and news editor STEPHEN BEALE supervised this year's award selection.

Jean Bélanger and
Greg Galanos

Founders of Metrowerks, they have helped Apple through its most challenging transitions, such as making the move from the Motorola 680X0 processor to the PowerPC chip; their company continues to provide the premier compiler and support key software innovations from Apple and others.



Ellen Hancock

Apple's chief technology officer helped bring composure to Apple's frantic operating system efforts by insisting that the original Copland would never be acceptable for the common user. Thanks to her, Mac OS 8 will rely on a more harmonious melody.



Steve Kahng

Founder of Power Computing, he breathed new life and excitement into the Macintosh market when it needed it most. And he quickly transformed a start-up company into a major player and leader on the Mac platform, validating the Mac clone industry at the same time.

Faster-acting relief.

Now, PaperPort vx comes with a SCSI adapter so it's even faster at relieving organizational headaches.



PAPERPORT vx MEANS YOU'LL NEVER AGAIN HAVE TO WASTE TIME RETYPING

It can scan thousands of words in minutes—from virtually any type of document. Reports. Memos. Letters. Then PaperPort vx's integrated Xerox TextBridge™ OCR software converts these words to digital format so they can be edited or copied.

NEW. PAPERPORT vx CONQUERS THE COMMON FORM

Forms. If they're the bane of your existence, buy Visioneer's FormTyper™ software. Like magic, it brings up forms on your computer and finds all the fields you need to fill out. All you have to do is tab from field to field, and type. (FormTyper is sold separately and is available directly from Visioneer at <http://www.visioneer.com>).

Job Application Equivalency Skill Proficiency

NAME	DATE
ADDRESS	
CITY	
STATE	
ZIP	
TELEPHONE	
EDUCATION	
EXPERIENCE	
REFERENCES	
SKILLS	
COMMENTS	



PAPERPORT vx FITS EASILY INTO YOUR MAC SYSTEM

It's sleek and small. It rests right between your keyboard and monitor.



PAPERPORT vx PUTS POWER BEHIND YOUR E-MAIL

Find a good tidbit about a competitor in the Sunday paper? Scan it into PaperPort and send it off to your colleagues using e-mail, so they can use the data to close the big deal on Monday morning.

PAPERPORT vx AND SCSI ADAPTER: A NATURAL CONNECTION

Connect your PaperPort vx to your SCSI port with the included SCSI adapter for Macintosh. Dealing with paper has never been faster or easier.

PAPERPORT vx GETS RID OF CLUTTER

Then there are all of those newspaper articles, financial statements, meeting notes, and Dear Binky columns you just can't bear to part with. You can use PaperPort to scan paper as long as 30 inches, and photos in up to 256 shades of gray. So you can save them forever, and get rid of the originals—with no remorse.

PAPERPORT vx IN THREE EASY STEPS

1. Feed in a document. In as quick as 6 seconds, it's scanned.
2. Drag and drop it onto most of your favorite applications.
3. Edit, copy, print, e-mail, fax, file, or organize the material as necessary.



PAPERPORT vx MAKES SMART ARCHIVES

Imagine never having to rummage to find an important slip of paper: PaperPort lets you create archives of critical documents—receipts, invoices, your car registration, even those love notes from the 7th grade.

YES, FEED ME MORE...

1-800-787-7007, ext. 612
<http://www.visioneer.com>
Or contact an authorized reseller.

PAPERPORT.vx



PAPERPORT vx KEEPS TRACK OF YOUR CONTACTS

Tired of forgetting people's names and numbers? Just scan business cards into PaperPort, and create a file of your business contacts—all on your Macintosh computer.

Scanning for the Rest of Us

EVERYONE CAN NOW
OWN A QUALITY COLOR
SCANNER—THANKS TO
PLUMMETING PRICES

Because of their \$1500-and-up price tags, color flatbed scanners used to be the exclusive domain of graphics professionals. Now that street prices have plummeted below \$400, just about anyone can justify buying a scanner to feed photographs, line art, or pages of text into a Mac.

But just what kind of results can you expect from a budget-priced scanner, one that costs hundreds—or thousands—of dollars *less* than many of the more sophisticated models available? To find out, Macworld Lab tested 15 entry-level color scanners, nearly all with street prices under \$600. We evaluated the scanners for color fidelity, gray-scale sensitivity, signal distortion (noise), and speed to find out which scanners provide the best springboard into the world of desktop image editing.

Great for Web Graphics

Make no mistake: when it comes to color fidelity and image quality, none of these scanners compare to expensive drum scanners or even to higher-end flatbed scanners (which can cost tens of thousands of dollars). The optics used in these low-cost models tend to blur and distort fine details, especially when you scale images by more than 200 percent. As a result, these models aren't up to such tasks as scanning 35mm slides, which generally have to be scaled quite a bit, or producing images for high-end professional color publishing.

But these scanners are ideal for creating Web graphics, which generally are small and don't require a resolution above 72 dpi, and for typical OCR tasks, such as digitizing printed documents and converting them to editable text. They also produce good results for less-demanding ventures: newsletters, school reports, and such.



KEVIN CANDLAND

BY JOSEPH SCHORR

True Colors Don't Always Shine Through

EVEN THE BEST OF THE LOW-BUDGET SCANNERS WE TESTED HAD trouble in our color-fidelity tests, especially in reproducing dark and medium colors. Both of the output samples shown here, from the highly rated Umax Vista-S6E and the disappointing Microtek ScanMaker E3, illustrate the blurring and loss of detail you can expect from scanners of this caliber (the goal is to match the Crosfield scan at far left). The Vista-S6E, however, offers much better color fidelity, particularly on lighter colors. On the other hand, the ScanMaker E3 couldn't even come close to matching the colors of the original image, producing lifeless, washed-out light tones and undersaturated dark tones. Of the 15 scanners we tested, the ScanMaker E3 received the lowest scores on skin and earth tones.



Crosfield

Interpreting Interpolation and Resolution

The scanners we tested have an optical resolution of either 300 or 600 dots per inch, meaning that there are 300 or 600 sensors (called CCDs, or charge-coupled devices) lined up on each inch of the scan head. Most scanning vendors claim their units offer an *interpolated* resolution of 2400 dpi, 4800 dpi, or higher. Don't pay much attention to that claim. Interpolation is a math-

ematical calculation performed by the scanning software that increases the apparent resolution of the final image, smoothing out lines that might otherwise appear jagged. Software interpolation may improve the quality of line-art scans, especially those scaled at more than 100 percent, but otherwise it's the true optical resolution of the scanner that really matters.

The 600-dpi models cost more than the 300-dpi scanners, but don't assume

you need a 600-dpi scanner to get the best results. If you're creating a batch of 72-dpi graphics for your Web page, for example, scans created at 600 dpi won't look better; they'll just be bigger files. Likewise, if you plan to print your work on a 600-dpi monochrome laser printer, images of more than 300 dpi won't improve the quality of the halftones—they'll just slow down your print job.

Virtually all the scanners we evaluated come with scanning software—either a stand-alone program or a plug-in to Adobe Photoshop—and a SCSI cable. Most also come with a more full-blown image-editing package, such as Photoshop LE (a version without all the program's features) or a full version of MicroFrontier Color It. Some include OCR software as well. All the scanners but the La Cie SilverScanner Pro (<http://www.lacie.com>), Hewlett-Packard ScanJet 4p (<http://www.hp.com>), and Info ImageReader Elite (<http://www.infoconnection.com>) support an optional transparency unit to scan 35mm slides. These add-ons range in price from \$199 to \$695. (See the table, "Low-Cost Scanners: Features in Focus," for further details.)

Image Quality Revealed

In terms of color fidelity, the ScanJet 4p produced the truest color, scoring considerably higher than all the other scanners. (Unfortunately, the ScanJet didn't excel in any of our other tests.) The other outstanding performers were also 300-dpi scanners—the Nikon ScanTouch 110 (<http://www.nikonusa.com>) and Umax Technologies Vista-S6E (<http://www.umax.com>). (In this roundup, the ScanJet 4p earned a rating of



The Speed of Scanning

To test a scanner's speed, Macworld Lab measured both the prescan and final scan times for an 8-by-10-inch color image and a similar-size gray-scale image, each scanned at 300-dpi resolution. All scanners were tested using default settings. Also, we allocated 30MB to Adobe Photoshop when a scanner used a Photoshop plug-in as its interface, and 30MB to the scanner applications themselves; this prevents disk access (performance of the hard drive) from inadvertently influencing the scanner speeds.

■ Best result in test. Shorter bars are better. Products are listed alphabetically. Times are in seconds.

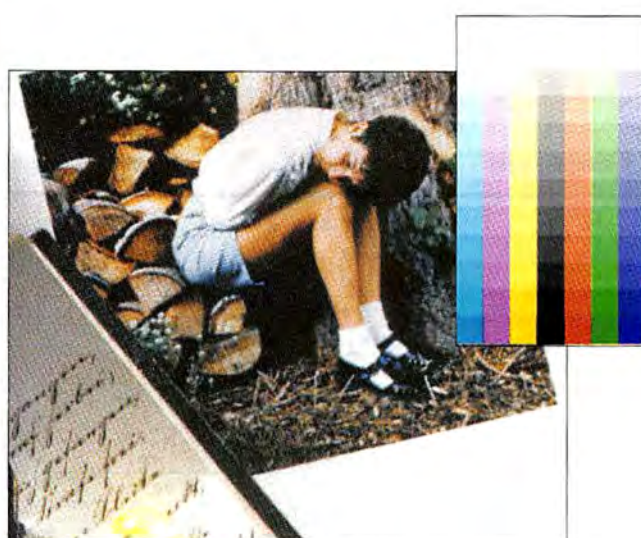
	GRAY-SCALE SCAN		COLOR SCAN	
	Preview Time	Scan Time	Preview Time	Scan Time
Agfa SnapScan	7.3	32.6	11.4	82.4
Apple Color OneScanner	18.1	40.5	17.7	37.7
Hewlett-Packard ScanJet 4p	15.3	29.2	15.6	94.6
Info ImageReader Elite	26.2	41.4	26.1	334.7
Info ImageReader FB	73.5	36.9	74.5	148.7
La Cie SilverScanner Pro	9.2	43.9	17.5	126.9
Microtek ScanMaker E3	23.8	21.9	24.0	61.9
Microtek ScanMaker E6	25.3	35.4	25.4	110.2
Nikon ScanTouch 110	10.4	15.7	15.7	49.0
Nikon ScanTouch 210	18.9	29.0	20.8	42.8
PIE ScanAce II	29.9	23.4	38.3	75.6
Tamarack ArtiScan Z1-600	29.5	56.1	70.5	109.2
Tamarack ArtiScan Z1-1200	31.8	56.2	73.8	111.5
Umax Vista-S6E	13.0	17.7	15.7	45.0
Umax Vista-S12E	17.0	27.4	18.4	35.6

Behind Our Tests

All tests were performed on a Macintosh 7500/100 with 64MB of RAM, System 7.5.5, and a 17-inch Apple Multisync monitor set to 24-bit mode. We used the Mac's 256K L2 cache; disk cache was set to 1024K; virtual memory and RAM disk were disabled; and AppleTalk was enabled.—Macworld Lab testing supervised by Jeff Sacilotto and Chris Uiterwijk



Umax Vista-S6E



Microtek ScanMaker E3

★★/4.9, down from *Macworld's* previous rating of ★★★/6.3. At the time we gave the ScanJet 4p the higher rating, the scanner's price was more competitive. We've downgraded the rating because the 4p hasn't kept pace with other scanners in terms of price and performance.)

As a rule, 300-dpi scanners don't usually produce better images than 600-dpi models. But in our image-quality results, many 300-dpi devices bested their 600-dpi counterparts. Why? It's possible that the

particular 600-dpi scanners we tested in this low price range simply weren't constructed as well as the 300-dpi units. The weaker performance of the 600-dpi scanners shows that the *quality* of the scanner's optics and the scanning software are what's most important, not the raw resolution.

It's worth noting that the specific settings used had a tremendous impact on the results. Most scanning software packages offer an automatic scanning mode: you click on the automatic button and let the scanner

handle color balance, contrast, and so on.

But in almost every case, we got better results by turning the automated features *off*. The PIE ScanAce II (<http://www.scanmedia.com>), for example, finished second on the list with the auto setting turned off but ended up toward the bottom with it on. Automatic settings are fine for quick-and-dirty scans, but they generally can't account for the nuances of color, contrast, and brightness peculiar to each image you scan. (An exception is the Vista-S6E,



Bright Color, Soft Noise

A scanner that can perfectly re-create an original image's colors is the ideal—and nearly impossible to find, particularly in the \$600-and-under price range. The Color Fidelity numbers below reflect each scanner's variation from the ideal. The lower the number, the less variation; a score of zero would be perfect (though impossible). Overall, Hewlett-Packard's ScanJet 4p fared the best in color fidelity; the two scanners from Microtek produced the worst

color fidelity. As for noise, smaller scores are best, as they indicate the scanners that produced the least amount of visual distortion. Noise can be a problem if you are scanning an image with small details or if you plan to modify the levels or curves of an image to any extent. The La Cie SilverScanner Pro came out tops in our noise tests; the two bottom-dwelling Tamarack scanners had the most noise.

■ Best result in tests. Shorter bars are better; 0.0 is the theoretical (but unattainable) perfect score. Products are listed alphabetically.

Color Fidelity

	Color Fidelity				Noise
	Dark Colors	Light Colors	Primary Colors	Skin and Earth Tones	Mean
Agfa SnapScan	11.7	3.3	6.6	6.5	1.3
Apple Color OneScanner	7.5	6.4	7.4	7.5	1.5
Hewlett-Packard ScanJet 4p	3.8	3.0	3.8	4.3	1.7
Info ImageReader Elite	6.9	4.0	6.0	6.4	1.3
Info ImageReader FB	12.2	3.0	5.6	7.8	1.1
La Cie SilverScanner Pro	8.9	4.1	5.3	6.7	0.7
Microtek ScanMaker E3	12.8	8.7	10.5	12.1	1.6
Microtek ScanMaker E6	13.2	8.9	10.6	11.9	1.3
Nikon ScanTouch 110	5.8	3.4	5.6	5.3	1.1
Nikon ScanTouch 210	11.8	3.0	7.0	8.3	1.1
PIE ScanAce II	5.3	4.1	4.8	4.6	1.5
Tamarack ArtiScan Z1-600	6.8	3.6	5.8	6.6	1.8
Tamarack ArtiScan Z1-1200	8.5	4.0	6.8	8.5	2.3
Umax Vista-S6E	6.9	2.9	5.5	6.1	0.9
Umax Vista-S12E	6.3	4.4	6.4	6.0	0.8

Behind Our Tests

To test for color fidelity, we scanned the industry-standard color-calibration tool, an ITB swatch, which contains 264 patches of carefully selected colors. Next, we measured each patch with the Lightsource Colortron II Spectrophotometer, then calculated the RGB values using Spectrum Analysts' IP Lab software. Finally, we compared the RGB data with the spectral data to see how far each scanner deviated from the original color values.

To measure noise, we scanned a target image three times at five-minute intervals. The resulting images were then compared in Adobe Photoshop using the difference calculation, yielding a new file. From the histogram of the new file we extracted the mean. A perfect scanner would introduce no noise and receive, theoretically, a score of zero.—*Macworld Lab testing supervised by Jeff Sacilotto and Chris Uiterwijk*

Low-Cost Scanners: Features in Focus

Company Price	Product	Star Rating *	List Price/ Company's Estimated Price **	Phone	Optical Resolution (in dots per inch)/ Bit Depth	Transparency Adapter Price/ Sheet Feeder
Agfa	SnapScan	★★★/6.9	NP/\$389	508/658-5600	300/24	\$399/\$399
Apple Computer	Color OneScanner 600/27	★★★/5.1	NP/\$549	408/996-1010	300/27	NA/\$449
Hewlett-Packard	ScanJet 4p	★★/4.9	\$615/\$499	208/323-2551	300/24	NA/\$559
Info	ImageReader Elite	★★/3.8	\$399/\$349	408/538-2500	300/24	NA/NA
	ImageReader FB	★★/3.8	\$549/\$499	408/538-2500	600/30	\$199/\$299
	Editors' Choice					
La Cie	SilverScanner Pro	★★★★/7.1	\$499 ***/NP	503/520-9000	300/24	NA/NA
Microtek Lab	ScanMaker E3	★★/3.8	NP/\$329	310/297-5000	300/24	\$299/\$400
	ScanMaker E6	★★/3.7	NP/\$599	310/297-5000	600/30	\$299/\$400
Nikon Electronic Imaging	ScanTouch 110	★★★/5.9	NP/\$299	516/547-4355	300/24	\$695/\$499
	ScanTouch 210	★★★/5.3	NP/\$699	516/547-4355	600/24	\$695/\$499
PacificImage Electronics (PIE)	ScanAce II	★★/3.8	\$899/\$599	310/214-5281	600/30	\$475/\$475
Tamarack Technologies	ArtiScan Z1-600	★★/3.7	\$499/\$279	714/744-3979	300/30	\$499/\$499
	ArtiScan Z1-1200	★★/3.3	\$699/\$449	714/744-3979	600/30	\$499/\$499
	Editors' Choice					
Umax Technologies	Vista-S6E	★★★★/8.4	NP/\$345	510/651-4000	300/24	\$399/\$399
	Vista-S12E	★★★/6.6	\$649/\$499 ***	510/651-4000	600/24	\$399/\$399

NA = not available; NP = not provided. * Based on features, implementation, innovation, performance, reliability, ease of use, and value. (See Star Ratings section for full explanation.)

** Actual price could be higher or lower than the estimated street price provided by the company. *** \$599 with Adobe Photoshop LE.

which actually produced better color with the automatic setting turned on.) For our final measurements, we used whatever settings produced the best results.

Avoid the Noise

Scanner noise is the image distortion caused by electrical interference or fluctuation in the scanner's light source. Too much noise degrades the quality of your images, especially if they contain a lot of detail or require much sharpening.

The quietest, most distortion-free scanners were the sleek La Cie SilverScanner Pro and the two Umax models, the 300-dpi Vista-S6E and the 600-dpi Vista-S12E. The HP ScanJet 4p, which performed so well in the color-fidelity test, bombed out on noise, finishing near the bottom of the heap. Other noisy scanners included Microtek Lab's ScanMaker E3 (<http://www.microtekusa.com>), the PIE ScanAce II, and the Apple Color OneScanner 600/27 (<http://www.apple.com>).

Finally, speeds among these scanners varied widely. For example, the Info ImageReader Elite, one of the slowest scanners we tested, took more than seven times longer than the zippy Umax Vista-S6E to complete a color scan. On average, the fastest units were the Nikon ScanTouch 110, Umax Vista-S6E, and Agfa

SnapScan (<http://www.agfa.com>). The slowest scanners—ones to avoid, especially if you plan to perform a large number of scans—are the painfully sluggish Tamarack (<http://www.tamaracktechnologies.com>) and Info scanners.

The Last Word

Most of the scanners we looked at offered middle-of-the-road performance at best. The good news, though, is that the overall best model we tested, the Umax Vista-S6E, is also among the least expensive. The S6E finished near the top in almost every one of our quality tests and scored well in our color-fidelity and noise tests. It's also one of the fastest scanners we evaluated—and it costs just \$345.

Also worthy of recommendation is the La Cie SilverScanner Pro. Although it costs a bit more (\$499 list), the La Cie rendered the images with the least noise, finished second in the gray-scale speed tests, and offered some of the clearest images we saw. In addition, it is pleasingly compact and has a convenient front-mounted power button. It also comes with good scanning software and a well-written manual. **m**

Contributing editor JOSEPH SCHORR is coauthor of the just-released *Macworld Mac Secrets*, fourth edition (IDG Books Worldwide, 1997).

COLOR SCANNERS



A bargain-priced scanner is no bargain if it can't deliver reliable, crisp images. We tested each scanner for color accuracy, resolution, and speed to find those with both low cost and high quality.

★★★★/7.1 **SilverScanner Pro** The sleek, compact SilverScanner Pro, although not a speed demon, produced high-quality scans. It comes with excellent, easy-to-use scanning software and great documentation. **Company:** La Cie (503/520-9000, <http://www.lacie.com>). **List price:** \$499.

★★★★/8.4 **Vista-S6E** One of the least expensive scanners in our roundup, the Vista-S6E outperformed scanners costing nearly twice as much. Its color fidelity, low noise output, and speedy performance make it tops among budget scanners. **Company:** Umax Technologies (510/651-4000, <http://www.umax.com>). **Company's estimated price:** \$345.



Reviews you can trust: Unlike other publications, *Macworld* rates only final shipping products, not prototypes. What we review is what you can actually buy.

Secrets

The Finder Revisited

LITTLE-KNOWN SHORTCUTS THAT EVEN THE EXPERTS FORGET TO USE

by Joseph Schorr

Most of the tips, tricks, and shortcuts associated with the Macintosh Operating System can't really be considered secrets anymore. All but the most inexperienced Macintosh users know, for example, that you can select a file in a Finder window by typing its name or that you can close all the windows on your screen at once by holding down the option key and pressing ⌘-W . It's time to stop calling those *secrets*.

But here is a collection of alluring, oddball tricks that even many experienced Macintosh users don't know—or have forgotten about. Take a look. How many of these labor-reducing, time-saving, secret little gems can you adopt into your personal arsenal of Macintosh OS shortcuts?

Upward Mobility

Suppose that you are looking at a series of nested folders in an expanded outline view in the Finder, as shown in "Moving Up the Hierarchy." You want to drag a file that lies buried inside one of the nested folders upward so that it ends up in the *outermost* window—the window you actually have open.

This little maneuver is trickier than it seems. It's easy to drag a file in an outline view into another *folder* in the outline, but how do you move a file out of *all*



the folders in the outline view and into the window's root level? Dragging the file into an open part of the window doesn't work; the file just snaps right back to its original location because the Mac doesn't understand where you want to put the file. You can actually *open* the folder containing the file, then drag that file back to the window where you want it. Or you can drag the file out onto the desktop and then back to the window. But both of these options are too much work.

The secret? Drag the file to the *beader* of the window—just below the title bar. The file moves directly to the level of the window, not to a folder within the window.

Be Selective

Here's another list-view shortcut. Everyone knows you can select a group of files in a list view by dragging over them. But few realize that you don't have to drag over the *names* of the files—you can drag over *any* of the text in the Size, Kind, *continues*

Label, or Last Modified columns to select files. The text in the list columns doesn't get highlighted—just the names of the files do—but the corresponding files will be selected all the same (see "Make a Selection").

This little trick is great for selecting a set of files based on specific information displayed in list views. To select just the files created during the month of March, for example, you can sort the list view by date (by clicking on the Last Modified header) and then drag over the March dates; there's no need to scroll over to look at the names of the files. This allows you to select a specific subset of files based on list-view information, even when you're working in a narrower window.

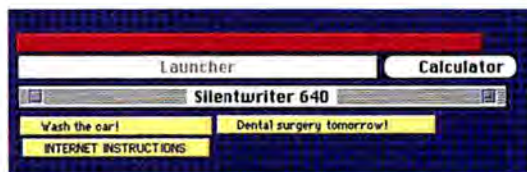
The Mouseless Chooser

With desktop printing, the LaserWriter 8.4 driver, and the Control Strip on the scene, there are fewer and fewer reasons to visit the Chooser (see *Secrets*, January

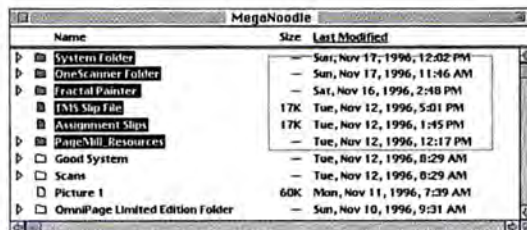
1996). But if you must spend time there, for heaven's sake use the Chooser's hidden keyboard shortcuts.

As soon as the Chooser is open, type the first letter of a device driver to select it—to connect to a server, for example, type **A** for AppleShare. In most cases, you type the first few letters to select a name. If you have to type too many letters to get the name, type just the first letter to get near the right choice, then tap the up or down arrow keys to pick the name you want. At most, it's only one or two additional key presses.

To pick a laser printer, type **L** for LaserWriter 8, and so on. Next, press **tab** to select the Zone field (if you are connected to a network that has more than one zone) and type the first letter of the zone you want



Pull the Shades Here are a few of the items that can be collapsed into space-saving title bars with the WindowShade control panel: the Calculator, Stickies, Note Pad, and AppleCD Audio Player.



Make a Selection You can drag over any part of a list view in a Finder window to make a selection. In this example, dragging over the Last Modified and Size fields selects the file names.

to connect to. Pressing **tab** again moves you to the right-hand field, where you can choose a specific printer or file server. Again, simply typing the first letter or two of a device's name selects it (the up and down arrow keys can also move you through the list). Finally, press **⌘-W** or **⌘-Q** to close the Chooser.

Using this technique, you can reduce unavoidable trips to the Chooser to just a few keystrokes. To select a laser printer called Clarence in the zone called Editorial, for example, you would type **L**, **tab**, **E**, **tab**, **C**, **⌘-Q**.

D Stands for Don't

When you try to close an unsaved file in most programs, you frequently get a dialog box with three options: Save, Don't Save, and Cancel. Generally, you can press **return** to save the file and **⌘-period** (or **escape**) to cancel the dialog box and return to your document—but what if you really *don't* want to save the document? Usually you have to click on the Don't Save button manually.

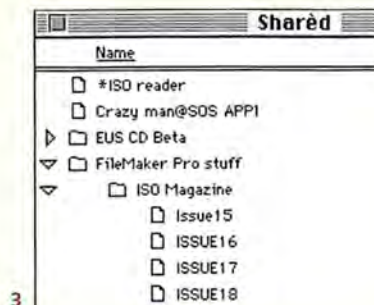
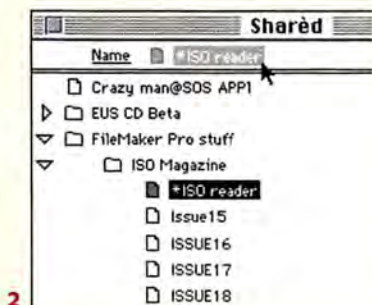
But not always. In SimpleText, for example, you can activate the Don't Save button by pressing the **D** key. In Stickies, you can close an unsaved note by pressing **⌘-D**. The same keystroke works in ClarisWorks 4.0. Sure, it's just a little thing, but little things can add up—to a faster and more efficient Mac. **m**

Contributing editor JOSEPH SCHORR is coauthor of the newly released *Macworld Mac Secrets*, fourth edition (IDG Books Worldwide, 1997).

Moving Up the Hierarchy

HOW DO YOU MOVE A DEEPLY NESTED ITEM—SUCH AS THE FILE CALLED *ISO READER—UP TO THE LEVEL OF THE WINDOW THAT ENCLOSES THE WHOLE OUTLINE VIEW, WITHOUT FIRST DRAGGING THE FILE TO THE DESKTOP?

Select the file (1) and drag it up to the header at the top of the window (2)—anyplace above the double line will do. Then drop the file in the header area. Voilà! The file is no longer nested, it's just sitting in plain view on the first level of the open window (3).



Tips, Tricks, and Shortcuts

by Lon Poole

Everyone knows you can use Netscape Navigator to read documents or download files from FTP sites. A few people have probably noticed that if you use Navigator to access an anonymous FTP site whose directory grants write privileges (lets you save files), you can choose Upload File from Navigator's File menu. Simon Szykman of Gaithersburg, Maryland, figures most people don't know they can use Navigator to upload to and download from nonanonymous FTP sites—no need for a separate FTP program.

If you enter an URL of the form `ftp://username@something.somewhere.com/` (where *username* is a valid user account name for the site), the site requests a password. After entering the correct password, you will be able to transfer files and follow links to other directories to which you have access. If you know the path to a directory, you can include it at the end of the URL and end up squarely in that directory. In some cases, an FTP site with very limited access may require that you include the full directory path. You may not be allowed access to other directories at that site. As with any URL, you can add links to restricted FTP sites to your Bookmark menu or put links to them on your Web pages.

A final note for completeness: you can include the password in an URL using `ftp://username:password@something.somewhere.com/path`. Don't do it unless you have exclusive use of your computer and leaving passwords lying around does not bother you. Including the password is extremely insecure. Remember that the URL goes into the browser's history file, so somebody using Navigator after you or who has access to your Mac via a network

may come across the URL with your password in it. You are far better advised just to let Navigator prompt you for it.

Stuck at the Start-up Gate

Q. My LC 575 won't start up from the internal hard drive. I can start up from a Disk Tools disk, but a message says the hard drive is damaged. How can I get my data off the hard drive?

DEREK BUMP
Waupun, Wisconsin



A. It sounds like the directory files on your hard drive are damaged. A disk's directory contains the information that tells the Mac OS where files are located on the disk. Depending on the severity of the problem, you may be able to verify the disk's directory and repair some kinds of damage with Apple's Disk First Aid program, which Apple includes on a standard Disk Tools floppy. If you had a newer Mac, you might need to start up from the CD-ROM that came with the computer instead of a Disk Tools floppy.

To start up from a CD-ROM that has a System Folder, try pressing the C key during start-up. If that doesn't work, press `⌘-shift-option-delete` during start-up and the Mac will ignore the primary internal drive and try to start up from the next internal drive (the CD-ROM).

You can also try zapping your Mac's PRAM (parameter RAM, which stores important system settings while the power is off). To zap the PRAM with any version of System 7, hold down the `⌘-option-P-R` keys during start-up, and wait until your Mac beeps and restarts itself. Then release the keys and let the start-up proceed normally. If this works, check your control panels for options that might have been returned to their factory settings.

If Disk First Aid and zapping the PRAM don't fix the disk, you can move on to Norton Disk Doctor, which is part of Norton Utilities for Macintosh, from Symantec (541/334-6054, <http://www.symantec.com>). Norton Disk Doctor can repair some kinds of directory problems that Disk First Aid can't and may be able to recover some files even if it can't repair the directory. Follow the instructions in the Disk Doctor manual for repairing a disk and, if necessary, for recovering files with Unerase.

If none of these restoratives work, it's time to pull out the backup that you've been conscientiously keeping safe and up-to-date (right?), and restore from the backup after reformatting the hard drive with Apple's HD SC Setup program, which is also on the Disk Tools floppy. If you were formatting a Power Mac's hard

continues

Making Background Artwork a Transparent Layer

When you need to convert monochrome background art or type to a transparent layer in Adobe Photoshop 3, you can make the background layer into a transparent layer and delete everything around the art or type. But that technique works only if the art has hard edges, notes David Candland of Carnation, Washington, because deleting around antialiased art usually leaves a fringe or halo around the art. Sure, you can try to erase the fringe, or use one of Photoshop's Matting commands to clean it up, but doing so will reduce the art's integrity.

Candland's technique for flawless conversion from antialiased background art to antialiased transparent art is:

1. With the source image open in Photoshop, change the background layer into a transparent layer by double-clicking it in the Layers palette and clicking OK in the Make Layer dialog box that appears.

2. Add a mask by choosing Add Layer Mask from the pop-up Layers palette menu. You now have a temporary alpha channel associated with that layer.

3. Select the entire image, copy it, and paste it into the layer mask. If your art appears to be cut out of the background, use the Invert command or bring up the Layer Mask Options dialog box and select the alternate Color Indicates option.

4. If the image is not black and white, you need to adjust the layer mask's tonal range. First, make the mask the only thing visible by option-clicking the mask in the Layers palette. Next, choose the Levels command, and in its dialog box select the black eyedropper and click the darkest part of the mask to make it 100 percent black. Select the white eyedropper in the Levels dialog box and click the lightest part of the mask to make it white. Now play with the middle Input Levels slider in the Levels dialog box until the antialiasing along the edges looks right. Since you're translating from monochrome to high-contrast gray scale, you have to make an eyeball judgement. Your mask is now ready. Option-click the art thumbnail in the Layers palette to make it visible.

5. At this point, the layer mask is making everything that is pure black show through 100 percent, but the midrange grays in the antialiased edges are only showing through around 50 percent. To truly maintain the integrity of the art, select the whole image (not the layer mask) and fill it with 100 percent black or fill the layer with a color. You now have a transparent background with art that maintains integrity with the original. To make mask effects permanent, choose Remove Layer Mask from the pop-up Layers palette menu and click the Apply button in the dialog box that appears.



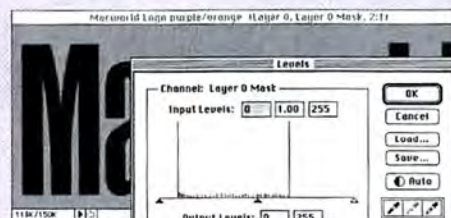
1



2



3



4



5

drive or the internal IDE hard drive on a Mac, you would use Apple's Drive Setup program (except that to format a PowerBook 150's IDE hard drive you must use the Internal HD Format utility that came with the computer). You can also format a hard drive with a third-party utility such as Hard Disk ToolKit from FWB (415/463-3500, <http://www.fwb.com>; see *Reviews, Macworld*, December 1996) or SCSI Director Pro from Transoft (805/897-3350, <http://www.transnet.net/transoft/>; see *Reviews*, February 1996).

If you'd like more explanation of the topics I've discussed here, I recommend Ted Landau's excellent book *Sad Macs, Bombs, and Other Disasters*, second edition (Addison-Wesley, 1995), and his MacFix-It Web site (<http://www.macfixit.com>).

An alternative to attempting the hard drive recovery yourself is to send your computer to DriveSavers Data Recovery (415/883-4232, <http://www.drivesavers.com>) or another such company (for tips on how to choose and use a data recovery company, see *Conspicuous Consumer*, November 1995).

Mystery of the Empty Window

Q. I have noticed with my Performa 6214CD that pressing \mathbb{A} -power brings up a window that contains only a greater-than symbol (>). Any idea what it is supposed to be used for and how to get rid of it, other than performing the three-finger salute (\mathbb{A} -control-power) to restart the system?

SCOTT MCCONNELL
Marion, Iowa

A. You have inadvertently discovered the mysterious programmer's window, which provides access to a limited set of program-debugging commands known as the Mini Debugger (see "Programmer's Window"). To exit the programmer's window gracefully, type G and press return. Over the years, people have suggested other things to type into the programmer's window to recover from a crash, but they rarely work. For instance, after a crash, pressing \mathbb{A} -power and typing G Finder may, if you're lucky, get you back to the Finder about as safely as an emergency quit (pressing \mathbb{A} -option-escape)—and I may win the lottery and stop writing this column. Still, if you don't play, you can't win.



Programmer's Window If you accidentally bring up the programmer's window by pressing ⌘ -power (or by pressing the interrupt button on an older Mac that has one), you can usually resume work where you left off by typing G (short for Go) and pressing return. Don't type anything else unless you know what you're doing; typing the wrong thing can crash your Mac.

Bad Disk Icon

Q For some reason, my hard drive icon now appears as a document icon. I rebuilt the desktop and tried to paste another icon in the hard drive's Get Info window, but got a message saying the command could not be completed because it could not be found. What can I do to get back my hard drive icon?

FRANCISCO DE JESUS LOPEZ
Guadalajara, Jalisco, Mexico

A If you have problems with a custom disk icon, try the freeware utility Disk Rejuvenator from Aladdin Systems (available from Macworld Online)—also handy if you have a problem accessing your hard disk from standard Open dialog boxes. If you have problems with a custom folder icon, drag the folder's contents to a new folder and then drag the troublesome, now-empty folder to the Trash.

A New Switcheroo

TIP I was tinkering around with RAM Doublor 2 the other day and stumbled across this cool little trick. With the RAM Doublor 2 control panel showing its Application Monitor, double-click any application listed, and the control panel takes you to the application. It's like selecting it via the Application menu, only better.

DANIEL DECKER
Batesville, Arizona

Delete All Quark Guides

TIP Guides are great, but that doesn't mean you want them around forever. In QuarkXPress, you can delete all guides in a document by scrolling so the horizontal and vertical rulers "touch" a

page, option-clicking each ruler where it touches the page (to delete the guides on that page), option-clicking again where the rulers touch the pasteboard (to delete the guides that extend across the page onto the pasteboard), and repeating for every page. It's easier to run the AppleScript shown in "No More Guides."

BOB KIM
San Diego, California

Multiple Launchers

TIP Using more than one Launcher Items folder, as suggested in *Secrets*, December 1996, takes way too much time for me. While fiddling with ResEdit I discovered that the name of the Launcher Items folder is kept in a Launcher STR# resource. Making more than one Launcher run simultaneously is pretty easy after you know that little secret. You make a copy of the Launcher, use ResEdit to open the copy, and change the first item of STR# resource -4033 to a unique folder name such as Launcher Items 2. Close the Launcher copy, answering yes when ResEdit asks if you want to save your changes, and you can keep the Launcher copy open at the same time as the original.

COLIN BURNETT
Nevada, Iowa



No More Guides This AppleScript deletes all guides in the frontmost QuarkXPress document. To use it, type it into Script Editor (which comes with System 7.5.X) or Scripter from Main Event Software (202/298-9595, <http://www.mainevent.com>), save as an application, and run it. Note that you will be asked to locate your copy of QuarkXPress if its name does not exactly match the name in quotes in the first line of this AppleScript.

While you're at it, change the references to the Launcher Items folder in item 3 of STR# resource #033, item 3 of STR# resource #034, and in STR resource #033.—L.P.

Download to RAM Disk

TIP When using an online service like America Online or CompuServe, I've found that if I download files to a RAM disk rather than to my hard disk, I can cut 30 percent or more off my download time. This can be especially useful when downloading the latest multidisk Open Transport or Telecom Software Update from Apple. Just make sure that you don't forget to save your RAM disk contents before shutdown or you'll lose its contents!

BOB KOZLOWSKI
Concord, Massachusetts

Quick Bits

- Although you can find invisible files with the Find File utility in the Apple menu, George R. Pisani of Lawrence, Kansas, reports that the Mac Operating System won't let you move invisible files and folders to the Trash (as suggested in *Quick Tips*, December 1996). You can find invisible files and folders and move them to the Trash with the \$25 shareware program File Buddy by Laurence Harris (available from Macworld Online). You can also make invisible files and folders visible with other utilities, including Apple's ResEdit (use ResEdit's Get File/Folder info command), and then drag the visible items to the Trash. Remember to use a copy of the original file when using ResEdit. **m**

LON POOLE answers readers' questions and selects reader-submitted tips for this monthly column. His latest book is *Macworld System 7.5 Bible*, third edition (IDG Books Worldwide, 1994).

Shareware mentioned in *Quick Tips* is available from Macworld Online (<http://www.macworld.com>) or America Online (keyword *Macworld*).

We pay from \$25 to \$100 for tips on how to use Macs, peripherals, or software. Send questions or tips to quicktips@macworld.com or Macworld Quick Tips, 501 Second St., San Francisco, CA 94107. All published submissions become the sole property of *Macworld*. Due to the high volume of mail received, we can't provide personal responses.

TO WILLIAM WEGMAN

(world famous artist/photographer)

IT'S A LAPDOG

**" I CAN NOW STORE MY DOGS DIGITALLY.
AND CREATE NEW GAMES FOR THEM TO PLAY."**

The creation never ends. First the color LCD screen of the new Olympus digital camera lets him preview the shot he's about to capture. He doesn't wait, he chooses only what he likes. Then the high resolution digital sensor* captures the image. In 24 bit color, rich and luxuriant.

Next he pulls the image directly and instantly from the camera into the computer. Now the choices are limitless: creating many images from one, enhancing, retouching, adding and subtracting color, combining different photos into one. E-mailing everything across the Internet and putting it all on a Web page. Yes, you can advertise, pictorialize, verbalize, specialize and economize. And yes, you can create a digital doghouse to store your archives. All with the Olympus D-200L and D-300L. All with The Art and Science of Imaging.

**" IT'S NOT QUITE MAN'S BEST FRIEND.
BUT IT'S PRETTY CLOSE."**

* The D-200L has 640 x 480 pixels. The D-300L has 1024 x 768 pixels.



OLYMPUS DIGITAL VISION

TO JARON LANIER
(digerati, composer, a pioneer in Virtual Reality)
IT'S VIRTUALLY UNREAL

**"PHOTOS USED TO BE A WAY OF FREEZING REALITY.
NOW THEY'RE A WAY OF THAWING IMAGINATION."**

It's the new age of photography. The first step in the digital dream. And it's epitomized by the creation of the new generation of digital cameras. The Olympus D-200L and D-300L. Optics, design, compactness, simplicity, affordability. (all Olympus benchmarks) are here. With an addendum: digital imagery. It's Art and Science united. The Yin of the Portrait, the Yang of the Computer.

He's aware it's an Olympus lens, F2.8, aspherical, razor-sharp, focus-free; the automatic flash has 4 shooting modes; the resolution is striking.

Now colors burst with vibrancy, images suspend belief, saturation goes richer, speed rules. But what excites him is this: it's the gateway into a fluid world. It's being able to manipulate the picture, make variations on a theme, shape it, tune it, turn it into a starting point for imagination. It's world grabbing. It's ongoing gratification. It's Olympus.

**"IT'S THE CAMERA I'D TAKE
ON VACATION TO
VIRTUAL REALITY."**



SUGGESTED RETAIL PRICE:
D-200L, \$599.95
D-300L, \$899.95



OLYMPUS
THE ART & SCIENCE OF IMAGING™

™ A trademark of Olympus America Inc. © 1996 Olympus America Inc. For more info about Olympus Digital Vision call 1-800-622-6372. And visit us at <http://www.olympus.com/digital>

Circle 7 on reader service card

© PointCast, Incorporated. All rights reserved.
PointCast and the PointCast logo are trademarks of PointCast, Inc. All other names and trademarks are property of their respective owners.

While you're sitting there, something is happening in the world. It's called "the news." With PointCast, the Internet news network, you can get it broadcast straight to your desktop; weather updates, world news, sports, stocks, industry news and more. And suddenly your computer screen is transformed into a dynamic, multi-colored newswire complete with flying headlines, vibrant graphics and scrolling stock ticker. The PointCast Network is completely customizable so you can get exactly the news you want. CNET awarded it the "Best Internet Application of 1996" and *The Wall Street Journal* gives PointCast "'must-have' status for in-the-know computer owners." Download the Macintosh version free at www.pointcast.com.

Your live [news] feed from the world



Have you seen it?
**free
download**

[www.pointcast.com]

PointCast™ Your desktop newscast.



A Travel Guide to Component Software

by Cameron Crotty

Component software is a classic example of the distance between the rubber and the road in the computer industry. Programmers have been talking about the benefits of component software for years, but it's only recently that the real world has even begun to approach the most primitive of whiteboard sketches or fill in the broadest strokes of blue-sky punditry.

In the last year, however, the buzz around component software has sharply intensified, partly because components look to be the next logical step in the evolution of software development after object-oriented programming.

Components are small pieces of software that concentrate on one or two specific functions instead of trying to cram a slew of features into a large application. The idea is that multiple components working in concert can do everything that a monolithic application can. Since they're small, components can be more easily developed and tested, and because they're designed to work together and be reused, components cut down on duplication of effort. For instance, a component that draws 3-D graphs could be used with a spreadsheet component to analyze data, and then with a page-

layout program to create an informational graphic.

But even more people are interested in component software because it goes with the Internet like milk goes with cookies. Not enough bandwidth on the information superhighway? Software components are compact. Not sure what kind of platform, application, or document an end user will have? Software

machines half a globe apart, connected by the Internet.

With these things in mind, I offer something of a travel guide to three of the newer technologies vying for primacy in the component-software world: Microsoft's ActiveX, Sun Microsystems' Java (and the related Java Beans), and Apple's OpenDoc. But before you hit the highway, be warned that it's

tank of gas and lunch packed in the cooler—onward!

The X-Files

While ActiveX is old news to Windows users, the technology is only now arriving on the Macintosh. As I write this, Microsoft has just released the first public beta and is planning to ship a final version by the end of 1996.

ActiveX is a *component architecture*, a set of rules and conventions that define how software components, called *controls* in ActiveX parlance, interact with each other (OpenDoc is also a component architecture, but its components are called *parts*). A control could be something as simple as a button or a scroll bar, or something as complex as a stock ticker that continuously displays the latest stock prices. As an architecture, ActiveX is generally more lightweight than OpenDoc: although OpenDoc provides functions that ActiveX doesn't, ActiveX components can be more compact and easier to develop.

Generally speaking, an ActiveX control doesn't exist on its own—it needs to live inside a container application, like a Web browser, which takes care of the larger environment issues such as providing the standard menu bar (File, Edit, Special) as well as the main application window. The control is free to focus on its specific task. In most cases,

continues

components are typically self-contained and can work together while knowing little about each other or the environment they'll wind up in. Finally, the Internet is about communication, and software components are *supposed* to talk to one another, whether they reside within a single machine, on the client and server on a LAN, or on two

easy to get lost on side roads. While these technologies are trying to solve (mostly) the same set of problems, their features and functions do not correspond directly to one another. Worse, the sponsoring companies do little to clear the way. Each claims its technology is the panacea, and all others merely pale imitations. So—with a full



an ActiveX control requests window space from the larger application, and performs its actions within that window. However, ActiveX controls have full access to the complete array of system services on any given machine. In short, nearly anything that an application can do, an ActiveX control can do.

ActiveX controls have several advantages, the first being that they are usually written for a specific platform. While this means that a developer must create multiple versions of an ActiveX control to support multiple platforms, it also means that the controls will run efficiently on those platforms and take advantage of system-specific services (such as QuickDraw or the Sound Manager on the Macintosh). Mac owners, however, need only look at the number of Mac applications on store shelves, relative to the number of Windows applications, to see the downside of machine-specific development. The Windows



The World Wide Wall The most common place that you'll find Java applets these days is on the Web. The World Wide Wall (<http://ac.rosebud.com/graffiti/ac.html>) is under 100K, but contains many of the tools that you'd find in a full-scale painting application, including resizable brushes.

ActiveX control market is currently large and thriving, but there's no guarantee that those developers will port their products to the Mac.

Too Much Coffee, Man

Besides bearing the product name that launched a thousand horrible coffee puns,

Java has the honor of being another grand theoretical concept that finally made it off the drawing board and into the real world. Sun Microsystems' entire Java technology platform encompasses a great many things from hardware to software, but you're most likely to

stumble across Java running an animation or adding interactivity to an interface at your friendly neighborhood Web site. For our travel guide, let's boil down the definition of Java (you didn't think I could resist, did you?).

Think of Java as a very special programming language. What makes this language unique is that the applications or applets (miniature applications) written in it do not run directly on your computer like ordinary applications. Instead, they run on a *virtual machine*, which you can think of simply as a Java-emulation engine, much the way you can run Windows software on your Mac by using Windows-emulation software. What makes this setup so convenient is that as long as a virtual machine is present, you can run a Java application on multiple platforms. In real life, this means that a PC owner and a Macintosh owner can hit a Web page with a Java applet embedded in it, and the same applet will work on both systems.

Java's biggest benefit is obvious: developers have to write only one application, and nearly anyone with a computer can run it (virtual machines are now available for most viable platforms). Builders of Web browsers (especially Netscape) snapped up Java as a compact way of adding sophisticated functions to Web pages, embedding Java virtual machines directly into their browsers. Microsoft and Apple are both caught up in the Java frenzy, currently promising to build virtual machines directly into their operating systems.

Java proponents also argue that these applets are inherently more stable than other kinds of software. They claim that the rigors of programming for a virtual machine prevent the most com-

Shareware PICKS

KEEPING YOUR HARD DRIVE organized used to be a snap when it could only hold a handful of files. But clutter becomes a problem when you can order megabytes with your computer the way you order fries with your hamburger.

Identifying the problem is the first step toward finding a solution. The next step often is mapping out the territory, a task that **DiskSurveyor** (\$5; Tom Luhrs, Twilight Software; <http://members.aol.com/twilightsW>) can handle for you. DiskSurveyor creates a graphical, hierarchical map of your hard drive. The software draws colored blocks representing the files and folders on your hard drive and sizes them proportionally to the space they take up so that you can easily identify and deflate oversized data fiefdoms. You have to pop back to the Finder to do the dirty work of shuffling and deleting files, but DiskSurveyor is still a handy reference utility to have around.

Uncovering space-wasting files and folders is only half the battle, though—especially if you're fond of cryptic file names and labyrinthine, sporadically used filing systems. You know that you should really just pitch all that old junk, but just as you can't resist sniffing the weeks-old plastic container of mystery mush in the back of your fridge, you just have to know what's in those moldering files before you trash them. When you're wading through a stack of mystery files, the Finder's Get Info command can be less than enlightening, unless you have fortified it with **Snitch** (\$20; Mitch Jones; available from Macworld's Shareware archives at <http://www.macworld.com>). With Snitch, you can easily view and manipulate a file's type, creator, creation date, and modification date. Snitch can also display previews of both text and graphic files, as well as comments attached to Stuffit archives.

MAY THE SOURCE BE WITH YOU

Don't let the dark forces of ignorance defeat you. Right in this galaxy, you can tap into the source -- the free Consumer Information Catalog. It lists free and low-cost government publications on cosmic topics such as federal benefits, jobs, health, housing, educating your children, cars, and much, much more.



So dispel the darkness and send for the source. Write today to Pueblo, Colorado for the free Consumer Information Catalog. Just send your name and address to :

Consumer Information Center
Department Source
Pueblo, Colorado 81009

A public service of this publication and the Consumer Information Center of the
U. S. General Services Administration

Web Worthy

NO MATTER WHAT YOUR component religion, there's a space for you at **PartBank**, <http://www.partbank.com>, a site that distributes freeware, shareware, and commercial software components, including ActiveX controls, Java applets, OpenDoc parts, and even Netscape plug-ins. If you want to keep your finger on the component-software pulse, PartBank is a good place to start, as developers often post public beta versions of parts under construction. Becoming a member of PartBank (membership is free) entitles you to regular e-mail announcements and updates.

To get **technology updates** directly from the companies building the plumbing, go to <http://www.microsoft.com/activex/> for ActiveX info, and <http://javasoft.com> for the latest on Java. If you're tracking OpenDoc, <http://opendoc.apple.com> is Apple's contribution, but IBM does a much better job at <http://www.software.ibm.com/clubopendoc/>. CI Labs (<http://www.cilabs.org/>) is the group officially managing the Live Objects standards, of which OpenDoc is a large part.

ture—OpenDoc—which it cosponsors with IBM. Like ActiveX, OpenDoc defines how software components interact with each other. When Apple and IBM first introduced OpenDoc, the two companies primarily envisioned compound documents (a word processing document with an embedded graph, for instance) on the desktop, and applications constructed of OpenDoc parts. But, as a component architecture, OpenDoc works well with the Internet. In fact, Cyberdog, Apple's high-profile Internet access tool, is based on OpenDoc. So far, though, OpenDoc hasn't hit the big time. Few major developers have even committed to using it; not many OpenDoc parts or containers are available (see "Web Worthy" for sites where you can find OpenDoc parts and containers). And there's no Windows version yet, although IBM says that one will be available by 1997.

OpenDoc will continue to face stiff competition from ActiveX for several reasons, including the fact that Microsoft backs ActiveX and that

ActiveX, while not as robust as OpenDoc, is easier to implement due to its reduced functionality and the more robust set of developer tools available. On the Internet front, Netscape has agreed to develop an OpenDoc version of Navigator but has not announced a delivery date.

While the theories have been around for a while, component software is really still in its infancy. It could take years for ActiveX, Java, and OpenDoc to settle thoroughly into the market. In the meantime, sit back and enjoy the ride. **m**

CAMERON CROTTY (cameron@www.macworld.com) covers the Internet for *Macworld*.

REACHING MACWORLD ONLINE

America Online: Keyword *Macworld*

World Wide Web:
<http://www.macworld.com>

Keep in touch with what's new on the Web site with Express, our free biweekly e-mail newsletter. Subscribe at <http://www.macworld.com/newsletters>.

Media

The Site and Sound of MIDI

MIDI MUSIC ON THE WEB: THERE'S GOOD NEWS AND BAD NEWS

by Jim Heid

There's an adage we've all heard: the better something tastes, the more fattening it is. We need one for media: the more exotic the data type, the more disk space and bandwidth it demands. Of course, there are exceptions to both rules, and I waddle before you to discuss one of them: a low-fat media type called MIDI (Musical Instrument Digital Interface.) This hardware and software standard was created to enable musicians to connect synthesizers and play multiple instruments from a single keyboard.

MIDI has evolved into a medium that, among other things, lets you endow any interactive production with extremely low-bandwidth background music and sound effects. How low? How does 25K for a 5-minute music clip grab you?

But there are drawbacks to MIDI-based sounds. Foremost among them is that you have no idea how that 25K clip will sound when people play it back. I explain this and other MIDI matters this month; for links to information and MIDI music files, visit <http://www.beidsite.com>.

A Bit of MIDI Background

MIDI is a compact media type because it deals with note data. If you play the "Minute Waltz" on a MIDI keyboard, the instrument doesn't send 60 seconds' worth of CD-quality audio out of its MIDI jack; it sends data that says which



notes were held down and for how long. Just as Macromedia FreeHand and Adobe Illustrator files are much smaller than Adobe Photoshop files because they store drawing instructions rather than digitized images, MIDI files are far smaller than audio files because they store playback instructions rather than digitized audio.

MIDI supports up to 16 independent sets, or tracks, of note data. You can assign each track a different instrumental sound. Using a software package called a *sequencer*, musicians can record and play

back multiple tracks, building up complete arrangements one instrument at a time. Musicians can then save those sequences as *Standard MIDI files*—the cross-platform exchange format for MIDI tunes.

MIDI has unleashed a flood of amazing synthesizers, and now personal computers have joined the band. Most Microsoft Windows machines include sound cards containing MIDI synthesis features. On the Mac side, QuickTime provides software-only MIDI playback; *continues*

users have browsers that don't support MIDI playback; other users may have the browser but no MIDI plug-in, or they may be on a machine that lacks a MIDI playback device. Finally, embedded MIDI tracks can be annoying, and many people might just prefer to surf quietly.

Rather than forcing MIDI sounds on your visitors, give them a choice. Include a link in an unobtrusive spot on a page: "A MIDI soundtrack is available." Instead of embedding the clip, reference it with an anchor tag so visitors can choose whether to download the clip. Or embed it, but use the `autoplay=false` attribute. This way, the clip doesn't begin playing automatically—the visitor must click on a controller's play button.

Other Ways to Make MIDI Music

But who says MIDI files have to be background music? They could serve just as well in an educational site on music theory (for a real-world sample, check out Piano on the Net, at <http://www.artdsm.com/piano>) or in an online "Name That Tune" game—applications where the ability to play notes is more important

than how convincing those notes sound.

Want to create an interactive button that plays a sound when a visitor clicks on it? Create a single-frame QuickTime movie, then paste a short MIDI riff into it. In the movie's `<embed>` tag, use the `<href>` attribute to include the URL of the page that you want to appear when a visitor clicks on the button (for example, `<embed "movie.mov" height=30 width=30 controller=false href="http://www.yoursite.com/page.html">`).

Several of General MIDI's instrument assignments aren't instruments at all, but sound effects—birdcalls, ocean surf, helicopter rotors, applause. These sounds could have a place in an entertainment or travel site.

These simple examples show that MIDI's applications go beyond creating background music. In the end, MIDI is a lot like low-fat food: using it when you can live with its limitations allows you to indulge in the rich stuff now and then. **m**

Contributing editor JIM HEID's latest book is *HTML & Web Publishing Secrets* (IDG Books Worldwide, 1997).

Supporting Specific Plug-in Features

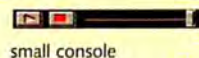
IF YOU MAKE visitors use a specific plug-in, you can take advantage of its unique features—Netscape LiveAudio's are described here. In fact, each plug-in ignores HTML attributes it doesn't understand, so you can mix attributes to support several unique features. LiveUpdate's Crescendo and Yamaha's Mid-Plug also offer a variety of controller styles and attributes (check them out at <http://www.heidsite.com>).

LiveAudio Controllers In addition to the controllers below, you can create custom controllers and use JavaScripts to defer the loading of a clip until the controller's play button is pressed. For details, see http://home.netscape.com/comprod/products/navigator/version_3.0/multimedia/audio/how.html.

Attributes

`width=144 height=15`
`controls=smallconsole`

Result



small console

`width=144 height=60`
`controls=console`



large console

LiveAudio Playback Options LiveAudio lets you control playback in various ways.

Attributes

`loop=X`

Result

Loops clip for specified number of times; for example, `loop=2` plays clip two times.

`starttime="X"`

Begins playback at specified point in clip; for example, `starttime="1:00"` begins playback at the one-minute point.

`endtime="X"`

Ends playback at specified point in the clip.

`volume=X`

Sets playback volume (0 is down all the way; 100 is up all the way).

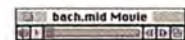
MIDI to Movie

USING APPLE'S MOVIE Player utility with its authoring extensions (all available from <http://www.quicktimefaq.org>), you can convert standard MIDI files into QuickTime music movies.

1. Launch Movie Player, choose its Open command, and locate the MIDI file you want to convert.
2. Specify a name for the converted file and then click on Save (or press return).



3. The converted movie opens with a standard QuickTime controller bar.



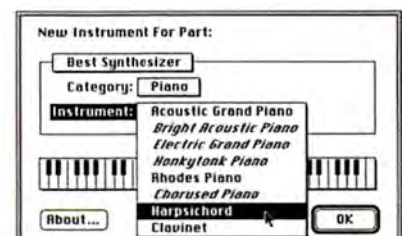
Changing Instruments

If you like, you can change the MIDI track assignments.

1. Choose Get Info from the Movie menu to display the Movie Info window, then configure the pop-up menus as shown here. (If you don't see these options, you don't have the Movie Player authoring extensions. Download them from <http://www.quicktimefaq.org>.) In the Movie Info window, double-click on the track whose instrument you want to change.



2. Select the desired instrument and then click on OK. Choose a category (piano, strings, and so on) and an instrument (QuickTime does not include instruments whose names are in italics). You can click on the keyboard to hear the currently selected instrument.



QuarkXPress Tips and Tricks

by David Blatner

There's nothing like a good tip. The eyes light up, the lungs fill with air, the mind opens. "Ah!" you say, "I didn't know you could do that." A good tip is a pleasurable thing. There are literally hundreds of good ones for QuarkXPress. Though I certainly can't fit all of them in here, I'll share just a few of my favorite techniques. Who says you can't teach an old dog new tricks?

Changing the Defaults

The one question I'm almost always asked at conferences is, "How can I change the default font for a text box from Helvetica to something else?" The answer: change the definition of the Normal style sheet by selecting Style Sheets from the Edit menu, clicking on Normal, and then clicking on the Edit button.

You can change all sorts of other values, too. For example, have you noticed that when you drag a guide out onto your page, it sits behind all the text boxes and picture boxes so you can't see it? Is that bizarre, or what? You can change it by opening General in the Preferences submenu under the Edit menu and changing the Guides pop-up menu to In Front.

A change made to the Style Sheets dialog box, the Colors dialog box, or any

Preferences dialog box (other than the Application dialog box) while a document is open changes *that* document only. If no documents are open, XPress changes every document you create from then on.

Absolute Page Numbers

Many people are familiar with using the Section feature (under the Page menu) to change a document's page numbering. For example, you can make the document begin

with page 57 (odd-numbered pages are always right-hand pages). However, what happens when you want to print the 9th page, or jump to the 13th page of that document? If you use the Go To command (⌘-J) and type 9 or 13, you get a message that these page numbers don't exist. In this dialog box, simply type +9 or +13. This plus sign has nothing to do with addition—rather, it makes the numbers absolute (+9 is the 9th page of the document).

Fast Font Selection

Did you know that you can type ⌘-option-shift-M to jump quickly to the Font field on the Measurements palette? Then you just type the first few letters of the font you want. For instance, type *ti*, and XPress guesses that you want Times Roman. You also can move through the menu by pressing option-F9 to jump to the next font in the list. (If you use Adobe Type Reunion, that next font may be a surprise.)

Pressing ⌘-shift-Z sets the next character you type in a text box to the Zapf Dingbats font, then switches back to the font you were using before. **m**

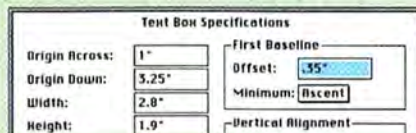
DAVID BLATNER's newest book is *Real World QuarkXPress* (Peachpit Press, 1997). He also wrote the Tip-of-the-Day X'ntension in Extensis's QX-Tools package. You can send him tips and tricks at david@mou.com.

Aligning Baselines

QuarkXPress makes it easy to add a drop cap or to raise the first character in a multicolumn text box, but have you noticed that each column's text baselines stop lining up properly?

B elieve me, Anya, believe me! I'm not yet thirty, I'm young, I'm still a student—but I've	And yet always, every moment of the day and night, my soul is filled with inexplicable premonitions ... I have a premonition of happi
---	---

You can fix this by selecting *Modify* from the Item menu (or pressing ⌘-M) and setting First Baseline to a value slightly greater than either the size of the body text (for drop caps) or the size of the raised cap.



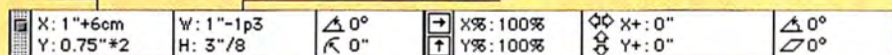
The greater offset lets the columns line up correctly.

B elieve me, Anya, believe me! I'm not yet thirty, I'm young, I'm still a student—but I've	Where haven't I been? And yet always, every moment of the day and night, my soul is filled
---	--

PALETTE POINTERS

addition here moves box
to the right 6 centimeters

subtraction here
narrows box by 1p3



multiplication here
doubles the space between top
of box and top of page

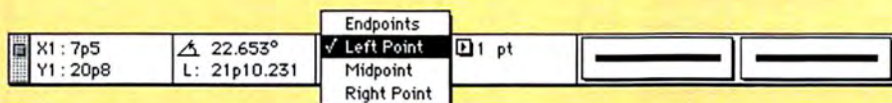
division here reduces box
height (makes box 1/3 inch tall)

Math and Measurements I love the look of astonishment I get when I show people that they can turn every palette or dialog box in QuarkXPress into a mathematical calculator. It's something few people have ever even

considered. You can do addition, subtraction, multiplication, and division. For instance, if you want to make a picture box half as wide, just put /2 or *.5 after the value in the W field of the Measurements palette. If you

want to move a picture box down 4 centimeters, place +4cm after the value in the Y field of the Measurements palette. XPress does the math when you click out of the palette, or press return or enter.

You can even mix measurement systems or build longer equations. Say you have a box sitting at 4 picas and you want to move it 1/16 inch to the right, you could type +1''/16 after the 4p in the X field. XPress does division and multiplication first, then addition and subtraction. (Note that you cannot multiply or divide by a measurement.) Letting XPress do the math for you makes life so much easier when you're building layouts quickly.



Line Modes When you select a line on your page, the default Measurements palette displays the line's left and right end-point coordinates. That means if you want to move or change the line

by entering numbers, you have to figure out the proper coordinates for the new left and right end points. What a pain. Instead, change the setting in the line mode pop-up menu on the

Measurements palette (most people don't even notice that a pop-up menu is sitting there). The Measurements palette displays the coordinates of the mode you're in. In Left Point

mode, it shows the coordinates of the left point, the angle of the line from that point, and the length of the line. This makes it a snap to change the line's position, angle, or length with accuracy.

AVOIDING CLIPPING PATHS

Building clipping paths around a silhouetted image is a pain in the mouse finger. If you're building a clipping path in Photoshop just so that type will flow around the image correctly in XPress, you may be working too hard. If the image fades out to the color of your page (white, usually), you can take advantage of XPress's Manual Runaround feature to create a peephole in your text that's the same shape as your image.

1. Import the image into a picture box using Get Picture from the File menu and place the image where you want it on the page.

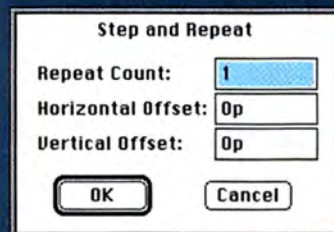


2. If the picture's background color is None, the picture may look right on screen, but the lack of a clipping path may cause problems when you print. Set the picture's background color to white, and send it behind the text box (choose Send to Back from the Item menu or press

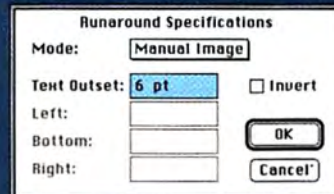


shift-F5). Set the text box color to None in the Text Box Specifications dialog box.

3. Use Step and Repeat to make one copy of the picture box; set both offsets to zero. Bring this copy to the front (choose Bring to Front from the Item menu, or press F5).



4. Set the copy's Runaround specifications to Manual Image (select Runaround from the Item menu, or press ⌘-T). Adjust the runaround polygon to taste.



5. Delete the image from the copy of the picture box using the Content tool. This removes the image but leaves behind the runaround polygon. The text now appears to run around the image, even though the image is behind the text. You might even want to group the two



picture boxes so you don't accidentally move one without the other.

Graphics Workshop

Creating 3-D Type with Facets and Gradients

by Cathy Abes

ARTIST Daniel Pelavin is an illustrator and type designer based in New York

City, whose work has appeared in many

publications, including *Step-by-Step*, *Macworld*, *MacUser*, and *Computer Artist*, and numerous books, including *The History of Graphic Design*, by Philip B. Meggs (Van Nostrand Reinhold, 1992).

HOW IT WAS DONE Even though he could have used a plug-in to automatically create type with bevels and facets within Adobe Illustrator, Pelavin feels the results look artificial, so he builds his own. And doing it manually gives him complete control—including the ability to tweak any individual point.

Macworld asked Pelavin to design a book cover that would incorporate 3-D type, and he chose Isaac Asimov's science fiction classic *I, Robot*.

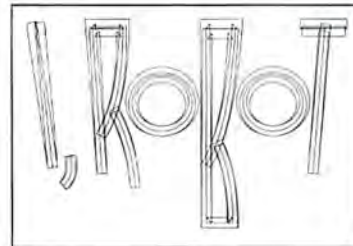
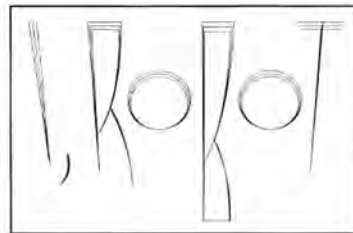
Pelavin began by drawing the center lines and curves for the word *robot*, duplicated the lines, and scaled them to create type that tapered from wide at the top to narrow at the bottom. Then he created the outer shapes of the letters.

After drawing the facets and separating them into individual shapes, he drew an outline around the entire word to make it stand out.

Next Pelavin began to block in the colors, starting with flat colors and adding gradients to provide subtle definition and lighting effects so the facets would look more dramatic.

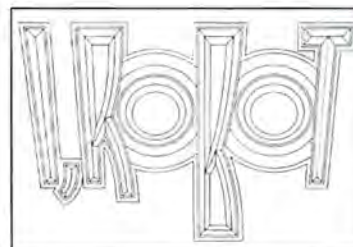
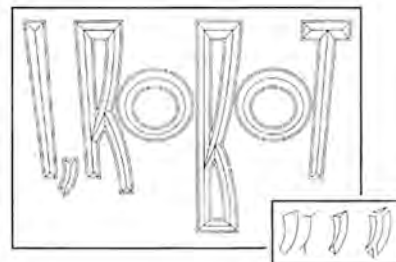
THE TOOLS **Hardware:** Macintosh IIfx with 80MB of RAM, a 100MHz DayStar Turbo601 upgrade card, and a 240MB internal drive; a 2GB external hard drive; a Logitech Scanman; an HP DeskJet 1200C/PS printer. **Software:** Adobe Illustrator 6.0.1.

1 To create the word *robot*, Pelavin began by drawing the letters' center lines, using the ellipse tool for each *o* and the pen tool for the other letters. He then duplicated those lines and scaled them, clicking at the bottom and dragging upward to make the letters wider at the top.



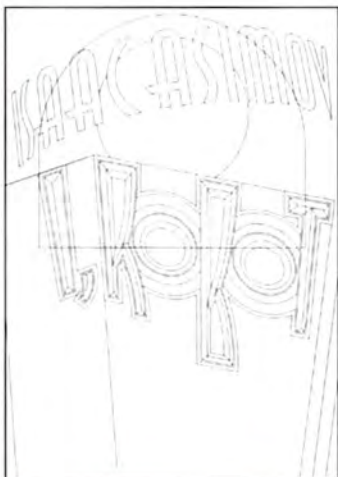
2 After saving a copy of the letter shapes to preserve their centers—which he would need to create the facets—he expanded the strokes to create outlines of the individual letter shapes.

3 He created the facets on the copy by drawing lines connecting the corners of the letter outlines to the ends of the center lines, and then used the Divide filter to break the facets into individual paths so he'd be able to fill each one with a separate color.

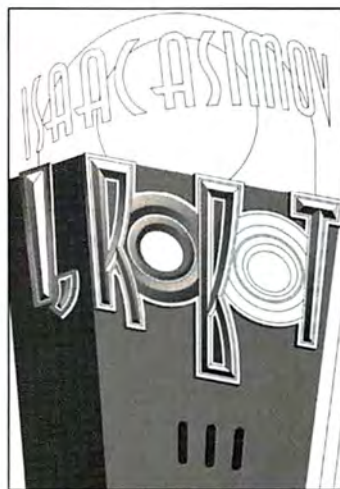
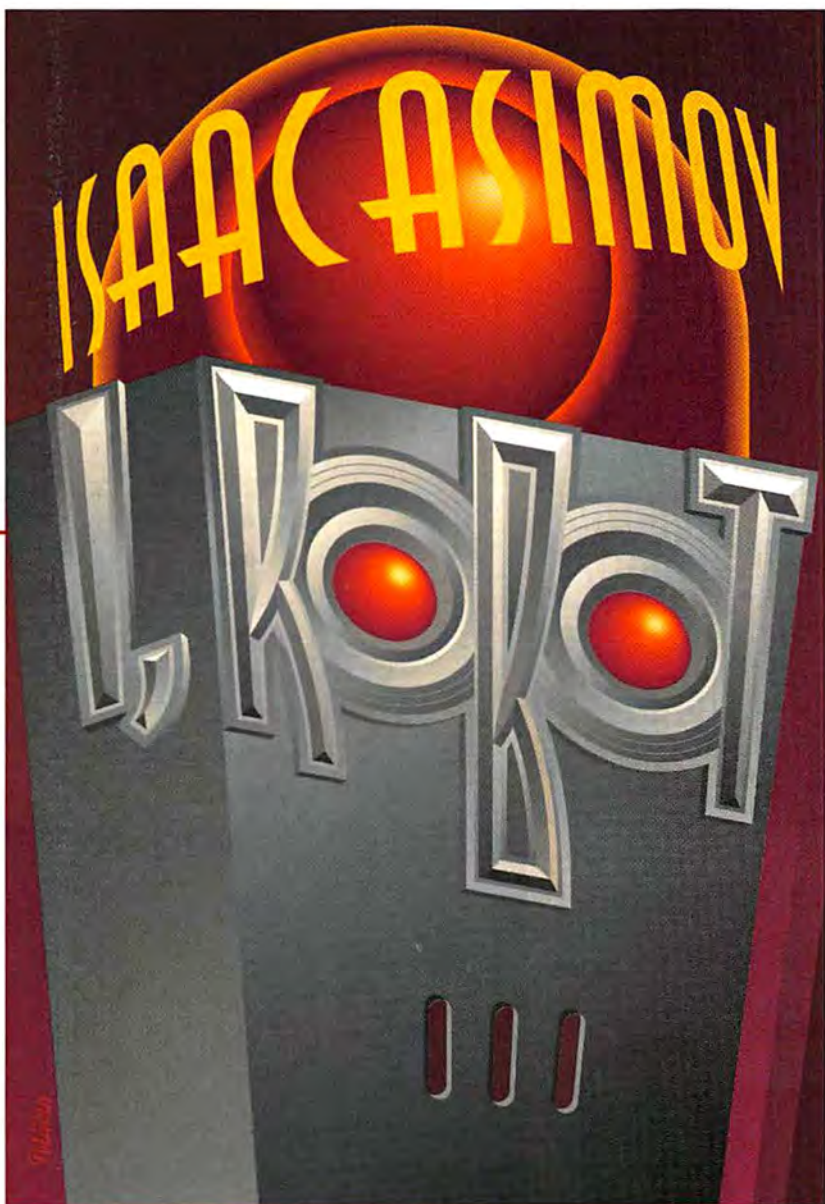


4 Pelavin used the Offset Path filter to draw an outline around the entire title to give it emphasis.

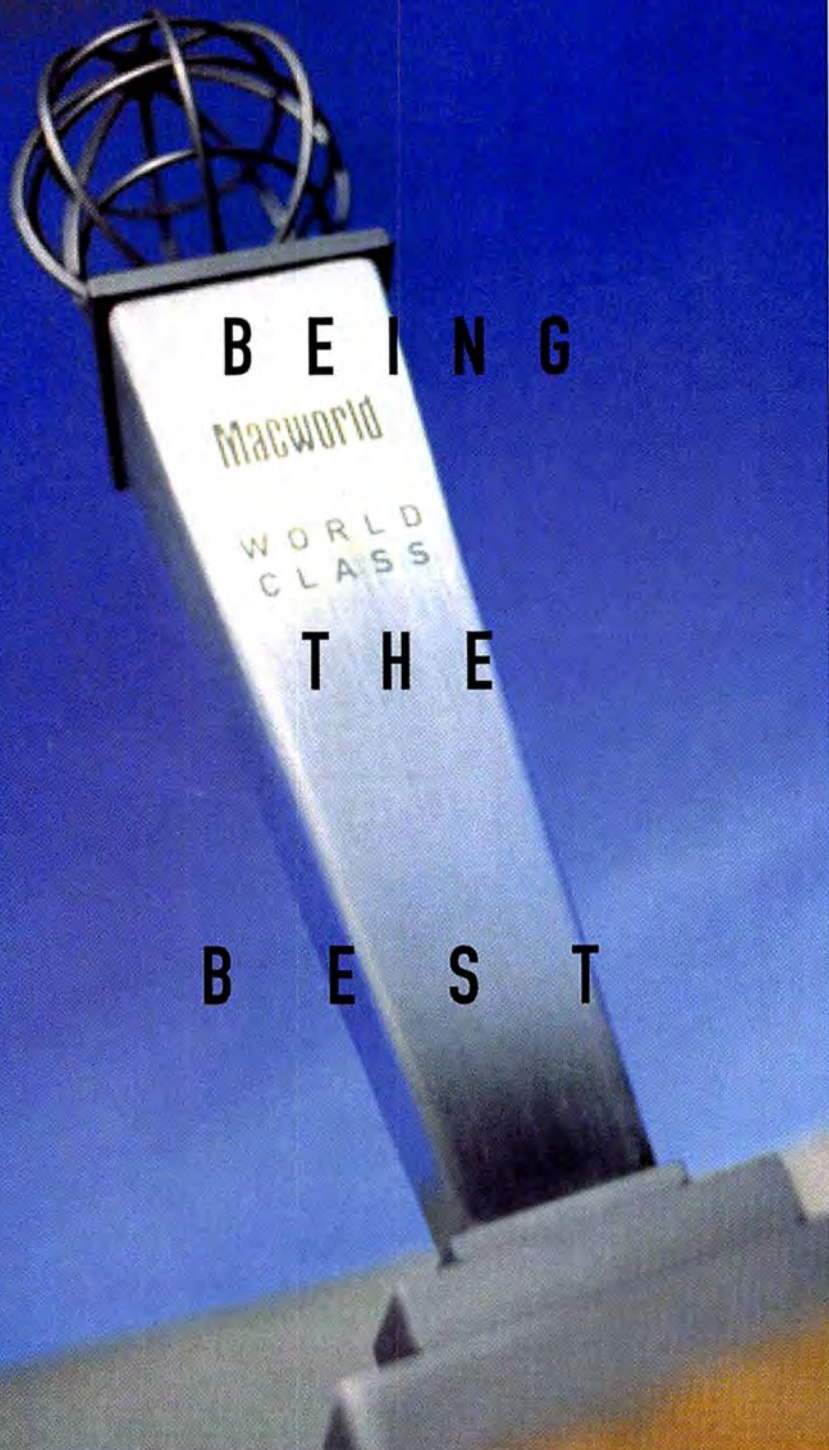
5 Using the Shear command, he skewed the word and then the facets to give the title perspective, setting the skew angle to -169 degrees and the axis to -90 degrees.



6 After deciding on an imaginary light source (in the upper-right corner) to determine the shading of the facets, he began to block in the colors, making the facets at the top and the right lighter and those at the bottom and the left darker.



7 To heighten the simulated lighting effect, Pelavin transformed the facets' flat color fills into gradients to make the inside facets darker at the top and the outside facets darker at the bottom.



CONGRATULATIONS TO THE COMPANIES
WHOSE PRODUCTS HAVE BEEN SELECTED
AS WORLD CLASS AWARD WINNERS

Adobe Systems
Andromeda Software
Apple Computer
Asante Technologies
ATI Technologies
Bare Bones Software
Berkeley Systems
Big Island Communications
Casady & Greene
CE Software
Claris
Dantz Development
Data Description
DeltaPoint Software
Epson
Equilibrium
Exponential Technology
Extensis
IBM / Motorola
Iomega
Macromedia
Mark of the Unicorn
Metrowerks
Microsoft
Polaroid
Power Computing
Progressive Networks
Quark
Quarterdeck
Radius
Specular International
Tektronix
Umax Technologies
Visioneer



THE MACWORLD 1997 WORLD CLASS AWARD.

IT'S ALL ABOUT BEING THE BEST.

Selected by the Editors of Macworld magazine—

the Macworld World Class Award honors the

best products in the Macintosh market for

outstanding merit and satisfaction.



Macworld
THE ESSENTIAL MACINTOSH® RESOURCE

Macworld Advertiser Index

Say you saw it in Macworld. To purchase products advertised in this issue call the phone numbers below or use the reader service number for our Product Information Card located after the product index.

Page No.	Advertiser	Reader Svc. No.	Phone	Page No.	Advertiser	Reader Svc. No.	Phone	Page No.	Advertiser	Reader Svc. No.	Phone
10	AGIO Designs	—	800/688-2446	67	EarthLink Network	8	800/395-8425	24,25	Microsoft Corporation	—	800/531-6748
41	ATI Technologies Inc.	256	—	20	Engineered Software	12	910/299-4843	22	Microspot USA, Inc.	3	800/622-7568
120,121	Adobe	252	800/521-1976	89	Epson America	—	800/BUY-EPSON	97	Microtek Lab, Inc.	105	800-654-4160
77	Agfa	158	800/685-4271	69	Epson America	—	800/BUY-EPSON	39	Mind Spring	—	888/677-7464
10	Aladdin Systems	21	408/761-7200	178,179	Express Direct	81	800/765-0020	18	Mitsubishi Electronics America	261	800/937-2094
182,183	Alliance Peripheral Systems	62	800/874-1428	110,111	Fujitsu	202	800/626-4868	6,7	Motorola Computer Group	207	800/759-1107
87	Alps Electronic (USA), Inc.	43	—	55,57	GDT Softworks	32,43	800/663-6222	2,3	NEC Technologies	16	800/NEC-INFO
84	Alsoft	140	800/257-6381	85	Hitachi NSA	74	800/441-4832	140,141	Olympus America, Inc.	7	888/55-DIGITAL
93	American Power Conversion	72	800/289-APCC	184	J&H Computerworld	282	800/221-8180	90	Palm Computing	—	800/881-7256
8	Anthro	—	800/325-3841	80	Kaetron Software	67	800/938-8900	73	Photodisc	114	800/633-3754
16,17	Apple Computer	—	—	BC	Kensington Microwave Ltd.	1	800/535-4242	142	PointCast	—	—
82,83	AppleSoft	—	—	59	Kingston Technology	201	800/435-0677	IBC	Power Computing Corporation	161	800/410-7693
71	AppleSoft	—	—	185	L.A. Trade	—	800/433-3726	IFC.1	Power Computing Corporation	151	800/410-7693
61,63,65	Avery Dennison	17	—	102,103	LA CIE	52	800/999-1637	188	PowerTools	63	800/891-4307
62	Bare Bones Software	0	—	119	Linotype-Hell	17	800/842-9721	47	Prodigy	75	800/PRODIGY
186	Big Mac Computers	101	800/761-1999	79	Luckman Interactive	65	800/711-2676	81	QMS	288	800/523-2696
9	binuscan	6	800/881-2352	180,181	Mac Bargains	71	800/619-9091	64	SPSS INC.	85	800/457-8287
160	Bottom Line Distribution	63	800/990-5793	175	MacAcademy	106	800/527-1914	28,29	Sony Corporation	—	—
172,173	CRA Systems, Incorporated	20	800/375-9000	168,169	MacConnection	145	800/800-3333	53	Tektronix	143	800/835-6100
11	Caere Corporation	69	800/635-SCAN	170,171	MacMail	131	800/222-2808	43	Umax Technologies	45	800/546-8557
60	Canon USA	82	800-ok-cannon	187	MacMarket	258	800/223-4622	12	VST Technologies, Inc.	73	508/263-9700
166,167	ClubMac	96	800/CLUB-MAC	99	MacSoft	30	800/229-2714	30,31	ViewSonic	59	800/888-8583
161-163	Computer Discount Warehouse	2	800/861-4COW	176,177	MacWarehouse	150	800/434-3036	13	Virgin Interactive	31	800/874-4607
51	Corel Corporation	78	800/836-3729	164,165	The Mac Zone	70	800/436-0606	130	Visioneer	—	800/787-7007
189	DC Pro	53	800/522-7835	15	Macromedia	36	800/275-2192	75	Xante Corporation	112	800/926-8839
44	Dantz	26	800/225-4880	174	MegaHaus	245	800/786-1184				
95	Datawatch Corporation	35	800/847-3982	21	MetaTools, Inc.	5	800/472-9025				
23	Derieba Software	57	800/733-6322	12	Micromat	77	800/829-6227				
26	Diehl Graphsoft	46	410/290-5114								
159	DigiCore	22	800/858-4622								

Macworld Product Index

A quick and easy product index from Macworld. Simply use this index to find the page or advertiser of the products which interest you. Then, use the reader service number for our FastFacts Product Information Card located on the following page.

Page No.	Advertiser	Reader Svc. No.	Page No.	Advertiser	Reader Svc. No.	Page No.	Advertiser	Reader Svc. No.	Page No.	Advertiser	Reader Svc. No.
SOFTWARE			STATISTICAL			166,167 ClubMac			SERVICES		
BUSINESS			64 SPSS INC.			110,111 Fujitsu			ISP		
80	Kaetron Software	67	UTILITIES			59	Kingston Technology	201	39	Mind Spring	—
CAD/CAM			10	Aladdin Systems	21	102,103 LA CIE			47	Prodigy	75
26	Diehl Graphsoft	46	44	Dantz	26	174	MegaHaus	245	ON LINE		
20	Engineered Software	12	55,57	GDT Softworks	32,43	160	PowerTools	63	67	EarthLink Network	8
CD ROM			12	Micromat	77	INPUT DEVICES			79	Luckman Interactive	65
51	Corel Corporation	78	HARDWARE			BC	Kensington Microware Ltd.	1	TRAINING		
COMMUNICATION			BOARDS			130	Visioneer	—	175	MacAcademy	106
62	Bare Bones Software	0	41	ATI Technologies Inc.	256	MICRO PROCESSOR			ACCESSORIES		
ENTERTAINMENT			COMPUTER SYSTEMS			IBC	Power Computing Corporation	161	FURNITURE		
51	Corel Corporation	78	71	AppleSoft	—	IFC	Power Computing Corporation	151	10	AGIO Designs	—
99	MacSoft	30	186	Big Mac Computers	101	MISCELLANEOUS			8	Anthro	—
13	Virgin Interactive	31	172,173	CRA Systems, Incorporated	20	93	American Power Conversion	72	MISCELLANEOUS		
 FONTS			178,179	Express Direct	81	90	Palm Computing	—	61,63,65	Avery Dennison	17
84	Alsoft	140	6,7	Motorola Computer Group	207	MONITORS			MAIL ORDER		
GRAPHICS/DTP			IBC	Power Computing Corporation	161	2,3	NEC Technologies	16	182,183	Alliance Peripheral Systems	62
120,121	Adobe	252	IFC,1	Power Computing Corporation	151	MULTIMEDIA			186	Big Mac Computers	101
87	Alsoft	140	DIGITIZERS/SCANNERS			6,7	Motorola Computer Group	207	160	Bottom Line Distribution	63
9	binuscan	6	77	Agfa	158	POWERBOOK			166,167	ClubMac	96
23	Deneba Software	57	69	Epson America	—	12	VST Technologies, Inc.	73	161-163	Computer Discount Warehouse	2
80	Kaetron Software	67	119	Linotype-Hell	17	PRINTERS			189	DC Pro	53
15	Macromedia	36	97	Microtek Lab, inc.	105	87	Alps Electronic (USA), Inc.	43	159	DigiCore	22
21	MetaTools, Inc.	5	140,141	Olympus America, Inc.	7	60	Canon USA	82	178,179	Express Direct	81
22	Microspot USA, Inc.	3	43	Umax Technologies	45	89	Epson America	—	184	J&R Computerworld	282
73	Photodisc	114	DISPLAY			55	GDT Softworks	32	185	L.A.Trade	—
MULTIMEDIA			172,173	CRA Systems, Incorporated	20	57	GDT Softworks	43	180,181	Mac Bargains	71
15	Macromedia	36	85	Hitachi NSA	74	81	QMS	288	168,169	MacConnection	145
NETWORKING			18	Mitsubishi Electronics America	261	53	Tektronix	143	170,171	MacMall	131
95	Datawatch Corporation	35	30,31	ViewSonic	59	75	Xante Corporation	112	187	MacMarket	258
OCR			EXPANSIONS/UPGRADES			SECURITY			176,177	MacWarehouse	150
11	Caere Corporation	69	185	L.A.Trade	—	93	American Power Conversion	72	174	MegaHaus	245
ONLINE			HARD DISKS/STORAGE			VIDEO			188	PowerTools	63
82,83	AppleSoft	—	182,183	Alliance Peripheral Systems	62	28,29	Sony Corporation	—	164,165	The Mac Zone	70
62	Bare Bones Software	0	188	Bottom Line Distribution	63	DIRECTORY			224		
79	Luckman Interactive	65									
24,25	Microsoft Corporation	—									
142	PointCast	—									

Macworld puts you in touch with the information you need most with two easy options:

**1 dial 503.684.5370
Fax In Card**

Simply fill in the questionnaire, circle the reader service numbers that correspond to the vendors you would like information from, then fax your form to us at 503.684.5370. FREE product information will be sent to you directly from vendors.

**2 postage pre-paid
Mail In Card**

After filling in the questionnaire, circle the reader service numbers that correspond to the vendors you would like information from, then just drop the postcard in the mail. Vendors will send FREE product information directly to you.



Check this box to subscribe to Macworld

YOU WILL BE BILLED \$24 FOR A ONE-YEAR (12 ISSUE) SUBSCRIPTION (US ONLY). SUBSCRIPTION WILL BE SENT TO NAME AS NOTED BELOW. PLEASE CHANGE IF MAILING ADDRESS IS DIFFERENT

PLEASE ANSWER THESE QUESTIONS, CHECK ALL ANSWERS THAT APPLY

1a. For which of the following Mac-related products do you specify, recommend, approve, purchase or influence the purchase?

1b. Which of the following do you plan to purchase in the next 12 months? (Check all that apply.)

	Purchase Involvement:	Plan to Buy
Desktops/PowerBooks	<input type="radio"/>	<input type="radio"/>
Monitors	<input type="radio"/>	<input type="radio"/>
Printers	<input type="radio"/>	<input type="radio"/>
Storage Devices	<input type="radio"/>	<input type="radio"/>
Networking/Data Communications	<input type="radio"/>	<input type="radio"/>
Internet/Intranet products/services	<input type="radio"/>	<input type="radio"/>
Software: business/productivity	<input type="radio"/>	<input type="radio"/>
graphics/design	<input type="radio"/>	<input type="radio"/>
interactive publishing/ multimedia	<input type="radio"/>	<input type="radio"/>
entertainment	<input type="radio"/>	<input type="radio"/>
education	<input type="radio"/>	<input type="radio"/>
other software	<input type="radio"/>	<input type="radio"/>
Any other products	<input type="radio"/>	<input type="radio"/>

2. Are you employed, and involved in purchase decisions for 5 or more Macs? Yes (1) No (2)

3. What's Your Opinion?

What are your main frustrations in making Mac-related purchase decisions?

- 1. Lack of expertise in assessing products
- 2. Difficulty in installing or using products
- 3. Too many choices
- 4. Not enough choices
- 5. Unclear needs
- 6. Concern that cheaper, better products are about to come out
- 7. Other (please specify) _____

PRODUCT CATEGORY INFORMATION

For information on all of the products mentioned in an article or an entire category of advertised products, circle the appropriate number below.

- 951 Mail Order Companies
- 952 Printers
- 953 Scanner & Digital Cameras
- 954 Online/Internet
- 955 Storage Devices
- 956 Monitors & Graphics Boards
- 957 Utilities
- 958 Clip Art & Fonts
- 959 Memory
- 960 Draw/Paint/DTP Software
- 961 Image-Editing Software
- 962 Other Graphics Software

READER SERVICE NUMBERS FOR ADVERTISED PRODUCTS CAN BE FOUND IN THE PRODUCT'S AD AND IN BOTH THE ADVERTISER INDEX AND PRODUCT INDEX.

1	2	3	4	5	146	147	148	149	150	291	292	293	294	295	461	462	463	464	465	531	532	533	534	535
6	7	8	9	10	151	152	153	154	155	296	297	298	299	300	466	467	468	469	470	536	537	538	539	540
11	12	13	14	15	156	157	158	159	160	401	402	403	404	405	471	472	473	474	475	541	542	543	544	545
16	17	18	19	20	161	162	163	164	165	406	407	408	409	410	476	477	478	479	480	546	547	548	549	550
21	22	23	24	25	166	167	168	169	170	411	412	413	414	415	481	482	483	484	485	551	552	553	554	555
26	27	28	29	30	171	172	173	174	175	416	417	418	419	420	486	487	488	489	490	556	557	558	559	560
31	32	33	34	35	176	177	178	179	180	421	422	423	424	425	491	492	493	494	495	561	562	563	564	565
36	37	38	39	40	181	182	183	184	185	426	427	428	429	430	496	497	498	499	500	566	567	568	569	570
41	42	43	44	45	186	187	188	189	190	431	432	433	434	435	501	502	503	504	505	571	572	573	574	575
46	47	48	49	50	191	192	193	194	195	436	437	438	439	440	506	507	508	509	510	576	577	578	579	580
51	52	53	54	55	196	197	198	199	200	441	442	443	444	445	511	512	513	514	515	581	582	583	584	585
56	57	58	59	60	201	202	203	204	205	446	447	448	449	450	516	517	518	519	520	586	587	588	589	590
61	62	63	64	65	206	207	208	209	210	451	452	453	454	455	521	522	523	524	525	591	592	593	594	595
66	67	68	69	70	211	212	213	214	215	456	457	458	459	460	526	527	528	529	530	596	597	598	599	600
71	72	73	74	75	216	217	218	219	220															
76	77	78	79	80	221	222	223	224	225															
81	82	83	84	85	226	227	228	229	230															
86	87	88	89	90	231	232	233	234	235															
91	92	93	94	95	236	237	238	239	240															
96	97	98	99	100	241	242	243	244	245															
101	102	103	104	105	246	247	248	249	250															
106	107	108	109	110	251	252	253	254	255															
111	112	113	114	115	256	257	258	259	260															
116	117	118	119	120	261	262	263	264	265															
121	122	123	124	125	266	267	268	269	270															
126	127	128	129	130	271	272	273	274	275															
131	132	133	134	135	276	277	278	279	280															
136	137	138	139	140	281	282	283	284	285															
141	142	143	144	145	286	287	288	289	290															

PLEASE PRINT OR TYPE ALL INFORMATION.
Expires June 26, 1997. S2 Mar 1997

Name _____

E-mail _____

Address _____

City _____

State _____ Zip _____

Title _____

Company _____

Phone _____ Fax _____

TWO SIMPLE WAYS TO GET **FREE** PRODUCT INFORMATION

Macworld
THE ESSENTIAL RESOURCE

Macworld puts you in touch with the information you need most with
two easy options — fax back or mail in the reader service card.

FREE

Fax back. Mail in. Just don't miss out.

Fold here and close with tape. Do not staple.



50% TOTAL RECOVERED FIBER
10% POST-CONSUMER FIBER



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 677 PORTLAND OR

POSTAGE WILL BE PAID BY ADDRESSEE

READER SERVICE DEPARTMENT
12950 SW PACIFIC HWY STE 7
TIGARD OR 97223-9747





Celebrating 10 Years in Business

Shop On-Line • Product Info. • Current Pricing & Much More at...

www.digicore.com



Video

ATI Xclaim GA (2 Meg)	219
IMS TURBO 8 Meg	685
ATI Xclaim GA (4 Meg)	325
Thunder 30/1600	1139
#9 Imagine 128 (8 Meg)	825
EasyColor 24/1360	1299
ThunderColor 30/1152	1475
EasyColor 24/1600	1699
Thunder Color 30/1600	1899
Targa 2000 PCI	3725

Storage

EasyColor 24/1600	1699
Thunder Color 30/1600	1899
Targa 2000 PCI	3725
Omega Zip Drive	189
SyQuest 270	339
SyQuest 200	389
Omega Jaz Drive	449
Quantum 1 GB 3.5"	225
2.2 GB Quantum Atlas	499
4.3 GB Seagate	825
9 GB Seagate	1869
9 GB AV Micropolis	2050
External HD or CD Case	65

CONTROLLERS

Atto Express PCI	345
PCI JackHammer Card	365
Atto Silicon Express	2425
FWB Dat's & ArraysCALL	

Imaging

Color Quick Cam	189
Kodak DC 20 Camera	325
Kodak DC 40 Camera	635
SprintScan 35 LE	695
Kodak DC 50 Camera	929
SprintScan 35 +	1849
SprintScan 45	8175

RCD & Optical

Fujitsu Dynamo 230	469
Pinnacle Tahoe 640	689
Pinnacle RCD 5040	819
Yamaha CD 4X w/Toast	845
FWB HammerCD w/Toast	1250
Pinnacle Vertex 2.6 GB	1359
Apex 4.6 Gig Optical1565	

Newer Technology

MaxPowr 604/180	855
MaxPowr 604/200	999
(For 7500,7600,8500,9500 PM's)	
NuPowr PPC 603/117	399

SOFTWARE SPECIALS

Grolier's	0*
Claris Works	19
PhotoShop V3.05	250
MS Office V4.21	279
(Includes Word, Excel, PowerPoint & Mail)	

Over 2600 Mac HardWare Items Available...

FREE Grolier Encyclopedia
Must mention AD when Ordering w/system Purchase

PowerBooks Affordable Portables



Targus Carry Case \$39 w/PB Purchase

190CS/66 8-500	1375	46
5300CS/100 8-500	1799	61
5300CS/100 16/750	2050	69
5300C/100 8-500	2175	73
5300C/100 16/750	2525	85
5300CE/117 32/1.1 Gig	2899	98
1400cs/117 12-750	2245	76
1400cs/117 16-750 CD	2597	85
1400c/117 16-1gig CD	3375	114
1400c/133 16-1gig CD	3525	119
Duo 2300 8/750	1499	51
Duo 2300 20/1.1 Mdm	1875	63

Memory

Simm's • Dimm's • PowerBook
CALL - Guranteed • Lowest Price
LIFE TIME WARRANTY

Printers



StyleWriter 1500	265	9
Epson Color Stylus 500	269	9
Color StyleWriter 2500	329	11
Epson Color Stylus Pro	369	12
Color SW Portable 2200	369	12
Personal LaserWriter 300	589	20
LaserWriter 4/600 PS	789	27
GCC Elite 600 ET	1150	39
LaserWriter 12/640	1450	49
Epson Color Stylus Pro XL	1629	55
LaserWriter 16/600	1875	63
GCC XL 1208	3595	121
Color LW 12/600	4750	160
Color LW 12/660	5299	179
HP 870cse	525	18
HP 6MP	875	29
HP 5M	1725	58
HP 4MV	2625	89

Scanners

PaperPort VX	269	9
Umax Vista S6E	299	10
Agfa SnapScan 600 DPI	339	11
Microtek E3	365	12
Microtek E6	525	18
Agfa StudioScan IISI	619	21
UMAX Vista S12 LE	649	22
Epson Expression Exec.	875	30
HP ScanJet 4C	899	30
Agfa Arcus II w/transp.	1719	58
Microtek ScanMaker III	1835	62
Nikon SuperCool Scan	1885	64
Umax PowerLook II Pro	2695	91
Agfa Horizon Ultra	14,889	502

PowerMacs

We can Custom Configure any System to meet Your Needs

7200/120, 16-1.2GB 8XCD	1320	45
7200/DOS, 16-1.2GB 8XCD	1950	66
7200/DOS, 32-1.2GB 8XCD	2049	69
7600/120, 16-1.2GB CD	1575	53
7600/132, 16-1.2GB 8XCD	1799	61
8500/120, 16-1.2GB CD	1875	63
8500/132, 16-1.2GB CD	2175	73
8500/132, 64-2.1GB CD	2685	90
8500/150, 16-2GB CD	2429	82
8500/180, 32-2GB 8XCD	2999	101
8500/180, 64-2GB 8XCD	3189	107
9500/200, 32-2GB 8XCD	3659	123
9500/180MP, 32-2GB 8XCD	4499	152
9500/180MP, 128-4.3 8XCD	5750	194

Performas

Performa 6360/160	1345	45
Performa 6400/180	1425	48
Performa 6400/200	1625	55
Performa 6400 Video Edition	2029	68

Servers

7250/120,16-2 Gig 8xCD	2325	77
8550/200, 32-2 Gig 8xCD	4885	162
NetSrv's 500 & 700	Call	Save

MAC CLONES

PWR Center 132 16-1GB 8xCD	1825	62
PWR Center 150 16-1GB 8xCD	2025	68
PWR Tower 180 16-2GB 8xCD	3175	107
PWR Tvr Pro 200e 16-2.1 8xCD	4349	147
Starmax 3000/160 16/1.2 CD	1489	50
Starmax 3000/200 16/1.2 CD	1819	61
Starmax 4000/160 16/1.2 CD	2060	69
Starmax 4000/200 16/1.2 CD	2375	80
Umax C500 160 16/2.1 CD	1299	44
Umax J700 150 16/2.1 CD	2499	84
Umax S900L 180 32/2.1 8xCD	3199	108
Umax S900L 225 32/2.1 8xCD	3889	131

Call for All Unlisted Systems

Radius • SuperMac	
Sony • NEC • Apple	
Phillips • Viewsonic	
Nokia • CTX • Sanyo	
Nanao • Hitachi...	

Monitors

Apple 14" Multiple Scan	285	9
Apple 15" Multiple Scan	355	12
Apple 15" AV Display	445	15
Apple MultiScan 1705	599	20
Magnavox 17" MultiScan	625	21
Sony 17 200SX MultiScan	649	22
ViewSonic 17GS	675	23
Sony 17 200SF MultiScan	729	25
Nec XV 17+ Monitor	789	26
AppleVision 1710	849	29
Portrait Pivot 17"	925	31
AppleVision 1710AV	925	31
Radius PressView 17SR	1850	62
ViewSonic 20G	1225	41
RasterOps SuperScan 20	1343	45
Apple 20" Multiple Scan	1750	59
RasterOps 21HR .22dpi	1965	66
ViewSonic 29" 29GA	2289	77
Radius PressView 21SR	2999	101

HUGE INVENTORY OF NEW MACINTOSH PRODUCTS AT THE LOWEST PRICE!!
Sales & Leasing

Lease \$54 per mo

7200/120 Starter
PowerMac 7200 16-1.2 CD
Apple 14" MultiScan, Ext. Keyboard
Sale Price.....\$1599
Add \$75 for 15" Monitor
Add \$99 to Upg. to 32 Meg.

Lease \$67 per mo

7600 Work Station
PowerMac 7600/132, 16-1.2 8XCD
Apple 15" MultiScan Display
Extended Keyboard
Sale Price.....\$1985
Add \$165 for 33.6 Fax/Modem

Lease \$134 per mo

8500 "AV" Station
PowerMac 8500/180 32/2 Gig HD
Apple 1710 AV Monitor
Extended Keyboard
Sale Price.....\$3950

GE On-Site Service Available for any Systems

DIGICORE

We will Beat any Verified Competitors Price*
Order Toll Free
800-858-4622
International & Dealers 24 hr FaxLine
818-785-2800 818-785-3100
E-Mail Us
sales@digicore.com

All Major Credit Cards • CODs
Wire Transfers • Corporate POs
Open 7am - 6pm M-F & 8am to 1pm Sat. Pacific Time
Due to publication time constraints prices may vary.
Call Us for the Lowest and Most Current Price.
Lease Payments based on 36 Mo. Business Lease.
Leasing is Available to Approved Business & Individuals.
All Prices Reflect CASH (COD) DISCOUNT.
Possible Restocking Fee on Non-Defective Returns.
All Returns/Repairs require an RMA Number.
Digicore Inc. 15500 Erwin St. • Van Nuys CA 91411
MACWORLD March 1997 159





Focus
16-Port
10BT Hub
\$139



LapisColor
MV-16EN
\$139



IMS
TwinTurbo
2mb **\$199**
4mb **\$299**



\$349
64MB Dimm



Umax
C600-240Mhz

\$2189



Agfa

SnapScan Mac/PC.....	325
SnapScan Transparency Adapter ..	197
SnapScan Auto Doc Feeder ..	245
StudioScan IIsi w/PhotoLE.....	639
StudioScan II to IIsi Upgrade.....	149
StudioStar Mac/PC.....	995
StudioStar Transparency Adapter ..	239
StudioStar Auto Doc Feeder.....	249
Arcus II Mac/PC.....	1879
DuoScan Dual-Mode.....	4799
ePhoto Digital Camera.....	529

Agfa quality at Bottomline prices!

Apple

7200/120 16/1.2/8xCD	1499
7600/120 16/1.2/CD	1789
7600/132 16/1.2/8xCD	2099
8500/180 32/2.0/8xCD	3269
9500/180MP 32/2.0/8xCD.....	5449
9500/200 32/2.0/8xCD.....	4189
Performa 6360 16/1.2/8xCD	1439
Performa 6400 16/1.6/8xCD.....	1459
Color Stylewriter 2500 Inkjet	299
Color Stylewriter 1500 Inkjet	199
LaserWriter 12/640	1459

Call today for the Best Price!

Umax

SuperMac C500 603e/160Mhz ...	1349
SuperMac C600 603e/180Mhz ...	1719
SuperMac C600 603e/200Mhz ...	1889
SuperMac S900 604e/200Mhz ...	3669
SuperMac S900 604e/225Mhz ...	4159
SuperMac S900L 180Mhz DP	4399

Scanners

Vista S6E Mac/PC	299
Vista S12 Mac/PC	779
PowerLook II w/LE	1789
PageOffice Document Scanner.....	289

Umax rules!

Memory

4/8MB 72pin	26/44
16MB 72pin	89
32MB 72pin	179
8MB DIMMs/EDO 5v	42
16MB DIMMs/EDO 5v	89
32MB DIMMs/EDO 5v	179
64MB DIMMs TechWorks.....	389
EDO 3.3 volt.....	Call
PCI Vram 1MB.....	29
256k Cache (6100/7100).....	29
512K Cache (7500).....	129

All memory backed by a lifetime warranty.

Monitors

Apple 15" Multiscan	409
Apple 15AV 15"	499
Apple 1705 17"	689
Apple 20" Refurbished.....	1379
Magnavox 14" Mono	129
Magnavox 14" Color	269
Magnavox 20" CM5600	1239
NEC M500 15"	489
Princeton Graphics 17"	539
Panasonic S17 17"	649
Viewsonic 17EA	639
Viewsonic G810 21"	1539
Portrait Display 17"	859
RasterOps Mc 21 HR	2039
Sony 200 SX 17"	695
Sony 20" SFH	1689
Mitsubishi 91TXM	1699

Video Cards

MicroConversions 2MB PCI.....	179
MicroConversions 2MB LC/PDS.....	249
MacPicasso Nubus 2MB	319
ATI Xclaim VR 2MB.....	223
ATI Xclaim VR 4MB	319
IMS TwinTurbo 8mb	679
Radius Thunder Power 30/1920 ..	1239
Radius Thunder 24GT Nubus	479
RasterOps Opticolor 4MB.....	599
RasterOps Opticolor 8MB.....	1199

DigitalVideo

MiroMotion DC20 PCI	599
TrueVision Bravado PCI	669
Targa 1000 PRO PCI	2099
Targa 2000 PCI	2999
Targa 2000 Pro	4999
Radius VideoVision Studio PCI....	3599

Networking/Modems

Focus 9-Port 10BT Hub.....	69*
Focus 16-Port 10BT Hub	139*
Quantities limited	
GV Teleport Platinum 33.6.....	165
GV Teleport Platinum Voice.....	79
GV PowerPort Gold PCMCIA.....	249
GV PowerPort Plat. PCMCIA.....	285
GV PowerPort Mercury 5xx.....	139
US Robotics 33.6	166
US Robotics 33.6 Voice	198
Dayna 100/10BT PCI	184
Dayna100/10BT Nubus.....	339
Sonic 10BT PCI Card	81
Asante 100/10BT PCI Card	199
Supra Express 33.6	126
Supra Fax 33.6.....	194
SupraSonic 33.6.....	243
Viking Netlink 33.6 PCMCIA	169
Farallon 10BT PCMCIA	165
Farallon 10BT/Thin PCMCIA	198
10BT Transceivers.....	29

lomega



Zip Drive External	189
Zip Drive Internal.....	199
Zip Mounting Kits.....	29
Zip Cartridge 10Pack... ..	139
Jaz Drive External.....	469
Jaz Drive Internal.....	379
Jaz Mounting Kits.....	29
Jaz Cartridge Single	99
Jaz Cartridge 5Pack.....	489
Zip/Jaz Carrying Case....	29

Digital Imaging

Kodak DC25	459
Kodak DC40	539
Kodak DC50	799
Kodak DC20	189
Epson PhotoPC	389
Casio QV10A	395
Casio QV100	635
Video Labs Flexcam	369
Chinon ES-3000	899
Polaroid PDC 2000/40.....	3399
Microtek ScanMaker E3.....	319
Microtek ScanMaker E6.....	529
Microtek ScanMaker III.....	1449
Polaroid SprintScan LE	849
Polaroid SprintScan ES	1669
Polaroid SprintScan Plus	2199
Polaroid SprintScan 45	8599

Hot Deals

Processor Upgrades

Apple 150Mhz 604 Upgrade	399
Newer MAXPowr 180Mhz 604e	799
Newer MAXPowr 200Mhz 604e	989
Magic PowerClock 84Mhz 61xx	39
Magic PowerClock 84Mhz 71xx	49

SCSI Accelerators

ATTO Ultra SCSI-3 Single PCI	359
ATTO Ultra SCSI-3 Dual PCI	669
FWB Jackhammer PCI	319
Adapteck 2940UW Ultra PCI	319
Adapteck 3940UW Dual PCI.....	579

PowerTools Clones

603e/160Mhz.....	899
603e/200Mhz 16/2.5/8xCD	1599
604e/200 Mhz 16/2.5/8xCD	2349

Now Shipping

PowerBook Accessories

Powerbook 5300	
16MB	139
24MB	249
32MB/48MB	299/399
Powerbook 5xx	
16MB/32MB.....	149/269
Powerbook 1400	
8MB/16MB/24MB.....	Call

Accessories

PB1400 8bit Video Upgrade	159
PowerBook Display Adapter	29
PB Deluxe Carrying Case	39

Popular Add-Ons

Computer Speakers

Labtec LCS-3210 w/3D Sound.....	84
Labtec LCS-2612 w/3D Sound.....	109
Labtec LCS-1020 9watt.....	41
Altec Lansing ACS500.....	313
Yamaha YST-15.....	69

Keyboards

Apple Design	79
Apple Extended	149
Addresso NuForm Ergonomic.....	61
DGR Extended Keyboard.....	39
Interex 105 Keyboard	46

Shipping: \$5. 5 lbs., 2 Days Payment: No surcharge on credit cards. Corporate POs welcome. Tax: Texas residents add 8.25% sales tax. Prices: Items, prices and availability subject to change. Returns: Call for RMA number. Must be in original condition, opened software is non-refundable. Subject to a restocking fee. Original shipping is non-refundable. Apple brand products are not returnable for refund. Bottom Line Distribution cannot be responsible for errors in typography or photography. Customer Service: 512-892-4090.

International Sales: Bottom Line Distribution is committed to the needs of the international Macintosh user. We offer discounted rates with DHL. Delivery to most countries is 2 to 3 days. Dealer inquiries are welcome. Language interpreters available. Address: 4544 S. Lamar Blvd., #100, Austin, TX 78745

DISCOVER
VISA
MasterCard

BOTTOM LINE
DISTRIBUTION

1-800-990-5793

US & Canada

☆☆☆ SUPERSTAR CPUs!



UMAX
Computer Corporation **SUPERmac**

SuperMac Series

Designed from the ground up to be the premiere Mac OS[®]-based computer available, UMAX SuperMac computers are the new generation of Mac compatible computers that you can look to for performance, quality and value.

Serious tools for serious fun!

SuperMac C500/C600 Series

Bundled software includes the Mac[®]OS and ClarisWorks.

Everything you need and more

SuperMac J700 Series

Bundled software includes the Mac[®]OS, Asante Net Doubler, Micro mat TechTool Pro, FWB CD-ROM & HD ToolKit and Casady & Greene Conflict Catcher V3.0.

Maximum expandability, maximum performance

SuperMac S900 Series



S900
SERIES



J700
SERIES

Monitors sold separately.

UPGRADES FOR THE J700 & S900 SERIES

P180, 604e/180 A.S.P.D. processor card **\$795.00** CDW 73857

P200, 604e/200 A.S.P.D. processor card **\$995.00** CDW 73856

P200, 604e/225 A.S.P.D. processor card **\$1195.00** CDW 75963

E100, Ultra-Wide SCSI-3 and 100BASE-T adapter **\$495.00** CDW 71843

Desktop	CPU	RAM	Hard drive	CD-ROM	Modem	PCI slots	Price	CDW
C500	160MHz PowerPC 603e	16MB	1.2GB	8X	optional	2	\$1349.00	75926
J700	150MHz PowerPC 604	16MB	2.1GB	6.7X	optional	4	\$2795.00	73855
J700	180MHz PowerPC 604e	24MB	2.1GB	8X	optional	4	\$3095.00	77519
Mini-tower	CPU	RAM	Hard drive	CD-ROM	Modem	PCI slots	Price	CDW
C600	180MHz PowerPC 603e	16MB	1.2GB	8X	28.8K bps	3	\$1695.00	75927
C600	200MHz PowerPC 603e	16MB	2.1GB	8X	28.8K bps	3	\$1995.00	75929
C600	240MHz PowerPC 603e	24MB	2.1GB	8X	28.8K bps	3	\$2295.00	77520
Tower	CPU	RAM	Hard drive	CD-ROM	Modem	PCI slots	Price	CDW
S900L	2 x 180MHz PowerPC 604e	32MB	2.1GB	8X	optional	6	\$4595.00	73852
S900L	200MHz PowerPC 604e	32MB	2.1GB	8X	optional	6	\$3795.00	73853
S900L	225MHz PowerPC 604e	32MB	2.1GB	8X	optional	6	\$4295.00	75930



MOTOROLA StarMax[™]

Processor

- PowerPC 603e (3000 Series) or 604e (4000 Series) processor
- Integrated floating-point unit ● 32KB (603e) 64KB (604e) internal cache
- 256KB Level 2 cache

Memory

- 16MB standard (desktop models) or 32MB standard (mini-tower models)

Drives

- 1.2GB EIDE (desktop) or 2.4GB (mini-tower) hard drive
- 8X ATAPI CD-ROM drive

Modem (3000 Series only)

- 28.8K bps Motorola Lifestyle external

Expansion

- Three (desktop) or five (mini-tower) PCI expansion slots

Sound

- 16-bit stereo sound ● Built-in speaker ● Rear headphone jack

Keyboard and pointing device

- ADB extended keyboard ● ADB mouse

Monitors sold separately.

Model	CPU	RAM	Hard drive	CD-ROM	Modem	VRAM	Price	CDW
3000/160 desktop	160MHz PowerPC 603e	16MB	1.2GB	8X	28.8K bps	1MB	\$1579.58	76818
3000/160 mini-tower	160MHz PowerPC 603e	32MB	2.4GB	8X	28.8K bps	1MB	\$1879.07	76819
3000/200 desktop	200MHz PowerPC 603e	16MB	1.2GB	8X	28.8K bps	1MB	\$1866.17	76820
3000/200 mini-tower	200MHz PowerPC 603e	32MB	2.4GB	8X	28.8K bps	1MB	\$2009.47	76821
4000/160 desktop	160MHz PowerPC 604e	16MB	1.2GB	8X	optional	2MB	\$2129.61	76822
4000/160 mini-tower	160MHz PowerPC 604e	32MB	2.4GB	8X	optional	2MB	\$2258.88	76824
4000/200 desktop	200MHz PowerPC 604e	16MB	1.2GB	8X	optional	2MB	\$2388.05	76825
4000/200 mini-tower	200MHz PowerPC 604e	32MB	2.4GB	8X	optional	2MB	\$2629.84	76826

800-509-4239

www.cdw.com

©1997 CDW Computer Centers, Inc.
MW1988A MacWorld 3/97

COMPUTER DISCOUNT WAREHOUSE[™]



Software for WORK—or PLAY!

COMPUTER DISCOUNT WAREHOUSE™

Adobe Illustrator V6.0

Feel the ultimate power of Adobe Illustrator™ V6.0!

Adobe Illustrator™ V6.0 software for Macintosh® and Power Macintosh combines the finest illustration tools, image-handling capabilities and typographic features to give you the ultimate power to create. Now you can import TIFF images, use Adobe Photoshop™ compatible plug-in filters and even rasterize artwork, all within Adobe Illustrator. And, because all Adobe™ programs work together seamlessly, it's easy to get the results you want.

3.5 + CD* \$359.18 CDW 72995



FREE!
Special Offer
Includes FREE
PageMill V1.0!
a \$90 value!

*The full version of Adobe Illustrator V6.0 (CDW 72995) includes a free copy of Adobe PageMill V1.0. Offer good while supplies last.

CLARIS® FileMaker Pro V3.0

Move up to FileMaker Pro 3.0 and make your solutions easier

From the moment you open the box, FileMaker Pro V3.0 makes your life easier with relational capabilities, more than 40 predefined templates, powerful task-automation features, word processing enhancements and hassle-free integration of your old FileMaker files.

Version upgrade..... \$89.75 CDW 63951
Full version \$176.25 CDW 63817
FileMaker Pro V3.0 Server \$899.29 CDW 65338



MACROMEDIA® Director V5.0

Powerful authoring tool for multimedia and the Internet

Director V5.0 allows you to quickly and easily import and integrate media elements such as 2D and 3D graphics, animation, sound and digital video from a wide variety of sources to create stand-alone interactive applications. With the included Shockwave for Director, you can optimize and deliver high speed interactive multimedia productions on the Internet!

- ✓ 2D animation program ✓ Built-in paint program
- ✓ Full featured text tool ✓ 2 sound channels for voice over and music

Upgrade, CD \$366.91 CDW 66958
Full version, CD \$817.78 CDW 66957

FREE!
DMS Interactive
Training CD and book*
\$49 value!



Receive the Director Multimedia Studio Interactive training CD and book from Macromedia with purchase of Director 5. Offer valid through 3/31/97.

Connectix RAM Doublor 2 Triple your memory

Connectix RAM Doublor 2 triples your memory so you can run more applications and increase productivity.

- ✓ Works with as little as 8MB or as much as 84MB
- ✓ Lets you choose the right amount of additional memory you need
- ✓ Installs in just seconds and works automatically every time you start your Macintosh
- ✓ Memory compression is up to twice as fast as the original award-winning RAM Doublor 1x**
- ✓ Compatible with a full range of Macintosh hardware, software applications and entertainment titles

**According to Connectix tests



\$55.91
CDW 73962

Adobe

After Effects V3.1	524.72
Dimensions V2.0	126.57
Illustrator V6.0 (3.5 + CD)	379.45
Illustrator V6.0 upg 3.X to 6.0 (3.5 + CD)	114.96
Illustrator V6.0 upg 3.X to 6.0 (CD only)	89.96
Illustrator V6.0 upg 5.X to 6.0 (3.5 + CD)	114.99
Illustrator V6.0 upg 5.X to 6.0 (CD only)	89.96
PageMaker V6.0 (3.5 + CD)	345.76
PageMaker V6.0 upg	152.81
PageMill V2.0	94.93
Persuasion V3.0.2	243.28
PhotoDeluxe	81.20
Photoshop V3.0.5	545.79
Photoshop V3.0.5 vers upg	159.55
Premiere V4.2 CD	494.50
SiteMill V1.0	176.36
SiteMill V1.0 upg from PageMill V1.0	39.55
Streamline V3.0	123.11
Type Manager V4.0	47.45
Type Reunion Deluxe V2.0	44.44
Apple® Home Office Collection	26.77
Apple® System 7.5 upg	95.41
Apple® System 7.5.3 upg CD	94.72

Caere

Caere OmniForm Filler	173.47
Caere OmniPage Direct V2.0	57.70
Caere OmniPage Pro V6.0	445.79
Caere OmniPage Pro V6.0 upg	131.47

Casady & Greene

Conflict Catcher 3	38.54
Conflict Catcher 3 comp upg	34.91
Conflict Catcher 3 vers upg	34.68

Clarisc

Apple® Internet Connection Kit V1.1	45.17
Claris Emailer V1.1	41.79
Claris FileMaker Pro V3.0	179.14
Claris FileMaker Pro V3.0 upg	91.95
Claris Home Page	92.17

Special Introductory Price!
Adobe Type Manager Deluxe V4.0
\$47.81 CDW 71489

ClarisDraw V1.0	179.98
ClarisImpact V2.0	79.75
ClarisOrganizer V1.0/2 w/CLICKBOOK	44.53
ClarisWorks V4.0 CPU bundle	63.48
ClarisWorks V4.0 vers comp upg	64.29
ClarisWorks V4.0 w/Internet	117.31

Connectix

PowerMac PowerPack/RAM & Speed Doublor	74.28
QuickCards V1.1 CD	31.79
RAM Doublor V2.0	56.92
Speed Doublor V1.1	55.45
VideoPhone (software only)	55.34

Corel

Corel CD Creator	154.42
Corel Stock Photo Library 1	879.10
Corel Stock Photo Library 2	868.05
Corel Stock Photo Library 3	881.30
Corel WordPerfect 3.5.1, CD	152.64
Corel WordPerfect 3.5.1 upg CD	79.51
CorelDRAW 6 Suite, CD	363.18
CorelDRAW 6 Suite upg CD	136.48
CA Croquet Graph III V1.53	92.00
Dantz RemoteCopy Remote V3.0	136.09
Dataviz MacLink-PC Connection	115.25
Dataviz Virex V5.5	61.34
Deneba Canvas V3.5 + CD	251.63

Edutainment

A D A M The Inside Story CD	35.97
Berkley After Dark V3.2	32.62
Berkley You Don't Know Jack	32.68
Broderbund MYST CD	49.04
Bungee Marathon 2: Duraland	42.39
Bungee Marathon CD	37.04
Davidson The Perfect Resume	38.79
Davidson WarCraft Orcs & Humans CD	31.14
Davidson Your Personal Trainer for SAT CD	34.60
Maxis SimpCity 2000	33.42
Maxis SimpCity Classic	19.12
Scruffy in the Great Round	36.50
Veggie 7th Grade CD	31.17

Fractal Design

Disabler V2.0	39.40
Detaler, CD	268.84
Painter V4.0	282.33
Painter V4.0 upg	122.16
Printer V1.0	89.26
Sketcher V1.0	39.36

FWS

CD-ROM Toolkit™ V2.0	49.88
Hard Disk Toolkit™ Personal V1.7.6	49.25
Hard Disk Toolkit™ V1.8	117.28
RAID Toolkit™	293.21
Farallon Timbuktu Pro V1.0	125.18

Insignia

MacTransfer for Windows 95 PCs	45.46
SoftWindows 95 CD	318.17
SoftWindows 95 upg CD	138.27
SoftWindows for Performa	113.86
SoftWindows V3.0 CD	297.05
SoftWindows V3.0 CD w/CPU purchase	163.20
SoftWindows V3.0 upg	67.02

Intuit

QuickBooks Pro V4.0	182.13
QuickBooks V4.0	111.19
Quicken Deluxe V6.0 CD	56.99
Quicken V6.0	44.53

PageMill V2.0
Create full-featured Web pages using simple drag and drop commands
\$93.34
CDW 73243

Macromedia

Director Multimedia Studio V2.0 CD	893.40
Director Multimedia Studio V2.0 upg CD	458.73
Director V5.0 CD	817.78
Director V5.0 upg CD	365.91
Extreme 3D CD	444.62
Extreme 3D comp upg CD	181.69
Fontographer V4.1	314.38
FreeHand Graphics Studio V2.0 CD	405.63
FreeHand Graphics Studio V2.0 upg CD	276.66
FreeHand V5.5 CD	378.89
FreeHand V5.5 vers upg V4.0 or earlier CD	137.60
FreeHand V5.5 vers upg V5.0 to V5.5 CD	74.97
SoundEdit 16 V2.0 CD	244.82
SoundEdit 16 V2.0 plus DECK II CD	339.50
xRes V2.0 CD	448.04
xRes V2.0 comp upg CD	186.34

MetaTools

Bryce V2.0 CD	179.00
Converter V1.0 CD	129.00
Kai's Power 900 CD	43.29
Kai's Power Tools 3 CD	129.00
Power Photos I CD	129.00
Power Photos II CD	129.00
Power Photos III CD	129.00
Power Photos IV CD	129.00
Vector Effects V1.0	129.00

Metrowerks

CodeWarrior Gold 9	301.16
Discover Programming for Macintosh	59.59
Discover Programming with Java	73.83

Microsoft

Arcade V1.0	28.95
Excel V5.0	296.94
Excel V5.0 upg	298.44
Flight Simulator V4.0	41.68
Office V4.2.1	449.03
Office V4.2.1 CD	449.31
Office V4.2.1 vers upg CD	265.72
Office V4.2.1 vers upg	265.86
PowerPoint V4.0	296.94
PowerPoint V4.0 upg	114.58
Project V4.0	421.73
Project V4.0 upg	134.11
Visual FoxPro V3.0 CD	129.00
Visual FoxPro V3.0 upg CD	265.72
Wine Guide CD	29.20
Word V6.0 1	296.44
Word V6.0 1 vers upg	114.58
Works V4.0	45.13

SYMANTEC SAM V4.5
Maximum internet virus protection
\$64.17 *40 Trade-In rebate!
CDW 75075
*Users of a previous version of SAM qualify for a \$40 mail-in manufacturer rebate, limited one per customer. Offer available while supplies last. Other restrictions apply.

NOW Software

Now Contact V3.6 CD	59.97
Now Contact Up to Date V3.6 bundle CD	62.36
Now StartUp Manager V7.0	65.76
Now Up to Date Web Publisher V1.0 CD	252.45
Now Utilities V6.5, CD	78.97

Quark

QuarkXPress V3.32 CD	661.23
----------------------	--------

Strata

Media Paint V1.1	403.97
Studio Pro BLITZ V1.75	816.26
Vision 3D V4.0	228.81

Symantec

ACT! V1.0 for Newton	92.07
ACT! V2.5	148.16
Norton Utilities V3.2	94.27
SAM AntiVirus V4.0	64.17
Subtance V3.0	65.43
Symantec Cafe	89.66

800-509-4239
www.cdw.com

©1997 CDW Computer Centers, Inc.
MW1988 MacWorld 3/97



Laser Printers!



HP LaserJet 5P printer

Big-office printing on a small-office budget

- ◆ 600 x 600 dpi ◆ 6 ppm print speed
- ◆ Printer language: enhanced HP PCL5 with MET ◆ Memory: 2MB standard, 50MB maximum ◆ Fonts: 35 Intellifont, 10 True Type ◆ Paper handling: letter, legal, A4, B5, C5, executive, Com-10, monarch, plain paper, envelopes, transparencies, card stock, postcards and labels ◆ 12,000 pages per month duty cycle ◆ 1-year warranty ◆ HP-C3150A

\$769.89

 CDW 52178

HP LaserJet 6P printer

Full-featured laser printer for business

- ◆ 600 x 600 dpi ◆ 8 ppm print speed ◆ Printer language: HP PCL 6 ◆ Memory: 2MB standard, 50MB maximum ◆ Fonts: 45 scalable typefaces built-in ◆ Paper handling: letter, legal, transparencies, envelopes, labels and postcards
- ◆ 250-sheet universal cassette tray and 100-sheet multipurpose tray ◆ 1-year warranty with free HP Express Exchange overnight printer replacement ◆ HP C3980A



\$729.95

 CDW 74906

HP LaserJet 6MP printer

Fast, professional printing with expandability options

- ◆ True 600 x 600 dpi laser-Resolution Enhancement technology (RET) with microfine toner ◆ 8 ppm print speed ◆ 3MB standard plus Adobe Memory Booster™ technology (AMBT), up to 35MB maximum ◆ Printer language: HP PCL 6 and Adobe PostScript Level 2 ◆ Fonts: Adobe PostScript Level 2, 35 scalable typefaces built-in HP PCL 6, 45 scalable typefaces built-in ◆ Paper handling: letter, legal, transparencies, envelopes, labels and postcards ◆ 250-sheet universal cassette tray and 100-sheet multipurpose tray ◆ 1-year warranty with free HP Express Exchange overnight printer replacement ◆ HP C3982A

\$878.45

 CDW 74908

Stock up on Hewlett Packard supplies at low CDW prices!

HP LaserJet 5P Printer	
Toner cartridge	\$78.41 CDW 53620
4MB memory SIMM	\$139.63 CDW 41064
16MB memory SIMM	\$449.43 CDW 41067
Adobe PostScript Level 2	\$264.88 CDW 55183
HP LaserJet 6MP Printer	
Toner cartridge	\$78.41 CDW 53620
HP LaserJet 6P Printer	
Toner cartridge	\$78.41 CDW 53620
16MB memory SIMM	\$449.43 CDW 41067

800-509-4239

www.cdw.com

MONITORS

NEC

M500 15" flat square w/speakers	429.81
XV15+ 15" flat square	429.81
XV17+ 17" flat square	759.05
XE21 21" flat square	1705.69

MAGNAVOX

CM2080 14" 29mm	249.56
CM1215 15" 28mm	316.80
107B 17" 28mm	599.55
20CM64 20" 31mm	849.00

SONY

15sx 15" Trinitron	369.34
15sfl 15" Trinitron	429.44
17sll 17" Trinitron	929.76
20sfl 20" Trinitron	1559.84

ViewSonic

15GA 15" PerfectSound 27mm	405.97
17GS 17" PerfectSound 27mm	616.79
GT770 17" Graphics Series 25mm	674.31
17GA 17" PerfectSound 27mm	649.29
PT770 17" Graphics Series 25mm	719.33
G180C 20" Professional Series 30mm	1309.19
P810 21" Professional Series 25mm	1417.69
P810 21" Professional Series 25mm	1469.44
PT810 21" Professional Series 30mm	1634.19
P815 21" Professional Series 25mm	1669.80

RADIUS

PressView 17SR 17"	1978.80
MultiView 21 21"	1415.91
PrecisionView 21 21"	2314.94
PressView 21SR 21"	3177.77

GRAPHICS/VIDEO BOARDS



Xclaim GA 2MB PCI	229.86
Xclaim 3D 4MB PCI	269.62
Xclaim 3D 8MB PCI	409.04
Xclaim VR 2MB PCI	218.56
Xclaim VR 4MB PCI	269.76

RADIUS

Thunder 30/1600	694.88
ThunderColor 30/1600	1986.48
ThunderColor 30/1152	1585.78
ThunderPower 30/1920	1206.25



Bravado 1000 PCI	637.19
Targa 1000 PCI	1949.48
Targa 2000 PCI	3155.03

MODEMS



PowerPort Platinum 28.8 PC Card	325.29
PowerPort Platinum Pro 28.8 PC Card	487.16
TelePort Internet Edition 33.6	169.57
TelePort Speakerphone Edition 33.6	247.34



28.8K cellular-capable CruiseCard with XJACK 229.95



14.4 external mini-tower w/fax	81.46
28.8 V.34 external mini-tower w/fax	139.95
33.6 V.34 external mini-tower w/fax	139.95
MacClass 14.4 PC Card	149.69
MacClass 28.8 PC Card	199.17
MacClass 33.6 PC Card	199.65



Sportster 28.8 PC Card w/DataView	199.55
Sportster 33.6 V.34 external	169.29
Sportster Voice 33.6 external	189.58
Courier V Everything 33.6 external	239.62
Courier I-modem	344.74

STORAGE SYSTEMS

CD-ROM

CDHi-Val 4X SounTastic CD-ROM Kit	159.60
Hi-Val 8X SounTastic CD-ROM Kit	259.11
Hi-Val 10X SounTastic CD-ROM Kit	259.11
Panasonic 4X Portable for PowerBooks	299.00

FWB

HammerCD 2X/4X CD-ROM recorder	869.88
HammerCD 4X CD-ROM recorder	1258.73

omega

Zp drive 100MB SCSI external	199.95
100MB Zip disk	19.95
Jaz Drive 1GB SCSI-II external	499.95
1GB Jaz disk	124.95

MICRONET

Advantage 1GB drive featuring "Jaz" external	526.37
Advantage 1GB "Jaz" disk	110.00
Advantage 2.6GB optical drive external	1749.54
Advantage 2.6GB optical cartridge	105.44

STORAGE SYSTEMS

SyQuest

EZFlyer 230MB external	289.47
EZFlyer 230MB cartridge	29.39
SyJet 1.5GB SCSI external	499.00
SyJet 1.5GB cartridge	109.25

MEDIA

Fuji 100MB Zip Disk	19.00
3M 63 minute (550MB) CD Recordable	7.87
3M 74 minute (650MB) CD Recordable	8.78
88MB SyQuest cartridge, 5yr	45.41
200MB SyQuest cartridge, 5yr	62.93
270MB SyQuest cartridge, 5yr	51.55

Need more disk space? CDW also carries APS, Conner, IBM, Micropolis, Quantum and Seagate SCSI hard drives. Call for details.

INPUT DEVICES

AGFA

SnapScan	367.37
StudioScan Illi	699.14
StudioStar	799.24
Arcus II	1995.00

ALPS

Portable GlidePoint	41.45
Desktop GlidePoint	69.84
GlidePoint Keyboard	108.00
GlidePoint Keypad	73.56

ADESSO

PowerMouse	19.59
Soft Touch Plus extended keyboard	47.35
NU-Form extended keyboard	58.98
NU-Form extended keyboard w/touchpad	86.82
Tru-Form extended keyboard	77.39
Tru-Form extended keyboard w/pointer	86.81

CONNECTIX

QuickCam (grayscale) digital video camera	97.12
Color QuickCam digital video camera	219.83

EPSON

Action Scanning System II	376.41
ES-1000C color flatbed scanner	569.37
Expression 636 Executive scanner	849.57
Expression 636 Artist scanner	1259.71
Expression 636 Professional scanner	1756.68

Kodak

DC20 24-bit digital camera	199.00
DC25 24-bit digital camera	499.00
DC50 24-bit digital camera w/Zoom lens	899.00



Cordless Mouse Man	61.39
TrackMan Marble	85.23
TrackMan Live!	119.24

MICROTEK

ScanMaker E3	309.26
ScanMaker E6	556.25
ScanMaker E6 Pro	839.98
ScanMaker 35t Plus	739.40
ScanMaker III w/trans adapter	1389.52

NIKON

AX-110 Scantouch flatbed scanner	286.83
AX-210 ScanTouch flatbed scanner	604.72
AX-1200 Scantouch flatbed scanner	725.91
LS-20 Super CoolScan II	1154.02
Super CoolScan film scanner	1939.59

POLAROID

SprintScan 35LE film scanner	779.41
SprintScan 35ES film scanner	1499.92
SprintScan 35+ film scanner	1995.86

RELISYS

Scorpio Infinity	349.54
Taurus Infinity	526.61

UMAX

Vista-S6E with PhotoDeluxe	289.60
Vista-S6E with full PhotoShop	556.14
Vista-S12 with PhotoShop LE	629.93
Vista-S12 with full PhotoShop	709.10
PowerLook II	1955.00

VISIONEER

Paper Port VX	277.21
SCSI Adapter for PaperPort VX	82.93

PRINTERS

EPSON

Stylus Color 500	279.00
Stylus Color Pro	379.00
Stylus Pro XL	1799.00



HP DeskJet 870Cse Printer	499.00
HP DeskWriter 340 Portable Inkjet Printer	289.84
HP DeskWriter 680C Printer	285.76
HP DeskWriter 1600CM Printer	1959.07
HP LaserJet 5MP Printer	949.39

Call for a
FREE CDW® catalog!



COMPUTER DISCOUNT WAREHOUSE™



your Macintosh® catalog SuperStore™

Serving Mac users since 1986



New

Only
\$499⁹⁵*
#81549

TV not included.

**Pippin™
@WORLD**
Connect to the

Internet and more without a computer!

1. Explore and harness the World Wide Web!
2. E-mail family and friends
3. Learn AND play with interactive multimedia on CDs
4. Create colorful, impressive documents

*With minimum 12-month Internet service subscription at \$19.95 per month provided by Bandai Digital Entertainment. Pippin @WORLD configuration subject to change. Call for current configuration information.



Only
\$599⁹⁸*
#38728

16.0" viewable image size

**Panasonic
PM17 Multimedia
Monitor**

*With purchase of any computer.
Low Mac Zone price \$679.98



Intuit
**MacInTax
Deluxe Final
96/Quicken
Deluxe 7
Bundle**

\$30 REBATE!

Mac Zone Price	\$89 ⁹⁸
Mfr. Mail-in Rebate	- \$30 ⁰⁰
Your Price After Rebate	\$59⁹⁸

Order #06188



Only
\$399⁹⁸
#36156

**Hewlett-Packard
HP DeskJet
870Cse Printer**

- 8 ppm black; 4 ppm color
- 27 Macintosh TrueType fonts

UNLIMITED PORTABLE STORAGE



Only
\$149⁹⁸*
#91825

Zip™ Drive



- Unlimited storage on inexpensive 100MB disks
- Includes one 100MB disk!

*After \$50 Mfr. Mail-in Rebate. Low Mac Zone Price \$199.98. Rebates are limited to 4 per household. Offer expires 3/31/97.



**12X
Speed
CD-ROM
External Drive**

Top speed,
top performance!

Only
\$249⁹⁸
#80203



Only
\$89⁹⁸
#83068

**Adobe
PageMaker 6.5
Version Upgrade**

New breakthrough
page layout features!



Only
\$169⁹⁸
#92953

U.S. Robotics

**Sportster
V.34 33.6
Faxmodem**

High-speed communica-
tions - affordably priced
for your home or office!

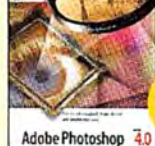


Only
\$499⁹⁸
#25659

**Jaz 1GB
External Drive**

- 5.53MB/second transfer rate and 17ms access time
- Includes 1GB cartridge!

**Adobe Photoshop 4.0
Upgrade**



Only
\$134⁹⁸
#83084

Batch-process files
with a single click!

**New features improve
productivity!**

AGFA



Only
\$1895*
#02135

**AGFA
Arcus II
Scanner**

The best scanner you
can put on your desktop!

*After \$100 Mfr. Mail-in Rebate.
Low Mac Zone Price \$1995.00.



Only
\$649⁹⁸
#80903

**Fortner Research
Visualization Suite**

Save over \$800 when you purchase this
suite! Suggested retail price \$1450
when purchased separately.
Includes Slicer, Transform and DataPlot.

Add applicable sales tax (only in OH, WA). All shipments refer to "in stock" items, barring system failure, etc. Not responsible for typographical errors. Credit cards are not charged until the order is shipped. Most products ship the same day for overnight delivery. Overnight delivery is only \$3 for the first 5 pounds and \$1 for each additional pound. Call for international shipping rates. Returns subject to a restocking fee. Prices and product availability subject to change without notice. Specials and promotions may be limited to stock on hand.



Only
\$98⁹⁸
#80438

**Apple System 7.5
to 7.6 Upgrade
w/FREE Apple Internet
Connection Kit 1.1**

ADD MEMORY

**BOOST YOUR MAC'S
PERFORMANCE!
16MB KIT**



Only
\$99⁹⁸
#38362

Before you buy, call The Mac Zone

1-800-436-0606

Fax (206) 430-3500 • International (206) 430-3550
www.maczone.com

CORPORATE SALES	GOVERNMENT SALES	EDUCATION SALES	INTERNATIONAL SALES
1-800-258-0882	1-800-372-9663	1-800-381-9663	1-206-430-3570

A NASDAQ® COMPANY Ticker Symbol: MZON

Full Line of Apple® Macintosh® Computers



Over 5000 Products

Overnight Delivery only \$3 (up to 10 lbs)

The Hottest Bundles!

Low Prices Everyday

ORDER ANYTIME
24 HOURS A DAY
7 DAYS A WEEK



Authorized Catalog Reseller



UMAX® Computer Corporation

The SuperMac Series† Featuring the absolute lowest price for a new Mac-compatible!

#81530	C500L 603e, 160MHz, 16MB/2.1GB, 8X CD-ROM	\$1349
#81531	C600L 603e, 180MHz, 16MB/2.1GB, 8X CD, 28.8 Modem	\$1695
#81532	C600L 603e, 200MHz, 16MB/2.1GB, 8X CD, 28.8 Modem	\$1995
#81533	C600L 603e, 240MHz, 16MB/2.1GB, 8X CD, 28.8 Modem	\$2295
#90937	J700L 150MHz, 16MB/2.1GB, 6.7X CD-ROM Desktop	\$2795
#81534	J700L/180MHz, 24/2.1GB, 6.7X CD-ROM Desktop	\$3095
#90936	S900L 180MHz, 32MB/2.1GB, 8X CD-ROM, IMS	\$3595
#90935	S900L 200MHz, 32MB/2.1GB, 8X CD-ROM, IMS	\$3795
#81529	S900L 225MHz, 32MB/2.1GB, 8X CD-ROM, IMS	\$4295
#90934	S900L 180DP, 32MB/2.1GB, 8X CD-ROM, IMS	\$4595

†Prices and configurations subject to change without notice. Ask your Sales Advisor to confirm your order.



Power Computing† A complete family - from entry level to top-of-the-line Mac-compatibles!

PowerBase Series Computers

#83734	603e, 180MHz, 16/1.2GB, 8X CD Low Prof.	\$1495.00
#83737	603e, 180MHz, 16/1.2GB, 8X CD Minitower	\$1595.00
#83733	603e, 200MHz, 16/1.2GB, 8X CD Low Prof.	\$1795.00
#83736	603e, 200MHz, 16/1.2GB, 8X CD Minitower	\$1895.00
#83732	603e, 240MHz, 16/1.2GB, 8X CD Low Prof.	\$2195.00
#83735	603e, 240MHz, 16/1.2GB, 8X CD Minitower	\$2295.00

PowerCenter Series Computers

#91537	604, 132MHz, 16/1GB, CD-ROM Low Prof.	\$1895.00
#91535	604, 132MHz, 16/1GB, CD-ROM Low Prof.	\$1995.00
#91538	604, 150MHz, 16/1GB, CD-ROM Low Prof.	\$2095.00
#91536	604, 150MHz, 16/1GB, CD-ROM Low Prof.	\$2195.00

PowerTower Series Computers

#86649	604e, 180MHz, 16/2GB, 8X CD-ROM Tower	\$3295.00
#86648	604e, 200MHz, 16/2GB, 8X CD-ROM Tower	\$3595.00
#83731	604e, 180MHz, 32/2GB, 8X CD, AV, Jaz Drive	\$4455.00
#83730	604e, 200MHz, 32/2GB, 8X CD, AV, Jaz Drive	\$4755.00

PowerTower Pro Series Computers

#86642	180MHz, 16/2GB, 8X CD-ROM	\$4195.00
#86643	200MHz, 16/2GB, 8X CD-ROM	\$4495.00
#86644	225MHz, 16/2GB, 8X CD-ROM	\$4995.00
#86646	180MHz, 32/2GB, 8X CD-ROM, AV, Jaz Drive	\$5414.00
#86647	200MHz, 32/2GB, 8X CD-ROM, AV, Jaz Drive	\$5714.00
#86645	225MHz, 32/2GB, 8X CD-ROM, AV, Jaz Drive	\$6214.00



Power Computing

†Prices and configurations subject to change without notice. Ask your Sales Advisor to confirm your order.

Shop The Mac Zone ONLINE!

Online Shopping

Internet Address:
Visit our store on the Web!

www.maczone.com

CompuServe type: GO MZ

The Mac Zone - Trusted Internationally

Australia
Austria
Benelux
Brazil
Central America
Chile
Colombia
France
Germany
Hong Kong

Indonesia
Israel
Italy
Japan
Kenya
Korea
Malaysia
Mexico
New Zealand

Poland
Portugal
Scandinavia
Singapore
Spain
Switzerland
UAE/Middle East
United Kingdom
Venezuela

Your Source Code
MW703

Circle 71 on the reader service card



MOTOROLA

Motorola StarMax Series Stable, reliable performance from the creators of the PowerPC™ chip

#81521	3000 603e, 160MHz, 16/1.2GB, 8xCD, 28.8, Desktop	\$1495
#81522	3000 603e, 160MHz, 32/2.5GB, 8xCD, 28.8, Minitower	\$1795
#81523	3000 603e, 200MHz, 16/1.2GB, 8xCD, 28.8, Desktop	\$1995
#81524	3000 603e, 200MHz, 32/2.5GB, 8xCD, 28.8, Minitower	\$2195
#81525	4000 603e, 160MHz, 16/1.2GB, 8xCD, 28.8, Desktop	\$2295
#81526	4000 603e, 160MHz, 32/2.5GB, 8xCD, 28.8, Minitower	\$2895
#81527	4000 603e, 200MHz, 16/1.2GB, 8xCD, 28.8, Desktop	\$2995
#81528	4000 603e, 200MHz, 32/2.5GB, 8xCD, 28.8, Minitower	\$3195

Monitor sold separately.

Sleepless in Seattle...

You bet! We're
here 24 hours a
day, 7 days a
week to serve
you when you
need us.



1-800-436-0606
Call Today for Your FREE CATALOG!



YES! START MY FREE 1-YEAR CATALOG SUBSCRIPTION ASAP!

MAC ZONE PC ZONE

Name _____ Apt _____
Address _____
City _____ State _____ Zip _____

Mail to: The Mac Zone, 707 South Grady Way, Renton, WA 98055-3233

I buy primarily for:
Home Use
Business Use
Work-from-Home Use

Your Source Code
MW703

1-800-258-2622

CALL CLUBMAC FIRST!

REMOVABLE STORAGE

Zip 100MB Drive 1044 1010 **\$199⁹⁵**
~~\$50⁰⁰~~
\$149⁹⁵



iomega

Includes One Free Cartridge

Jaz 1.0GB Drive 1044 1014 **\$499⁹⁵**



jaz

In Stock

Includes One Free Cartridge

ClubMac 200MB SyQuest **\$389⁹⁵**



SyQuest

Includes One Free Cartridge

Genuine Syquest Media

Part	Media	Qty 1	Qty 10	Qty 20
S198 1010	44MB	\$40ea	\$39.50ea	\$39ea
S198 1011	88MB	\$44ea	\$43.50ea	\$43ea
S198 1012	200MB	\$69ea	\$67ea	\$67ea
S198 1014	270MB	\$57ea	\$56ea	\$55ea
S198 2110	1.5GB	\$124.95ea	\$123ea	\$121ea
S198 2011	E2330MB	\$30ea	\$29.50ea	\$29ea
N220 1005	Nomai 540MB Media			\$9

as low as **\$23**

CD-ROM DRIVES

ClubMac **\$129**
 676KB/sec data transfer
 190ms avg access time
 Caddy-less design
4.4X



CLUBMAC

C104 1770	ClubMac 12X-Speed CD-ROM Drive 140ms 180KB/sec	\$229
C104 1700	ClubMac 4.4X-Speed CD-ROM Drive 140ms 676KB/sec	\$129
C104 1730	ClubMac Nakamichi 4 disk 8X-Speed CD disk changer 140ms 676KB/sec	\$279

CD RECORDABLE

YAMAHA **\$999**
CD Recorder 4X



CLUBMAC

C104 1780	ClubMac 2X/4X CD-ROM Recorder w/Toast CD ROM Pro 3.0 Mastering software	\$599
YAMAHA Y010 1002	Yamaha 4X CD Recorder w/Toast CD ROM Pro 3.0 Mastering software	\$999

TAPE BACKUP

ClubMac **\$879**
DDS-2 DAT Drive



CLUBMAC

C104 0901	2-4GB SCSI QIC MiniCartridge Drive*	\$429
C104 1303	4-8GB DDS-2 DAT Drive	\$879
C104 1304	12-24GB DDS-2 DAT Drive	\$1249

MEDIA

T010 1030	3M Travan TR-4 4-8GB	\$39
S100 1043	Sony QW3080XLF QIC/WIDE 2-4GB	\$29
V010 1018	Verbatim 90M 4mm DAT 2-4GB	\$9

REMOVABLE STORAGE

ClubMac **\$249**
Nomai 540MB



Includes One 540MB Cartridge

HARD DRIVE STORAGE

Quantum TEMPEST 1280MB
 128K CACHE
 4500 RPM
\$269



C104 0015

Quantum Atlas II™
\$989
4GB



Atlas II C104 0022

Seagate Barracuda™ 4 LP
 8.5ms average seek time
\$1169
4.3GB



C104 0306

Quantum TEMPEST 3.2GB
 128K CACHE
 4500 RPM
\$439



C104 0014

Model Number	Access	Internal	Price	External	Price
IBM 2.1GB IBM QUANTUM					
1280MB Tempest	QM31280TMS	10.5ms	C104 0015 \$269	C104 0065 \$329	
2150MB Tempest	QM32150TMS	10.5ms	C104 0013 \$399	C104 0063 \$399	
3255MB Tempest	QM33255TMS	10.5ms	C104 0014 \$439	C104 0064 \$499	
4550MB Atlas II	QM34550ALS	8ms	C104 0021 \$989	C104 0071 \$1049	
9180MB Atlas II	QM39100ALS	8ms	C104 0022 \$1699	C104 0072 \$1759	
SEAGATE					
2.1GB Barracuda 2LP	ST32550N	8ms	C104 0300 \$749	C104 0350 \$809	
2.1GB Barracuda 4LP	ST32171N	8.5ms	C104 0308 \$789	C104 0358 \$849	
4.3GB Barracuda 4LP	ST34371N	8.5ms	C104 0306 \$1169	C104 0356 \$1229	
9.1GB Barracuda™ 9	ST19171N	8ms	C104 0307 \$2299	C104 0357 \$2359	
9.1GB Elite 9	ST410800N	11ms	C104 0305 \$2099	C104 0355 \$2199	

MEMORY

SOUTHLAND MICRO SYSTEMS
ClubMac Slashes Memory Prices
 Guaranteed Compatibility
 Memory prices fluctuate frequently please call for latest prices.
memory as low as \$22



32-Bit 72pin SIMMS		
M101 1031	4MB 1X32 70NS	\$25
M101 1054	8MB 2X32 70NS	\$45
M101 1072	16MB 4X32 70NS	\$99
M101 1070	32MB 8X32 70NS	\$199
8-Bit 30pin SIMMS		
M101 1017	1MB 1X8 70NS	\$22
M101 1026	2MB 2X8 70NS	\$25
M101 1042	4MB 4X8 70NS	\$45
64-Bit 168pin DIMMS		
(PCI PowerMac, Umux, PowerComputing)		
M101 1081	8MB DIMM Module	\$55
M101 1082	16MB DIMM Module	\$99
M101 1083	32MB DIMM Module	\$199
M101 1084	64MB DIMM Module	\$425
PowerBook 2300		
M101 2004	8MB Module	\$89
M101 2006	16MB Module	\$199
M101 2008	24MB Module	\$285
PowerBook 190		
M101 1058	4MB Module	\$65
M101 1059	8MB Module	\$99
M101 2000	16MB Module	\$189
M101 2001	24MB Module	\$299
M101 2002	32MB Module	\$349
PowerBook 520, 520C, 540, 540C		
M101 1037	4MB Module	\$59
M101 1059	8MB Module	\$99
M101 1007	16MB Module	\$199
M101 1029	32MB Module	\$375
Video RAM		
M101 1055	2MB VRAM for ATI XClaim GA	\$139
M101 1047	512K VRAM 8100 & 605	\$30
M101 1066	1MB VRAM 7200, 7500, 7600, 8500	\$155
Cache Memory for PowerMacs & PowerPC Performas		
M101 1019	256K level 2 cache 7100, 8100	\$73
M101 1045	512K level 2 cache 7100, 8100	\$285
M101 1087	256K 7200, 7500, 7600, 8500	\$75
M101 1068	512K 7200, 7500, 7600, 8500	\$149

ACCELERATORS

DAYSTAR DIGITAL
nPower 360+ Dual Processor Card for PowerPC!
 D040 1059 **\$1499**



DAYSTAR D040 1059	nPower 360+	\$1499
Performa	Quadra, 605 & 630, LC 470, 570 & 580	
D040 1057	100MHz PowerCard 601	\$969
Mac II, IIX, IICX, IIVI, IIVX, SE30 & Performa 600		
D040 1018	40/80 Turbo 040 with 128 cache	\$655
D040 0946	Mac IIcx Adapter Turbo 040	\$129
Quadra and Centris 620, 650, 700, 800, 900, and 950		
D040 1043	100MHz PowerPro 601 with 1MB cache	\$1199
D040 1065	100MHz PowerPro Adapter (610 only)	\$105
D040 1049	100MHz Turbo 601 (iix)	\$1139
D040 1050	100MHz Turbo 601 (iix)	\$1139

POWER BACKUP

APC **\$89**
 AMERICAN POWER CONVERSION



APC A080 1027 Back-UPS 200 2 outlets \$89

A080 1028	Back-UPS 280 2 outlets	\$109
A080 1029	Back-UPS 400 2 outlets	\$149
A080 1035	Back-UPS Pro 420 420VA UPS 4 outlets	\$239
A080 1036	Back-UPS Pro 650 650VA UPS 4 outlets	\$289
A080 1047	Back-UPS Pro 1000 1000VA UPS 4 outlets	\$389
A080 1044	Back-UPS Pro 1400 1400VA UPS 6 outlets	\$525

ClubMac

WARRANTY: All items manufactured by ClubMac are warranted to ClubMac for 30 days money back guarantee. All other manufacturers' warranties apply. All other manufacturers' warranties apply. All other manufacturers' warranties apply.

ORDER 24 HOURS A DAY • 7 DAYS A WEEK
1-800-258-2622
 Order On-Line @ <http://www.club-mac.com>

Inquiries & International Sales
(714) 768-8130
 24 Hours a day 7 days a week

Corporate/Educational Sales
(800) 258-2621
 M - F: 5am - 5pm PST

GRAPHIC CARDS

radius Thunder 30/1600
High performance PCI for your Mac
R013 1071



\$699

RADIUS

R013 1012	Precision Color Pro 24XP (Nubus)	\$299
R013 1081	Thunder 30/1600 (PCI)	\$1229
R013 1071	Thunder 30/1600 (PCI)	\$699
R013 1085	Thunder 3D (PCI)	\$2989
R013 1069	PrecisionColor 8/1600 (PCI)	\$329
R013 1082	PrecisionColor 24/1600 (PCI)	\$449

ATI

A143 1010	XCtairmGA 2MB PCI video card	\$245
A143 1009	XCtairmGA 4MB PCI video card	\$345
A143 1023	XCtairmGA VR 4MB PCI	\$369

INTEGRATED MICRO SOLUTIONS

I143 1002	Twin Turbo 128M 2MB PCI	\$299
I143 1001	Twin Turbo 128M 4MB PCI	\$499
I143 1003	Twin Turbo 128M 8MB PCI	\$799

NETWORKING

ASANTÉ

A120 1010	10BaseT FriendlyNet Adapter FN10TA	\$29.95
A120 1011	Thin FriendlyNet Adapter FNTNA	\$44.95
A120 1041	Thin FriendlyNet Adapter FNBNC	\$44.95
A120 1009	10BaseT/Thin FriendlyNet Adapter FN10T/TN	\$79.95
A120 1083	10/100 PCI Card w/Net Doubler	\$198
A120 1084	10/100 Nubus Card w/Net Doubler	\$279
A120 1078	ASANTÉFAST 10/100 Bridge	\$689
A120 1081	FriendlyNet PC Card 10BT	\$159
A120 1082	FriendlyNet PC Card 10BT/Thin (for PowerBook)	\$189
A120 1039	Thin/10BaseT Micro SCSI Ether. Micro ENVSC	\$265
A120 1001	10BaseT Hub 12 RJ45, 1 AU, 1 BNC 10THUB/12	\$235
A120 1003	10BaseT Hub 8 RJ45, 1 AU, 1 BNC 10THUB/8	\$129
A120 1050	10BaseT Hub 24 RJ45, 1 AU, 10THUB/24	\$379

DAYNA

D300 1013	MiniHub 5.5 RJ45, 1 cross-over	\$89
D300 1029	MiniHub 8.8 RJ45, 1 cross-over	\$119
D300 1057	Hub 16 16 RJ45, 1 BNC, 1 AU	\$245
D300 1055	Communicator Plus Ethernet 28.8 Fax Modem	\$439
D300 1049	Communicator 10BT 10BT/Ethernet	\$145
D300 1050	Communicator 10BT BNC 10BT/Thin Ethernet	\$169
D300 1044	10/100BT Adapter PCI	\$180
D300 1045	10/100BT Adapter Nubus	\$319
D300 1058	10/100BT Adapter PDS	\$275
D300 1046	100Base-T Hub 12 port fast hub	\$1239

FARALLON

F010 1043	Farallon Fast 10/100 Card Nubus	\$239
F010 1019	Farallon 10BT Starlet 8 Hub	\$125
F010 1032	Farallon 10BT Starlet 4 Hub	\$105
F010 1053	Farallon Ethernet LAN/Modem PC card	\$445
F010 1054	Farallon Netopia ISDN Modem	\$295
F010 1017	Farallon Etherwave LC 10BT	\$149
F010 1055	Farallon Streamline Starlet 16 Hub	\$239
F010 1050	Farallon ISDN Internet Router w/Appletalk	\$1099

MONITORS

radius PrecisionView 21 Display
• Res up to 1600x1200
• 30mm Dot Pitch
• 21" 25m high performance DiamondTrim display
• Color support for AGFA FotoTune 1.0 & 2.0, Apple ColorSync 1.5 & 2.0, EFiColor and Kodak Precision



\$2349

RADIUS

R015 1031	PressView 17SR 17", 1600x1200	\$1999
R015 1032	PrecisionView 21 21", 1600x1200	\$2349
R015 1034	PressView 21SR 21", 1600x1200	\$3299

RASTEROPS

R053 1031	SuperScan MC20 20", 1600x1200	\$1395
R053 1043	SuperScan MC800 21", 1600x1200	\$1799
R053 1040	MC15M 15", Monochrome	\$229
R053 1036	MC21M 21", Monochrome	\$649

NEC

N025 1031 XV15-15", 1024x768	\$469
N025 1036 M500 15", 1024x768	\$499
N025 1032 XV17-17", 1024x768	\$799
N025 1037 M700 17", 1024x768	\$779

SONY

S106 1026 Multiscan 100SX 15", 1024x768	\$385
S106 1024 Multiscan 200SX 17", 1024x768	\$695
S106 1025 Multiscan 200SF 17", 1152x870	\$795

VIEWSONIC

V056 1017 15GA w/Speakers 1024x768 (14" viewable)	\$479
V056 1016 17GA w/Speakers 1024x768 (16" viewable)	\$755
V056 1024 P810 1600x1200 (20" viewable)	\$1699

PRINTERS

EPSON Stylus COLOR Pro
E047 1019



\$379

EPSON

E047 1031	Epson Stylus 500	\$279
E047 1019	Epson Stylus Pro	\$379
E047 1022	Epson Stylus Pro XL w/Live Picture 2.5	\$1799

HEWLETT PACKARD

H047 1067	HP DeskWriter 680C Color InkJet	\$289
H047 1076	HP DeskJet 8700C Inkjet InkJet	\$498
H047 1077	HP LaserJet GMP Printer	\$899

MODEMS

GLOBAL VILLAGE TELEPORT Internet Edition
33.6kbps
Now with complete Internet Solution



\$169

GLOBAL VILLAGE

G050 1025	TelePort 33.6kbps data (Internet Ed.)	\$169
G050 1019	PowerPort Platinum PC Pro 28.8/10BT	\$499

NETSPED

N020 1001	ClubMac NetSpeed 33.6 Modem	\$89**
-----------	-----------------------------	--------

U.S. ROBOTICS

U020 1025	28.8 Sportster Voice for Mac 36.6 data	\$195
U020 1021	28.8 Sportster for Mac 33.6 data	\$169

DIGITAL CAMERAS

EPSON PhotoPC For the Mac
PhotoPC 500 for Mac & PC w/optional LCD Display
E043 1007



\$499

EPSON

E043 1005	PhotoPC for the Mac Color Digital Camera	\$399
E043 1007	PhotoPC 500 for the Mac & PC	\$499
E043 1008	LCD Display for PhotoPC 500	\$199

KODAK

K043 1014	Kodak DC25 Camera	\$499
K043 1003	Kodak DC20 Camera	\$199
K043 1001	Kodak DC40 Camera	\$599
K043 1002	Kodak DC50 Zoom Camera	\$999

MAC OS SYSTEMS

PowerComputing PowerTowerPro 225



\$4995

MacUser

PS12 1021	PowerCenter 130LP 130MHz 16MB/1GB 8K CD	\$1895
PS12 1023	PowerCenter 150LP 150MHz 16MB/1GB 8K CD	\$2095
PS12 1006	Power Tower 166 166MHz 16MB/2GB 4K CD 2MB VRAM	\$2895
PS12 1005	Power Tower 180 180MHz 16MB/2GB 4K CD 2MB VRAM	\$3295
PS12 1004	Power Tower 200 200MHz 16MB/2GB 4K CD 2MB VRAM	\$3595
PS12 1003	Power TowerPro 180 180MHz 16MB/2GB 4K CD 4MB VRAM	\$4195
PS12 1002	Power TowerPro 200 200MHz 16MB/2GB 4K CD 4MB VRAM	\$4495
PS12 1001	Power TowerPro 225 225MHz 16MB/2GB 4K CD 4MB VRAM	\$4995

SOFTWARE

Adobe Illustrator 6.0
Upgrade for Adobe
A030 1003 5000CD



\$89.95

ADOBE

A030 1003	Illustrator 6.0 CD upgrade	\$89.95
A030 1001	Photoshop 4.0 upgrade	\$134.95
A030 1060	PhotoDeluxe 1.0	\$79.95
A030 1015	PageMaker 6.5 upgrade	\$89.95
A030 1002	Premiere 4.2 upgrade	\$134.95

APPLE

A109 1370	Apple Remote Access Client 2.1	\$49.95
A109 1372	Apple Remote Access Personal Server 2.1	\$179.95

CASADY & GREEN

C049 1003	Conflict Catcher 3.04 upgrade	\$38.95
C059 1008	SpellCatcher	\$59.95

CLARIS

C089 1002	FileMaker Pro 3.0 competitive upgrade	\$95.95
C089 1026	ClarisWorks 4.0 bundled w/CPU or Storage	\$59.95
C089 1037	Claris Mailer 1.1	\$44.95
C089 1036	Claris OfficeMail 1.0	\$275.95

CONNECTIX

C149 1020	RAM Doubler 2	\$28.95
C149 1010	Speed Doubler	\$53.95

COREL

C309 1017	COREL DRAW 6.0 Suite upgrade for Mac	\$149.00
C309 1016	COREL WordPerfect 3.5 upgrade for Mac	\$89.00

DENEBA

D059 1009	Canvas 5.0 Upgrade	\$149.95
-----------	--------------------	----------

FRACAL

F039 1003	Painter 4.0 upgrade	\$129.00
F039 1009	Poser	\$89.00
F039 1057	Detailer (sidegrade)	\$149.00
F039 1055	Expressions (sidegrade)	\$149.00
F039 1024	Ray Dream Studio 4.1 upgrade	\$149.00

MACROMEDIA

M209 1027	Extreme 3D	\$489.00
M209 1024	Macromedia xRes 3	\$399.00
M209 1028	Photographer 4.1	\$329.00
M209 1018	FreeHand 7 Upgrade	\$149.00
M209 1037	Director Multimedia Studio 2 upgrade	\$489.00
M209 1027	Extreme 3D	\$489.00
M209 1045	FreeHand Graphics Studio Upgrade	\$199.00

MICROSOFT

M089 1021	Office Standard 4.21 upgrade CD or Disk	\$275.95
M089 1034	Word 6.0 1.0 upgrade	\$118.95
M089 1029	Excel 5.0 upgrade	\$118.95
M089 1040	Works 4.0	\$49.95

QUARK

Q059 1001	QuarkPress 3.3 CD	\$658.95
-----------	-------------------	----------

INTERNET SOFTWARE

ADOBE

A030 1054	PageMill 2.0	\$95.95
A030 1051	SiteMill 1.0	\$185.95

ALADDIN

A290 1001	Stuff Deluxe	\$69.95
A290 1005	CyberFinder	\$19.95

APPLE

A109 1348	Apple Internet Connection Kit 1.2 (AIICK)	\$45.95
-----------	---	---------

CE SOFTWARE

C209 1010	WebArranger	\$79.95
-----------	-------------	---------

CLARIS

C089 1039	Claris Home Page 1.0	\$99.00
-----------	----------------------	---------

SOFT QUAD

S609 1001	HotMetal Pro 3.0	\$55.00
-----------	------------------	---------

UMAX Computer Corporation SuperMac C500L
160MHz Super Deal!
U012 1014



\$1299

U012 1014 SuperMac C500L 160MHz 16MB/1.2GB 8K CD \$1299 || U012 1007 | SuperMac C500L 160MHz 16MB/1.2GB 8K CD 28.8 modem | \$1695 |
U012 1007	SuperMac C500L 200MHz 16MB/2.1GB 8K CD 28.8 modem	\$1995
U012 1011	SuperMac J700L 150MHz 16MB/2.1GB 8K CD 2MB VRAM	\$2795
U012 1017	SuperMac J700L 180MHz 16MB/2.1GB 8K CD 4MB VRAM	\$3095
U012 1006	SuperMac S900L 200MHz 16MB/2.1GB 8K CD 4MB VRAM	\$3595
U012 1007	SuperMac S900L 200MHz 16MB/2.1GB 8K CD 4MB VRAM	\$3795
U012 1012	SuperMac S900L 225MHz 16MB/2.1GB 8K CD 4MB VRAM	\$4295
U012 1010	SuperMac S900L LP 215MHz 16MB/2.1GB 8K CD 4MB VRAM	\$4595

SCANNERS

VISIONEER PaperPort Vx
V029 1008



\$279

AGFA

A055 1022	Agfa SnapScan for MAC 600DPI 24-Bit	\$325
A055 1011	Agfa StudioScan IISI	\$649
A055 1015	Agfa StudioStar LE w/PhotoShop LE	\$825
A055 1017	Agfa StudioStar w/PhotoShop Plus	\$975
A055 1001	Agfa Arcus II Desktop Pro Scanner	\$1995

UMAX

U010 1061	Vista S6E w/PhotoDeluxe	\$299
U010 1052	PowerLook II w/Transparency adapter	\$1955

EPSON

E045 1026	Epson Expression 636 Upgrade Model	\$799
E045 1027	Epson Expression 636 Executive Model	\$879
E045 1026	Epson Expression 636 Artist Model	\$1299
E045 1026	Epson Expression 636 Pro Model	\$1799

RELISYS

R050 1004	Reli-4830 30-bit w/trans adapt. Photoshop LE	\$599
-----------	--	-------

Microtek

M150 1006	Microtek Scanmaker III	\$1495
M150 1026	Microtek Scanmaker E3	\$329

DIGITAL VIDEO

radius VideoVision Studio 2.5.1
Record full-screen, full-motion, 60 field-per-second digital video input and output on your Nubus Based PowerPC



\$1399

RADIUS

R013 1018	VideoVision Studio 2.5.1 (Nubus)	\$1399
R013 1079	VideoVision Studio 2.0 (PCI)	\$3795

TRUEVISION

T043 1008	Bravado 1000 (PCI)	\$699
T043 1017	Targa 1000 (PCI)	\$2099
T040 1001	Targa 2000 (PCI)	\$3295

Call 1-800-258-2622 for a FREE subscription to the ClubMac Catalog.

ClubMac APPLE SYSTEMS \$999
SOFTWARE PERFORMA 6400 \$1899
ACCESSORIES
ORDER NOW!



WACOM ARTZ II 6" x 8" Graphics Tablet

WACOM W010 1028



\$298

WACOM

W010 1026	ArtPad II 4x5	\$139
W010 1027	ArtPad II 4x5 w/Dabblor	\$149
W010 1028	Artz II 6x8	\$298
W010 1029	Artz II 12x12	\$425
W010 1030	Artz II 12x18	\$695

CALCOMP

C290 1010	DrawingState II 4x5 w/Dabblor	\$99
C290 1002	DrawingState II 6x9	\$205
C290 1001	DrawingState II 12x12	\$229
C290 1004	DrawingState II 12x18	\$299

Technical Support
(800) 854-6227
M - F: 6am - 6pm PST
Sat: 8am - 1pm PST

ClubMac E-Mail Addresses
ClubMac Sales...clubmac@club-mac.com
Customer Service...custserv@club-mac.com
Technical Support...techsup@club-mac.com
7 Hammond, Irvine CA 92618

ORDER 24 Hours A Day • 7 Days A Week
1-800-258-2622
Order On-Line @ <http://www.club-mac.com>

When placing an order please mention source code **690397**
ClubMac

1-800-258-2622 1-800-CLUBMAC 1-800-258-2622

FREE CATALOG!

BEST Service!



**10,000
HOT PRODUCTS
24 HRS A DAY!**



**YOUR #1 SOURCE
FOR MOBILE COMPUTING SOLUTIONS!**

FREE!
Technical Support!

MacTax & Quicken Deluxe
Get America's #1 Tax software and personal finance software for one low price. Call for details.
ONLY \$49.95* 32732
*After rebates

FREE
System Customization Overnight!

Microsped KidTRAC
Get a FREE Mr. Potato Head Saves Veggie Valley with purchase of KidTRAC.
ONLY \$69.95 34832

FREE
Catalog Subscription!

Three time-saving utilities and communication software for your Mac!
ONLY \$58.95 35042
*All 3 reg. \$158.95
Exclusive Bundle!

FREE
Memory Installation Offer!

Adobe PhotoDeluxe for Macintosh
Put your photos to use in hundreds of fun, different ways!
ONLY \$49.95 25860

MORE
Exciting Bundles!

RAM DOUBLER 2
Double, even triple, your available RAM in seconds with this simple software solution!
ONLY \$29.95* 31151
*After \$25 rebate for previous owners

MORE
Hot New Products!

Connect your modem without a costly outside line!
Inside Line prevents damage to PC Card Modems, and requires just three simple connectors to install.
ONLY \$99.95 18792

ALWAYS
Open!
24 hrs. a day

Netscape Navigator 3.0 for Macintosh
Makes it easy for you to select an Internet Service Provider and create Internet and email accounts.
ONLY \$44.95 32570

ALWAYS
Available!
Knowledgeable sales reps ready to help you.

**BEST PRICES
ON POWERBOOKS!**

VST Epic PowerBook 1400 Charger
with battery and FREE AC Adapter
NEW!
The Charger 1400 quickly and safely charges two (NIMH) Macintosh PowerBook 1400 batteries. It provides real time indication of charge mode, charge completion and error detection through on board LED's.
ONLY \$289.95 36103

Sony Zip Disk 6-Pack with FREE Holder
Back up and Store with Confidence!
FREE Zip Disk Drive Holder with 6-Pack!
\$79.95* 35387
*Price after manufacturer's rebate

ATI Xclaim VR 4
3D Gaming & Multimedia Solution
• Arcade-style, big-screen gaming
• Awesome QuickDraw 3D acceleration
• QuickTime capture, video-out capabilities
ONLY \$299.95 34428

Symantec/Connectix Bundle
Keep your Mac running right with the multi-functionality of acclaimed Norton Utilities. And instantly expand your system memory with the impressive new RAM Doublor 2.
ONLY \$99.95 33955

Connectix Color QuickCam
The new Color QuickCam is the first low-cost, digital color camera for your Mac. Just plug it in and you're taking brilliant 24-bit color pictures and videos. Get Crystal Caliburn and QuickCards Lite Free with purchase, while supplies last!
\$199.95* 27405
*After \$30 Rebate

SONY Multiscan 100sx Trinitron Monitor
NEW!
ONLY \$399 34919

Canon BJC-4550 Color BubbleJet!
This brand new BubbleJet printer produces beautiful color on small jobs and large ones. Features include 720x360 dpi color, 720x360 dpi black, 300+ TrueType fonts on CD-ROM, prints on a wide variety of papers.
ONLY \$499 31539

Softquad HotMetal PRO 3.0
Makes it easier than ever before to create eye-catching web pages. The automatic import and conversion capabilities allow you to instantly turn word processing documents into Web pages simply by opening them.
ONLY \$114.95 32552

Nikon Scantouch AX110
ONLY \$299 35820
• Accurate 24-bit color (8-bits per color R, G, B)
• Fast single-pass scanning of images up to 8.5" x 11.7"

JBL Ensemble Speaker Set
Delivering great imaging and home theater sound, these advanced 120W satellite speakers boast a 3 1/2" woofer, 3/4" dome tweeter, and a separate 20 watt stereo amplifier.
ONLY \$299.95 33775
EXCLUSIVE!
120W SPEAKERS

Global Village Teleport 33.6 Internet Edition
Includes NETCOM and Netscape Navigator web browser and e-mail software.
Call sensing allows you to receive fax and voice calls automatically on the same line as your answering machine.
ONLY \$169.95 33230

"Best Mail-Order Company!"



PC Connection was awarded "Best All Around Company" for the second year in a row by The Boston Computer Society!



The highly regarded Berkeley Mac Users Group (BMUG) named MacConnection the Best Mac Mail-Order Company.

OUR POLICY • VISA, MASTERCARD, AMERICAN EXPRESS, and NOVUS cards. No surcharge. • Most products are covered by manufacturer's warranty against defects for at least 30 days from the invoice date. • All returns require prior authorization, please call for an RMA. • We are not responsible for typographical errors. • Pricing and promotions are subject to change without notice. Continental U.S. Shipping Charges: \$5 per order up to 15 pounds. On orders weighing 10 pounds or more, shipping is \$1 per pound. Please call for weight/shipping charge information. Items of excessive size and/or weight may require additional fees to deliver via a freight carrier. Please check with

your sales rep for more details. Barring events beyond our control, all credit card orders placed in weekdays by 3 a.m. ET will ship Airborne Express for delivery the next business day. Saturday delivery available to many areas upon request at no additional charge. Order all day Saturday thru noon Sunday for Monday delivery. Some areas require an extra day delivery. APO/FPO, International orders and Hawaii, Alaska, Canada, Puerto Rico & U.S. Virgin Islands: Shipping may require an additional time and charges. All other areas: Call 603-446-4444 or FAX: 603-446-7791 M-F 9 a.m.-5:30 p.m. ET.

©1996 PC Connection, Inc., Marlow, NH. MacConnection & the netcom characters are registered trademarks of PC Connection, Inc. All other trademarks remain the property of their respective companies.

LOWEST Prices!

EVERYTHING OVERNIGHT® \$5!
(up to 10lbs)

www.macconnection.com

Now shop on-line with a name you can trust!

- Search our 10,000+ product database
- Access daily price updates on all products
- Link to other valuable resources and manufacturers

SAVE ask about... LEASING OPTIONS for BUSINESS CALL FOR DETAILS

HOTTEST DEALS ON APPLE® PERFORMAS, POWER MACS & POWERBOOKS!

SuperMac S900L



225 MHz
LEASE FOR \$149.95* PER MONTH
FREE UTILITIES (Software)
ONLY \$4295

- 225MHz PowerPC 604a
- Dual processor capable
- 32MB RAM/1GB max.

UMAX C500L



ONLY \$1349*
LEASE FOR \$45.95* PER MONTH

- 160MHz 603e
- 16MB RAM
- 1.2GB HD
- 8X CD-ROM
- 28.8 Faxmodem
- Keyboard & Mouse

THE BEST PRICES ON MACS!

CALL US FIRST!
800-800-MACs



MOTOROLA STARMAX 3000



NEW!
ONLY \$1595
LEASE FOR \$55.95* PER MONTH

- 180MHz 603e
- 16MB RAM
- 1.2GB HD
- 28.8 Faxmodem

SYQUEST EZFlyer

The Perfect Answer to Your Data Storage Needs!



ONLY \$239*
*Price after \$55 rebate

230MB Removable Drive!

FREE!

MEMORY INSTALLATION!

SUPER LOW SIMMS!

4MB as low as \$24.95	8MB as low as \$49.95	16MB as low as \$99.95	32MB as low as \$199.95
--------------------------	--------------------------	---------------------------	----------------------------

1MB SIMMS as low as \$16.95¹¹⁰⁷

VILLAGE TRONIC MacPicasso 320



Turbo Charge Your Monitor!
ONLY \$299.95

- Accelerated Cirrus graphics controller
- 2MB 50ns-EDO-DRAM
- B/W, 256, thousands, and millions color modes
- Dual connectors (Apple and VGA 15-pin)
- QuickDraw accelerator

Newer Technology NUpow 200 MHz CPU and cache for Epic PowerBook 1400



ONLY \$649.95

The PowerBook with NUpow becomes the fastest PowerBook, ever. Fits into the CPU socket on the logic board. Comes with a one year warranty, toll-free Tech Support and illustrated installation manual.

FREE!

CATALOG SUBSCRIPTION!

CALL TODAY!

MacConnection PC Connection
Please check the catalog(s) you wish to receive

Name _____ Apt _____
Address _____
City _____ State _____ Zip _____



MacConnection®

MACWORLD 397MW 800-998-0032

Order as late as 3 a.m. ET and still get Overnight Delivery!

FAX US AT: 603-446-7791





Get Your Best Price! Then Call Us!

UMAX
Computer Corporation

UMAX COMPUTER

Presenting the SUPERMac® C500/160

It's a serious tool for fun and business! The new SUPERMac C500 is loaded with a fast 160MHz 603e PowerPC processor (for fast-paced game and more practical application performance). And it includes a big 1.2GB fast-SCSI hard drive, two high-speed PCI slots for easy expandability and much more.

- ▶ 16MB RAM / 1.2GB HD
- ▶ PowerPC 603e processor
- ▶ 256K Level 2 cache
- ▶ 8X CD-ROM

Monitor sold separately.

as low as

^{*\$1349}
\$1199*
MacMail mail-in rebate -100*
Mfr. mail-in rebate -50

*After \$100 MacMail mail-in rebate with purchase of Panasonic PM17 Monitor & \$50 Mfr. mail-in rebate. #88342

MORE UMAX DEALS!

Model/MHz	Processor	RAM/HD/CD	Price	Order #
SUPERMac® C600/180	PowerPC™ 603e	16MB/1.2GB/8X	\$1495*	#88344
SUPERMac® C600/200	PowerPC™ 603e	16MB/2.1GB/8X	\$1795*	#88343
SUPERMac® C600/240	PowerPC™ 603e	24MB/2.1GB/8X	\$2095*	#88347
SUPERMac® J700L/150	PowerPC™ 604	16MB/2.1GB/6.7X	\$2695*	#88340
SUPERMac® J700L/180	PowerPC™ 604	24MB/2.1GB/8X	\$2895*	#88346
SUPERMac® S900L/180	PowerPC™ 604e	32MB/2.1GB/8X	\$3495*	#88338
SUPERMac® S900L/200	PowerPC™ 604e	32MB/2.1GB/8X	\$3695*	#88341
SUPERMac® S900L/225	PowerPC™ 604e	32MB/2.1GB/8X	\$4195*	#88345

MOTOROLA

Presenting the StarMax 3000 DT



Announcing Motorola's new low cost, ultra-fast Mac OS machine, the StarMax 3000! The StarMax's new motherboard architecture keeps your costs down, but gives you sizzling speed (it beat its competition by a healthy 14 percent). It's available with a 180, 200 or 240MHz PowerPC 603e processor. And it's backed by Motorola's 5-year warranty (the best in the business).

- ▶ 16MB RAM / 1.2GB HD
- ▶ PowerPC 603e processor
- ▶ 8X CD-ROM
- ▶ Motorola 28.8 data/ fax modem

MOTOROLA
as low as

¹⁵⁹⁹
\$1499*
rebate -100*

Monitor sold separately

*After \$100 manufacturer mail-in rebate with purchase of Panasonic PM17 Monitor. #88998

MORE STARMAX DEALS!

Model/MHz	Processor	RAM/HD/CD	Price	Order #
StarMax 3000MT/180	PowerPC™ 603e	32MB/2.5GB/8X	\$1799*	#88996
StarMax 3000DT/200	PowerPC™ 603e	16MB/1.2GB/8X	\$1899*	#88310
StarMax 3000MT/200	PowerPC™ 603e	32MB/2.5GB/8X	\$2099*	#88311
StarMax 4000DT/160	PowerPC™ 604e	16MB/1.2GB/8X	\$2199*	#88312
StarMax 4000MT/160	PowerPC™ 604e	32MB/2.5GB/8X	\$2799*	#88313
StarMax 4000DT/200	PowerPC™ 604e	16MB/1.2GB/8X	\$2899*	#88314
StarMax 4000MT/200	PowerPC™ 604e	32MB/2.5GB/8X	\$3099*	#88315

ADOBE SYSTEMS

Photoshop 4.0 Upgrade CD Mac/PowerPC™



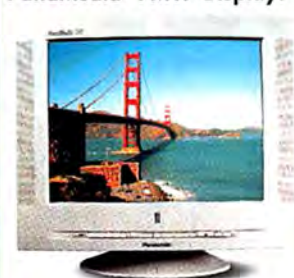
w/FREE PhotoTools SE & Intelligence SE CD

\$149.99
#84980

offer expires 2/11/97 or while supplies last.

PANASONIC

EXCLUSIVE Save \$100 on a PanaMedia™ PM17 Display!



- ▶ 17" Display (16" viewable image size)
- ▶ 1280 x 1024 Resolution NI
- ▶ .27mm Dot Pitch
- ▶ Dome Stereo Speaker™ System
- ▶ Microphone & Audio in/out

\$699.99*
#88210
Panasonic

*After \$100 MacMail mail-in rebate with purchase of Panasonic PM17 Monitor WITH any qualifying purchase over \$1000.

POWER COMPUTING

Presenting the PowerBase 180



This revolutionary Mac OS compatible features one of the fastest Mac CPU speeds. But that isn't the only thing the PowerBase has going for it. You can easily upgrade to faster future processors with a simple daughtercard swap. Each PowerBase is packed with a super-speed 8X CD-ROM drive for fast access to hundreds of multimedia titles. And it's available in low profile (to save space) or tower model (for extra expandability).

Monitor sold separately

low profile
as low as

¹⁴⁹⁵
\$1395*
rebate -100*

PowerComputing

*After \$100 manufacturer mail-in rebate with purchase of Panasonic PM17 Monitor. #88331

MORE POWER COMPUTING DEALS!

Model/MHz	Processor	RAM/HD/CD	Price	Order #
PowerBase 200 LP	PowerPC™ 603e	16MB/1.2GB/8X	\$1695*	#88329
PowerBase 240 LP	PowerPC™ 603e	16MB/1.2GB/8X	\$2095*	#88327
PowerCenter 132 LP	PowerPC™ 604	16MB/1GB/8X	\$1795*	#88333
PowerCenter 150 LP	PowerPC™ 604	16MB/1GB/8X	\$1995*	#88335
PowerTower 166	PowerPC™ 604	16MB/2GB/4X	\$2795*	#80476
PowerTower 180e	PowerPC™ 604e	16MB/2GB/8X	\$3195*	#88326
PowerTower 200e	PowerPC™ 604e	16MB/2GB/8X	\$3495*	#88325
PowerTower Pro 180	PowerPC™ 604e	16MB/2GB/8X	\$4095*	#88322
PowerTower Pro 200	PowerPC™ 604e	16MB/2GB/8X	\$4395*	#88323
PowerTower Pro 225	PowerPC™ 604e	16MB/2GB/8X	\$4895*	#88324

MacMall is OPEN 24 Hours a Day

Call by 11:00pm EST for Delivery by 10:30am the Next Day via **FedEx** Priority Overnight!



PowerComputing



FRACTAL DESIGN

Expression

with any MacMail CPU or PowerBook purchase!

SUPER DEALS ON SOFTWARE AND ACCESSORIES!

CD DRIVES

12X EXTERNAL CD-ROM DRIVE
 • 100ms access time
 • 1800Kbps transfer rate

\$199.99
 #87873

- External 2X Write / 4X Read CD Recordable.....'479** #82911
- CD Recordable Media.....'8** #68428
- Pinnacle 4X4 External Optical 4X Read/Write w/CD Burner Software.....'999** #85306
- 4.4X External SCSI CD-ROM.....'129** #88047

MEDIA

- Zip Media as low as.....'11** #82229
- *with purchase of 10 or more after mail-in offer
- CD Recordable Media.....'8** #68535
- 1.4MB Diskette 100pk.....'14** #88268
- *with \$30 mail-in rebate.

MEMORY

8MB SIMM 70ns speed

\$79.99
 #4177

- 16MB SIMMs - 70ns.....'169** #65416
- 32MB SIMMs - 70ns.....'329** #65417

MONITORS

Sony MultiScan 15sx Digital Color Display

\$349.99
 #79786

- MAGInvision DX1495 14" Color Display.....'249** #85921
- Panasonic FM17 Color Monitor plus \$100 mail-in rebate with purchase of \$1000 or more.....'699** #88210
- SuperScan Mac 20" Color Display.....'1399** #71918

SCANNERS

UMAX Vista S-6E

\$279.99*
 #81385

UMAX

- Vista S-6E w/Adobe PhotoDeluxe, Presto! PageManager (with OCR).....'399** #87821
- w/transparency adapter.....'399** #87821

- Vista S-12 w/Adobe PhotoDeluxe, Presto! PageManager (with OCR).....'499** #86345
- PowerLock 1 w/Photoshop 3.0, KPT SE & FREE Transparency Adapter.....'999** #84924
- PaperPart Vx™ for Mac™.....'299** #76217

MODEMS

SupraExpress 33.6Kbps Fax Modem

\$129.99
 #81991

- PCMCIA 28.8Kbps Fax Modem for Mac™ *with \$20 mail-in rebate.....'99** #86169
- Teleport Internet Edition 33.6Kbps Fax Modem.....'168** #85232
- Sportster 33.6Kbps Fax Modem *with \$30 mail-in rebate.....'168** #86236

REMOVABLE

Jaz™ 1GB Drive

 • External SCSI
 • 1GB Removable Cartridges
 • Fast 12ms seek time
\$499.99
 #87888

SYQUEST

- EZFlyer 230 Removable External SCSI Drive for Mac™ *after \$55 mail-in rebate.....'244** #82063
- Vertex 2.6GB Removable External Optical Drive with 1 blank disk.....'1495** #79648

PRINTERS

HP DeskWriter 600 Printer

 • 600dpi b&w printing at 4ppm
 • Color-capable w/upgrade kit
\$149.99
 #73683

- HP DeskWriter 680C Printer.....'289** #79788
- HP DeskJet 855Cxi Printer.....'389** #85621
- HP LaserJet 6MP Printer.....'949** #83916
- Epson Stylus Color 500 Printer.....'279** #83463
- Elite XL 616 Printer.....'2699** #74309
- Phaser 140 Color Printer.....'1674** #87634

SOFTWARE UTILITIES

Norton Utilities 3.2/ RAM Doubler Bundle

 Mac/PPC 3.5" Diskette
\$98.99 while supplies last
 #86769

- Speed Doubler 2.0 Mac™ *with \$25 mail-in upgrade rebate.....'24** #86424
- SoftWindows 3.0 for Power Macintosh™ CD.....'299** #79229
- Spring Cleaning™.....'49** #85741

GRAPHICS

CorelDRAW! 6 with FREE Descent CD Mac/PPC Competitive

 Upgrade
\$148.99
 #82852

- QuarkXPress™ 3.3.2 CD w/FREE Shuffit Deluxe 4.0 Mac/PPC.....'649** #82393
- FreeHand™ Graphics Studio 7 Upgrade CD Mac™.....'189** #84730
- Poser™ 2 Upgrade Mac/PPC™.....'68** #86718
- Adobe® PageMaker™ 6.5 CD Upgrade w/FREE PageTools SF CD by Fextensis Mac/PPC.....'99** #88274

BUSINESS

Quicken Deluxe 7/ Macintax Deluxe Final Bundle

\$59.99*
 #89181
 *After \$30 mail-in rebate. Offer ends 4/15/97.

- Claris Home Page 2.0 Mac/PPC™ 3.5" Diskette *with \$20 competitive upgrade mail-in rebate.....'79** #88033
- Microsoft Office 4.2.1 CD Upgrade Mac/PPC™ with FREE FA-18 Homer Classic™.....'269** #88575
- Street Atlas 3.0/Phone Search 2.0 Value Pak CD *with \$20 mail-in rebate.....'38** #79852

EDUCATION/REFERENCE

Encarta® Encyclopedia 1997 Deluxe Edition

\$49.99*
 #83745

- Popular Photography.....'39** #84341
- Apple Internet Connection Kit 1.2 CD Mac™.....'48** #86043
- A.D.A.M. The Inside Story™ 1997 Edition CD Mac™.....'34** #86687

Four reasons why MacMail is the best choice for all your computing needs:

FedEx THE FASTEST OVERNIGHT DELIVERY AVAILABLE

A MacMail Exclusive! Call as late as 11:00 p.m. EST and get your order by 10:30 a.m. the next day via FedEx Priority Overnight.

CUSTOM CONFIGURATION
 Have the system you want, custom-configured by our factory-trained technicians.

EXCLUSIVE DEALS & SPECIAL OFFERS
 We ALWAYS give you more for your computing dollar.

OVER 20,000 PRODUCTS
 You can count on us to have the products you want, when you want them!

FREE CATALOG SEE BELOW

BLOCKBUSTER HOLIDAY BLOWOUTS!

SYSTEMS BLOWOUT!
 160MHz Performer 6300
\$1349!

PLUS 3 FREE OFFERS!
 \$100 MAIL-IN REBATE!

800-222-2808

Get your FREE issue today!

Please check issue(s) you wish to receive.
 MacMail PC Mall DataCom Mall

Name _____
 Address _____
 City _____
 State _____ Zip _____

Mail to: MacMail, Dept. ADV.,
 2645 Maricopa St., Torrance, CA 90503

MacMail
 Place Your Order 24 Hours a Day
1-800-217-9492

MacMail Exclusive!
FREE DataSaver Backup Software



100MB Zip Drive

The original lightweight Iomega Zip™ drive stores your documents safely and quickly on 100MB cartridges—that's the equivalent of 70 floppy disks! Order one today and save \$50 off our regular price.

\$199
 mail-in rebate -50
\$149.99*
 #86693

*After \$50 manufacturer's mail-in rebate. Offer ends 1/31/97

Zip Cartridges as low as **\$11.99** #82229

Visit MacMail on the Web at www.macmail.com

Prices and specifications subject to change without notice. Limited to stock on hand. IMPORTANT: While we do our best to check errors, mistakes may occur—Call to verify pricing.

OFFER CODE
 MacWorld
 ZMWD731



radius

Quantities are Limited...

AWARD WINNING PRODUCTS

DISPLAYS

TWENTY ONE INCH DISPLAYS



21 Inch DiamondTron Monitor **\$1999***

- Rated Superior to Trinitron
- Two year Mfr's Warranty
- Largest Aperture Grille monitor available
- Up to 1600x1200 on Macs and PCs
- Full Digital Control from Keyboard



Radius SuperMatch 21 TXL **from \$1699***
 Radius PrecisionView 21 **\$CALL**
 Radius PressView 21sr **from \$2899***
 NEC **\$CALL**
 Radius PrecisionColor Display 21 **\$1499***
 RasterOps SuperScan MC 21 **\$CALL**
 Radius Multiview 21 **\$CALL**
 Radius 21 inch Grayscale Display **\$799**

*With qualifying videocard, accelerator, or computer purchase

TWENTY INCH DISPLAYS

TRINITRON BLOWOUT-LOWEST PRICE EVER! **\$999***

While Supplies Last!

20" SONY Trinitron Technology

- Industrial Grade CRT
- Two page WYSIWYG output



SuperMac SuperMatch 20 Plus **\$999***
 Radius PrecisionColor 20v **\$1099***
 Digital 20 inch Display Up to 1280x1024 **\$1399**
 RasterOps 20 Multimode **\$1299**
 Radius PrecisionColor 19 **\$899***

Radius IntelliColor Display 20 **\$1499***

- MacUser, MacWorld, MacWeek Editor's Choice
- 1600x1200 to 640x480

Apple Multiple Scan 20 Display **\$CALL**
 Ikegami 20 inch Grayscale Display **\$699**
 Radius 20 inch Grayscale Display **\$699**

*With qualifying videocard, accelerator, or computer purchase

SEVENTEEN INCH DISPLAYS

SuperMac/E-Machines T1611MR **\$599***

- Studio Grade Trinitron CRT
- 0.26 Dot Pitch



SuperMatch 17T TRINITRON **\$799**
 PrecisionColor Display 17 **from \$899**
 PrecisionView 17 **\$CALL**
 Radius PressView 17sr **\$CALL**
 SuperMac SuperMatch 17 **from \$499***

*With qualifying videocard, accelerator, or computer purchase

PORTRAIT DISPLAYS

Radius Pivot Display **\$199***

We have cards for SE/30, LC, IIsi Nubus, and Quadras

*With purchase of video card.

PrecisionColor Pivot **\$599**
 Color Pivot LE **\$399**
 Radius Full Page Display **\$CALL**
 Apple Portrait Display **\$399**
 Portrait Display Labs 1700 **\$CALL**
 E-machines ColorPage 15 with NUBUS card **\$499**

VIDEO CARDS

1600x1200 PCI & NUBUS

IMS Twin Turbo 128M ♦♦♦♦MacWEEK **\$299**

- 1600 x 1200 to 640 x 480 resolutions
- MPEG video playback
- 128-bit wide architecture
- Interleaved VRAM



RasterOps OptiColor 128 4MB/8MB **\$IN STOCK**



FASTEST CARD AVAILABLE! -- Macworld
If you need fast graphics redraw, this is your card!

Radius Thunder II & IV GX Cards **\$BELOW COST**
 Radius Thunder 24/GT (accepts PhotoEngine) **\$CALL**
 Radius ThunderColor 30/1152 & 1600 **\$CALL**
 Radius PrecisionColor 8/1600 **\$399**

21" RESOLUTIONS PCI & NUBUS

Radius PrecisionColor 24X **\$599**
 Thunder 8 "Fastest 8 bit card ever" **\$CALL**
 Thunder 24 (DSP available) **\$CALL**
 Radius LeMans GT **\$799**
 SuperMac Ultura LX* **\$799**
 RasterOps Horizon 24* **\$899**
 RasterOps Prism GT **\$CALL**
 Radius PrecisionColor 8XJ **\$499**

*DSP Available

20/19" RESOLUTIONS PCI & NUBUS

SuperMac Spectrum 24 Series V **\$599**
 Radius PrecisionColor Pro 24XK **\$CALL**
 SuperMac Futura MX **\$499**
 RasterOps PaintBoard Lightning **\$CALL**
 SuperMac Spectrum 8 **\$199**
 PowerView/SuperView for Powerbooks **\$199/\$299**

17/16" RESOLUTIONS PCI & NUBUS

Radius 24 bit video cards **from \$199**
 Radius PrecisionColor Pro 24XP **\$CALL**
 SuperMac Futura SX **\$299**
 RasterOps 24 MX **\$399**

PHOTOSHOP ACCELERATION

Radius PhotoEngine

- Four AT&T 3210 66MHz DSPs
- Accelerates Photoshop Filters
- Up to 15x acceleration on all Macs
- MacUser Editor's Choice
- Available in Daughtercard or NUBUS versions



\$399*
from
Retail at \$999

Adaptive Solutions PowerShop

Radius Photo Booster for Quadra/PDS or Rockets **from \$199**
 SuperMac DSP daughter cards for Thunder/Ultras **\$299**

COLOR CALIBRATORS



SuperMac Display Calibrator **only \$199**
 SuperMac Display Calibrator PRO **\$499**
 Radius Mac ProSense Calibrator **\$799**

POWERBOOK 5300

FOCUS enhancements
Lapis Color MV Cards **from \$249**

- Multiple resolutions up to 21"
- 10BASE-T ethernet
- Uses PDS slot leaving your PCMCIA slot available for other uses.



The Lapis Color MV card is the only solution that does not use your PCMCIA slot, thus allowing for additional uses such as a modem for your PB5300. Since the card was jointly developed with Apple, it is virtually the only ethernet solution that does not drop data packets and is the only external video solution available.

For prices starting from \$249, you will not find a better value!

www.cra-sys.com

AT OR BELOW DEALER COST!

PRINTERS

TABLOID LASERS

QMS 860 HammerHead

- 600 dpi 11 x 17
- PostScript Levels 1&2
- 8ppm heavy-duty Canon engine
- Powerful RISC processor



from **\$1999**

QMS PS2210/2220

- 20,000 page monthly duty cycle
- 22ppm • Dual-tray input



from **\$1499**

GCC Elite XL series 800dpi

Hewlett-Packard 4MV

GCC SelectPress 1200x1200dpi

GCC ELITE XL808 & XL1208

Radius Proof Positive PTR 220/230

Dye-Sublimation

from **\$2499**

\$2499

\$4999

\$CALL

\$CALL

Ask about Printers available in 220v!

LETTER/LEGAL

QMS PS1700 for Macs and PCs

- True Adobe Postscript
- 17ppm output
- Dual Paper output; Duplex Option
- 50,000 print monthly duty cycle

Hewlett-Packard 5mp 600dpi

Apple Select 360 10ppm, 600dpi

GCC WriteMove II portable printer for Powerbook

from **\$1499**

\$CALL

\$1199

\$CALL

CPU SPECIALS

POWER MACS

All PCI PowerMacs Available -- CALL for Lowest Prices Ever!!



from **\$999**

Radius 81/110

FACTORY CLOSE-OUT! LAST CHANCE!

PowerMac 7200/7500/7600

PowerMac 8500/9500

Umax C500/C600/S700/S900L

Power Computing

Motorola StarMax 3000/4000

from **\$999**

from **\$1699**

from **\$2399**

from **\$1349**

from **\$1895**

\$CALL



POWERBOOK/QUADRA

PowerBooks/Duos

Quadra 800 8/250/CD NEW

Quadra 840AV 8/250/CD w/ Spigot Power AV

Quadra 900/950

\$CALL

\$CALL

\$CALL

\$CALL

FREE ClarisWorks with every CPU purchase !!

GUARANTEED LOWEST PRICE ON ALL DIGITAL VIDEO!

TRUEVISION Targa 2000

NEVER UNDER SOLD!!

- 16-bit audio up to 48KHz
- NTSC: 30 frames/60 fields per second,
- Supports PAL broadcast standards

Other Truevision Products:

- Targa 1000/2000 Pro
- BRAVADO/Targa 1000



Video Vision Studio, PCI and Nubus

- 24bit Full-Screen, Full-Motion Video
- Includes Adobe Premiere and VideoFusion
- Breakout bar supports dual input

CALL FOR BEST PRICE!!

Video Vision Studio Array 4-12GB

Radius Spigot Pro AV \$999

- 24bit Full-Screen, Full-Motion Video

Radius Spigot Power AV \$799

Video Vision Telecast

- Full-motion, broadcast-quality video
- Available as upgrade for Video Vision Users

miroMOTION DC20 M-JPEG PCI video capture & playback

Spigot II Tape Now Bundled with Adobe Premiere

VideoSpigot Cards Nubus/LC/IIIs

SINSTOCK!



Compare at \$4999 **\$2999**

\$CALL

\$499

from **\$99**

BEST DEAL IN THE COUNTRY!

Full Digital Video Workstation for less than a PCI Digital Video card alone!!

SAME TECHNOLOGY FOR HALF THE PRICE!!

RADIUS 81/110

32/2GB AV Drive/CD with Video Vision

only **\$2998**



RADIUS 81/110

from **\$999**



EarthLink Network

SET-UP WAIVED! TO FREE DAYS With every purchase!



THE MOST KNOWLEDGEABLE SALES STAFF IN THE INDUSTRY!

New and Factory Recertified Models of Most Items Available

CRA Systems, Inc.

300 South 13th St., Waco, TX 76701

Monday thru Friday 9AM to 7PM CST Saturday 10AM-4PM Sales Dept. Only Domestic sales sales@cra-sys.com Fax 817.750.9050

Consultants/Dealers 817.754.2120 International Sales 817.754.2120

Prices reflect 2% cash discount. Prices subject to change. Not liable for typographical errors. All shipping charges for COD orders to be secured by credit card. Dealers and consultants call for quantity pricing. We ship anywhere.



800/375-9000

Circle 20 on reader service card

MACWORLD March 1997 173

• SCSI HARD DRIVES •

MICROPOLIS

2147MB	9ms	5400rpm	512K	MC4421	5yr	\$369	\$429
4294MB	8ms	7200rpm	512K	MC3243	5yr	\$889	\$949
4550MB	7.9ms	7200rpm	512K	MC4345	5yr	\$989	\$1049
9091MB	8.5ms	7200rpm	512K	MC3391	5yr	\$1759	\$1819
SCSI A/V - Drives fine tuned for audio and video applications.							
2147MB	9ms	5400rpm	512K	MC4421AV	5yr	\$429	\$489
4294MB	8ms	7200rpm	512K	MC3243AV	5yr	\$939	\$999
WIDE SCSI							
4294MB	8ms	7200rpm	512K	MC3243W	5yr	\$929	\$1059
4550MB	7.9ms	7200rpm	512K	MC4345W	5yr	\$1020	\$1130
9091MB	8.5ms	7200rpm	512K	MC3391W	5yr	\$1709	\$1849
WIDE DIFFERENTIAL SCSI							
4294MB	8ms	7200rpm	512K	MC3243WD	5yr	\$899	\$1029

Seagate

1050MB	9ms	5400rpm	512K	ST31055N	5yr	\$339	\$399
2150MB	9ms	5400rpm	512K	ST32155N	5yr	\$475	\$535
2150MB	8ms	7200rpm	1024K	ST32171N	5yr	\$729	\$789
4350MB	8ms	7200rpm	512K	ST34371N	5yr	\$1125	\$1185
9080MB	11ms	5400rpm	1024K	ST410800N	5yr	\$1779	\$1879
9100MB	8ms	7200rpm	512K	ST19171N	5yr	\$2169	\$2229
WIDE SCSI							
1050MB	9ms	5400rpm	512K	ST31055W	5yr	\$379	\$509
2150MB	9ms	5400rpm	512K	ST32155W	5yr	\$529	\$659
2150MB	8ms	7200rpm	1024K	ST32171W	5yr	\$779	\$909
4350MB	8ms	7200rpm	1024K	ST34371W	5yr	\$1189	\$1379
9100MB	11ms	5400rpm	1024K	ST410800W	5yr	\$1999	\$2149
9100MB	8ms	7200rpm	1024K	ST19171W	5yr	\$2149	\$2279

Quantum

1280MB	12ms	4500rpm	128K	TM31280S	3yr	\$269	\$329
2110MB	10.5ms	4500rpm	128K	TM32110S	3yr	\$319	\$379
3254MB	10.5ms	4500rpm	128K	TM33200S	3yr	\$349	\$409
4550MB	8ms	7200rpm	512K	XP34550S	5yr	\$929	\$989
9100MB	8ms	7200rpm	512K	XP39100S	5yr	\$1489	\$1549
WIDE SCSI							
4550MB	8ms	7200rpm	512K	XP34550W	5yr	\$929	\$1059
9100MB	8ms	7200rpm	512K	XP39100W	5yr	\$1489	\$1619

FUJITSU

4400MB	8ms	7200rpm	512K	M2954S	5yr	\$819	\$879
--------	-----	---------	------	--------	-----	-------	-------

Turn Virtually any 3 1/2" Hard Drive Into a Removable!



Just mount any 3 1/2" hard drive in the included cartridge, and the included frame in a 5 1/4" drive bay in your computer. It's that simple. Great for transportability, data interchange, or security needs. Extremely high quality construction cartridge and frame, cooling fan. Unit has SCSI ID select on the cartridge. Qty discounts available.

Interface	System	Extra Cartridge	Extra Frame
IDE	\$79 #DP2200A	\$39 #DPACART	\$49 #DPAFRAME
SCSI	\$85 #DP2200S	\$40 #DPSCART	\$54 #DPSFRAME
WIDE SCSI	\$129 #DP2200W	\$64 #DPWCART	\$75 #DPWFRAME
Weather resistant case to store/transport cartridge # DPCASE \$55			
Face plate - for use while cartridge removed #DPFPLATE \$10			

• MEDIA •

Teijin Optical Disks - Features a LIFETIME WARRANTY!

Qty prices shown are 2-45+ Larger qty pricing avail. Call for details.			
230MB, 3.5"	\$18/\$14	540MB, 3.5"	\$35/\$31
600MB, 5.25"	\$38/\$34	650MB, 5.25"	\$38/\$34
1.3GB, 5.25"	\$49/\$45	2.3GB, 5.25"	\$70/\$65
128MB, 3.5"	\$17/\$13	640MB, 3.5"	\$38/\$34
		1.2GB, 5.25"	\$49/\$45
		2.6GB, 5.25"	\$70/\$65

CDR Media

5 Pack \$40	20 Pack \$149	50 Pack \$359	100 Pack \$699
-------------	---------------	---------------	----------------

CD-R labels w/template software & applicator \$55

Backup Tapes - Call for quantity discounts.

4mm 120M [DAT120M]	\$27	8mm 160M [DAT160M]	\$23	DLT3 [DLT3]	\$52	DLT4 [DLT4]	\$105
--------------------	------	--------------------	------	-------------	------	-------------	-------

• SPECIAL FEATURE PRODUCTS •

Nakamichi 8X SCSI 4 Disc CD-ROM Changer

150ms, 256K cache. Internal [M448S] \$299 External [M448SX] \$399

Toray PD-ROM 650MB PD and CD-ROM in ONE unit.

Software included. External [PWS650] \$379 Ask about rebate!

• REMOVABLES •

OMEGA Call about \$50 Iomega rebate - good until 1/31/97!

100MB ZIP w/1 FREE DISK!	\$469 [JAZX]
1GB JAZ w/1 FREE DISK!	\$189 [ZIP100]
SYQUEST Call about \$55 SyQuest rebate - good until 2/28/97!	
230MB EZFlyer, EZ135MB compatible, 1 Free disk	\$285 [EZ230S]
NOMAI Call about \$50 Nomai rebate - good until 3/15/97!	
540MB MCD, SyQuest 270MB compatible, 1 Free disk	\$299 [MCD540XC]
MEDIA Call for larger quantity discounts.	
Iomega Zip Qty 2-4/5-9/10+ \$23/\$18/\$16 Jaz for Mac Qty 2-4/5-9/10+ \$99/\$94/\$90	
Nomai 100% SyQuest compatible. 44MB \$34 88MB \$38 200MB \$62 230MB \$21 270MB \$52	
Genuine SyQuest 44MB \$44 88MB \$48 105MB \$56 135MB \$26 200MB \$72 230MB \$30 270MB \$58	

EXTERNAL
(Call for Int. or bare price)

• OPTICALS •

FUJITSU	
230MB, 128MB compatible, for Powerbook 190 & 5300	\$399 [M251PMKTT]
640MB, 128 & 230MB compatible, 512K buffer, 1 Free disk	\$655 [MAC2513AXC]
640MB, 128 & 230MB compatible, 2MB buffer, 1 Free disk	\$685 [MAC2513AXXC]
SMART STORAGE SOLUTIONS	
230MB, 128MB compatible, 4500rpm, 1 Free disk	\$449 [SSS230M]
640MB, 128 & 230MB compatible, 512K buffer, 1 Free disk	\$589 [SSS640M]
2.6GB, 650MB & 1.3GB compatible, 3000rpm, 1MB, 1 Free disk	\$1739 [SSS2.6M]
MAXOPTIX	
2.6GB, 650MB & 1.3GB compatible, 3000rpm, 1MB, 1 Free disk	\$1869 [MACTAH2.6]
HEWLETT PACKARD	
2.6GB, 650MB & 1.3GB compatible, 3000rpm, 1MB, 1 Free disk	\$2295 [C1113FMACX]

• CD ROM DRIVES •

NEC 4X 200ms 128K Tray	\$189 [CDR222XM]
Plextor 6X 145ms 256K Caddy	\$359 [PX63CSXM]
Philips 8X 185ms 256K Tray	\$295 [PC805XM]
NEC 8X 145ms 256K Tray	\$295 [CDR1405XM]
Plextor 8X 115ms 256K Caddy	\$389 [PX83CSXM]
Pioneer 10X 65/140ms 128K Tray	\$315 [DRU105XM]
Plextor 12X 105ms 512K Tray	\$409 [PX12TSXM]
Plextor 12X 105ms 512K Caddy	\$439 [PX12CSXM]

• CD RECORDERS •

SMART STORAGE SOLUTIONS	
2x4, 1MB buffer, caddy loading, 5 free disks	\$519 [SSS2X4CDRMS]
4x4, 512K buffer, caddy loading, 5 free disks	\$859 [SSS4X4CDRDM]
RICOH	
2x4, 2MB buffer, caddy loading, 1 free disk	\$519 [RO1402CXM]
TEAC	
4x4, 1MB buffer, tray loading, 1 free disk	\$859 [CDR505XM]
YAMAHA	
4x4, 512K buffer, caddy loading, 1 free disk	\$869 [YCDR100XM]
These CD Recorders include Toast CD Mastering software. Priced as External for Macintosh. Call for internal configuration or bare drive pricing.	

• SCSI TAPE BACKUP •

These tape drives include backup software and 1 FREE TAPE!

HEWLETT PACKARD	
2GB, 4mm, DAT, 12MB/min	\$659 [C1534XM]
2-4GB, 4mm, DDS DAT, 42MB/min	\$745 [C1536XM]
4-8GB, 4mm, DDS-2 DAT, 88MB/min	\$1039 [C1533XM]
24-48GB, 4mm, DDS-2 DAT, 6 tape loader, 88MB/min	\$2539 [C1553XM]
SEAGATE	
2-4GB, 4mm, DDS DAT, 48MB/min	\$745 [C4324XM]
4GB, TR4 minicartridge, 30MB/min	\$465 [TST8000XM]
4-8GB, 4mm, DDS-2 DAT, 48MB/min	\$909 [C4326XM]
48-96GB, 4mm, DDS-2 DAT, 12 tape loader, 48MB/min	\$2219 [C4586XM]
EXABYTE	
3.5-7GB, 8mm, DAT, 32MB/min	\$1375 [EXB8205XM]
7-14GB, 8mm, DAT, 60MB/min	\$1099 [EXB870LTXM]
7-14GB, 8mm, DAT, 60MB/min	\$1989 [EXB8505XM]
20-40GB, 8mm, AME, 360MB/min	\$4659 [EXB8900XM]
70-140GB, 8mm, DAT, 10 tape loader, 60MB/min	\$4359 [EXB10HXM]
SONY	
4-8GB, 4mm, DDS-2 DAT, 44MB/min	\$895 [SDT5000XM]
4-8GB, 4mm, DDS-2 DAT, 90MB/min	\$950 [SDT7000XM]
32-64GB, 4mm, DDS-2 DAT, 8 tape loader, 90MB/min	\$2199 [TSL7000XM]
QUANTUM	
20-40GB, DLT, 150MB/min	\$4999 [DLT4000XM]

Since
The Drive Authority
1987



Sales lines open: M-F 8-8 Sat 9-3 CST
<http://www.megahaus.com>

2201 Pine Drive, Dickinson, Texas 77539
(281)534-3919 FAX (281)534-6580

Prices & specifications subject to change without notice. Shipping charges are non-refundable. Returns must be in new condition and in original packaging. Defective items may not be refundable. No refunds on software or special orders (items not listed in ad.) All refunds subject to 15% restocking fee. All trademarks are registered trademarks of their respective companies. Personal checks held for clearance. We reserve the right to refuse any sale for any reason. Bundle price good only if sold at ad price. ©1997 MegaHaus Inc.

COMPUTER TRAINING DOESN'T HAVE TO BE EXPENSIVE!

With the Mac/Windows Video Training Series you will become an expert in the most popular software programs in use today.



MacAcademy®

"Where the World Learns the Computer"

	# of volumes	Mac video	Mac CD-ROM	Windows video		# of volumes	Mac video	Mac CD-ROM	Windows video
ACT!	3	♦		♦	Microsoft Works (Mac).....	5	♦		
America Online	1	♦		♦	MiniCad.....	2	♦		♦
Canvas.....	5	♦		♦	Online, Introduction to.....	1	♦		♦
ClarisWorks	7	♦	♦	♦	PageMill & 3D Web Workshop....	1	♦		
CompuServe	1	♦		♦	PageMaker	7	♦		♦
Desktop to Pre-Press	2	♦		♦	Painter.....	4	♦		
Director.....	5	♦		♦	Persuasion.....	2	♦		
Excel.....	5	♦	♦	♦	Peachtree Accounting.....	4	♦		
FileMaker Pro.....	5	♦	♦		Photoshop	10	♦		♦
FrameMaker	4	♦	♦	♦	PowerPoint	2	♦	♦	♦
FreeHand	6	♦			Premiere.....	3	♦		♦
HyperCard	4	♦			QuarkXPress.....	4	♦		♦
Illustrator	6	♦			QuickBooks	3	♦		♦
Infini-D	2	♦			Quicken	2	♦		
Internet.....	1	♦		♦	Scanning	1	♦		♦
LogoMotion.....	1	♦			TextureScape	1	♦		
Lotus 1-2-3 (Windows).....	4			♦	Windows 95.....	4			♦
Lotus 1-2-3 (Mac).....	3	♦			Windows NT	4			♦
Mac Troubleshooting	3	♦			Word	6	♦	♦	♦
Mac Operating System.....	4	♦	♦		WordPerfect.....	6	♦		♦
Microsoft Works (Windows).....	4			♦	Other Programs Available!				

Each volume is approximately 2 hours in length and is time coded for your convenience. Volumes may be ordered individually or as a group. All volumes carry a 30 day money back guarantee and may be upgraded when a new version is released for \$19.95 per volume. Please add \$4 per order plus \$1 per volume shipping and handling. Other programs available, call for a complete catalog. **Please specify software version and Macintosh or Windows platform.** (The newest version will be shipped unless otherwise specified.)

Think of how valuable you will be with this training!
Only \$59 per video Order Now Call 1-800-527-1914



MacWAREHOUSE

We carry over 6,000 products for your Mac! Plus

100% MAC-OS COMPATIBLE SUPER SYSTEMS!



MOTOROLA

AS LOW AS
\$1599!
Includes
28.8 Modem!

StarMax 3000/180
180MHz, 16MB RAM, 1.2GB hard drive,
8X CD-ROM/28.8 modem
Ask for Item # CPU 0538 **\$1599**

StarMax 3000/180 Mini-tower
180MHz, 32MB RAM, 2.5GB hard drive,
8X CD-ROM/28.8 modem
Ask for Item # CPU 0537 **\$1899**

StarMax 3000/200
200MHz, 16MB RAM, 1.2GB hard drive,
8X CD-ROM/28.8 modem
Ask for Item # CPU 0449 **\$1999**

StarMax 3000/200 Mini-tower
200MHz, 32MB RAM, 2.5GB hard drive,
8X CD-ROM/28.8 modem
Ask for Item # CPU 0450 **\$2199**

NEW! FM Tuner
Connects to your ADB port so you can play your favorite FM radio stations on your Mac!

LACIE LIMITED

only **\$49⁹⁵**

Ask for item # INP 0969

GET MYST FREE! *
when you buy a
12X CD-ROM Drive
for **\$249⁹⁵**
only

WHILE SUPPLIES LAST!

Ask for item # BND 1727

*Shipped in promotional packaging on CD-ROM.

3 Ways to Order:

1. Call: 1-800-434-3035
2. FAX: 1-908-905-9279
3. MacWAREHOUSE is now on the



<http://www.warehouse.com>
✓ Hundreds of shareware and demo titles for you to download!
✓ Latest information on the newest products!

1. Our customer service staff is ready to take your order 24 hours a day, 7 days a week.
2. We accept the following major credit cards: Visa, MasterCard, Discover Card/NOVUS, AmEx. Your credit card will not be charged until each item is shipped (no surcharge).
3. CT, IL, NJ, and OH residents add applicable sales tax.
4. Shipping charge for orders under 5 lbs. is \$3.00. Orders over 5 lbs. are \$1.00 per pound or fraction thereof.
5. Place your order for "in-stock" items up to 12:00 midnight(E) (weekdays), and we will ship same day for overnight delivery (barring system failure, etc.).
6. Many of our products come with a 30-Day Money Back Guarantee. All items we sell come with the MacWAREHOUSE 30-Day Guarantee Against Defects.

30 DAY Money Back Guarantee
Against Defects

© Copyright 1995 Micro Warehouse, Inc. MacWAREHOUSE® is a division of Micro Warehouse, Inc. MacWAREHOUSE® and MacWAREHOUSE® are registered trademarks and Data Comm WAREHOUSE and MacSystems WAREHOUSE are trademarks of Micro Warehouse, Inc. Apple, the Apple logo, Mac and Macintosh are registered trademarks of Apple Computer, Inc. Item availability and price subject to change without notice. We regret that we cannot be responsible for typographical errors. All prices shown in U.S. dollars.

The SUPERFAST 33.6 Internet Access Kit

ONLY **\$99⁹⁵***

Includes Earthlink Total Internet Access



Turbo Mouse 5.0
Great Low Price!
only **\$99⁹⁵**
Ask for item # INP 0626

KENSINGTON

Upgrade to **OMNIPAGE PRO 7.0** for only **\$129⁹⁵**
Ask for item # UPG 0582

caere

ATTENTION DIRECTOR & DIRECTOR STUDIO OWNERS!

Trade up To mTropolis 1.1

Multimedia authoring with drag-and-drop ease!

Trade-up & **SAVE OVER \$475!**

Ask for Item # SID 0386 (CD-ROM) **\$519**
mTropolis 1.1: Ask for Item # GRA 1705 1995

APPLE HARD DRIVES

2GB AS LOW AS **\$499**

Interchangeable foot pads make it easy to use vertically or horizontally!

2GB drive: DRI 1336 \$499
3GB drive: DRI 1658 \$589
4GB drive: DRI 1828 \$999

RAM Doubler 2

Upgrade For Only **\$29⁹⁵***

After \$25 mail-in upgrade rebate.

Ask for item # UTI 0986

*Price reflects \$25 publisher's mail-in upgrade rebate for previous owners. Price before rebate is \$54.95.

UPGRADE TO Microsoft Office 4.2.1

FOR ONLY **\$269⁹⁵**

Ask for item # UPG 0237

PLUS! Essential tools for small business

Microsoft Office: BUS 1015.....\$449.95

WAREHOUSE®

FREE!

WHILE SUPPLIES LAST!

WITH ANY PURCHASE
Marathon 2: Durandal

Ask for item # AAA 0442. *You pay only \$2.95 shipping and handling. While supplies last. Shipped in promotional packaging on CD-ROM.

a full line of Macintosh™ and Mac OS computers!

17" COLOR DISPLAY

ONLY \$499!

15.8" viewable display area, resolutions up to 1024 x 768

Ask for item # MON 0378

PowerUser

JAZ DRIVE

Store up to 1GB on one 3.5" cartridge!

\$499.95 Includes your first 1.0GB cartridge!

Ask for item # DRI 1119

*Jaz Tools Utility Software included on first cartridge.

Jam-packed with **12 FREE** software titles!

1-Year On-Site Warranty

Mac OS

Monitor not included.

UMAX Computer Corporation

160MHz PowerPC

100%-compatible Mac OS Computer

only \$1299*

- 160MHz PowerPC 603e Processor!
- 16MB RAM (expandable to 144MB)!
- 8X CD-ROM Drive!
- 1.2GB Internal Hard Drive!

NEW VERSION!

Upgrade to **Speed Doubler 2** for only **\$29.95***

*After \$25 publisher's mail-in upgrade rebate. Price before rebate is \$54.95. Ownership of previous version required.

1GB Jaz Cartridges

Ask for item # MED 0177

1-4 carts.	5-9 carts.	10+ carts.
\$124.95 ea.	\$99.95 ea.	\$89.95 ea.

SuperMac C500 Item # CPU 0476... **\$1299***

*Price reflects a \$50 mfr's mail-in rebate. Price before rebate is \$1349. Rebate coupon in box. Offer exp. 1/31/97.

SuperMac C600

180MHz/603e/1.2GB/16MB/8X CD	Item # CPU 0555... \$1599
Item # CPU 0479 (with 28.8 modem)....	\$1699
200MHz/603e/2.1GB/16MB/8X CD	Item # CPU 0556... \$1899
Item # CPU 0478 (with 28.8 modem)....	\$1999
240MHz/603e/2.1GB/24MB/8X CD	Item # CPU 0554... \$2199
Item # CPU 0533 (with 28.8 modem)....	\$2299

Monitor not included.

1-Year On-Site Warranty

Get a Power User's Tool Kit® **FREE!** with every order!

Demo loads of powerful programs for FREE—some authors ask that you pay a small fee (\$8-\$25). The Power User's Tool Kit is FREE when you order from MacWAREHOUSE. You pay only \$2.00 shipping and handling. If you would like the disk, please ask for Item # AAA 0462. All programs work with System 7.

Upgrade WAREHOUSE!

SAM 4.5 Upgrade	Ask for item # UPG 0585	\$39.95
Proof of ownership required.		
Speed Doubler 2—Upgrade	Ask for item # UTI 1052	\$29.95*
*Price after \$25 Manufacturer's mail-in upgrade rebate for previous owners. Price before rebate is \$54.95.		
Adobe Illustrator 6.0 Upgrade from 5.0	Ask for item # UPG 0222 (CD-ROM)	\$99.95
Claris FileMaker Pro 3.0 Upgrade	Ask for item # UPG 0231	\$99.95
Macromedia Director 5 Upgrade	Ask for item # UPG 0248 (Mac CD-ROM)	\$369.95
Ask for item # UP 3348 (Win. CD-ROM)		
Macromedia Director Multimedia Studio 2 Upgrade	Ask for item # UPG 0249 (Mac CD-ROM)	\$468.95
Ask for item # UP 3346 (Win CD-ROM)		
Microsoft Office 4.2.1 Upgrade	Ask for item # UPG 0237	\$269.95
Symantec Norton Utilities 3.2 Upgrade	Ask for item # UPG 0210	\$39.95

DeskWriter 600

B&W: 600dpi! Color: 300 x 600dpi!

\$149.95

Ask for Item # INP 0542

*Color printing requires optional color kit—Only \$29.95. Item # PA 0078

COLOR Ready!

Adobe PageMill 2.0

Upgrade for only **\$49.95**

Ask for item # BND 1554

FREE WEB GRAPHICS from PhotoDisc!

PhotoDisc WebGraphics shipped in promotional packaging on CD-ROM. PageMill 1.0 serial number required at time of order.

SIMMS as low as **\$19.95**

1MB 30-pin 80ns SIMMS

Ask for item # CHP 0022

To order, call toll-free 24 hours a day, 7 days a week

1-800-434-3035

FREE CATALOG SUBSCRIPTION! Check the appropriate box(es) to receive your FREE 1-year catalog subscription(s) and mail this coupon to: 1720 Oak Street, P.O. Box 3013, Lakewood, NJ 08701

Name _____

Address _____ Apt. _____

City _____ State _____ Zip _____

(Expect to receive your first issue(s) within 4-6 weeks.)

Yes, send me my FREE Power User's Tool Kit. Enclosed is my check for \$2.00 to cover shipping & handling.

MacWAREHOUSE MicroWAREHOUSE DataComm WAREHOUSE MacSystems WAREHOUSE MicroSystems WAREHOUSE

For your FREE Canadian Catalog, call toll-free 1-800-603-5139!

FREE CATALOG!



Circle 150 on reader service card

express direct We're the Mac

ALL MAC PRICES SLASHED!

8500
180MHz

Only \$3679

POWER MACINTOSH 8500/180

- 180MHz PowerPC 604e processor
- 32MB RAM
- 2GB HD
- 8X CD

\$129
a month
LEASE

Monitor & keyboard sold separately.

9500
200MHz

Only \$4179

POWER MACINTOSH 9500/200

- 200MHz PowerPC 604e processor
- 32MB RAM
- 2GB HD
- 8X CD

\$139
a month
LEASE

Monitor & keyboard sold separately.

FREE Fetch 1.5
with any system!
Call for details.



Complete System Only \$7499

We've got the entire Power Computing line. Call for Custom Configurations!

POWERTOWER PRO 225 Complete Publishing System

- PowerTower Pro 225 with
- 32MB of RAM, 1MB Level 2 cache
- 2GB AV HD & 8x CD-Rom Drive
- IMS TwinTurbo 128 MB graphics card
- Extended Keyboard
- 17" Trinitron Monitor
- 6 PCI expansion slots
- QuarkXpress 3.32
- Adobe Illustrator 6.0 with FREE PageMill 1.0 & more!
- UMAX S12: 33-bit color, 1200dpi scanner with Adobe Photoshop & OmniPage OCR
- Live Picture SE
- PLUS an extra \$1200 of software

Complete system price \$7,499
Lease for only \$259/month*

NEW!

\$259
a month
LEASE

225 MHz

Over 5,000 products for the graphics professional—if you don't see it...call!

EXTENSIONS DIRECT



Only \$99 ea.

Products also available from Alien Skin, ALAP, Vision's Edge & others!

For a complete offering of extensions & plug-ins, visit Extensions Direct at:

www.expressdirect.com

Media 100 qx

The ultimate system for digital video!
Includes full Premiere 4.2

Only \$3995



EXPRESSION 636 ARTIST MODEL SCANNER

36-bit color, 600dpi (4800dpi maximum). Includes 2 yr. warranty, Full Photoshop, KPT, OCR & more!

Only \$1429



EPSON

HITACHI SUPERSCAN MC21

21" CRT (20" viewable) .28 dot pitch. Supports resolutions up to 1600 x 1200 at 68HZ!

Only \$1799



HITACHI

DISK ARRAYS

Arrays from 4GB to 36GB



From \$2399

Apple, the Apple logo, Macintosh, Macintosh G4 and Power Macintosh are trademarks of Apple Computer, Inc. Prices are subject to change without notice. Mac pricing based on purchase of CPU with monitor. Stand Alone CPU only by mail. All returned items may be subject to a 15% restocking fee plus return shipping. Call for RMA before returning. Software, unless defective, cannot be returned after it has been opened. *Lease price based on 36 month term with 10% purchase option. Call for complete details.

MAC BARGAINS®

Buy with Confidence Online from MAC BARGAINS®.

- **NEW!** To place an order, e-mail to mac.bargains@mzi.com
- **NEW!** For detailed product information, e-mail to mac.bargains.info@mzi.com
- Over 2500 products in stock



Low As \$1349

Model C500

UMAX SuperMac Computers

- Upgradable PowerPC™ 603e processor running at 240, 200, 180 or 160MHz
- 16MB RAM, expandable to 144MB
- Spacious 2.1 or 1.2GB hard drive
- 1MB VRAM and 1 or 3 PCI expansion slots
- External and internal Fast SCSI connector
- For more information, e-mail keyword **SUPERMAC**

UMAX

#81530 SuperMac C500U/160 16/1 2GBHD 6CD 603e	\$1349
#81531 SuperMac C500L/180 16/1 2GBHD 6CD 603e	\$1695
#81532 SuperMac C500L/200 16/2 1GBHD 6CD 603e	\$1995
#81533 SuperMac C500L/240 16/2 1GBHD 6CD 603e	\$2295



Only \$89.98

Adobe PageMaker 6.5 Version Upgrade

- Automatic reformatting and document-wide layers
- New text and graphics frames
- Export pages to HTML format for Internet publishing
- For more information, e-mail keyword **PAGEMAKER**

Adobe #83068

HP LaserJet 6MP Printer

- 8 ppm print speed
- True 600 dpi; 128 levels of gray
- 3MB RAM, up to 35MB with Adobe™ Memory Booster

Only \$949.98

Hewlett-Packard #82666

Software

Adobe	
88827	Adobe After Effects 3.0 CD \$64.89
06263	Adobe Dimensions 2.0 \$128.89
88207	Adobe Illus 5.0 To 6.0 Upgr CD/3.5"/Mac \$128.89
88205	Adobe Illustrator 5.0 to 6.0 Upgrade CD \$98.89
88206	Adobe Illustrator 6.0 CD & 3.5" \$388.89
87610	Adobe Illustrator 6.0 CrossGrade CD & 3.5" \$128.89
87628	Adobe Illustrator 6.0 CrossGrade CD for Freehand \$98.89
91256	Adobe PageMaker 6.0 CD & 3.5" \$548.89
99605	Adobe PageMaker 6.0 Competitive Upgrade \$188.89
91255	Adobe PageMaker 6.0 Upgrade \$144.49
83932	Adobe PageMill 2.0 Upgrade \$48.89
83606	Adobe PageMill 2.0 w/PageMill Handbook \$88.89
38523	Adobe Persuasion 4.0 Mac & Win \$244.89
81740	Adobe Persuasion 4.0 Upgrade \$118.89
83083	Adobe Photoshop 4.0 \$348.89
83084	Adobe Photoshop 4.0 Upgrade \$134.49
04670	Adobe Premiere 4.2 CD \$488.89
03971	Adobe Streamline 3.1 \$128.89
92218	Adobe SuperPaint Deluxe 3.5 \$68.89
92249	Adobe TextureMaker 1.0 Mac & PowerMac \$128.89
95307	Adobe Type Twister 1.0 for Mac \$29.99

AEC Software

03456	Fast Track Schedule 4.0 PowerMac or Mac \$167.20
-------	--

Aladdin

05827	StuffIt Deluxe 4.0 \$66.11
85605	StuffIt Deluxe 4.0 Upgrade \$32.36
87434	StuffIt Dix 4.0/Conflict Catcher 3 Bundle \$79.99

Alien Skin

92297	The Black Box 2.0 \$79.93
-------	---------------------------

Alsoft

00618	DiskExpress II 2.2 \$39.99
04543	Master Juggler 2.0 \$39.99

Berkeley Systems

83662	Alter Dark 4.0 w/\$10 Rebate \$27.46
83667	You Don't Know Jack Sports \$27.46

BestWare

04712	MYOB Accounting 7.0 \$76.95
-------	-----------------------------

Broderbund

86677	Logical Journey Of The Zoombinis \$32.42
97733	MYST \$34.96
88862	Passage to Vietnam Mac/Win CD \$33.69

Bungie Software

96284	Marathon \$35.00
88450	Marathon 2 Durandal \$41.12

Coere

05161	OmniPage Direct 2.0 \$57.46
91304	OmniPage Pro 6.0 Upgrade \$116.17

Casady and Greene

91310	Conflict Catcher 3 Competitive Upgrade \$28.65
82126	Conflict Catcher 3/Ram Dbltr/Speed Dblr Bndl \$98.89
95255	Glider Pro \$23.81

Claris

84075	Claris EmViler 1.1 \$12.98
86444	Claris Organizer 2.0 \$62.45
18052	ClarisDraw 1.0 v3 \$179.69
99734	ClarisImpact 2.0 \$78.75
93424	ClarisWorks 4.0 \$116.09



Only \$134.98

Adobe Photoshop 4.0 Upgr

- Batch-process files with Actions Palette
- Guides and Grid feature for precise control
- Adjustment Layers let you experiment with effects

Adobe #83084

84051	ClarisWorks 4.0 & Apple Internet Connection Kit \$116.09
92638	ClarisWorks 4.0 Comp/Ver Upgrade \$62.36
88830	FileMaker Pro 3.0 \$181.02
88829	FileMaker Pro 3.0 Comp/Ver Upgr CD/3.5" \$89.90
04140	MacProject Pro 1.5 \$364.98
06525	MacWrite Pro 1.5 \$44.85

Connectix

91300	Conflict Catcher 3 \$56.17
-------	----------------------------

81226	Conflict Catcher 3/RAM Dbltr/Spd Dblr Bnd \$98.89
84048	Connectix RAM Doubler 2 \$53.63
90375	Connectix Speed Doubler for Mac V1.1 \$53.63

Corel

91628	Corel GALLERY 2 (Mac) \$33.75
31722	Corel Pro Photo Vol 13-Txts, Backgds & Objis \$124.88
92234	Corel Stock Photo Library 1 \$869.98
91276	Corel Stock Photo Library 2 \$869.98
84053	CorelDraw 6 \$391.97
84052	CorelDraw 6 Ver/Comp Upgrade \$136.12
03972	WordPerfect 3.5 Full Version CD-ROM \$146.07
83933	WordPerfect 3.5.1 C/V Upgrade CD-ROM \$78.75

Dantz

02586	Dantz Retrospect 3.0 \$136.13
04194	Dantz Retrospect w/10 User Remote \$247.11



QuarkXPress 3.32/QuarkImmedia Bundle

- The layout software design pros prefer
- Plus, interactive multimedia capabilities

Quark #82536

Dalaviz

96907	MacLink Plus/PC Connect 8.0 \$116.08
96908	MacLink Plus/Translators Pro 8.0 \$87.11

Datawatch

02077	Virex 5.6 for Mac \$51.18
89501	Virex 5.6 Version Upgrade \$22.46

Davidson & Associates

84730	Warcraft 2: Tides of Darkness CD \$41.13
-------	--

Epson

82860	Epson PostScript Level2 SW for Stylus Pro \$190.90
83649	Epson PostScript Level2 SW for Stylus XL \$238.43

Equilibrium

98360	DeBabelizer Toolbox 1.6 \$233.40
-------	----------------------------------

Extensis

91343	QXTools \$87.35
-------	-----------------

Farallon

96801	Farallon Timbuktu Pro for Mac 2.0 2-Pack \$168.51
96800	Farallon Timbuktu Pro for Macintosh 2.0 \$127.38

Fractal

37624	Fractal Design Dabbler 2.0 CD \$44.49
83051	Fractal Design Detailer \$279.99
83073	Fractal Design Expressions \$279.99
00665	Fractal Design Painter 4 for Mac \$344.49
93967	Fractal Design Painter 4 Upgrade for Mac \$124.49
91289	Fractal Design Poser \$89.99

FWB

06271	FWB CD-ROM Toolkit 2.0 CDT \$44.94
00555	Hard Disk Toolkit 2.0 \$112.36
05476	Hard Disk Toolkit Personal Ed 2.0 \$49.99

GDT

82867	GDT Software StyleScript 3.0 \$88.56
00642	PowerPrint 3.0 \$88.56
86168	PowerPrint GX \$117.35

GraphSoft

97781	MiniCad 6.0 \$519.42
-------	----------------------

GT Interactive

92035	Doom II for Mac \$28.71
87501	The Ultimate Doom CD \$28.69

Insignia

04768	SoftPC 3.1 Professional \$92.37
98471	SoftWindows 3.0 for PowerMac 3.5" Disk \$292.06
98475	SoftWindows 3.0 for PowerMac CD \$292.06
89308	SoftWindows 3.0 for PowerMac CD Upgr \$67.30
87440	SoftWindows 95 for PowerMac CD \$325.90
87442	SoftWindows 95 for PowerMac CD Upgr \$141.01
91088	SoftWindows for Performa \$114.93

Intuit

93222	Quickbooks 4.0 for Mac \$112.39
89653	Quickbooks Pro 4.0 for Mac \$182.34

04230	Quicken 7 for Mac \$39.99
89685	Quicken Deluxe 7 for Mac \$39.99

Jion

04257	BizPlanBuilder 5.0 Mac w/Video \$199.99
-------	---

Jump Development

92396	Optimem RAM Charger 2.0 \$39.99
-------	---------------------------------

Leister Productions

05984	Reunion 4.0 The Family Tree Software \$89.99
-------	--

Macromedia

88730	Director 5.0 w/Shockwave \$84.99
92266	Director Multimedia Studio 2.0 \$89.99
86007	Director Multimedia Studio 2.0 Upgrade \$49.99
88748	Extreme 3D Competitive Upgrade \$19.99
04537	Fontographer 4.1 \$32.99
82501	FreeHand 7.0 \$38.99
92290	FreeHand Graphic Studio 2.0 \$44.99
86005	SoundEdit 16 2.0 PI Deck II 2.5 \$39.99
84242	FreeHand 7.0 Version Upgrade \$149.99

MetaTools

81843	Bryce 2.0 \$15.99
84479	Kai's Power Goo \$14.99
06668	Kai's Power Tools 3.0 \$2.99
91258	Vector Effects 1.0 \$19.99

Microsoft

37803	MS Cinemania '97 for Mac CD \$29.99
95750	MS Encarta 1996 Mac CD \$29.99
00227	MS Excel 5.0 for Mac \$29.99
04545	MS Excel 5.0 for Mac Version Upgrade \$19.99
04293	MS Flight Simulator 4.0 Mac \$49.99
99966	MS FoxPro 2.6 for Mac \$69.99
96024	MS Office 4.2.1 with Essential Tools Comp/Version Upgrade CD \$279.99
83315	MS Office 4.2.1 with Essential Tools \$41.99
06300	MS PowerPoint 4.0 Version Upgrade \$19.99
04161	MS Project 4.0 for Mac \$29.99
04898	MS Word 6.0.1 for Mac \$49.99
00596	MS Word 6.0.1 Version Upgrade \$19.99
05750	MS Works 4.0 for Mac \$29.99
35483	Publisher 97 Upgrade/Full Version \$69.99

Nisus

83691	Writer 5.0 Comp Upgrade \$19.99
81652	Writer 5.0 Upgrade \$6.99

New Software

86085	Now Up to Date/Now Contact 3.6 \$19.99
04191	Now Utilities 6.5 \$19.99
86442	Now Utilities 6.5 Upgrade \$19.99



Upgrade to System 7.6 w/Apple Internet Kit

- Integrates latest versions of hot technologies such as QuickTime and QuickDraw!
- Now supports Windows 95 disks!
- Faster printing, improved stability & rev. virtual memory for better performance!

For more information, e-mail keyword **APPLEOS**

Apple #80438

88839	A-10 Attack CD-ROM \$19.99
-------	----------------------------

ParSoft

91072	Eudora Pro Mac \$19.99
-------	------------------------

Qualcomm

82500	QuarkImmedia \$69.99
95320	QuarkXPress 3.32 Native PowerPC \$69.99

Quark

87626	Amer Her Dix Talking Dictionary Mac/Win \$39.99
03631	Calendar Creator 2.0 Mac \$19.99
00641	WriteNow 4.0 with Correct Grammar \$19.99

SoftKey

06231	ACTI 2.5 for Mac \$19.99
06997	Norton DiskDoublor Pro 1.1 \$19.99
94186	Norton DiskLock 4.0 Upgrade \$19.99
04890	Norton Utilities 3.2 \$19.99
93976	Norton Utilities 3.2 Upgrade \$19.99
00116	SAM 4.5 Full Upgrade \$19.99
04776	Suitcase 3.0 Full Upgrade \$19.99

Symantec

93222	Quickbooks 4.0 for Mac \$112.39
89653	Quickbooks Pro 4.0 for Mac \$182.34

DI\$COUNT PRICES ON QUALITY HARDWARE, SOFTWARE & ACCESSORIES

Call MAC BARGAINS before you buy!
1-800-619-9091

Add applicable sales tax (only in OH, WA). All shipments refer to "in stock" items, barring system failure, etc. Not responsible for typographical errors. Credit cards are not charged until the order is shipped. Most products ship the same day for overnight delivery. Overnight delivery is only \$7 for the first 7 pounds and \$1 for each additional pound. Call for international shipping rates. Packaging and handling \$4 per order for delivery in the USA. Returns subject to a restocking fee. Prices and product availability subject to change without notice. Specials and promotions may be limited to stock on hand.



For the Best Deals Around! 1-800-619-9091



T/Maker	
88	ClickArt Handwritten Fonts.....\$31.19
03	ClickArt Incredible Image Pak 25000.....\$33.60

Monitors	
Hitachi	
13	Rasterops SuperScan MC 17s.....\$738.24
77	Rasterops SuperScan MC 21.....\$1711.00

NEC	
42	NEC Multisync C400 14" Monitor.....\$297.49
93	NEC Multisync M700 Cr Monitor 17".....\$779.98
45	NEC Multisync XV15 Plus Monitor.....\$438.28
19	NEC XE21 21" Color Monitor \$1.699

Sony	
76	Sony Multiscan 15s II Monitor.....\$449.98
75	Sony Multiscan 15sx Monitor.....\$388.89
09	Sony Multiscan 17s II Monitor.....\$990.20
77	Sony Multiscan 17s II Monitor.....\$749.98
61	Universal Mac Video Adpt I-178.....\$7.41

ViewSonic	
29	ViewSonic 17GA Monitor/Adapter Bundle.....\$698.98
31	ViewSonic 17GS Monitor w/Adapter Bndl.....\$635.14
96	ViewSonic GT770 17" Color Monitor.....\$692.56
86	ViewSonic P810 Monitor/Adapter Bndl.....\$1541.11
32	ViewSonic PT770 17" Color Monitor.....\$739.44

Video Cards	
-------------	--

ATI	
36	ATI Exclaim GA 4MB PCI.....\$325.84

Connectix	
17	Connectix Color QuickCam for Mac.....\$223.46
84	Connectix QuickCam for Macintosh.....\$94.84

Radius	
07	Radius Thunder 3D/1600 PCI Video Card.....\$681.57
43	Radius Thunder 3D Video Card.....\$2999.00

Accelerators	
--------------	--

DVC	
61	DVC Equalizer Pwr Mac 6100 7100 & 8100.....\$65.33

FWB	
24	FWB PCI SCSI JackHammer.....\$344.53
21	FWB SCSI JackHammer.....\$434.64

Modems	
--------	--

Boca	
65	FastMac V.34 33.6 FaxModem.....\$119.89

Global Village	
12	PowerPort Platinum Pro V34/10-T PC Card.....\$494.98
10	10-T PC Card.....\$494.98
12	PowerPort Platinum V34 PC Card.....\$329.58
75	TelePort Internet Edition 33.6 Fax/Modem.....\$165.34
41	TelePort Platinum Comm Slot 28 B V34.....\$198.25

Megahertz	
26	CruiseCard Cellular Ready XJack 288 Mac.....\$239.99

Global Village Teleport	
33.6 Data/FAX Modem	

33.6 Kbps - the fastest standard today!	
Call Sensing - take fax and voice calls on the same line as your answering machine	
GlobalFax software for fast, easy faxing	
Complete address book	
Global Village #82575	

Supra	
65	Supra FAXModem V.34 33.6 External Mac.....\$183.07
56	SupraExpress 336e External.....\$122.47

US Robotics	
01	Mac & Fax Sportster 14.4 Fax/Data Modem.....\$55.93
53	Mac & Fax Sportster 28.8 V34.....\$164.13
06	Mac Sportster v34 28.8.....\$188.07

Storage	
---------	--

LaCie	
35	LaCie 2160MB IBM External HD.....\$443.07
33	LaCie Fireball TM 1 280GD Int SCSI HD.....\$300.45
78	LaCie IQ 2160MB Internal HD.....\$363.52
76	LaCie Q 4300MB Ext HD.....\$999.89

MicroTech	
-----------	--

86174	MicroTech 200MB SyQuest External Drive.....\$364.89
89609	MicroTech Polaris 500MB Ext HD.....\$238.52
89619	Road Runner 500MB PowerBook Drive.....\$511.36

ProMax	
86199	ProMax Iomega Jaz Cartridge 1GB.....\$108.52

VST	
87426	VST Expan Bay 230MB MQ Dr for PB 190.5300.....\$381.31

Only \$399.98



Sony Multiscan 15sx 15" Monitor (13.9" viewable image size)

- 25mm dot pitch
- Max resolution of 1024x768 at 75Hz

Sony #06675

Media	
-------	--

Fuji	
94094	Fuji 3.5" MF2HD Mac Formatted 10-Pk 1.4MB.....\$5.20
91952	Fuji CDR-74.....\$7.80
05717	Fuji D909M 4mm Data Grade Tape 1.95GB.....\$6.51

Iomega	
97291	Bermouli MultiDisk 150MB Single Cart.....\$94.49
91160	Zip Media Mac100 3-Pack.....\$49.99
91161	Zip Media Mac100 10-Pack.....\$149.99
91159	Zip Media Mac100 Single.....\$17.64

Kyocera	
86251	Kyocera CDR-74.....\$7.79

Performantz	
83437	Performantz 10x Ext CD Drive.....\$199.88
83400	Performantz 4x CD Drive.....\$129.29

Philips	
89805	Philips CD-Recordable 74 Min. Disk.....\$7.80

Sony	
01140	Sony 3.5" 230MB M.O. 512b/s.....\$18.32
14368	Sony CD-R 650MB 74 Min. Disk.....\$6.54
86839	Sony SRS-300D Speakers w/sub.....\$159.41
32804	Sony SRS-PC21 PC Speakers.....\$22.20

SyQuest	
00278	SyQuest 200MB 5.25" Removable Cartridge.....\$164.49
97992	SyQuest 270MB 3.5" Removable Cartridge.....\$51.19
02183	SyQuest 44MB Cart Unfo.....\$41.19
00183	SyQuest Cart 88MB.....\$43.39
24910	SyQuest E2135MB 3.5" Cartridge 10-Pk.....\$198.89
24909	SyQuest E2135MB 3.5" Cartridge 5-Pk.....\$109.99

Verbatim	
91979	Verbatim 230MB 3.5" M.O. Mac Formatted.....\$20.82
01169	Verbatim 230MB 3.5" R/W 1024b/s.....\$18.25
21922	Verbatim CD-R 74 Min. 4X.....\$7.81

Scanners	
----------	--

AGFA	
02135	AGFA Arcus II Scanner, Mac Version.....\$1856.49
84141	AGFA SnapScan.....\$327.08
89851	AGFA StudioScan I/Isi Color Scanner.....\$649.98
06685	AGFA StudioStar.....\$792.79

Epson	
91939	Epson ES-1000C Flatbed Scanner.....\$575.51
82673	Epson Expression 636 Professional Scanner.....\$1778.99
82671	Epson Expression 636 Executive Scanner.....\$858.88
06919	Epson Transparency Unit - Enhanced.....\$617.98

UMAX	
82874	UMAX Gemini D-16 UTA w/Photoshop, KPTse.....\$1428.20
84149	UMAX Powerlook II w/TMA & Phtshp LE.....\$1811.46
21401	UMAX Transparency Adapter for Vista.....\$190.90
83501	UMAX Vista S-66 w/Adobe Photodeluxe.....\$292.13
83505	UMAX Vista-S12 w/Adobe Photoshop LE.....\$620.45

Umax	
83503	Umax Vista-S6E w/Full Photoshop.....\$573.03

Visioneer	
86783	PaperPort Vx SCSI Adapter for Mac.....\$57.42
88164	Visioneer PaperPort Vx For Macintosh.....\$280.79

Input	
-------	--

Adeso	
91854	Adeso Soft Touch Keyboard.....\$44.09
90766	Tru-Form Extended Keyboard.....\$73.18
91099	Tru-Form Extended Keyboard w/Pointer.....\$82.05

Apple	
93374	Design Keyboard.....\$84.49
94461	Extended Keyboard II.....\$154.49

Calcomp	
91862	Drawing Slate II 12x12" w/Pressure Pen.....\$213.31
91869	Drawing Slate II 12x18" w/Pressure Pen.....\$272.61
91864	Drawing Slate II 6x9" w/Pressure Pen.....\$212.05

Gravis	
89394	Advanced Gravis FireBird for Mac.....\$63.07
05998	Gravis MouseStick II.....\$40.39

Kensington	
89379	Kensington Mouse 1.0.....\$54.31
93628	Kensington Thinking Mouse ADB.....\$63.17
87483	Turbomouse 5.0.....\$100.94

Thrustmaster	
95201	Thrustmaster Flight Control System.....\$57.16
95200	Thrustmaster Weapons Control System.....\$59.70

Wacom	
90644	ArtPad II (ADB) w/Dabblor Bundle.....\$147.63
90643	ArtPad II (ADB) w/Erasing UltraPen.....\$133.77
90646	Artz II 12x12 (Serial) w/Erasing UltraPen.....\$417.85
90645	Artz II 6x8 (ADB) w/Erasing UltraPen.....\$303.72

Printers	
----------	--

Epson Stylus Color 500 Inkjet Printer	
--	--

• 720 dpi color	
• Prints 4 ppm black text	

• Keyword EPSON500	
Epson #83409	

Epson	
90488	Epson Multi-Protocol Ethernet Interface.....\$365.82
83409	Epson Stylus Color 500 Inkjet Printer.....\$278.31
89901	Epson Stylus Color Pro Inkjet Printer.....\$370.79
87980	Epson Stylus Color Pro XL Inkjet Printer.....\$1780.22

Hewlett-Packard	
89150	HP DeskJet 1600CM Color Printer.....\$2005.03
36156	HP DeskJet 8700cse Inkjet Printer.....\$499.99
88902	HP DeskWriter 600 Printer.....\$202.16
86345	HP DeskWriter 680C Inkjet Printer.....\$289.55
88911	HP LaserJet 5si.....\$2759.00
82666	HP LaserJet 6MP Printer.....\$930.02
13692	HP Tri-Chamber ColorPrint Cartridge.....\$23.78

Surge Back-up	
---------------	--

American Power Conversion	
19035	APC Back-UPS 1250.....\$442.00
07150	APC Back-UPS 280.....\$59.88
99364	APC Back-UPS 400.....\$141.11
11651	APC Back-UPS 600.....\$238.52
26812	APC Back-UPS 650 PnP.....\$289.58
94395	APC Personal Surge Arrest 7 Outlet w/Ph.....\$19.97
94393	APC Prol Surge Arrest 7 Outlet w/Phone.....\$32.42
94917	Powerchute for Mac.....\$59.96
94396	APC Personal Surge Arrest - 7 Outlet.....\$14.97

Battery Technology	
87494	BTI 2-Slot Batt Chgr Mnt 5300/190 Batt.....\$78.71
88751	BTI Auto Pwr Adpt tPB 5300/190 Series.....\$53.60
06022	BTI PB 140-180c 2.2Ah Battery.....\$48.65
06641	BTI PB 140-180c Power Charger.....\$78.71
85820	Internal 5300/190 Battery.....\$78.71

Mobile Accessories	
--------------------	--

Curtis	
85810	Curtis Case - Leather.....\$168.52
85809	Curtis Case - Vinyl.....\$65.80

DoubleCase	
87219	zipPack-Hard Case w/Iomega Zip Drive Bndl.....\$227.79
88293	zipPack-Hardcase.....\$30.31

Targus	
06023	Targus Notepac Case Black.....\$28.98
07454	Targus Universal PowerBook Case.....\$59.32



Great Prices
on the Complete Line of Apple Computers.

Only \$59.98



Quicken Deluxe/ MacIntax Deluxe Bundle

Intuit #40871 *Price after Mail-in \$30 Rebate. Regular Low Mac Bargains price: \$89.98

Only \$499.95



Iomega Zip and Jaz Drives

- Faster than most hard drives
- 100MB of space on each Zip Cartridge
- Provides 1GB of space on each Jaz Cartridge
- For more information, e-mail keywords ZIPSCSI or JAZSCSI

Iomega	
#91825 Iomega Zoo 100 SCSI.....	\$149.95*
#25659 Iomega 1GB Jaz Drive.....	\$499.95

*After \$50 Mir. Mail-in Rebate.
Low Mac Bargains Price \$199.95

Why Pay More when you can get a better price from MAC BARGAINS\$?	
--	--

WHY PAY MORE
when you can get a better price from
MAC BARGAINS\$?

Our Knowledgeable Sales Advisors help make buying easy!

YOUR SOURCE CODE
BW703

IF YOU DON'T SEE IT... CALL!

MAC BARGAINS\$®

FAX: 1-206-430-3520
E-Mail Address: mac.bargains@mzi.com

707 South Grady Way, Renton, WA 98055-3233

©1997 MZI, Inc. Renton, WA. All product names throughout this ad are trademarks™ of their respective holders. All rights reserved.

DISCOUNT PRICES ON QUALITY HARDWARE, SOFTWARE & ACCESSORIES

APS TECHNOLOGIES: HIGH-TECH 2 GIG FOR ONLY



GREAT PRICE

\$299⁹⁵



APS Q 2100

- ✓ MR heads, PRML and Ultra SCSI Technology
- ✓ Reliable 4500 rpm mechanism
- ✓ 3-year warranty

Give your Mac the extra storage space it needs by installing the new APS Q 2100. At only 17¢ per MB internal, the APS Q 2100 is the value leader in 2GB SCSI hard disk drives. Its performance is a great match with any application, and it is backed by a 3-year warranty.



\$1399⁹⁵

JUST THE RIGHT CAPACITY!

APS Q 3200



\$399⁹⁵

NEW LOWER PRICE!

- ✓ 3GB for the price of 2GB
- ✓ Works on SCSI-2 and Ultra SCSI buses
- ✓ 4500 rpm mechanism



Internal configuration
Quantum



2GB is too little, 4GB is too much. The new APS Q 3200 is priced lower than some 2GB SCSI drives, yet it delivers a perfect 3000MB of reliable storage. This drive uses MR heads and an advanced PRML read channel to fit its 3GB into a 3.5" low profile Ultra SCSI drive.

1.2GB OF STORAGE FOR ONLY APS Q 1280

\$249⁹⁵

NEW LOWER PRICE!

- ✓ High areal density and PRML read channel
- ✓ Works on SCSI-2 and Ultra SCSI buses



Quantum

Internal configuration

Finally there's a hard drive that combines the reliability of a 4500 rpm mech. with high performance. The APS Q 1280 uses MR heads, PRML and Ultra SCSI technology for improved performance. It is backed by a 3-year warranty.

APS M-POWER 603e160™

- ✓ 160MHz Motorola® PowerPC 603e processor
- ✓ 1.2GB hard drive
- ✓ 10X CD-ROM
- ✓ 16MB of RAM



APS M-POWER 603e200™

- ✓ 200MHz Motorola® PowerPC 603e processor
- ✓ 1.2GB hard drive
- ✓ 10X CD-ROM
- ✓ 16MB of RAM & 256K L2 Cache

603e160 & 603e200

- 2.5 25" Half Height Internal Bays*
- 2-3.5" Low Profile Internal Bays*
- 3-PCI Expansion Slots
- SVGA Monitor Port
- SCSI Port
- 2-PS/2 Ports
- IDE Bus
- 16-bit Sound Output Port
- Supports 14", 15", 17" & 21" Monitors
- Rear Headphone Jack
- Microphone Jack
- 10X CD-ROM
- 16MB RAM
- 1.2GB HDD
- Floppy Drive
- 1MB VRAM
- Desktop Case
- ADB Keyboard & Mouse
- One-Year Limited Warranty

\$1599⁹⁵

*Monitors are not included.

*Filling all available drive bays may exceed power limitations.

APS DESKTOP DRIVES			
Model	Capacity/Awards	Internal	SR2000
APS Q 1280	1222MB		
Quantum Fireball™		\$249 ⁹⁵	\$299 ⁹⁵
APS Q 2100	2000MB		
Quantum Fireball™		329 ⁹⁵	379 ⁹⁵
APS Q 3200	3000MB		
Quantum Fireball™		399 ⁹⁵	479 ⁹⁵

APS HIGH-PERFORMANCE DRIVES			
Model	Capacity	Internal	SR2000
APSWD4300	4200MB		
Western Digital Enterprise		1099 ⁹⁵	1099 ⁹⁵
Ultra/Wide available for an additional \$100.00			1199 ⁹⁵
APS Q 4300	4341MB		
Quantam Atlas II 7200 rpm		899 ⁹⁵	949 ⁹⁵
Ultra/Wide available for an additional \$100.00			999 ⁹⁵
APSM54300	4240MB		
Micropolis 4345 7200 rpm		999 ⁹⁵	1049 ⁹⁵
Ultra/Wide available for an additional \$100.00			1099 ⁹⁵

APS HIGH-PERFORMANCE DRIVES			
Model	Capacity	Internal	SR2000
APSQ 9000	8682MB		
Quantam Atlas II 7200 rpm		1499 ⁹⁵	1549 ⁹⁵
Ultra/Wide available for an additional \$100.00			1599 ⁹⁵
APSM5 9000	8669MB		
Micropolis 3391 7200 rpm		1899 ⁹⁵	1949 ⁹⁵
Fast/Wide available for an additional \$100.00			1999 ⁹⁵

APS HIGH-PERFORMANCE DRIVES			
Model	Capacity	Internal	SR2000
APSQ 9000	8682MB		
Quantam Atlas II 7200 rpm		1499 ⁹⁵	1549 ⁹⁵
Ultra/Wide available for an additional \$100.00			1599 ⁹⁵
APSM5 9000	8669MB		
Micropolis 3391 7200 rpm		1899 ⁹⁵	1949 ⁹⁵
Fast/Wide available for an additional \$100.00			1999 ⁹⁵

- 30-day money-back guarantee on all APS brand drives and accessories. Your risk is the cost of shipping.
- Drive-for-Drive Repair or Replacement Warranty: APS will, at its discretion, replace or repair products found to be defective according to the terms of the product's warranty.
- Refused orders subject to 20% restocking fee.
- International customers must pay for all shipping charges.
- Listed capacities are formatted.
- Actual data compression and tape capacity vary greatly depending on the type of data recorded, other system parameters and environment.
- Prices and specifications are subject to change without notice.
- You need to install system software appropriate to your machine before using our hard drives.
- Not responsible for typographical errors.
- © 1996, Alliance Peripheral Systems, Inc. All Rights Reserved.



CALL FOR YOUR
FREE
Winter 1997
CATALOG

PCI Ultra SCSI Host Adapter for Mac Adaptec PowerDomain™ 2940UW

- Get the most from your Ultra SCSI capable drives
- Installs in seconds, transparent operation
- Combines Fast, Wide, and Ultra SCSI on a Mac PCI bus
- Supports transfer rates as high as 40MB/sec. on SCSI-2 bus



106428 **\$299⁹⁵**



Visa, MasterCard, Discover, American Express: No Surcharge
Same day shipping available for personal checks (Restrictions apply)

THE NAME TO REMEMBER IN MAC COMPATIBLE PRODUCTS

THE LOWEST PRICES & BEST SERVICE IN MAC™ OS COMPATIBLE SYSTEMS!

APS M-POWER 604e200™

- ✓ Blazing fast 200MHz PowerPC 604e processor
- ✓ 3.2GB hard drive
- ✓ 10X CD-ROM
- ✓ 32MB of RAM



604e200		
• 3-5.25" Half Height Internal Bays*	• Supports 14", 15", 17" & 21" Monitors	• 3.2GB HD
• 5-3.5" Low Profile Internal Bays*	• SVGA Monitor Port	• Floppy Drive
• 5-PCI Expansion Slots	• 2-PS/2 Ports	• 2MB VRAM
INTERFACES	• 16-bit Sound Output Port	• 512K L2 Cache
• Printer Port	• Rear Headphone Jack	• ADB Keyboard & Mouse
• Modem Port	• Microphone Jack	• One-Year Limited Warranty
• ADB Port	INCLUDES:	• Mini-Tower Case
• IDE Bus	• 10X CD-ROM	
• SCSI Port	• 32MB RAM	

*Filling all available drive bays may exceed power limitations.



\$2599*

*Monitors are not included.

4 X BETTER THAN 8X CD-ROM!

APS CD CHANGER \$299⁹⁵

- ✓ Quadruples your CD-ROM storage capacity
- ✓ Space-saving half-height design
- ✓ Direct loading mechanism eliminates trays and caddies



Meet your needs for larger CD-ROM storage capacity with the new APS CD Changer. It is a four-disk CD-ROM changer which operates at 8X speeds, making it an excellent match with high-end multimedia and data archiving applications. The APS CD Changer incorporates a half-height mechanism which switches discs at the click of a mouse and uses a safe, trayless loading and unloading design.

INCREDIBLE CD-RECORDER VALUE!

APS 2X6 CD-R \$499⁹⁵*

- ✓ 2X record, 6X read mechanism
- ✓ Create multimedia CDs or backups
- ✓ Run CD-ROM applications and games
- ✓ Choice of TOAST, Discrite or Retrospect



Use the APS CD-R to record multimedia CDs and backups at 2X speeds and to access your application and data CDs at up to 6X speeds. Supporting all recording methods in the Orange Book Part II, including disk-at-once, multisession and packet recording, the drive is compatible with Retrospect for use as a backup device. The drive comes with cables, a caddy and your choice of TOAST, Discrite or Retrospect.

GREAT PRICE

\$179⁹⁵ YOUR CHOICE internal or external!

*External configuration comes in slimline enclosure and does not include DLT™



FORGET 4X, SKIP THE 6X!

APS CD12

- ✓ High performance 12X CD-ROM drive
- ✓ Great for home and office CD-ROM use

The 12X performance of the new APS CD12 supercharges any CD-ROM application! Its speed enhances multimedia AND business CDs. At this incredibly low price, you can hardly afford to live with that old 2x or 4x CD-ROM drive.

APS QIC & DAT BACKUP SYSTEMS

Model	Capacity/Awards	Internal	SR2000
APS HyperQIC™	8GB		\$399 ⁹⁵
Travan 4 Conner QIC 3095		N/A	
APS HyperDAT™	8GB	849 ⁹⁵	899 ⁹⁵
DDS-2 DC			
APS HyperDAT™ Pro	8GB	949 ⁹⁵	999 ⁹⁵
DDS-2 DC			
APS HyperDAT™ III	8GB	1249 ⁹⁵	1299 ⁹⁵
DDS-3 DC			

APS REMOVABLE DRIVES

Model	Capacity/Awards	SR 1000	SR 2000
APS M540 (with 1 cartridges)		N/A	299 ⁹⁵
APS Jaz (with a cartridge)	1GB	\$499 ⁹⁵	499 ⁹⁵
APS Jaz (with 3 cartridges)	1GB	599 ⁹⁵	599 ⁹⁵

Xclaim 3D Graphics Accelerator Card

- Resolution up to 1280 x 1024
- Supports QuickDraw 3D RAVE
- Up to 6x faster than a Power Mac 9500 using QuickDraw 3D
- Real-time rendering - no waiting!



106634	4MB	\$329.95
106635	8MB	449.95

APS CD-ROM DRIVES

Model	Capacity/Awards	External
APS CD12	12X CD-ROM in Slimline case	\$179 ⁹⁵
APS CD12 Pro	12X CD-ROM in SR 2000 case	279 ⁹⁵
APS PD4	4X CD-ROM/Optical	479 ⁹⁵
APS CD Changer	8X 4 Disc CD changer	299 ⁹⁵
APS CD-R Plus	2X record/6X read CD-R	499 ⁹⁵
APS CD-R Pro	4X+ performance CD-R in Pro Case	999 ⁹⁵
Retrospect	CD-R drop in driver (with drive purchase)	49 ⁹⁵

Motrola, and Motrola logo are registered trademarks of Motrola, Inc. PowerPC is a trademark of International Business Machines Corp. and is used by Motrola, Inc. under license from International Business Machines Corp. Microsoft is a trademark of Microsoft Corporation. Windows NT is a registered trademark of Microsoft Corporation. AIX is a registered trademark of International Business Machines Corp. Mac OS is a registered trademark of Apple Computer, Inc. M+Power, APS and APS Technologies are registered trademarks of Alliance Peripheral Systems, Inc. Other brand or product names are registered trademarks or trademarks of their respective holders. Prices and specifications are subject to change without notice. Computer case may not exactly match images shown.

Copyright © 1996 APS Technologies

Call 800-945-4920

Visit our Web Page at <http://www.apstech.com/>
International Sales: (816) 920-4109

Circle 62 on reader service card



Call 800-945-4920 • 24 Hrs x 7 Days a Wk

J&R COMPUTER WORLD

One of America's Largest Authorized Apple Dealers

UMAX Computers

UMAX S900L
180MHz Mac OS-Compatible MiniTower Computer
•180MHz 604e PowerPC™ CPU
•32MB RAM •2.1GB hard drive
•8X-speed CD-ROM drive •128-bit graphics card with AMB VRAM •6 PCI slots, 5 expansion drive bays
•Extended keyboard and mouse
\$3599⁹⁹ (UMX S900L/180)
UMAX S900L 200MHz
(UMX S900L/200)**\$3799.99**
UMAX S900L 225MHz
(UMX S900L/225)**\$4299.99**

SyQuest[®] SyJet syjet 1.3GB
External Hard Drive with Removable Disk Cartridge
•1.3GB capacity per cartridge for virtually limitless, flexible storage •Less than 12ms average seek time
•Auto eject button •Small and lightweight design
•Connects via SCSI port •Includes one syjet cartridge
\$499⁹⁹ (SYQ SYJETISE-09)
•Spare single syjet cartridge...(SYQ SYJET-005).....**\$124.99**



ioemga Zip Drive

ioemga Zip Drive
100MB SCSI Drive
•Works like a hard drive •Unlimited storage on inexpensive 100MB disks
•Comes with SCSI cable and one 100MB removable disk •For Mac and PC desktops that require SCSI
\$199⁹⁹ regular price
\$149⁹⁹ after \$50 mail-in rebate
(rebate offer expires 3/31/97)
Zip Disk 100MB 3-Pack (Formatted)
(BER MAC100MBTRI)**\$49.99**
Zip Disk 100MB 10-Pack (Formatted)
(BER MAC100MBTEN)**\$149.99**

Global Village Modem

Global Village TelePort Platinum™
33.6Kbps Data/Fax Modem
•Send and receive data at up to 33,600 bps •Fax in background as you work •V.34 data compression for fast throughput up to 115.2Kbps
•Flash ROM upgradable •Comes with GlobalFax™, GlobalFax™ OCR and data communications software for System 7 and later •For Macintosh and PC
\$169⁹⁹ (GLV TELE336NET)
TelePort Platinum / Internet
(GLV TELEPORT336)**\$249.99**

Digital Cameras

Kodak DC20
Digital Science™ Camera
•Records photographic images in digital memory, then images are down-loaded to computer •Shirt-pocket size •1MB storage •24-bit color •Focus-free lens with auto exposure •20-inch to infinity focus distance •Comes with software for Macintosh and PC
\$199⁹⁹ (KOD DC20)
Connectix Color QuickCam
(CNM CQCM)**\$199.99**
Kodak Digital Camera 50
(KOD DC50)**\$899.99**

PCMCIA Modems

Motorola Montana
PCMCIA 28.8 Fax/Modem
•28.8 (V.34) modem and 14.4 fax
•Paging and cellular compatibility
•For Apple PowerBook 1400 series
\$199⁹⁹ (MOT PCMCIA01NTMAC)
Global Village PowerPort Platinum
28.8/14.4 PCMCIA Modem
(GLV PCMCIAPLTINM)**\$269.99**
Global Village PowerPort Platinum Pro
28.8/14.4 w/10Base-T Connector
(GLV POWRPLTIPRO)**\$449.99**

External Modems

Motorola ModemSurfer
External 28.8Kbps Fax/Modem
•28,800 bps/14,400 bps send & receive data/fax modem •V.42bis and MNP-5 with throughput up to 115.2Kbps •8-LED modem status indicators •Includes communication and fax software for Macintosh
\$119⁹⁹ (MOT MAC28BSURF)
Zoom V34XMac External Fax/Modem
(ZOP 2837)**\$129.99**
U.S. Robotics Sportster™/Speakerphone
(USR EX288MACVC)**\$179.99**

SyQuest EZ-Flyer

SyQuest EZ230
EZ-Flyer Removable 230MB SCSI Drive
•230MB capacity per disk •13.5ms average access time •2.4MB/sec. maximum data transfer •Includes one 230MB cartridge, SCSI cable, and power supply
\$294⁹⁹ regular price
\$239⁹⁹ after \$55 mail-in rebate
(SYQ EZ230EXTMAC)
HURRY, offer expires 2/28/97!
SyQuest 230MB 10-Pack (Formatted)
(SYQ 230MB10PKMC)**\$239.99**

Scanners

Epson ES-1000C
Business Color Scanner
•30-bit color for over a billion colors
•400 x 800 dpi optical resolution, 3200 dpi (interpolated) •Includes Adobe Photoshop LE 3.0, Xerox TextBridge OCR, and ScanFast
\$579⁹⁹ (EPS ES1000C-MAC)
Visioneer PaperPort VX Scanner
(VIR PAPERVXMAC)**\$279.99**
Minolta Quick-Scan35 Film Scanner
(MIN QSCAN35MAC)**\$999.99**
Epson Expression 636 Artist Scanner
(EPS 636-AMAC)**\$1399.99**

Adesso Keyboards

Adesso AEK-305
Soft Touch Plus Extended Keyboard
•105 silent, high quality, full stroke mechanical keyswitches •2 extra ADB ports •Keyboard-length wrist pad •One-year warranty
\$44⁹⁹ (AEO AEK-305)
Adesso AM-3 PowerMouse
(AEO AM-3)**\$24.99**
Adesso Tru-Form Keyboard
(AEO AEK-606)**\$79.99**
Adesso Tru-Form Keybd w/Pointer
(AEO AEK-806)**\$89.99**

Targus Cases

Targus CNO1
Black Notepek Case
•The perfect case to hold your PowerBook •Rugged construction
•Provides room for unit, cables, power supply, and floppy disks
\$34⁹⁹ (TAR CNO1)
Targus CUN1 universal laptop bag
(TAR CUN1)**\$59.99**
Targus CCB1 convertible Backpack
(TAR CCB1)**\$69.99**
Targus CLN1 genuine leather bag
(TAR CLN1)**\$84.99**

Truevision Video Card

Truevision Bravado 1000
Professional Digital Video Editing Solution
•Includes the full Adobe Premiere (4.2), a \$795 retail value •Full screen video capture at 50/60 fields per second •Variable rate, real time motion JPEG compression
•24-bit true color capture •Two composite inputs and one S-video input •Two simultaneous video outputs •32-bit PCI local bus with burst DMA •Conversion to popular computer video formats
\$679⁹⁹ (TRU BRAVADOMAC)

Panasonic Monitors

Panasonic Panasync™ S17
17" Digital Color CRT Display
•16" viewable screen •0.27mm dot pitch •1,280 x 1,024 max res NI
•MPR-II •DO-QAF electron gun
•Three-year parts/labor
\$649⁹⁹ (PAN S17)
Panasonic Panasync Pro 15" Monitor
(PAN P15) requires adapter **\$399.99**
Panasonic Panasync 21" Monitor
(PAN S21)**\$1599.99**
Panasonic Panasync Pro 21" Monitor
(PAN P21)**\$1899.99**

Software • Software • Software • Software • Software • Software • Software

Houghton Mifflin Curious George ABC Adventure
\$29⁹⁹
Bungie Marathon Infinity**\$39.99**
Broderbund Where In USA Is C. Sandiego (2.0)?**\$29.99**
Davidson Warcraft II: Tides of Darkness**\$44.99**
Elec. Arts ABC Schoolhouse Rock: Math Rock**\$29.99**
GT Interactive Bedlam**\$44.99**
GT Interactive ZPC, No Flesh Shall Be Spared**\$44.99**

Caesar II
\$44⁹⁹
Interplay Conquest of the New World**\$34.99**
Interplay Pro Pinball**\$34.99**
Interplay Virtual Pool**\$44.99**
Palladium PYST**\$14.99**
Viacom Your Interactive Pet Dinosaur**\$19.99**
Walt Disney Toy Story Activity Center**\$39.99**

Adobe PageMill (2.0)
\$99⁹⁹
Aladdin Stuffit Deluxe (4.0)**\$64.99**
Apple Japanese Language Kit (1.2)**\$139.99**
Berkeley After Dark (4.0)**\$29.99**
Casady & Greene Conflict Catcher (3.1)**\$59.99**
Claris Organizer (2.0)**\$69.99**
Connectix RAM Doubler (2.0)**\$54.99**

Intuit MacInTax 1996 Final Edition
\$39⁹⁹
Intuit Quicken (7.0)**\$39.99**
MetaTools Kai's Power Goo**\$39.99**
Netscape Navigator Gold (3.0)**\$69.99**
Qualcomm Eudora Mail Pro (3.0)**\$54.99**
Quark QuarkXPRESS (3.32)**\$659.99**
Symantec SAM (4.5)**\$69.99**
Symantec AntiVirus**\$69.99**

Order Your Free Catalogue Now!

J&R COMPUTER WORLD
Apple PowerBook 1400C/117
•117MHz •16MB RAM
•1-Gigabyte Hard Drive •11.3" TFT Color LCD •6x-Speed CD-ROM Drive
•NiMH Battery
\$3499⁹⁹
Apple Performa Desktop 6360/160
•160MHz •16MB RAM •1.2GB Hard Drive •8x-speed CD-ROM Drive
•High-speed Internet Access •Requires Monitor
\$1499⁹⁹

To Order Toll Free and Receive a Free Catalogue MAIL ORDER: J&R Computer World, Dept. MW0397, 59-50 Queens Midtown Expressway, Maspeth, New York 11378

800-221-8180

24 Hours, 7 Days, Anywhere In The USA or FAX us at 1-800-232-4432

Not responsible for typographical or pictorial errors. Some quantities may be limited. All merchandise brand-new, factory-fresh and 100% guaranteed!

WE WILL TRY TO MATCH OR BEAT ANY ADVERTISED PRICE. CALL FOR LATEST PRICING!!

WE ACCEPT PO'S FROM QUALIFIED FIRMS

M E M O R Y

SECURITY WILL CALL WINDOW NOW OPEN! NO SURCHARGE FOR MC, VISA AE & DISCOVER

L.A. Trade has served the PC market for 10 years...

MACINTOSH MEMORY UPGRADES

Now we bring our expertise to the Apple Macintosh user.

YOUR MACHINE	STANDARD	MAX	VIDEO UPGRADE	VIDEO COST	256K/512K CACHE	2MB	4MB	6MB	8MB	10MB	12MB	16MB	20MB	24MB	32MB	36MB	48MB	64MB
Apple PowerBook 190, 190CS, 5300 Series	4	32					59		79		119	139		199	259		479	
Apple PowerBook 520, 520C, 540, 540C Notebook	4	36					69		89		129	149		219	259			
Apple PowerBook DUO 210, 230, 250 Notebook	4	24					89		99		159		199					
Apple PowerBook DUO 270c Notebook	4	32					89		99		159		199					
Apple PowerBook DUO 280, 280C Notebook	4	40					89		99		159		199			295		
Apple PowerBook DUO 2300c/100 Notebook	4	40							89			149		199	269		469	
Apple Macintosh TV	5	8					74											
Apple Macintosh IIfx	4	128					119					199						699
Apple Macintosh IISI	2/3/5	17					79		189			219						
Apple Macintosh IIfx & IISI	4	68	512k	59			79		189			219						699
Apple Macintosh Classic								153										
Apple Macintosh Color Classic	4	10	256k	34		54	79		124									
Apple Macintosh Classic II, LC, LCII	2/4	10	512k	59		54	79		124									
Apple Macintosh LCIII, LC475, LC550, LC575	4	36	256k	34			49		34			99			199			
Apple Macintosh LC520	5	36					34		49			99			199			
Apple Macintosh LC580	5	36					34		49			99			199			
Apple Macintosh LC429	4	36					34		49			99			199			
Apple Macintosh LC5200	5	36					34		49			99			199			
Apple Macintosh LC630																		
Apple Macintosh IICI																		
Apple Macintosh IICx	1	128					69		124			156						699
Apple Macintosh II, IIfx	1	32					69		124			156						
Apple Macintosh Plus, SE	1	4				61	69											
Apple Macintosh SE30	1/2	32				61	69		124									
Apple Performa 200	2	10				61	69		124						199			
Apple Performa 400	4	10				61	69		124									
Apple Performa 405, 410, 430	4	10				61	69		124									
Apple Performa 450, 460, 466, 467, 475, 476	4	36	256k/512k	34/68			34		49			129			199			
Apple Performa 550, 560, 575, 577	5	36					34		49			129			199			
Apple Performa 600, 600CD	4	68	512k	59			69		189			156						699
Apple Performa 6110CD, 6112CD, 6115CD (pairs)	8/16	72					34		49			99			199			
Apple Performa 6117CD, 6118CD (pairs)	8/16	72					34		49			99			199			
Apple Performa 630	4	36					34		49			99			199			
Apple Performa 631CD, 636CD	8	52					34		49			99			199			
Apple Performa 635CD	5	36					34		49			99			199			
Apple Performa 636	4	36					34		49			99			199			
Apple Performa 637CD, 638CD	8	36					34		49			99			199			
Apple Performa 640CD	8	52					34		49			99			199			
Apple Performa 5200 Series 5200CD, 5215CD	8	64					34		49			99			199			
Apple Performa 8100 Series 8116CD	8	72					34		49			99			199			
Apple Performa 6200 Series 6200CD, 6216CD, 6218CD	8	64					34		49			99			199			
Apple Performa 6200 Series 6220CD, 6230CD, 6290	8	64					34		49			99			199			
Apple Performa 6205CD, 6214CD	8	64					34		49			99			199			
Apple Performa 6300CD, 6320	16	64					34		49			99			199			
Apple Centris 610	4	68	512k	59			34		49			99			199			
Apple Centris 650	4	132	512k	59			34		49			99			199			
Apple Centris 660AV	4	68					34		49			99			199			
Apple Quadra 605	4	36	512k	59			34		49			99			199			
Apple Quadra 610	4	68					34		49			99			199			
Apple Quadra 630	4	36					34		49			99			199			
Apple Quadra 650	4/8	132/136					34		49			99			199			
Apple Quadra 660AV	4	68					34		49			99			199			
Apple Quadra 700	4	68	512k	59			69					156						699
Apple Quadra 800 (pairs)	8	136	512k	59			34		49			99			199			
Apple Quadra 840AV	8	128	512k	59			34		49			99			199			
Apple Quadra 900	4	256	512k	59			69					156						699
Apple Quadra 950	8	256	512k	59			69					156						699
Apple Workgroup Server 60 (pairs)	4	68					34		49			129			199			
Apple Workgroup Server 80 (pairs)	8	136					34		49			129			199			
Apple Workgroup Server 95	16/32/48	256					69					156						699
Apple Workgroup Server 6150 (pairs)	8	72					34		49			99			199			
Apple Workgroup Server 8150 (pairs)	16	264					34		49			99			199			
Apple Workgroup Server 9150 (pairs)	16/24	264					34		49			99			199			
Apple Power Macintosh 6100/60 (pairs)	8	72	512k	59			34		49			99			199			
Apple Power Macintosh 7100/66 (pairs)	8	136	512k	59			34		49			99			199			
Apple Power Macintosh 7200 (168 pin)	8	136	1mg	69	78/120				45			81			189			386
Apple Power Macintosh 7500/100 (168 pin)	8	136	1mg	69	78/120				45			81			189			386
Apple Power Macintosh 8100/80 (pairs)	8	264	512k	59			34		49			99			199			
Apple Power Macintosh 6100/66 & 6100/66AV (pairs)	8/16	72					34		49			99			199			
Apple Power Macintosh 7100/66AV (pairs)	16	136					34		49			99			199			
Apple Power Macintosh 7100/80, 7100/80AV (pairs)	8/16	136					34		49			99			199			
Apple Power Macintosh 8100/100, 8100/100AV (pairs)	8/16	264					34		49			99			199			
Apple Power Macintosh 8100/110 (pairs)	8/16	264	512k	39	—/129		34		49			99			199			
Apple Power Macintosh 8500/120, 132, 150	8/16	264	1mg	44	78/120				45			81			189			386
Apple Power Macintosh 9500/120, 9500/132	8/16	264	2mg	89					45			81			189			386
Apple Power Macintosh 9500/150	8/16	264	2mg	89					45			81			189			386

ALL OTHER POWERBOOKS... 100, 140, 145, 170, 160, 165, 180, 165C, 180C - CALL FOR PRICES!!!

72 PIN MODULES	SIMM MODULES	30 PIN MODULES	
1X32-70 (4MB)	\$34	1x8-80 (1MB)	\$18
1X32-60 (4MB)	\$39	1x8-70 (1MB)	\$19
2X32-70 (8MB)	\$59	2x8-70 (2MB)	\$35
2X32-60 (8MB)	\$64	4x8-70 (4MB)	\$59
4X32-70 (16MB)	\$119	8x8-70 (8MB)	\$119
4X32-60 (16MB)	\$129	16x8-70 (16MB)	\$239
8X32-70 (32MB)	\$219		
8X32-60 (32MB)	\$229		

DIMMS, 168 Pin					
1x64	8Meg	\$ 45	8x64	64Meg	386
2x64	16Meg	81	16x64	128Meg	1829
4x64	32Meg	189			

CALL FOR NEW MODELS NOT LISTED

All products brand new & guaranteed • We buy excess inventory
Trademarks are registered with their respective companies.



22825 Lockness Avenue • Torrance, CA 90501
CUSTOMER SERVICE & TECHNICAL: OPEN M-F, 9-4 EST

NEW 168 Pin EDO 3.3V Dimms Call

HOT BOX SPECIALS

	Limited Quantities!
POWERBOOK 520/540	8MB (8 pieces) \$79.00
POWERBOOK 100/140/145	2MB 9.00
POWERBOOK DUO 280/280C	36MB (1 piece) 149.00
POWERBOOK DUO	8MB 79.00
POWERBOOK DUO	20MB 118.00
168 PIN DIMM's	16MB 111.00
168 PIN DIMM's	32MB 229.00
168 PIN DIMM's	64MB 479.00

NO SURCHARGE FOR MASTERCARD, AMEX, VISA OR DISCOVER. PURCHASE ORDERS ACCEPTED FROM FORTUNE 2000, GOVERNMENT & INSTITUTIONS. California orders add 8.25% sales tax. Returned orders or undelivered parts are subject to a 20% restocking fee. We accept international orders shipped via UPS Air, APD, PFD orders welcome. Customers are expected to pay customs and other charges if shipped INTL. All credit card charges verified for fraudulent use. SCARY 90 REFUND/30 DAY'S - EXCHANGES ONLY. If you receive defective merchandise we exchange only - no refunds. We accept MC, VISA, Discover, Amex. Prepaid orders, purchase orders, wire transfer, C.O.D. customers check orders, cash & customer checks. Orders shipped via UPS. FEDEX must be applied for. *ALL MANUFACTURER PART #1 ARE FOR REF. ONLY *MINIMUM ORDER VALUE=NO REFUNDS ON SHIPPING

310-539-0019
FAX: 310-539-5844

SECURITY WILL CALL WINDOW NOW OPEN

CALL TOLL FREE

1-800-433-3726 (US and Canada)

Prices & Availability Subject to Change Mon-Fri, 8:00 a.m. to 5:00 p.m. PST
1985 Sat. 10:00 a.m. to 12:00 noon

Sales/Orders: latradesls@aol.com

Customer Service: latradecsd@aol.com

Price Inquiries: latradeinq@aol.com

BIG MAC™**Computers**
1831 Pontius Ave., Los Angeles, CA 90025**CALL TOLL FREE
1 (800) 761-1999****TOLL FREE 800.761.1999 • TEL. 310.235.1780 • FAX. 310.235.1790****WE CUSTOM CONFIGURE TO YOUR
SPECIFICATIONS!****SPECIALS!**

WGS 7250	16/1.2/CD	\$1,599
Apple DOS Card	586/100/PCI	\$495
Apple Share Software v.4.2.1		\$895
7200/120	16/1.2/8XCD	\$1,199
9500/200	0/0/8XCD	\$2,750
7600/132	16/1.2/CD	\$1,850
8500/180	32/2GB/8XCD	\$2,595

**MOTOROLA**

AMT4200/604e200	32/2GB/8XCD	\$2,595
AMT4200/604e200	16/1.2/8XCD	\$2,475
AMT4160/604e166	32/2GB/8XCD	\$2,450
AMT4160/604e166	16/1.2/8XCD	\$2,150
AMT3200/603e200	32/2.5/8XCD/28.8	\$2,225
AMT3200/603e200	16/1.2/8XCD/28.8	\$1,950

5 YEAR WARRANTY

Power Computing & Daystar Models
also available. Please call for pricing**UMAX®**

UMAX S900L/225	32/2GB/8XCD	\$3,550
UMAX S900L/200	32/2GB/8XCD	\$3,450
UMAX S900L/180	32/2GB/8XCD	CALL
UMAX S900L/150	16/2GB/CD	CALL

TRADE YOUR OLD MAC FOR A NEW POWER MAC!**APPLE****POWER MAC 9500**

9500/200	32/2GB/CD	\$3,550
9500/200	160/4GB/CD	\$5,795
9500/200	512/4GB/CD	\$8,350
9500/180MP	32/2GB/CD	\$4,795
9500/180MP	128/2GB/CD	\$5,695
9500/150	144/2GB/CD	\$3,975
9500/132	16/1GB/CD	\$2,925

POWER MAC 8500

8500/180	32/2GB/CD	\$2,595
8500/180	64/2GB/CD	\$2,795
8500/150	128/2GB/CD	\$3,295
8500/150	16/2GB/CD	\$2,495
8500/150	80/2GB/CD	\$2,950
8500/132	16/1GB/CD	\$2,165
8500/120	16/1GB/CD	\$1,940

POWER MAC 7600/7200

7600/132	16/1GB/8XCD	\$1,850
7600/132	48/2GB/8XCD	\$2,250
7600/120	16/1GB/CD	\$1,599
7500/100	16/1GB/CD	\$1,399
WGS7250/120	16/1GB/CD	\$1,599
7200/120	16/1GB/8XCD	\$1,199
7200/90	16/500/CD	CALL

**APPLE
POWERBOOKS**

1400CS/117	12/750	CALL
1400CS/117	16/1GB/CD	CALL
1400C/117	16/1GB/CD	CALL
5300CE	32/1.2	\$3,650
5300C	8/500	\$2,395
5300CS	8/500	\$1,995
DUO2300C	8/700/M	\$1,599

**APPLE
PERFORMAS**

6400/200	16/2.5/CD/M	\$1,699
6400/180	16/1.2/CD/M	\$1,299
6320	16/1.2/CD	\$1,799
5300	8/800/CD	\$1,499
580	8/500	\$1,050
5260	8/800/CD	\$1,495

Any other model please call.

**APPLE
DEMO POWER MACS**

9500/200	32/2GB/CD	\$3,395
9500/180MP	32/2GB/CD	\$4,395
8500/180	32/2GB/CD	\$2,500
8100/110	8/2GB/CD	\$2,195
7600/132	16/1GB/CD	\$1,699
7500/100	16/1GB/CD	\$1,399
Quadra 650	8/230/CD	\$799

MONITORS

Apple 15/1705	\$395/645
Apple 1710/20	\$799/1,775

PRINTERS

Laser	4/600	\$850
Laser	12/660	\$5,595
Laser	12/640	\$1,450
Laser	16/600	\$2,195

PARTS/MEMORY

Powermac 9500 logic board	\$699
Powermac 8500 logic board	\$699
Powermac 8100/110 logic board	\$899
Q650/800/840AV logic board	\$650
150/130MZ Processor	\$699/399
8/16/32MB Simm/Dimm	\$79/109/210
64/128MB Simm/Dimm	\$429/CALL

TOSHIBA & IBM LAPTOPS

T400CS	8/500/14.4	\$1,375
T420CDT	8/810/CD	\$2,950
T720CDT	16/1.2/CD	\$5,195
T730CDT	16/1.2/CD	\$5,895
T650	16/1.2/CD	\$3,699
IBM76ED	16/1.2/CD	\$5,295
IBM360XD	8/800/CD	\$2,899

For current up-to-date pricing and custom configuration, see our web-site at: <http://www.wcn.com>. Not responsible for typos. Prices subject to change without notice.

Fortune 500 • Schools • Government • International Orders, Visa, MC & Amex welcome. Subject to change w/o notice & limited qty. All prices are COD. All other forms of payment are 3% higher

Call TOLL FREE: 800-905-3034 Local 818-708-6388

Call 800-905-3034 or Fax us at 818-708-6399-24 Hrs.

See us at <http://www.macmarket.com> Visit us as often as you like.

Powerbook 1400 IS HERE!

CS12MB/750MB	.....#A1720	\$2369
CS16MB/750MB/6xCD	.....#A1722	\$2729
C16MB/1-GB/6xCD	.....#A1724	\$3349
C16MB/1-GB/6xCD/133MHz	.....#A1720	CALL

MacMarket

800-905-3034
Fax: 818-708-6399

Call for Your Catalog

UMAX Scanners

Mirage	CALL	#S8560
PowerLook II	\$1829	#S8520
Vista S12 Full	\$689	#S8365
Vista S12 LE	\$619	#S8584
S6E PhotoDeluxe	\$299	#S8439

Power Macintosh

PM 9500/180MP/32MB/2GB/6xCD/2MBVRAM	\$4,899	#A1700
PM 9500/200MHz/32MB/2GB/6xCD/2MBVRAM	\$3,999	#A1699
PM 9500/150MHz/16MB/2GB/4xCD/2MBVRAM	CALL	#A1662
PM 8500/180MHz/32MB/2GB/6xCD/L2Cache	\$3,095	#A1695
PM 8500/150MHz/16MB/1.2GB/6xCD/L2Cache	\$2,499	#A1686
PM 7600/132MHz/16MB/1.2GB/6xCD/L2Cache	\$1,995	#A1684
PM 7200/120MHz/16MB/1.2GB/6xCD/L2Cache	\$1,349	#A1651

Performa 6360 BlowOut \$1049
 16MB/1.2GB/26" #A1105

APPLE MONITORS

Multiple Scan 1705	\$649
Vision 1710	\$879
Vision 1710AV	\$929
Multiple Scan 20"	\$1799

APPLE PRINTERS

#M6635 Laser 16/600/PS	\$2150	#P3250
#M6500 Laser 12/640	\$1,499	#P3248
#M6667 Laser 4/600/PS	\$759	#P3256
#M6554 Color SW. 2500	\$389	#P3367

BELL Memory

DIMMS 64BIT/168PIN

8MB	\$59	#M1628
16MB	\$79	#M1625
32MB	\$175	#M1622
64MB	\$299	#M1619

SIMMS 32BIT/72PIN

8MB	\$69	#M1598
16MB	\$89	#M1595
32MB	\$179	#M1604

MOTOROLA StarMax Systems

3160/Dsktp-16MB/1.2GB	\$1495	#A1020
3160/Twr-32MB/2.5GB	\$1795	#A1022
3200/Dsktp-16MB/1.2GB	\$1799	#A1024
3200/Twr-32MB/2.5GB	\$1919	#A1026
4160/Dsktp-16MB/1.2GB	\$2059	#A1028
4160/Twr-32MB/2.5GB	\$2159	#A1030
4200/Dsktp-16MB/1.2GB	\$2399	#A1034
4200/Twr-32MB/2.5GB	\$2499	#A1032

UMAX Computer Corporation

Ultimate Expandability

Combined fast Ethernet (100 Base-T) and 16-bit Ultra SCSI Extended performance card (optional)

6 PCI Slots

Up to 1GB RAM

ASPD PROCESSOR DESIGN

Exclusive Advanced Scalable Processor Design (ASPD) CPU Board for dual processing configuration and higher clock speeds

Instant Rebate up to \$350 on UMAX Supermac*

Instant Rebate on C600L \$150

1.) Umax uses Apple and Industry standard Processor slots - meaning that you can put in any Apple, Daystar, or Newer Technology Upgrade card with no trouble or configuration at all.

2.) Umax uses the Tsunami memory design that Apple designed. It takes advantage of interleaving memory. Memory expansion is to 1GB.

3.) A.S.P.D. - Advanced Scalable Processor Design - meaning that you can add an additional processor upgrade card, and link them together for dual processing power.

4.) 6 Fast PCI Slots on the Motherboard - with PCI to PCI Bridge Technology.

Agfa

DuoScan	CALL	#S8480
Arcus II	\$1729	#S8482
StudioStar Full	\$969	#S8486
StudioStar LE	\$789	#S8483
SnapScan	\$349	#S8482

Daystar Digital

nPOWER 400+	CALL	#A4514
nPOWER 360+	\$1348	#A4513

Watcom

ArtPad II 4x5	\$135	#T9513
ArtZ II 6x8	\$289	#T9500
ArtZ II 12x12	\$399	#T9503

Polaroid

SprintScan 35LE	\$709	#S8555
SprintScan 35es	\$1469	#S8547
SprintScan 35+	\$1869	#S8550
SprintScan 45	\$8195	#S8543

Yamaha

CD Recordables w/TOAST Software		
4 Speed	\$999	#E7297

Pinnacle Micro

Apex 4.6GB optical	\$1489	#E7256
Tahoe 640	\$642	#E7257
Vertex 2.6GB	\$1339	#E7258
CDR 4x4	\$899	#E7253

Microtek

ScanMaker III(36Bit)	\$1359	#S8444
----------------------	--------	--------

Radius

PressView 175R	\$1899	#M6600
PressView 21SR	\$3049	#M6609
Precision View 21	\$2229	#M6614
MultiView 21	\$1399	#M6611
PrecisionColor 8/1600	\$659	#V9206
ThunderPower 1920	\$1159	#V9197
VideoVision 2.0 PCI	\$3449	#V9145

Epson

Stylus Color ProXL	\$1639	#P3291
Stylus Color Pro	\$1379	#P3288
Stylus Color 500	\$729	#P3369
Expression 636 Prof.	\$1789	#S8599

Sony

100SE 15" Trinitron	\$469	#M6490
200SE 17" Trinitron	\$769	#M6584
300SE 17" Trinitron	\$1629	#M6586

TrueVision Video Editing

Bravado 1000(PCI)	\$619	#V9231
Targa 2000(PCI)	\$3029	#V9200
Targa 2000 RTX(PCI)	\$1919	#V9337

Iomega

Zip Drive & Cart.	\$139	#R6103
JAZ Drive 1GB & Cart.	\$459	#R6106

Supra FAX Modem

Fax/Modem 33.6 v.34	\$189	#F3109
SupraSonic 33.6	\$229	#F3110
SupraExpress 33.6	\$125	#F3113

Hewlett Packard

680c 600x600	\$299	#P3465
6MP 600dpi	\$899	#P3248
4Mv 11x17	\$2649	#P3235
Deskjet 1600CM	\$1949	#P3410

Guaranteed

We have the Lowest Prices Anywhere

C500L 166MHz Desktop Unit #A1638
 w/Monitor \$1,549
 16MB/1.2G/6xCD
 15" CLR Monitor/Keyboard

S900L/604e 32MB/2.1G-7200rpm/1MS128Mw-3MB #A1642 \$4,295
225MHz MacMarket Instant Rebate* - \$350 **\$3,945**

S900L/DP/2-604e 32MB/2.1G-7200rpm/1MS128Mw/4MB #A1637 \$4,595
180MHz MacMarket Instant Rebate* - \$350 **\$4,245**

S900L/604e 32MB/2.1G/1MS128Mw-4MB #A1639 \$3,795
200MHz MacMarket Instant Rebate* - \$300 **\$3,495**

S900L/604e 32MB/2.1G/1MS128Mw-4MB #A1641 \$3,595
180MHz MacMarket Instant Rebate* - \$300 **\$3,295**

J700L/604 16MB/2.1G/2MBVRAM/6.7xCD/Kybrd & Mouse #A1633 Cost \$2,795 After Rebate (!150) = \$2,645
 #A1634 Cost \$3,095 After Rebate (!200) = \$2,895

\$150 Instant Rebate on C600

MacWEEK Excellent

240MHz/603e /16MB RAM/2.1GB HD/6xCD/28.8	#A1649	\$2,295
200MHz/603e /16MB RAM/2.1GB HD/6xCD/28.8	#A1643	\$1,995
180MHz/603e /16MB RAM/1.2GB HD/6xCD/28.8	#A1645	\$1,745

PowerBook Memory

PB 5300/190		PB 1400	
8MB #M1387	\$119	8MB #M1310	\$119
16MB #M1390	\$159	12MB #M1312	\$129
32MB #M1393	\$269	16MB #M1314	\$159
		24MB #M1316	\$269

DAYSTAR Genesis MP

360+/2-604e Processors \$4,799
 180MHz/512K Cache #A1626
 We carry the complete Genesis Line from Daystar!

Newer Technology

MAXDOWN DIMMS 64BIT 60ns

200MHz	\$919	#A4419
180MHz	\$757	#A4416

NUPowr 200MHz for PB1400 \$599 #A4568
 NUPowr500 Series 167MHz 8MB \$669 #A4564
 16Bit Video Out Card CALL #V9335
 Linkcam External 33.6 Modem \$159 #P1059
 CardCAM Video-In Card \$359 #P1036

RasterOps/NSA Hitachi

SuperScan MC801HR	\$1799	#M6521
SuperScan MC611 17" (26)	\$1789	#M6529
SuperScan MC20 20"	\$1299	#M6525
SuperScan MC801 21"	\$1599	#M6527

Global Village

PowerPort PC Platinum 28.8	\$265	#F8150
PowerPort Pro PC 28.8/10B-T	\$425	#F8147
Teleport Internet 33.6 Edition	\$159	#F8121
Teleport SpeakerPhone 33.6	\$255	#F8128

Integrated Micro Solutions

TwinTurbo 128M 4MB VRAM	\$399	#V9240
TwinTurbo 128M 8MB VRAM	\$729	#V9238

FWB Incorporated

JackHammer PCI Accelerator	\$315	#A4417
SledgeHammer 17400 PCI-W	\$5389	#H1418
Hammer DLT 15GB	\$3698	#D2533
CD Recordable	\$1229	#E7243

Nikon Electronic Imaging

SuperCoolScan External	\$1849	#S6533
LS-20 Coolscan II	\$1159	#S6530

Syquest

EZlizer 230MB Drive & Cartridge	\$295	#R6116
SyJET 1.3GB Drive & Cartridge	\$489	#R6125

Atto

ExpressPCI-SC Single Channel	\$289	#A4516
ExpressPCI-MC Multi Channel	\$539	#A4519
ExpressPCI-SC Difer 1 FW	\$442	#A4522
ExpressPCI Pro ultra/SCSI III	\$349	#A4566
ExpressPCI-Pro ultra/wide raid kit	\$799	#A4572

The Latest Software Titles

Microsoft Word 6.01	\$278	#S1300
Microsoft Office 4.2.1	\$420	#S1306
Adobe Photoshop 4.0	\$115	#S1039
Adobe PageMaker 6.5	\$115	#S1025
Adobe Illustrator 6.0	\$343	#S1014
Director Multimedia Studio	\$836	#S1284

All Prices reflect a Cash Discount. Any other method is 2% higher. Prices are subject to change without notice. All Returns are subject to restocking fee, must be in original package, condition & needs an RMA#. No Refunds on Labor or Freight Charges. We accept Visa, MasterCard, Discover & American Express. P.O.s are accepted from U.S. Gov't, Schools & Corporations. Call for Details. Not responsible for typographical errors.
 We are located at 6934 CANBY AVE. UNIT#104, RESEDA CA 91335
Mon-Fri, 8AM to 6PM (Pacific)



all systems ship in Mini-Tower enclosure with (4) 3.5" and (3) 5.25" Drive Bays, 3EDO DIMM slot

*includes keyboard, mouse, and 8xCD-ROM

5 PCI slots, SVGA Monitor Port, SCSI and E-IDE bus, ADB and PS2 port, 2 High-Speed Serial

Powered by Motorola PowerPC

Ports, 16-bit sound in/out, and 1.44MB floppy drive. Built-in LocalTalk, and 110v to 230v Switchable Power Supply

Optional Zip & Jaz Drives

infiniti	MacOS™ 7.6	604e 200MHz	603e 200MHz	603e 160MHz	512K L2 Cache	256K L2 Cache	32MB DIMM	24MB DIMM	16MB DIMM	2.5 GB Hard Drive	1.3 GB Hard Drive	4MB Video RAM	2MB Video RAM	Yamaha Speakers	33.6 FaxModem	
3160	•			•												\$899
3160 smart	•			•				•					•			\$1,399
3200	•		•													\$1,099
3200 performance	•		•			•			•				•			\$1,999
4200	•	•														\$1,499
4200 pro	•	•			•		•			•				•		\$2,449
4200 elite	•	•			•		•			•			•	•		\$2,998
	operating system	processor	cache	memory	storage	video	extras									

power to the people

high-performance MacOS computers and processor upgrade cards

1000's of Mac related products available

POWERtools™

4544 S. Lamar Blvd. Suite. 101
Austin, TX. 78745
United States, Planet Earth

1.800.891.4307

tel 512.891.0646
fax 512.476.6399

sales@pwrtools.com

www.pwrtools.com



MAY THE SOURCE BE WITH YOU

Don't let the dark forces of ignorance defeat you. Right in this galaxy, you can tap into the source -- the free Consumer Information Catalog. It lists free and low-cost government publications on cosmic topics such as federal benefits, jobs, health, housing, educating your children, cars, and much, much more.



So dispel the darkness and send for the source. Write today to Pueblo, Colorado for the free Consumer Information Catalog. Just send your name and address to :

Consumer Information Center
Department Source
Pueblo, Colorado 81009

A public service of this publication and the Consumer Information Center of the
U. S. General Services Administration

Get more out of
your digital camera*.



*Mfd. by:
Kodak
Epson
Apple
Casio
Chinon



accessorize, accessorize, accessorize, accessorize.

What's the next-best thing to digital photography? The complete line of high-performance goodies from DC Pro, the leader in digital camera accessories, every one designed with your convenience and creative expression in mind. And here's another good thing: request your free catalog, mention this ad, and we'll send along a free gift.



Your Digital Source

Call 1-800-522-7835 today
for your free catalog and *free gift!*

Circle 53 on reader service card

PRODUCT INDEX

Category	Page No.	Category	Page No.
Business Operations	190-192	Peripheral Products	196-198
Bar Code		Cables	
CD Production		Cd Labeling	
Fax Back		Digital Media	
Inventory Management		Input Devices	
Print Utility		Magnetic Media	
Video/Display		Mobile Computing	
Communications/		Software Publishing	
Networking	192	Services	222-223
Cross Platform		Data Recovery	
Internet		Digital Production	
Education/		Repair	
Entertainment	193-196	Systems & Peripherals	198-216
Discount Software		Account Managers	800.888.8622
Games		Carol Johnstone	415.978.3152
Music		carol_johnstone@macworld.com	
Religion		Shannon Smith	415.974.7414
Graphics	193	shannon_smith@macworld.com	
Clip Art		Niki Stranz	415.978.3105
Digital Art		niki_stranz@macworld.com	
Memory & Upgrades	216-222	DTP Coordinator:	
Memory Upgrades		Clayton Haberman 415.978.3132	
Ad Trafficking Coordinator:		clayton_haberman@macworld.com	
Brian Mullin	415.267.1735		
brian_mullin@macworld.com			

Newton Joins the Mac-Barcode Family!

One Stop Shopping with Friendly Support from the Experts

Simple Fast Accurate

Newton® Walk-About™
Mac-Barcode ProLabel Software
SmartLaser/SmartScanner/SmartPen
Thermal Transfer Printer
Call for Literature & Free Demo Disk

The Mac-Barcode Co.
800-733-7592
http://www.mac-barcode.com

CIRCLE 562 ON READER SERVICE CARD

Bar Coding

Call us for Info

• Portable & Non-Portable Readers
• Radio Frequency Readers
• PostScript Bar Code Fonts

800-345-4220

WORTHINGTON DATA SOLUTIONS

BAR CODE PRO™

Create EPS graphics for your desktop publishing documents. Call for a free demo disk and get the information you need to make an intelligent purchasing decision for Mac or Windows.

800.619.0399
718.499.6293
or fax
718.768.3997
http://www.saa.com

0 012345 7
SYNEX

CIRCLE 450 ON READER SERVICE CARD

POINT OF SALE INVENTORY CONTROL

- Retail
- Rentals
- Service
- Manufacturing
- Multi Location

Bar Code/Magnetic Stripe Readers
Receipt Printers • Cash Drawers
Credit Card Auth. & Deposit Software
Download Demos and Interactive Catalog at our Web Site: <http://www.posdirect.com>
call, fax, or e-mail for a FREE CATALOG
(800) 622-7670 sales@posdirect.com
(618) 985-8237 TEL • (618) 985-3014 FAX
Dealer Inquiries Welcome
30 day MBG

VISA P.O.S. DIRECT

CIRCLE 466 ON READER SERVICE CARD

Creating precision bar codes is as easy as using a font!

PRINTBAR™ BAR CODE FONTS

- ▶ Compatible with virtually any Macintosh application.
- ▶ Choose from: UPC/EAN/ISBN • Code 39 • Code 128 **NEW!** • Interleaved 2 of 5 • POSTNET/FIM.
- ▶ 90-day money back guarantee.

"This is the best product of its kind, and it's reasonably priced too."
—MacUser review ★★★★★

EXTRA BONUS FREE POSTNET & FIM with any PrintBar Font Purchase

4140 Mother Lane Dr., Ste. 100, Shingle Springs, CA 95692
PH: 916 672-0244 • FAX 916 672-1103
E-Mail us at: info@bearrock.com

Scanning bar codes is even easier!

BAR CODE READERS AS LOW AS \$199!

- ▶ We offer readers compatible with Macintosh, PC, PS/2, laptops, and serial terminals.
- ▶ Instant or remote data entry from bar codes! Scan information into any software application with a wand, CCD, laser gun, badge slot or magstripe reader.
- ▶ Don't waste your money on the wrong kind of bar code reader for your situation.
- ▶ Our experienced customer service reps can help you choose the correct reader for your needs at the best price!

Money Back Guarantee On All Products

800 232-7625

Visit our Web Site at: www.bearrock.com

DESIGN, PRINT and APPLY CD Labels for \$79⁹⁵

That's NEATO!

Kit includes:
• The NEATO CD Label Applicator
• 100 Labels—Assorted Colors
• DesignExpress Labels™ Software for Windows
• NEATO Label Design Templates for MAC and PC

PATENTED WORLDWIDE

CIRCLE 475 ON READER SERVICE CARD

NEATO™ CD LABELER KIT

- 1 Create your own artwork. On Your Computer with NEATO Templates.
- 2 Print on Any Laser or InkJet using NEATO pressure-sensitive labels.
- 3 Using the NEATO Labeler, apply labels... PERFECTLY EVERY TIME!

U.S.: 250 Dodge Ave., East Haven, CT 06512
800-984-9800 203-466-5170 Fax 203-466-5178
Europe: Ealing House, 33 Hanger Lane, London W5 3HJ, UK +44 (0)990 561571
Fax +44 (0)181 932 0480

See us at: <http://www.neato.com>

VISA MasterCard

FlexWare™ Accounting

FLEXIBLE • POWERFUL • FAST

MacOS based, High-End, Multi-User, true client/server accounting software. Twelve fast, integrated modules. Customizable reports and financials. Extensive feature set. Powerful tools to grow your business. Call for free multimedia demo CD-ROM.

MacUser BEST BUY

Tel: 888-FLEXWARE
Fax: 916-624-0757
Email: info@flexwareint.com
Web: www.flexwareint.com

MW EDITOR'S CHOICE

score card
MacWEEK

EXPERT ADVICE IS NOT CHEAP IT'S FREE!



If you make presentations, call us. We specialize in projection products and we'll take the time to assist you in finding the one that's right for you. No hype. Just knowledgeable, friendly service.



<http://www.panelight.com>

- Trustworthy technical guidance and support
- Quick delivery
- Money-back guarantee
- Tremendous selection of all leading projectors
- Sales, leases or rentals
- Discount prices

We carry all the top brands!



Telex P-400
• 800x600, 400 lumen
• poly-Si LCD, power zoom
• Data/video/audio: \$7,795



Panasonic L-291
• 640x480, 300 lumen
• poly-Si LCD, zoom
• Data/video/audio: \$4,495



CTX 550
• 800x600, 270 lumen
• 9 lbs! data/video/audio
• Sub-compact size, \$5,495



Proxima 5600
• 800x600, 500 lumens, 16lbs
• poly-Si LCD, power zoom
• Data/Video/audio: Call for Price



Epson 3300 & 5000
• 640x480/800x600, 350-450 lum
• poly-Si LCD, 16 lbs/14 lbs
• \$4,995/ \$7,995



Mon. - Fri.
6:30am-5:30pm PST
24-hr. Fax: 415-986-3817
E-Mail:
sales@panelight.com
Panelight Display
Systems, Inc.,
P.O. Box 190940,
San Francisco, CA 94119
415-772-5800

Epson	Toshiba	CTX	Polaroid	Panasonic
In Focus	NEC	nView	Proxima	Telex

Call for Free Catalog (800) 726-3599

CIRCLE 481 ON READER SERVICE CARD

2 things our customers say about...

New! *LaserMerge Electronic Paper*

before they buy... **"I can't believe I get all this!"**

after they buy... **"I can't believe I got all this!"**

and all for only \$40

it not only replaces over \$1,000 worth of software, but it does all this:

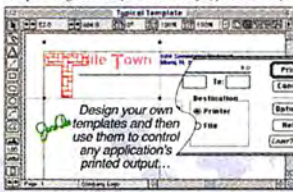
- Print 10x Faster
- Create new Paper Sizes & Layouts
- Preview Printing
- Create your own multi-ups
- Booklet/Pamphlets
- Cover Pages
- Business Cards
- Control Toner and Ink-Jet Level
- Create Bar Codes
- PS Level 2 Forms
- Even/Odd Prints
- Front-to-Back Prints
- 38 Print-Time Text Commands
- Import EPS/PICT
- Hi-Res Paper
- Print Logging
- Serialization
- Letterheads
- Forms
- Make Labels
- Invoices
- Badges
- Certificates
- Watermarks
- Print Stamps
- Name Plates
- Envelopes
- Greeting Cards
- Over 230 ClickBook & Avery Templates
- Reduce Network Traffic
- Sign your Letters & Faxes Electronically
- Store Images on the Printer's Disk or in its Memory
- Each layer can be moved, rotated, colorized, clipped, duplicated, & saved to your design...

For 101 ways to boost the printing power of any application, call (800) 648-6840 or try our demo at www.mindgate.com

Competitive Upgrade from ANY Print Utility for only \$40

30-day money-back guarantee

LaserMerge is a print extension that sits between any application and any printer driver... it uses Electronic Paper Templates that you design as a recipe to control any application's output.



This is the button you push

System 7 required! Works with ANY printer and ANY application. LaserMerge's miracles require only 32K of memory. QuickDraw GX is NOT required!

List Price: Base unit \$95
Net: \$15-\$25/unit
Worldwide: (615) 937-6800
Fax Facts: (615) 937-4636
Fax Orders: (615) 937-6801



MindGate Technologies, Inc.
164 Oliver Smith Road
Flinville, TN 37335-5335



800-248-0800
800-255-6227

CIRCLE 517 ON READER SERVICE CARD

Now, it's time to use the POS leader!

POS-IM, the leading-edge POS system, is designed to increase sales and profit margins, while reduce shrinkage and labor costs—all at an affordable price for the MAC user.

Easy-to-use, easy-to-learn features:

- Inventory Management
- Purchase Orders
- Credit Card Processing
- Useful Reports
- Simple Keyboard/Display
- Bar Coding

Over 3,000 installations world wide!

POS-IM
Point of Sale • Inventory Management



Call for a FREE catalog!
(800) 409-7678

Developed by:



35 Million Internet Users...

...but there's 460 million fax machines worldwide. Get your promotional and sales information out 24 hours a day with a PhoneMaker Fax-On-Demand system by MicroMat. It will save you time, money and your customers will love it. Try the system and get the facts on Fax-On-Demand by calling 800-829-6227. Request document #1007

Call 707-838-4231 and try it for yourself!



MICROMAT
COMPUTER SYSTEMS

PhoneMaker

CIRCLE 476 ON READER SERVICE CARD

Connect Windows to Macs...easily

Both **COPSTalk** & **MacLan**...

- ☛ Provide full Windows 95 support
 - ☛ Print to ANY AppleTalk printer
- But **Only COPSTalk**...
- ☛ Automatically maps extensions
 - ☛ Supports all Mac characters
 - ☛ Has networking & printing utils
 - ☛ Is easiest to install
 - ☛ Ships NDIS LocalTalk drivers
 - ☛ Has advanced properties pages

More about **COPSTalk** —

- ☛ Chosen by Apple, Claris & Farallon for Windows to Mac
- ☛ Recommended by 90% of printer manufacturers
- ☛ Free demo and utilities
- ☛ 1 year free support
- ☛ Lowest cost
- ☛ Competitive upgrades



COPS
 From COPS, Inc. First In
 Whatel to AppleTalk since 1985

CIRCLE 445 ON READER SERVICE CARD

EES Companies, Inc. **800-508-4444**
 Tel. (508) 653-6911
 Fax (508) 650-1872
 info@posoe.com

Mail Order

Distribution
 www.posoe.com

Point-of-Sale

INTERNET COMMERCE READY

- ▶ Order Entry
- ▶ Invoicing
- ▶ Fast Cash Retail
- ▶ Purchase Order
- ▶ Credit Card Processing
- ▶ Inventory Control
- ▶ Barcoding
- ▶ Multi-User
- ▶ Complete Systems Available
- ▶ Demo Available

CIRCLE 492 ON READER SERVICE CARD

**MAC & NEWTON
 BAR CODE SPECIALISTS**

800-988-1914

- Mobile Wand & MobileScan for Newton
- Easy Plug and Play Cross Platform - Mac & PC's
- Wireless and Portable Solutions
- CCD / Laser / Wand Readers
- Fonts & Software / Bar Code Labels & Printer
- Sun & Dec Bar Code Solutions
- Corporate and School P.O.'s Welcome

Int'l: 415-325-0379 Fax: 415-325-1779

CIRCLE 446 ON READER SERVICE CARD

There's a New Way to Shop on the Net! Use the
Web Shopper at: **Macworld**
ONLINE

www.macworld.com/buyers/guide

Buyer's Guide

Contact Macworld on
 how to advertise.
(800) 888-8622

Finally! Windows 95 and Macs Share Files and Printers Both Ways

Workgroups and small offices can now operate as efficiently as an enterprise with **PC MACLAN for Windows 95**. Low cost, plug and play installation, Network Neighborhood and long file name support, are just a few of the features that make sharing files, volumes and printers between Macs and PCs a snap.

"For peer-to-peer networking...
PC MACLAN 6.0 is the only choice."
 — Macworld - Nov. '96

Create your own network or complement almost any pre-existing LAN. Sharing information between Windows 95 and Macintosh users is as easy as working off your local hard drive. Print jobs go to the printer of your choice regardless of its location on the network.

For ordering or information:
800-862-2526
 e-mail: sales@miramarsys.com
 Web: www.miramarsys.com

Visit us at: Sunbelt Computer & Games Show — Booth #229
 Soybold New York — Booth #132

CIRCLE 431 ON READER SERVICE CARD

IDT PROUDLY UNVEILS ITS NEW
 enhanced INTERNET SERVICE

InternetPlus™

24/7

24/7 TECH SUPPORT

FREE

NET2PHONE™ SOFTWARE

FREE

INDIVIDUAL™ NEWSFEED

FREE

2AM™ GAMES

for only \$19.95

IDT's InternetPlus is for people who are ready to use the Net for all it's worth without having to stop, slow down and get frisked by some online service. If you're ready for InternetPlus call us any time of the day or night.

(800) 438-8995

ENJOY A FREE MONTH OF UNLIMITED LONG DISTANCE AND INTERNATIONAL PHONE CALLS! Get combined InternetPlus and IDT's deep-discount long distance phone service. You'll save a bundle compared to AT&T, MCI or Sprint. PLUS you'll get a rebate check for a full month of calls. (There's no limit). For complete details speak to an IDT customer service associate.

6016 ©1996 IDT CORP. IDT IS A TRADEMARK OF IDT CORP. ALL OTHER TRADEMARKS ARE THE PROPERTY OF THEIR RESPECTIVE OWNERS.

CIRCLE 449 ON READER SERVICE CARD

Detailed Networks in Minutes with NetDraw® 2.0!

With over 330 professionally drawn images, NetDraw® 2.0 gives users immediate access to clip art symbols for LANs, WANs, computing, PCs, telephony and patching and cabling. Also included are flow charting symbols as well as mapping graphics to depict your networks geographically. Available now for just \$129.95, NetDraw® 2.0's complete clip art library is easily imported into most Macintosh applications. **Call 800-643-4668 to order your copy today!**

NetDraw Clip Art for Building Networks®

CIRCLE 461 ON READER SERVICE CARD

CORPart

CD-Rom

CORPORATE Logo Clip Art Library 1&2

each **Only \$74.95**
FREE 1st Day Shipping

OVER 1150 Logos & Trademarks Per Library

- Logos From All Business Categories
- Hi-Res. Illustrator® & EPS Format
- Ideal for Laser Printers & Sign Cutters
- Great For Signs, Ads, Flyers, Presentations, Video, Internet
- Fully Editable & Resizable
- High-Resolution At Any Size
- Most-Up-to-date Library Anywhere
- Works with any application capable of EPS import, Mac & WIN

Mac OS

1-800-670-2245
1-818-716-9030 FAX: 1-818-716-9230
<http://home.earthlink.net/~gsolutionz/>

22545 Hatteras Street, Woodland Hills, CA 91367

CIRCLE 415 ON READER SERVICE CARD

MAP Art

Terrain USA International World Globes

Call for our Free Color Catalog
800-334-4291
609-397-1611 www.MAP-ART.com
609-397-5724 Fax. **CARTESIA**

NEW AMERICAN STANDARD

The most literally accurate Bible...
...in the English language

BIBLE MASTER™

Desktop Software
For Windows™ & MAC®

NEW Ask about our new BibleMaster Bundle for only \$49.95 on CD-ROM.
Don't have a CD-ROM drive?
Ask about our two Bundles available on disk.
American Bible Sales
870 S. ANAHEIM BLVD. ANAHEIM, CA 92805
1-800-535-5131

The Standard of Biblical Excellence... **NASB**

CIRCLE 537 ON READER SERVICE CARD

SOFTWARE SUPERSALE

ADOBE	
ACROBAT v3.0	\$179
ACROBAT WORKGROUP	\$919
AFTER EFFECTS v3.0	\$569
ILLUSTRATOR v6.0	\$319
PERSUASION v3.0	\$179
PREMIERE v4.2	\$419
SITEMILL v1.0	\$159
STREAMLINE v3.1	\$109
PageMaker v6.5	\$499
Photoshop v4.0	\$499
CLARIS	
CLARISWORKS V4.0 W/ APPLE INTERNET KIT	\$109
FILEMAKER PRO v3.0	\$169
COREL	
CORELDRAW v6.0	\$359
VISUAL CADD v2.0	\$289
FRACTAL DESIGN	
ADDDEPTH v2.0	\$49
DETAILER	\$269
EXPRESSION	\$269
JAG II	\$79
RAY DREAM STUDIO v4.1	\$259
RAY DREAM DESIGNER v4.1	\$89
MACROMEDIA	
DECK II V2.5 DIGI AUDIO WRKSTATION	\$259
DIR. MMEDIA STUDIO V2.0 W/ DIR 5.0	\$819
EXTREME 3D	\$419
FONTOGRAPHER v4.1	\$279
FREEHAND GRAPHIC STUDIO v7.0	\$369
SOUNDEDIT 16 v2.0	\$239
SOUNDEDIT 16 v2.0 PLUS DECK II	\$319
DIRECTOR v5.0	
w/ Shockwave	\$729
FREEHAND v7.0	
w/ Vector Effects	\$339
XRES v3.0	\$359
POWERSOFT	
INFOMAKER v4.0	\$189
OPTIMA ++ DEVELOPER v1.0	\$169
MICROSOFT	
FOXPRO v2.6 PRO	\$389
POWERPOINT v4.0	\$279
PROJECT v4.0	\$399
VISUAL FOXPRO v3.0 PRO ED	\$429
Office v4.21	\$335
Excel v5.0	\$185
Word v6.01	\$189
SPECULAR INTERNATIONAL	
3D WEB WORKSHOP v1.0 w/ PAGEMILL	\$199
3D WEB WORKSHOP v1.0 for PAGEMILL OWNERS	\$119
BACKBURNER v3.1 STARTER KIT	\$159
COLLAGE v2.0	\$79
INFINI-D v3.5	\$349
LOCOMOTION v2.0	\$79
TEXTURESCAPE v2.0	\$79
STRATA	
STUDIO PRO v1.5 / v1.75	\$819/739
MEDIA PAINT v1.1	\$339

ADAGE COMPUTER (888) 444-4845
4665 MELROSE AVE., L.A., CA 90029
(213) 665-7777 FAX: (213) 660-0444

LOWEST SOFTWARE PRICES

CIRCLE 429 ON READER SERVICE CARD

FREE

CD-ROM Catalog!

Over 2,000 titles in stock.
There's something for everyone!

- Games & Adventures
- Education & Reference
- Entertainment & General Interest
- Kid's Edutainment
- Desktop Publishing
- Multimedia Tools

call now
1-800-843-9497
visit our web site at www.educorp.com

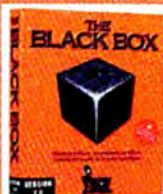
EDUCORP Direct
7434 Trade St., San Diego, CA 92121
(619) 536-9999 • Fax (619) 536-2345

CIRCLE 418 ON READER SERVICE CARD

Student - Teacher & School Discounts!

We will beat any advertised Price *

Latest Version & Full Packages



\$69

Black Box 2.0b
Photoshop filters



\$129

FileMaker Pro 3.0
#1 Relational Database



\$69

WordPerfect 3.5.1
World's Best
Word Processing



\$649

mTropolis 1.1.1
Multimedia Development



\$169

FreeHand
Illustration & Design



\$209

Fractal Painter 4
World's Leading
Paint Program



\$319

MiniCad 6.0
2D/3D Cad Software



\$129

CodeWarrior
C/C++ Programming



\$119

KPT Bryce 2.0
3D Creation & Beyond



\$799

LightWave 3D 5.0
Modeling & Animation

Acuris 18 Perfect People	\$249	Kai's Power Goo 1.0	\$49
Alias Sketch! 2.0.2	\$229	Kai's Power Tools 3.0.2	\$85
Amapi 2.1	\$199	KaleidaGraph 3.0	\$89
Astound 2.0	\$99	LightningDraw Gx 1.0.3	\$99
Authorware 3.5.1	\$649	Live Picture 2.5.1	\$349
AutoCad R12 w/Ame	\$199	M.Y.O.B. 7.0	\$49
Boris Effects 2.1	\$125	Mac Academy Tutorial Videos.....	\$35
Bravado 1000 Pci w/Premiere.....	\$699	MacDraft 4.2.1	\$199
Canvas 5.0	\$179	MacLink+ Translator Pro 9.0	\$95
ChemOffice Pro 3.5 Student	\$299	Mathcad 6.0+	\$149
Claris HomePage 2.0	\$69	Mathematica 3.0 Student	\$169
ClarisWorks 4.0.5	\$89	Matlab Student	\$99
Cliff Notes Studyware Geometry.....	\$35	MeshPaint 3D 1.5	\$315
Coda Finale 3.7	\$249	Nisus Writer 5.0	\$99
Color III 3.2	\$39	Now Bundle 3.6	\$69
ColorDrive 1.5.3	\$89	Now Utilities 6.5	\$55
Conflict Catcher 3.1.0	\$59	OmniPage Pro 6.0	\$349
CorelDRAW Suite 6	\$169	Opcode Vision 3.0.3	CALL
Datadesk 5.0	\$369	PhotoTools 1.0	\$85
Debabelizer Toolbox 1.6.5	\$219	Photolane Alphabets	\$129
DellaGraph Pro 4.0	\$89	Presenter Professional 3.1.5	\$495
DesignCad 2D/3D 3.0.1	\$149	Printshop Deluxe 1.1	\$55
Director 5.0.1	\$299	Quickkeys 3.5	\$85
Director Multimedia Studio 2.0	\$899	Ram Doubler 2.0	\$55
DrawingSlate II 4x5	\$99	Ray Dream Studio 4.1	\$199
Elastic Reality 1.2	\$149	SPSS 6.1 Student	\$99
ElectricImage Student 2.5	\$249	Sculpt 3D 4.1	\$219
Encore 4.1.1	\$249	SigmaPlot 5.0.....	\$199
EndNote Plus 2.1	\$165	SoftWindows 95	\$269
FastTrack Schedule 4.0b	\$129	Sony Multiscan 15sfil	\$479
FileGuard 3.0	\$119	SoundEdit 16+ Deck II	\$249
Final Draft 4.0	\$125	Speed Doubler 2.0	\$55
Fontographer 4.1.3	\$149	Spell Catcher 1.5	\$49
Form Z 2.8.2	CALL	Studio VisionPro 3.0.3	CALL
Fractal Detailer 1.0	\$199	StudioPro 2.0	\$549
Fractal Expression 1.0	\$199	Stuffit Deluxe 4.0	\$69
Fractal Poser 2.0	\$95	Stylist 1.0	\$85
FreeHand Graphic Studio 7.0	\$389	SuperCard 3.0	\$129
FutureSplash Animator	\$169	SupraSonic 336V+ External	\$245
German Power Trans 1.0	\$99	System 7.5.3 Software	\$85
Hard Disk Toolkit 2.01	\$109	TelePort Platinum 33.6	\$169
HexWrench 1.0	\$249	Texturescape 2.0	\$69
HyperCard 2.3.5	\$89	Umax SuperMac S900L/180	\$3349
HyperStudio 3.0	\$119	Umax Visto-S6E Scanner	\$589
Infini-D 3.5	\$249	Us Robotics Courier V.Eve	\$279
Inspirall 4.1c	\$89	Virex 5.6.5	\$49
Japanese Language Kit 1.2	\$129	Wacom Art Z II 12x12	\$399
Java Starter Kit	\$69	Wacom Art Z II 6x8	\$285
Jmp 3.1.5	\$329	Wacom ArtPad II 4x5w/Dabblor	\$149
KPT Final Effects 3.0	\$349	Walkthrough Pro 2.6	\$229
KPT Power Photos Vol 1,2,3, or 4	\$85	XRES 3.0	\$199

Visit our Web Site!!

<http://iaswww.com/source.html>

Call for FREE Catalog!
(800) 831-3115

Includes Complete Price List & Free Product Info

**SAME DAY SHIPPING ON MOST ITEMS.
**ADOBE, SYMANTEC & MICROSOFT PRODUCTS
AVAILABLE TO QUALIFIED STUDENTS,
TEACHERS & SCHOOLS.
**SCHOOL PURCHASE ORDERS WELCOME.
**NO SURCHARGE ON CREDIT CARDS.
**IBM & MAC PRODUCTS AVAILABLE.



The
SOFTWARE
Source

1-800-831-3115

1750 Brielle Ave, Unit A-2
Ocean, NJ 07712
PHONE (908) 695-2100
FAX (908) 695-9371
E-MAIL: SFTSWS@AOL.COM

CIRCLE 423 ON READER SERVICE CARD

Ask about
Free Software*
when you order

OVER
10,000
TITLES
IN STOCK
DAILY!

United CD ROM®

CALL US NOW
FOR A FREE CATALOG!

1-800-864-8334

Visit Our **HOT** Website at
www.unitedcdrom.com

FREE SOFTWARE
WITH EVERY PURCHASE!*

SAME DAY SHIPPING!

National Partner
of
CYBERFEST '97



University of Illinois
Urbana-Champaign
March 10-15, 1997



MAC GAMEPAD: Nintendo-style controller with 4 programmable buttons, index fire buttons, control pad & removable joystick handle. Designed for right or left-handed play.

MOUSESTICK II JOYSTICK: Features 5 programmable fire buttons with index finger fire button. Supports second joystick & Mac Gamepad through ADB Port.

FIREBIRD FLIGHT & WEAPONS CONTROLLER: Features programmable buttons, throttle & trim controls, jet-style handle & pre-configured settings for popular games.

Total Control!

- Gamepad 28322 **\$23**
 - Mousestick 15770 **\$39**
 - Firebird 46532 **\$59**
- Advanced Gravis**



CH FLIGHTSTICK PRO

Includes a programmable eight-way switch & four fire buttons to control weapons, radar, & viewing for more advanced games.

YOUR CHOICE
\$68

CH PEDALS

Features pivot movement for use with auto racing, flying, & more. Car mode & plane mode. Designed for both novice & advanced players.

38253

55893



ENCARTA 97: Combines rich multimedia, comprehensive text & a unique interactive environment to provide users with engaging, learning experiences. Includes World Wide Web links, monthly online updates, multimedia collages & 360 photographic views.

CINEMANIA 97: The most authoritative, current & entertaining multimedia guide to movies & the people who make them. Six film sources, extensive illustration & world wide web integration.

CLOSE COMBAT: Defeat the enemy in non-stop WW II battle action. Deploy troops, weapons & vehicles as either the Americans or Germans.

Excitement from Microsoft!

- Encarta '97 54702 **\$70**
 - Cinemania 54704 **\$28**
 - Close Combat 54877 **\$38**
- Microsoft**



JOURNEY TO LIFE: Covers the entire process of human development from sperm & egg production to the actual birth of a new baby. Contains the latest scientific information available.

BUSY PEOPLE OF HAMSTERLAND: Using the metaphor of a taxi, children can travel around Hamsterland, a village full of industrious people, interacting with ever-changing scenarios & over 760 animations.

AMAZING INVENTIONS: Shows the way things around the house work. Includes humorous yet accurate explanations of the principles that explain how & why human inventions function.

Great Ideas for Kids

- Journey to Life 55269 **\$29**
 - Hamsterland 55271 **\$29**
 - Inventions 55973 **\$29**
- Unlimited**



BLINKY BILL'S GHOST CAVE
by Dream Catcher
Filled with over 150 surprise animations & numerous educational games and puzzles kids will love.

54905 **\$25**



TRIG EXPLORER
by Cognitive Technologies
An in-depth study of trigonometry fundamentals. Great explorations of algebra, geometry & science.

55427 **\$36**



QUICKEN 7 DELUXE
by Intuit
Includes: home inventory, tax guidebook, tradeline stock guide, Quicken quotes & 101 tips & tricks for Quicken users.

54340 **\$64**



MARK I WCS
Features 6 buttons and 3-position rocker switch for controlling vital functions. Controls throttle & after burner. Gives user true hands-on throttle and stick flight.

33464 **\$64**



MARK I FCS
Modeled after the F4 Phantom Stick with 4 push buttons & a 4 way switch for controlling vital functions on an aircraft. Works as 2 button joystick with all flight sims.

34994 **\$95**



INSIDE THE SAT & ACT '97
by Princeton Review
Prep for both college admissions tests. Twice as much video instruction, includes College Counselor with data on 1,200 colleges.

53103 **\$26**



SPORTSTER 28.8 VOICE FAXMODEM
by US Robotics
Now one compact easy to use solution lets Mac users manage voicemail, faxes & data transmissions. Duplex speakerphone capability, message retrieval & more.

50763 **\$189**



WARCRAFT II
by Davidson
With powerful allies, terrifying creatures & ingenious weaponry, the struggle for the domination of Azeroth continues over land, sea & air.

44436 **\$44**



MARATHON INFINITY
Answer the challenge of the new Marathon adventure—"Blood Tides of Lh'Owan." 30 levels with new textures, landscapes & monsters.

51559 **\$36**



ABUSE
Destroy enemies in any direction with grenade & rocket launchers while avoiding deadly traps with jet packs & turbo boosts.

52619

* While supplies last. Shipping charges apply to free offers.
** Orders received as late as 9:30 pm (CST) for 2nd day air. Call for other deadline times.
Special offers, item availability and prices may vary according to format and are subject to change without notice. All prices in U.S. dollars. Not responsible for inadvertent errors.

Business Hours: Mon-Fri 8am-10pm; Sat 8am-5pm; Sun 12pm-5pm.
Mail Orders to: 800 United CD ROM Drive, Urbana, IL 61802

CONTACT US!

CompuServe: 76043,1605 Fax back 1-217-352-8123
America On-Line: UNITEDCD Fax orders 1-217-337-8531
BBS 1-217-352-9654 Int'l orders 1-217-337-8532

ALL MAJOR CREDIT CARDS
ACCEPTED

CODE M02

MUSIC for the MAC

We sell the full range of music products for the Mac. Hard Disk Recording Specialists.

Best prices & customer support in the business!

Mac BEAT!

www.macbeat.com
FREE CATALOG
505-473-3434
Fax 505-473-4647
1-800-MAC-BEAT

1314 Rufina Cr. Ste. #AA
Santa Fe, NM, 87505

Practica Musica™ 3

Your Personal Music Tutor!
The best music education program for the Mac™ (-MacUser) is now available in Solo, Family, and Site editions. (retail \$99, \$140, and \$450). The most complete music training package for both beginners and advanced students.

Kidmusic

NEW! Fun music learning and entertainment for kids. Tap keys to play with automatic accompaniment, play rounds, learn pitch and rhythm notation, write or record tunes. Expandable library of traditional songs. \$75

ARS NOVA • (206) 889-0927 • (800) 445-4866
FAX (206) 889-0359 • www.ars-nova.com
CIRCLE 484 ON READER SERVICE CARD

888-AAA-MEDIA

AAA Media, inc BACK UP SOLUTION SPECIALIST

<http://www.aaamedia.com> • e-mail: sales@aaamedia.com
TEL: 818-718-9625 FAX: 818-718-9626

4MM DAT	HARD DRIVES	MEDIA
HP C1533A 4-8 GB \$878	SEAGATE ST15150N 4.3 GB \$1048	TDK • FUJI • SONY
*CDT 8000 4-8 GB \$898	MICROPOLIS 1991A/V 9.0 GB \$1798	4 MM 60/90M \$5.25/7.25
WANGDAT 3400 4-8 GB \$838		4 MM 120M \$22
SONY 5000 4-8 GB \$738		8 MM 112/160M \$5.75/12
HP 35480A 2-4 GB \$708		CDR 74M \$7.25
*ARCH. 4322 2-4 GB \$548		DLT 2/3/3XT/4 \$35/41/55/99
WANGDAT 3200 2-4 GB \$678		1024 B/S 650 MB \$42
HP 35470A 2.0 GB \$598		1024 B/S 1.3 GB \$49
*WANGDAT 2.0 GB \$528		1024 B/S 2.6 GB \$75
*HP C1553 24-48 GB \$1998		
8 MM EXB	OPTICAL DRIVE	CALL FOR TAPE & OPTICAL LIBRARIES
EXB 8200 2.3 GB \$428	LARGEST DISTRIBUTOR OF STORAGE PRODUCTS	
*EXB 8205XL 2.3-7 GB \$1228	FUJI 230 MB \$428	MAXELL • 3M • HP
EXB 8500 5 GB \$1018	*HP C1716C 650 MB \$698	DLT
EXB 8505 5-10 GB \$1298	SONY E501 650 MB \$738	DLT 2000 10-20 GB \$2298
*EXB 8700 14 GB \$1148	MAXOPTIX T2 1.0 GB \$608	DLT 20XT 15-30 GB \$2798
	*SONY F521 1.3 GB \$1098	*DLT 4000 20-40 GB \$4358
	HP C1716T 1.3 GB \$1788	DLT 4700 280 GB \$7998
	HP C1113F 2.6 GB \$1998	
	*MAXOPTIX 2.6 GB \$1788	
	*EXTERNAL PACKAGE INCLUDED	

BEST PRICE & QUALITY GUARANTEED • QUANTITY & CASH DISCOUNTS

ALL TAPE DRIVES INCLUDE SOFTWARE AND 1 FREE MEDIA • EXTERNAL PACKAGE ADD \$98 FOR H.H / \$115 FOR F.H.

CIRCLE 412 ON READER SERVICE CARD

Want bargains online?
Bookmark the Web Shopper at:
Macworld ONLINE

www.macworld.com/buyers/guide
Advertise at (800) 888-8622

RECORD CDS

NEW! **AVD CD RECORDERS** \$499 (4X CD-R \$899)

MORE CD-R BLANKS \$5.99

JAZ/CD-R DUO \$999

CD-R PRINTER \$1495

CD LABELER \$79

CD-R Safe Pens \$4.95

MEDIA SPECIALS

OPTICAL	SYQUEST JAZ & ZIP	CD DUPLICATION SYSTEM
128mb \$10.99	44mb \$33	16 CD's per hour (see our website under Changers) or ...
230mb \$14.99	88mb \$37	
650mb \$29.99	200mb \$55	
1.3gb \$39.99	105mb \$45	
2.6gb \$69.99	270mb \$52	
	JAZ 1GB \$95	
	ZIP 100mb \$14.99	

JAZZ 1GB Removable HD \$449

DLT 30 GB \$2895, 10 GB \$4895

SOFTWARE

CD-DA Mac software for writing "Red-Book" Audio CDs	\$399
CD-COPY Mac software for bit by bit copying of CDs	\$199
M-PACK MPEG Encoding software for Mac	\$399
TOAST 3.0 The #1 CD Writing SW for Mac, Improved	\$299
STUDIO W/TOAST 3.0, CD-DA & CD-Copy	\$499
AUDIOMEDIA III Mac PCI Audio I/O card	\$699
MASTERLIST Mac software for writing Pro Audio CDs	\$499
SESSIONS Audio Edit software	\$199
PROTOOLS Professional Audio, For use w/PCI	\$699
MACROMEDIA DIRECTOR 5 #1 Authoring Tool	\$499

MEDIASTORE
See us at <http://www.mediastore.com>
800-555-5551
NEVER UNDERSOLD!
ph. 714-974-5551 • fx. 714-974-1400

CIRCLE 471 ON READER SERVICE CARD

Custom Ultra Fast SCSI Tools

SCSIVue™ Active Terminator

From: **\$59**

Optional Remote Display

Benefits:

- Improves SCSI Bus Performance
- Less Errors; More Reliable Data Transfer
- Diagnoses Problems • Analyzes Signal Quality

Features:

- Active Regulation • Supports 68 Pin, 50 Pin
- Status Indicators • Gold Contacts

Ultra SCSI Std. & Wide Compatible

SCSIVue™ Gold Diagnostic Cables

From: **\$39**

Over 40 Cable Styles In Stock

Benefits:

- No Loss Of Important Data
- Faster Performance
- Test Cable Integrity

Features:

- Diagnostic Indicators • Large Ferrite Filters
- Triple Shielding (Unique Cable Design)
- Double Gold 20u" Plated Connectors
- Extra Heavy 26 Gauge Wire, 50 & 68 Pin

From: **\$39**

SCSIVue™ Teflon Custom Internal Cables

Benefits:

- Less Errors, Ultimate Performance
- Silver Wire Improves Signal Quality

Features:

- Perfect 90 Ohm Impedance Match
- Triple Pronged Connector With Gold contacts

Custom Internal Cables in 1 DAY!

SCSIVue™ Active Digital Switch

2+3 COMPATIBLE

Benefits:

- Share SCSI Devices Between 2 Computers
- Attach up to 14 Devices to 1 Computer

Features:

- 2-1 Active Digital Switch/Repeater
- Regenerates SCSI Signal for Long Runs

Catalog Online @ www.scsiopro.com

Granite Digital Data Solutions

The SCSI Solution Company

3101 Whipple Rd. • Union City, Ca. 94587 • Ph: 510-471-6442 • Fax 510-471-6267

CIRCLE 408 ON READER SERVICE CARD

Data Media	Printer Supplies
Jaz 1GB Cartridge... \$93 ⁰⁰	Inkjet Specialty Papers
Zip Disk 100MB..... \$13 ⁹⁵	Iron-on Transfers (10)..... \$14 ⁷⁵
SyQuest 200MB \$59	Greeting Cards (20)..... \$6 ²⁵
CD-R74 Call	Photo Paper (20)..... \$14 ⁰⁵
CD Caddy or Pen \$3 ⁹⁹	Premium IJ Paper (100)..... \$9 ¹⁰
CD Labels (laser/inkjet) \$5 ⁵⁰	Ink Cartridges
M.O. 128 ^{MB} fmt..... \$9 ²⁵	For Apple StyleWriter 2400:
M.O. 230 ^{MB} Linfmt/fmt \$10 ⁵⁰	BC-21 4-color cartridge.. \$44 ²⁵
M.O. 600 ^{MB} fmt..... \$48 ⁸⁵	BCI-21 CMY for BC-21..... \$15 ¹⁰
M.O. 1.2 ^{GB} fmt..... \$60 ¹⁵	BC-29F 4-color NEON... \$38 ⁰⁵
PD650 formatted..... \$43 ⁷⁵	Laser Toner Cartridges
4mm 90m 2.0GB..... \$6 ⁰⁰	LerWr Pro 810, EP Kit..... \$245
4mm 120m 4.0GB. \$19 ⁹⁵	LerWr Pro 600, #98A..... \$86

We have the supplies you need... for less!

Cleaning Accessories:

- 4mm Drive Cleaner \$10.95
- Compressed Air (12oz) .. \$6.95
- CD Lens (Caddyless) ... \$12.95

MON - FRI, 7-7 CST • PO BOX 1674 • BETHANY, OK 73008
 FAX 405-495-4598 • PH 405-789-0888 • E-MAIL diskconn@telepath.com

DisketteCONNECTION 1-800-654-4058

CIRCLE 485 ON READER SERVICE CARD

ORGANIZE & STYLIZE YOUR CD MEDIA

COMPLETE CD LABELING SYSTEM INCLUDES:

- 1 CD Stomper Label Applicator - Perfectly Centered Every Time
- 100 Blank Labels - Assorted Colors Laser and Ink Jet Ready
- 1 INTERACTIVE CD-ROM with over 1200 Clip Art Images
- Mac & PC Templates for all major applications

ONLY \$79⁹⁵

"We've found that the CD Stomper is the perfect tool for customizing our short run CD Titles and backups."
 - Cary Van Allen, Primary Color

CD STOMPER
 The Professional CD Labeling System For Everyone

DEALER & DISTRIBUTOR INQUIRIES WELCOME
 2041 Business Center Drive, Unit 113, Irvine, California 92715
 Phone: 714-250-6771 FAX: 714-250-6775
<http://www.labelcd.com>

ACCEPT NO SUBSTITUTES • ORDER TOLL FREE 1.888.LABEL.CD

CIRCLE 406 ON READER SERVICE CARD

WWW.STEADI.COM 1-888-STEADI-9 CALL TOLL FREE

STEADI SYSTEMS
 Int'l: 213-993-3031
 FAX: 213-461-0946

FILM • VIDEO • MULTIMEDIA • SALES • SERVICE • RENTALS

Authorized Reseller

YOUR COMPLETE DIGITAL VIDEO SOURCE

After Effects	SONY	Monitors
Final Effects	Adobe	Printers
Boris Effects	JVC	Hard Drives
Photoshop	MEDIA 100	VTR's
Form Z		Projectors

For our 9 locations and Fax number see us at our website.

NON-LINEAR DIGITAL VIDEO SYSTEMS

- Media 100 QXC**
 Component I/O with Adobe Premiere, PM9500-200MHz 96MB/2GB/8XCD/4MB ATI, 17" Color Monitor, Ext. Kybd, After Effects v3.1, 8GB Disk Array, Boris Effects
CALL FOR PRICES
- Targa 2000 RTX**
 Component I/O with SphereOUS PM9500-200MHz 96MB/2GB/8XCD/4MB ATI, 17" Color Monitor, Ext. Kybd, After Effects v3.1 8GB Disk Array Storage,
CALL FOR PRICES
- Electric Image**
 Broadcast with Form-Z Render Zone, PM9500-200MHz 256MB/2GB/8XCD/4MB ATI, 17" Color Monitor, Ext. Ky, Mouse, After Effects v3.1 8GB Disk Array Storage, Photoshop, Infini-D
CALL FOR PRICES

CIRCLE 402 ON READER SERVICE CARD

macally

We work hard for your Macintosh



Call us for the Dealers near you

Please call today: 1-800-644-1132

<http://www.macally.com>

CIRCLE 403 ON READER SERVICE CARD

BookEndz™ PowerBook™ Docking Stations

Slide in to convert your PowerBook to a complete desktop system, slide out for portability!

- Eliminates the need for a desktop computer
- Fast, reliable connections every time
- Dock/undock in seconds
- Low cost
- Eliminates cable confusion
- Supports all rear ports
- Adds only 3" to rear of PB when docked

- Free NoteBook Enhancements Catalog
- Foreign telephone adaptors
- Monitor stands



Orders: 800-682-4987

Pilot Technologies, Inc., Minneapolis MN Tel: (612) 828-6002 Fax: (612) 828-6806
URL: <http://www.pilot-tech.com/> Email Address: pilottech@aol.com

CIRCLE 419 ON READER SERVICE CARD

PACIFIC
COMPUTER EXCHANGE

Used Macs Priced to Move

Cash paid for your Mac via Fed Ex!	LW Select 300.....\$299	SE.....\$189
	LW Select 360.....\$899	Classic/Classic II.....\$299/399
	Image Writer II.....\$169	Color Classic.....\$599
	HP Deskwriter.....\$189	LC/LCII/LCIII.....\$199/299/399
	Style Writer II.....\$189	IIcx or IIxi.....\$299
	LW IIINT/NTX.....\$399/499	IIci/IIvx.....\$389/499
	Apple 13" RGB.....\$279	Centris 610.....\$599
	PB 140/145.....\$499/549	Quadra 650/660AV.....\$749
	PB 160/170.....\$599/699	6100/60 8/250/CD.....\$899
	PB 180/180c.....\$899/1299	7100/80 8/1Gig/CD.....\$1199
PB 520/540c.....\$899/1999	8100/80AV 48/500/CD.....\$1599	

800.790.3881 ORDERS
503.236.2949 PURCHASING & INFO

We buy and sell used Macs!

Many More
Macs &
PowerMacs
in stock!
Please Call!

SPECIAL!
Factory
Returbished
Reno 2X
Portable CD
\$79

CIRCLE 451 ON READER SERVICE CARD

YOUR CD-R SOURCE!

The Lowest Prices on CD-R Products!

Labelers & Drives

Press-IT
CD-Labeler



\$69.95

Includes 100 labels & template software!

RECORDABLE CD

Our CD-R Drive Packages include the CD-R drive, Toast 3.0 software, and SCSI cable.

4x \$899
2x \$599



Visit our web site for weekly updated MACWORLD specials!

MEDIA SUPPLY

<http://www.mediasupply.com>

Blank Media

Blank CD-R \$6.49

74m • 4x & 6x
Sony • TDK • Verbatim
Custom printing available

SYQUEST \$19.95
EZ135

Zip Cartridges \$12.95

JAZ Drive Specials

Cartridges \$88.95



JAZ Drives \$439.95

800-944-4237

610-458-9100 • Fax: 610-458-9464

CIRCLE 413 ON READER SERVICE CARD

Power Computers (Mac & PC)

Performa 6300cd 100mhz 8/1.2gb	..... \$1599
Performa 6320cd 120mhz 8/1.2gb	..... \$SAVE
Performa 6400cd 180/200mhz	..... \$SAVE
Performa 640*dos 12/500/cd	..... \$999
PowerMac 7200/120 8/1.2gb/cd	..... \$SAVE
PowerMac 7600/120 16/1.2gb/cd	..... \$SAVE
PowerMac 8500/120 16/1gb/cd	..... \$SAVE
PowerMac 8500/132 16/1.2gb/cd	..... \$SAVE
PowerMac 9500/132/150/200MHZ	..... \$SAVE
Umax S900L/200 32/2.1gb/8xcd	..... \$SAVE
Monitors for mac 14"/15/17	..... \$249/329/599
Jaz 1GB External w/1gb Cart	..... \$479

Items not listed call, School, Gov't, P.O.s Welcome. *Refurb.
**We Carry parts for new and older Macs. Prices are cash Dist.
(888)38POWER Intl(714)237-0977

CIRCLE 451 ON READER SERVICE CARD

USED COMPUTERS

The Computer Exchange

"We match buyers and sellers of used MACS nationwide."

Classic to PowerPC

Call for More Info

800-304-4639

404-898-0700 www.complexch.com
205 Armour Dr. NE, Atlanta, GA 30324

CIRCLE 460 ON READER SERVICE CARD

MacGlobal

SYSTEMS AND PERIPHERALS • SALES AND SERVICE

Performas	PowerBooks
410/466/476 Call	160/165/170/180 Call
550 5/160 \$799	150 4/240 \$550
580 5/500/CD \$800	520 4/240 \$750
631 8/500/CD \$650	520C 4/240 \$1,100
6116 8/700/CD \$850	540C 4/320 \$1,750
5200 8/500/CD \$1175	

Power Macs	Quadras
7200 8/500 Call	630 8/250 Call
7500 16/500 Call	650/800/840/950 Call
8500 16/500 Call	

Printers
Stylw II \$185.00
Stylw 1200 \$175
Laser 300 \$285
Laser 320 \$490
Laser 4/600 Call

Memory	Monitors
4 MB 72-pin \$40	14" App. Color+ \$235
8 MB 72-pin \$75	15" App. Multi. \$275
16 MB 72-pin \$115	17" Radius Trin. \$675
	20" GS \$540

WE REPAIR MACS!

TOP DOLLAR paid for memory, PowerBooks and CPUs!
[800] 722-8864
Phone: [408] 268-3300
Fax: [408] 997-1400

MacGlobal

CIRCLE 479 ON READER SERVICE CARD

Your Digital Video & Pre-Press Specialists

800-429-7779

PHONE 714-574-3939
Fax 714-574-3947
Email: Clucero126@aol.com

3101 W. Pacific Coast Highway
NewPort Beach CA 92663

PowerMac

Umax/ Motorola

BLAZING EFFECTS!

Ask About
DayStar
Graphics, Up
to 800 MB/s

Video Editing Systems



9500 200MHz 80/2G/CD	.....	\$3995
9500 200MHz 64/4G/CD	.....	\$4425
9500 180MPHz 32/2G/CD	.....	\$3569
9500 150MHz 32/2G/CD	.....	\$3295
8500 180MHz 64/2G/CD	.....	\$3759
8500 150MHz 16/2G/CD	.....	\$2799
8500 120MHz 16/1G/CD	.....	\$1925
7600 120MHz 16/1G/CD	.....	\$1899
7600 132MHz 64/2G/CD	.....	\$2454
Work Group Servers		
7250/8550 16/2G/CD	.....	\$3199/\$398

Adobe After Effects P3.0	.....	\$1575
Adobe After Effect 3.1	.....	\$595
Ultimate Plug-in	.....	\$1495
Borris Effects	.....	\$325
Meta Tools Final Effects	.....	\$575
Adobe Photoshop v3.0.5	.....	\$395
Adobe Page Maker v6.0	.....	\$495
Adobe Premiere v4.2	.....	\$425
Adobe Illustrator v6.0	.....	\$350

Radius Video Vision PM 7600/132/80/1G/CD	.....	\$10895
Radius Video Vision PM 9500/200/2G/CD	.....	\$12095
Radius Video Vision PM 9500/180MP/96/2G/CD	.....	\$13595
Targa2000 PM 7600/132/80/1G/CD	.....	\$10400
Targa2000 PM 9500/200/96/2G/CD	.....	\$12100
Targa2000 PM 9500/180MP/96/2G/CD	.....	\$13400

Above w/8GB Wide array, 17" Monitor, Keyboard, Adobe Premier

Targa2000 RTX PM 7600/132/80/1G/CD	.....	\$16,844
Targa2000 RTX PM 9500/200/96/2G/CD	.....	\$18,575
Targa2000 RTX PM 9500/180MP/96/2G/CD	.....	\$19,700

Media 1000x PM 9500/200/64/2G/CD.....\$12,995
Media 1000XC DayStar Configuration.....SCall
Media 1000XC PM 9500/180MP/2G/CD.....\$15,539

ELECTRIC IMAGE. SCALL

Above w/8GB Wide array, 17" Monitor, Keyboard, Adobe Premier

SilkScreening System

Imagesetter - Agfa or LinoType 18" Wide

- Includes RIP
- Adobe Postscript
- 2400 DPI
- Factory Refurbished
- Call for New & Refurbs !!

\$15,000

Pre Press System

Complete Color Pre Press System

Includes Power Mac 7500
24/1G, 17" Color Monitor,
Software, Ex Keybd., AGFA
Color Scanner, Color Proof
Printer, Imagesetter w/Rip
& Processor.

\$16,950

Targa 2000 Station

PM 9500/200/64MB/2GB/CD/4M ATI

Targa 2000 PCI, Adobe
Premier 4.2, Apple 17" Color
Monitor, Ext. Keyboard, 4.2GB
Disk Array Wide PCI, Adobe
After Effects v3.0, Borris
Effects. Reflects Cash Price

\$11,900



SCITEX DIGITAL VIDEO
introduces the...

SPHERIOUS

Explosive power.
Right on the desktop.

GENESIS MP 720+

GENESIS MP 720 + 128M/2G/CD/4M VM
17" MONITOR, EXTENDED KEY-
BOARD, 4G HARD DISK, ATTO
CARD SINGLE CHANNEL,
ADOBE AFTER EFFECTS !!!

Call for the 720+ and 800
\$12,677

Scitex Station

PM 9500/200/128MB/2GB/CD/ATI

Targa RTX2000 PCI,
SpherOus 1.0, After
Effects 3.1, 17" Color
Monitor, Ext. Keyboard,
8GB Dual Channel

Wide Disk Array! and much more!!!

\$22,875

Media 100qx

MEDIA 100 QX
7600/132/32MB/1G

Adobe Premier 4.2, After
Effects 3.0, 17" Monitor,
Keyboard, 4100 w/SCSI Wide Array, Vicent
Component

\$12,350

With the strength of the two most prominent video pioneers how can you go wrong? The company brings together the digital video design and the engineering expertise of Abekas® and the revolutionary nonlinear finishing workstation of ImMix®. Scitex introduces... Realtime, Dual-stream video, easy-to-use operator interface, Networkability, Alpha Channel Output, Max 360 KB per frame & much more. For more information contact our Digital Video Technical Sales 714-375-6390

CIRCLE 405 ON READER SERVICE CARD

A.M.S.

"The Professional Solutions"
"www.advmacc.com"
800-847-4622

Power Mac & CLONES

9500/200 32/2Gb/Cd	.....	\$3895
9500/180MP 32/2Gb/Cd	.....	\$4899
8500/180 32/2Gb/Cd	.....	\$3075
S900L/225 32/2Gb/Cd	.....	\$3945
S900L/200 32/2Gb/Cd	.....	\$3485
S900L/180DP 32/2Gb/Cd	.....	\$4255
M3000/200 32/2Gb/Cd	.....	\$2185
M4000/160 32/2Gb/Cd	.....	\$2485
M4000/200 32/2Gb/Cd	.....	\$2885

PowerBook 1400 Series

1400cs 117MHz -12/750MB	.....	\$2399
1400cs 117MHz -16/750/CD	.....	\$2799
1400c 117MHz -16/1GB/CD	.....	\$3425
1400c 133MHz -16/1GB/CD	.....	\$3885

Printers	MONITORS
LW 16/600 PS	..... \$2129
LW Select 320	..... \$555
LW 4/600PS200	..... \$779
HP LJ 4MV 11x17	..... \$2675
GCC Elite XL 808	..... \$2675
JAZ 1GB \$450	..... \$1589
SCANNERS	AGFA Arcus II ... \$1699
	StudioScan IISI.. \$ 629

Prices are subject to change without notice
Business TEL: (310) 314-7372
Leasing FAX: (310) 314-7512
Available.
"E-Mail ams@advmacc.com"

CIRCLE 470 ON READER SERVICE CARD

MACS & POWERBOOKS WANTED

TOP \$\$\$ PAID

Any Quantity
Fast Turnaround
Trade Ups Welcome
FedEx check delivery
We Buy, Sell & Trade
New & Used Macs

1416 Wilshire BL
Santa Monica, CA 90403
www.macsolutions.com

(800) 80-WE-BUY

TEL: (310) 394-0001 FAX: (310) 394-7744

CIRCLE 473 ON READER SERVICE CARD

MacBYTE

JULY SPECIAL: 4MB 72 PIN
SIMMS - ONLY \$39.00!!!

BUY • SELL • TRADE

New & Used CPU's

TECH SUPPORT:
310.448.4488

FAX 310.448.4494

800-432-2983

Open Monday - Friday
4215 Glencoe Ave., #150
Marina del Rey, CA 90292

CIRCLE 428 ON READER SERVICE CARD

HAWKE BUSINESS SYSTEMS

A Division of the CPS Services Group
Flemington, NJ 08822

(800) 875-2610
Fax - (908) 782-7027
Email - MacHawke@AOL.COM

We Buy, Sell, Trade & Repair Mac Equipment

6 Month Parts & Labor Warranty

Mac Se 4/40FDHD w/K&M -	\$249.00	Classic 4/40 w/K&M -	\$299.00
Classic II 4/80 w/K&M -	\$399.00	Mac Se/30 5/80 w/K&M -	\$399.00

PowerBook 160 4/80 -	\$549.00	PowerBook 180 12/120 -	\$849.00	Duo 230 8/80 -	\$99.00
----------------------	----------	------------------------	----------	----------------	---------

Mac IISI 5/80 w/14" Color Monitor, Apple Extended Kyb and Mouse	\$499.00
Mac IICI 8/160 w/14" Color Monitor, Apple Extended Kyb and Mouse	\$599.00
Mac Le III 8/80 w/14" Color Monitor, Apple Extended Kyb and Mouse	\$525.00
Mac IIVx 8/230 w/14" Color Monitor, Apple Extended Kyb and Mouse	\$599.00
Quadra 610 8/160 w/14" Color Monitor, Apple Extended Kyb and Mouse	\$799.00
Quadra 660AV16/500/CD w/14" Color Monitor, Apple Extended Kyb and Mouse	\$899.00
PowerMac 6100/60 16/250 w/14" Color Monitor, Apple Extended Kyb and Mouse	\$999.00
PowerMac 6100/66 16/500 w/14" Color Monitor, Apple Extended Kyb and Mouse	\$1099.00

CIRCLE 457 ON READER SERVICE CARD

FAST CASH

For ALL Macs, Memory & Peripherals — Working or not

TOP DOLLAR PAID

Mac Traders (800)990-0995

(310) 576-2466 Mon.-Fri. 9 AM-6 PM Sat. 10 AM-4 PM (P.S.T.) Fax: (310) 394-7323
1511 Lincoln Blvd. (bet. Broadway & Colorado), Santa Monica CA. 90401

**Over 8000
Products!**

MAC TO GO™

**your #1 Apple[®]
Super Source™**

**Power Macintosh[®]
7200/120**
16/1GB/4xCD \$1289
16/1GB/8xCD \$1349

**Power Macintosh[®]
7500/100**
16/500/4xCD \$1369
16/1GB/4xCD \$1499

**Power Macintosh[®]
7200/120PC**
8/1.2/4xCD \$1849
16/1GB/8xCD \$2089

**Power Macintosh[®]
7600/120**
16/1.2/4XCD
\$1696.00



**Power Macintosh[®]
7600/132**
16/1.2/8XCD
\$1879.00

**Power Macintosh[®]
8500/120**
16/2GB/4XCD
\$1799.00

**Power Macintosh[®]
8500/150**
16/1.2/8XCD
\$2389.00

**Power Macintosh[®]
8500/180**
32/2GB/8XCD
\$2989.00



**Power Macintosh[®]
9500/150**
16/2GB/CD/Video
\$2999.00

**Power Macintosh[®]
9500/180MP**
\$4889
9500/200
\$3899

**Performa[®]
6400/180**
16/1.6GB/8XCD
\$1399.00

**Performa[®]
6400/200**
16/2.4GB/8XCD
\$1599.00



**UMAX[®]
C500/160**
16/1.2/8XCD/KB
\$1289.00

**UMAX[®]
S900/200**
32/2GB/CD/IMS8MB/KB
\$3439.00

**Apple[®]
15" 1705**
15" Mntn, Refurb. 17" Mntn, New
\$329.00* 609.00

**SONY[®]
New! 200sf**
17" Monitor, .25 DP
\$729.00



PERFORMA[®]

Sale!

5200CD 8/800/KB/15" 1099*
6220CD 8/1GB/TV/KB 999*
6116CD 8/700/CD/KB 888*
6200CD 8/1GB/CD 899*
5320/120 16/1GB/CD/15 1549
6360/160 16/1.2GB/8XCD 1369
6400/180 16/1.6/8XCD 1399
6400/200 16/2.4/8XCD 1599
6400/200 Video Edit. 2139

UMAX[®]

Starting as low as \$1289

C500 603E/160 1289
C600 603E/180 1689
C600 603E/200 1879
C600 604E/240 2149
J700 604E/150 2549
S900 604E/180 3279
S900 604E/200 3389
S900 604E/225 3879
S900 604E/180DP 4199

SCANNERS

Vista S6e 279
Vista S6 Pro 499
Vista S12LE 625
Vista S12 Pro 699
PowerLook II LE 1799
*Scanners after \$20 Mfg Rebate

**WorkGroup[®]
Servers**

ALL NEW WrkGrp Servers Avail

6150/66 16/1.2/INTRNT 1499
9150/120 16/2GB/CD 1999
7250/120 16/1.2GB/CD 1899
7250/120 16/1.2/INTRNT 2099
7250/120 16/2GB/CD/AS 2599
8550/132 24/2GB/INTRNT 3869
8550/132 24/2GB/CD/AS 4249
8550/132 24/2GB/CD/DAT 4799
8550/200 32/2GB/INTRNT 4359
8550/200 32/2GB/8XCD/AS 4699
8550/200 32/2GB/8CD/DAT 4799
8550/200 32/2GB/AS/DAT 5555
500/132 32/CD/BASE 6979
500/132 32/2GB/DAT/CD 8689
700/150 32/1GB/CD 9579
700/150 48/4GB/DAT/CD1 1989
700/200 48/2-4GB/CD 13789

SONY[®]

LOWEST PRICES!

100SX /15SF2 379/428
200SX 17" New! 639
200SF 17" New! 729
17SE2 939
300SFT 20" New! 1589
20SE2 1600X1280.25 1839
GDM-2000CT NEW! 3099

NEC

LOWEST PRICES!

XV15+/M500 469/479
XV17+/M700 779/739
XE 17/XP 17 989/1039
XE 21/XP 21 1689/1939

HP HEWLETT PACKARD

DeskWrt 680C 289
DeskJet 340 Prtbl Mac 318
DeskJet 870CXi 469
DeskJet 1600CM 1889
LaserJet 6MP New! 859
Color LaserJet 5M 6888
LaserJet 4M 2659
LaserJet 5M 1689
LaserJet 5SI MX 3729
ScanJet 4C Mac 809
DesignJet 755CM Plotter Call

POWERBOOK[®]

1400CS 16/750/Passive 2349
1400CS 16/750/CD/Pass 2789
1400C 16/1gb/CD/TFT 3319
5300CS 8/500 1899
5300C 8/500 2299
5300CE 32/1.1 3488
2300C 8/750 1419
2300C 20/1.1/MDM 1789

Apple[®] Printers

StylWrt 2400 199*
StylWrt 1500 249
StylWrt 2500 329
LsrWrt 4/600PS 739
LsrWrt 12/640 PS 1459
LsrWrt 16/600 W/Tnr 2088
LsrWrt 12/660Ps Kit 5289

AGFA[®]

Arcus II 1749
SnapScan 339
StudioScan IIsi 579
StudioStar LE 779
StudioStar Full Photoshop 979

MICROTEK

ScanMaker E3 299
ScanMaker E6 547
ScanMaker E6 Pro 829
ScanMaker III 1399

ViewSonic

GT770 17" 689
PT770 17" 789
P815 20" 1549
P815 20" 1909

GLOBAL VILLAGE

TelPrt Platin 188
Pltnm PC 309
Platin Pro 415

WACOM

ArtPad II 129
Artz II 6x8 298
Artz II 12x12415 259
Artz II 12x18685 87

APPLE NEWTON

Newton 130 639
2/4MB 79/166
ToolKit 259
Keyboard 87

EPSON

ES-1000C 525
Expression 636 Exec 825
Expression 636 Artist 1259
Expression 636 Proff. 1739
Stylus Color 500 279
Stylus Color Pro 429
Stylus Color ProXL 1649

MEMORY

72-PIN SIMM's

8MB SIMM 72PIN \$ 57.99
16MB SIMM 72 PIN \$ 97.99
32MB SIMM 72 PIN \$219.99

168-PIN SIMM's

8MB DIMM (1X64) \$ 57.99
16MB DIMM (2X64) \$ 97.99
32MB DIMM (4X64) \$178.99
64MB DIMM (8X64) \$339.99

Apple[®] Monitors

MS 14"/15" 255*/329*
MS 15"/15AV 389/459
MS 1705/1710 609/849
MS 1710AV 979
MS 20" 1749



Call 1-800-946-6221

Customer Service: 310.444.1122 Facsimile: 310.444.1130

Gov't, Schools, Fortune 500 P.O.'s Welcome. *** are all Refurb prod. Visa, MC, AMAX accepted. Prices are Cash Discounted for COD Cash/Cashier Check. Prices may change without notice. Limited stock.



LA'S LEADING COMPUTER STORE!

LA COMPUTER CENTER

CALL (800) 689-3933

UNIVERSITY, SCHOOLS, GOV'T
& FORTUNE 1000 P.O.'S ACCEPTED!

Call for Quantity Pricing!

INTERNATIONAL ORDERS WELCOME CALL PH. (310) 479-0999

Customer Service (310) 473-2535 FAX (310) 312-9041

POWERMACS

PERFORMAS

POWERBOOKS

9500/200



32/2GB/CD
w/2MB ATI

\$3699

KEYBOARD & MONITOR SOLD SEPARATELY

9500/180MP \$4699

32/2GB/CD w/2MB ATI

8500/180

16/2GB/CD
w/2MB VRAM

\$2899



8500/150 16/2GB/8xCD

\$2499

KEYBOARD & MONITOR SOLD SEPARATELY

7200/120

16/1.2GB/CD/256L2

\$1299

KEYBOARD & MONITOR SOLD SEPARATELY

7600/120

16/1.2GB/CD

\$1649

5260/100	16/800/4xCD	\$1399
6100/66	16/500/CD/DOS	\$1099*
7100'S		SCALL
7200/75	8/500/4xCD	\$899*
7200/90	8/500/4xCD	\$999*/1099
7200/120	16/1.2GB/8xCD	\$1349
7200/120/P100	16/1.2GB/CD	\$1999
7500/100	16/1G/4xCD	\$1499/1379*
7600/132	16/1.2GB/8xCD	\$1899
8100/100	8/700	\$1499*
8100/110	16/2GB/2xCD	\$2099*
8500/120	16/1GB/4xCD	SCALL
8500/132	16/1.2GB/4xCD	\$2199
9500/132	16/2GB/4xCD	\$2299*
9500/150	16/2GB/4xCD	\$3299

WORKGROUP SERVERS

Call For latest Pricing and availability

9150/120 Closeout, call for pricing

SCANNERS

AgfaArcus II w/Trans w/Full Photo	\$1799
AgfaStudioStar w/Full Photo	\$999
AgfaStudioScan IIsi w/LE Photo	\$649

GE 4 YEAR ON SITE WARRANTY!

ASK YOUR SALES REP REGARDING GE EXTENDED ON SITE WARRANTY							
\$100 to \$350	\$350 to \$500	\$500 to \$700	\$700 to \$1200	\$1200 to \$2000	\$2000 to \$3000	\$3000 to \$5000	\$5000 to \$10000
\$49.95	\$79.95	\$139.95	\$169.95	\$199.95	\$259.95		

FedEx NEXT DAY AND SAME DAY SHIPPING AVAILABLE. WE SHIP WORLDWIDE! OPEN MON-SAT. VISIT OUR SHOWROOM! 12002 PICO BLVD. WEST LOS ANGELES, CA 90064

* Reflects Refurbished Units. Prices Subject To Change Without Notice. CALL FOR LATEST PRICE. ALL PRICES REFLECT A 3% CASH DISCOUNT. Credit Cards Will Be Verified For Fraudulent Use.

Performa 6400CD

180MHz! **\$1499**
16/1.6GB/8xCD/28.8Kbps
No Cache, No Monitor

200MHz! **\$1799**
16/2.4GB/8xCD/28.8Kbps
256K L2Cache, No Monitor

230MHz VIDEO EDITION \$2099

Performa 5320CD

16/1.2GB/8xCD 120MHz

\$1499

CPU, KEYBOARD, NO MOUSE, 15" MONITOR

SPECIAL PURCHASE
LC580 8/800 **\$899**

5215/75	8/800/CD 15"	\$999*
6116/66	8/700/CD No Mon	\$799*
6200/75	8/1GB/CD No Mon	\$849*
6220/75	16/1GB/CD/NoMon	\$899*
6300/100	16/1G/CD/NoMon	\$969*
631/33	8/500/CD/NoMon	\$749*
6320/120	16/1.2GB/CD/TV/NoMon	\$1199
6360/160	16/1.2GB/8xCD/NoMon	\$1249
640/33	12/500/CD/DOS	\$799*

APPLE MONITORS

14" MultiScan	\$249*/289
15" MultiScan	\$399/349*
1705 17" MultiScan	\$699
1710/1710AV MultiScan	\$899/949
20" MultiScan	\$1199*/1699
RADIUS SuperMatch 21TXL	SCALL
RADIUS PressView 21SR	\$3299
SONY 100SX/100SF	SCALL
SONY 15SF2 15"	\$449
SONY 17SE2 17"	\$999
SONY 200SF 17"	\$759

LEASING SPECIALISTS

FAST APPROVAL & LOWEST RATES FOR BUSINESS

COST	TERM	Approx. Monthly Pmt.
\$2,000	36 Mo.	\$76
\$4,000	36 Mo.	\$142
\$6,000	36 Mo.	\$207
\$8,000	36 Mo.	\$276

Based on Credit Approval, proper lease documentation, FMV lease, security. Other options available.

NEW SERIES POWERBOOKS

1400C/133	16/1GB/CD	SCALL
1400C/117	16/1GB/CD	\$3499
1400CS/117	16/750/CD	\$2699
1400CS/117	16/750	\$2499
5300CE	32/1GB	\$3199
5300C	16/750	\$2599
5300C	8/500	\$2199
5300CS	16/750	\$2199
5300CS	8/500	\$1799
540C	4/320	SCALL
520C	12/240/MOD	SCALL
520	8/240	SCALL
190CS	8/500	SCALL
190	8/500	SCALL
150	8/250	\$799
DUO2300C	8/750	\$1399
DUO2300C	20/1.1GB/MOD	\$1699
DUO250	4/200	\$899*
DUO250	12/200/MOD	\$899*
DUO280C	12/320/MOD	\$1199*
DUO280	12/240/MOD	\$1099*

PRINTERS

LaserWriter Pers 300/320	\$499/599
LaserWriter 4/600	\$749
LaserWriter Select 610	SCALL
LaserWriter 12/640/PS	\$1449
LaserWriter 16/600/PS	\$2099
COLOR LW 12/660/PS	SCALL
StyleWriter 2500	\$299/249*
StyleWriter 2400	\$199*
StyleWriter 1500	\$249
StyleWriter 1200	\$149*
Star Color Printer XJ144MC	\$99
HP LaserJet 6MP	\$899
HP LaserJet 5M	\$1779
HP LaserJet 5M Color	\$6699
HP LaserJet 4MV	\$2499
HP DeskJet 870Cxi	\$499
HP DeskJet 680C	\$299

MODEMS

GlobalVillage Modems	
Mercury19.2Kbps for PB500	\$129
Teleport Gold II 14.4Kbps	\$59
Teleport Platinum 33.6Kbps	\$189
Powerport Gold 14.4Kbps PCMCIA	\$99
Powerport Plat. 28.8Kbps PCMCIA	\$299
Powport Plat. Pro 28.8+ Enet PCMCIA	\$449
Diamond Modems	
SupraExpress 33.6	\$169

ACCESSORIES

Omega ZIP 100 w/1cartridge	\$189
Omega JAZ 1GB w/1cartridge	\$449
Apple 600e 4xCD-Rom External	\$149*

DHI Product Plus™ NEW OR REBUILT PRODUCTS ELIGIBLE FOR COVERAGE INCLUDES FREE SURGE PROTECTOR

Visit Us At Our NEW Web Site <http://www.LACC.com>

24Hrs A Day -- On-Line Catalog & Ordering

E-Mail us at: lacc@lacc.com

Apple CD600i

Internal

- 4x CD-ROM
- Photo CD Ready
- Tray Loading
- 300+ only \$49
- 300e+ only \$99
- * Mounting Kit Not Included
- Most Machines only \$20



\$99

7500 to 7600 Upgrade

Card

- PowerPC 604
- 120 Mhz
- Upgrade Card
- Works on 7500
- 30-40% Faster
- * Add 512K Cache for \$129



\$99



MacWorks

"Low Prices. Great Service... That's The Deal!"

800-482-2705

web: <http://www.macworks.com/>
e-mail: sales@macworks.com

DESKTOP GPUS

- PowerMac 7200/120** -16/1200/8xCD **\$1409**
- PowerMac 7200/120 PC** -16/1200/CD/Pentium **\$1895**
- PowerMac 7600/132** -16/1200/CD **\$2109**
- PowerMac 8500/180** -32/2GB/8xCD **\$3099**
- PowerMac 9500/200** -32/2GB/8xCD **\$3599**
- Performa 6214/75** -8/1200/CD/kybd **\$1099**
- Performa 6320/120** -16/1200/CD/28.8/kybd **\$1499**
- Performa 6360/160** -16/1000/8xCD/28.8/kybd **\$1799**
- Performa 6400/180** -16/1600/8xCD/28.8/kybd **\$1799**
- Performa 6400/200** -16/2.4GB/8xCD/28.8/kybd **\$2075**

PORTABLES

- PowerBook 190cs** -16/500/14.4 PC Card **\$1499**
- PowerBook 1400cs** -12/750/Floppy **\$2499**
- PowerBook 1400cs** -16/750/6xCD **\$2999**
- PowerBook 1400c** -16/1200/6xCD **\$3499**

MONITORS

- Apple Multiscan 14** - Refurbished/New **\$219/\$329**
- Apple Multiscan 15** - Refurbished/New **\$349/\$399**
- AppleVision 1710** - Display **\$899**
- AppleVision 1710AV** - Display **\$949**
- Apple Multiscan 20** - M2612LL/B **\$1699**

PRINTERS

- StyleWriter 1200** - Refurbished **\$149**
- Color StyleWriter 1500** - New **\$599**
- Color StyleWriter 2400** - Refurbished/New **\$1099/\$1499**
- Color StyleWriter 2500** - New **\$749**
- LaserWriter 12/640PS** - 600 dpi **\$1399**
- LaserWriter 16/600PS** - Refurbished/New **\$1499/\$2199**

PARTS

- Manual/Auto Floppy** - with exchange **\$49/\$79**
- CD300i+** - internal 2x CD-ROM **\$49**
- CD600i** - internal 4x CD-ROM **\$99**
- PB 500 100Mhz Upgrade** - Includes 8MB of RAM **\$399**
- PB 500 8MB/Duo 8MB** - RAM Module **\$79**
- PowerMac AV Card** - for 6100/7100/8100 **\$249**
- 6100 DOS Card** - 486DX266 (Cable \$49) **\$99**
- PB 190 Upgrade** - Video Out Card **\$79**
- Performa MPEG Card** - for 630-6300 series **\$99**
- LC 580/Performa 631** - Main Logic Board **\$149**
- CPU Power Supplies** - most Apple CPUs available **\$OACLL**

MODEMS

- 28.8 US Robotics** - PCMCIA Modem **\$179**
- GV Teleport Platinum** - 33.6 Internet Edition **\$179**

Prices Subject to Change • All Prices Represent 2% Cash Discount • We only ship FedEx • * Denotes Refurbished • Voice 913-599-6227 • Fax 913-599-6111

CIRCLE 444 ON READER SERVICE CARD

LOWEST PRICES & BEST SERVICE!

POWER PCS

- 7200/75" 8/500/CD \$795
- 7200/120" 16/1.2/8x CD/L2 \$1295
- 7200/120 16/1.2/8x CD/DOS \$1995
- 7500/100(r) 16/1GB/CD \$1195
- 7600/132 16/1GB/CD \$1895
- 8500/120 16/1GB/CD \$1795
- 8500/132 16/1GB/CD \$2195
- 8500/132 16/2GB/CD \$2430
- 8500/150 16/1GB/CD \$2395
- 8500/180 16/2GB/8x CD \$2995
- 9500/120 16/1GB/CD \$1995
- 9500/132 16/1GB/CD \$2095
- 9500/150 0/0/CD \$2695
- 9500/200 32/2GB/CD \$3695

POWER BOOKS

- 500 series In Stk Call
- 190 8/500 \$ 999
- 190CS (n) 8/500 \$1199
- 5300 series Lowest Call
- 5300CE/117 32/1GB \$2895
- 2300c 8/750/mod \$1599
- 1400cs 12/750 \$2295
- 1400cs 16/750/CD \$2695
- 1400c/117 16/1GB/CD \$3495
- 1400c/133 16/1GB/CD/L2 \$3795
- All Duos New, used, Ref. In Stk

We'll beat any verifiable prices!

FREE!
Extended II Keyboard
with purchase of any
Complete System

1-800-799-4MAC

TEL: 310-358-9000 • FAX: 310-358-9100

DAILY SPECIALS ON WEB
<http://www.compu-age.com>
e-mail Applemagic@aol.com

COMPU AGE

The source to Macintosh World

303 S. Robertson Blvd. • Beverly Hills, CA 90211

PERFORMA

- LC 580 8/500/CD/14" \$999
- 5200 8/800/CD \$995
- 6116 8/750/CD \$695
- 5300 16/1GB/CD/15" \$1095
- 6220 16/1GB/CD/TV \$895
- 6320 16/1GB/CD \$995
- 6360 16/1GB/CD/28.8/KB \$1195
- 6400/180 16/1.6GB/CD \$1195
- 6400/200 16/2.6/CD \$1695
- 6400/200V 16/16.2.4/CD \$2195

MONITORS

- Apple Multiscan* 14" \$ 245
- Apple Multiscan* 15" \$ 295
- Apple 1705 - 17" \$ 639
- Apple 1710 - 17" \$ 819
- Viewsonic 17AV 27dpi \$ 759
- Hitachi Superscan 20" \$1985
- La cie electron - 21" 28 \$1599
- Sony, Hitachi, Viewsonic, Radius Call

PRINTERS

- StyleWriter 1500 \$195
- LaserWriter 300/320 \$299/399
- LaserWriter 4/600 \$695
- LaserWriter 12/640 \$1395
- All others Call

AT NO EXTRA CHARGE...
System burn-in & full inspection
before we ship any system.
NEXT DAY DELIVERY

Custom configurations avail. **INTERNATIONAL ORDERS WELCOME**
Prices subject to change due to publication lead time.

CIRCLE 542 ON READER SERVICE CARD

DATA
MICRO COMPUTER INC.

800-345-1234

TEL (310) 398-3300
FAX (310) 391-2488

[HTTP://WWW.DATAMICRO.COM](http://www.datamicro.com)

DEALERS & INTERNATIONAL SALES WELCOME!
Govt. Univers.'s & Corp. P.O.'s welcome
Prices subject to change without notice.

SPECIAL DEALS

- Centris 650 8/500 895
- Apple 20" Color 1249
- Dos Card 6100 Series 195

POWERMAC	PERFORMAS	POWERBOOKS	PRINTERS & MONITORS
6100/66 8/500/CD 895	LC 580 8/500/CD 895	1400C 16/1G/CD 3495	LaseWriter 12/600 4995
6100 Dos 16/500CD 1075	6116 8/700/CD 995	1400CS 2885	L.W. 12/640 1495
7100/80 8/700CD CALL	5200 8/500 CD/14" 1049	16/1G/CD 2499	L.W. Select 300 475
7200/120 16/1G/CD 1445	5215 16/1GCD/14" 1195	1400CS 12/750 3250	Personal 320 595
7500/100 16/500/CD 1495	5260 16/800CD/14" 1475	5300CE 32/1Gig 2775	Personal 300 395
7600/132 16/1G/CD 1995	5320 16/1G/CD/15" 1749	5300C 16/750 2275	StyleWriter 2400 249
8100/80 8/250/CD 1495	6200 8/1G/CD 995	5300C 8/500 2275	StyleWriter 2500 269
8100/110 16/2G/CD CALL	6220TV/16/1G/CD 1049	5300CS 16/750 1875	Radius 15" GS 199
8500/120 16/1G/CD 1995	6290 8/1.2/CD CALL	5300CS 8/500 1155	Radius Pivot 15" GS 295
8500/132 16/2G/CD 2249	6300 16/1G/CD 1149	5300 Mon 8/500 1295	Radius Pivot 15" Cir 369
8500/150 16/2G/CD 2495	6360 16/1G/CD 1295	190CS 8/500 1280	Radius 21" GS 777
8500/180 32/2G/CD 3195	6400/180 16/1.2CD 1495	190 8/500 2145	Radius 17" 745
9500/132 16/1G/CD 2295	6400/200 16/2GCD 1849	540C 12/320/M 1445	Radius Precision 21" 1495
9500/150 16/2G/CD 3150		520C 4/240 895	Radius Intellicolor 20" 1299
9500/200 32/2G/CD 3995		520 4/240 750	Radius 21 TXL 1595

CIRCLE 464 ON READER SERVICE CARD

**LOW LOW RATE
BUSINESS LEASING
0 DOWN APR
100% TAX DEDUCTIBLE**

\$3999 Fargo Pictura 310E #66018 11x17 Dey-Sub PCI
#66P17 Primera Pro \$1285
#66P26 FotoFun 4X5 \$495

MACMAN COMPUTER WAREHOUSE

MACMAN COMPUTER WAREHOUSE 16116 Sherman Way Van Nuys, CA 91406
Internet Address: 102431.2627@COMPUSERVE.COM

800-931-2001

International Orders Tel: 818-901-6250 Fax: 818-901-6260
Internet: 102431.2627@COMPUSERVE.COM

**WE DO CUSTOM
CONFIGURATION
GOV'T, UNIVERSITY
CORP, P.O.'S WELCOME**



#59M4D	8MB DIMM	\$79
#51M0D	16MB DIMM	\$89
#59M5D	32MB DIMM	\$189
#58M4D	64MB DIMM	\$349
#50M3D	4MB SIMM	\$39
#57M5D	8MB SIMM	\$69
#57M9D	16MB SIMM	\$89
#52M9D	32MB SIMM	\$189

**Pentium
PCI Dos Card \$749**
Item#72V5P

9500/200 CD 8x
96MB/4GB HD
ATI 4MB CARD
Apple 20" Mon.
Apple Ext.II Kybd
\$6895
PPC 604e processor 200 Mhz
Six PCI expansion slots
512k L2/ 12 DIMM slots
#170BP

8500/180 CD 8x
64MB RAM/2GB HD
Sony 200SF
Apple Ext.II Kybd
\$4395
PPC 604e processor 180 Mhz
Audio line input-out put ports
256k L2/ 8 DIMM slots
#175BP

8500/150 CD 4x
48MB /2GIG HD
Apple 1705 Display
Extended keyboard
\$3595
Free
Connectix ColorCam #176BP
PPC 604e processor 150 Mhz
Audio line input-out put ports
256k L2/ 8 DIMM slots

7600/132 CD 8x
48 MB RAM/1.2GB HD
Apple 1705 Mon.
Extended Keyboard
\$2799
PPC 604 processor 132 Mhz
Audio line input-out put ports
256k L2/ 8 DIMM slots
#17B2C

7200/120 CD 8x
Free
Connectix ColorCam
24MB /1.2GB HD
15"Color Mon.
Extended Keyboard
\$1999
PPC 601 processor 120 Mhz
Audio line input-out put ports
256k L2/ 8 DIMM slots
#17B1A

7200/120 CD 8x
32MB /1.2GIG HD
15" color Mon.
Extended keyboard
Umax Vista S6E
Color Scanner
\$2299
PPC 601 processor 120 Mhz
Audio line input-out put ports
256k L2/ 8 DIMM slots
#17B1A

Powerbook
5300CE 32/1010 #2042B \$3595
5300c 16/500 #2042B \$2499
5300cs 16/500 #2042B \$2099
5300cs 24/750 #2042B \$2699
1400c 16/1GB/CD #2075B \$3599
1400cs 24/1GB/CD #2581B CALL

Performa
#1204F 5320 16/1010/CD16" \$1595
#1203P 6360 16/1010/CD8x \$1399
#1403P 6400 16/1.6GB/CD8x/180Mhz \$1699
#1405P 6400 16/2.4GB/CD8x/200Mhz \$1899

9500
200Mhz 32MB/2GB HD/CD8x \$4399
180Mhz 32MB /2GB HD/CD8x \$4299
150Mhz 16MB /2GB HD/CD4x \$3559
132Mhz 16MB /2GB HD/CD4x \$2999

Scanners
AGFA #37591 Arcus II \$1729
#37572 Studio Scan II si \$679
#37573 Studio Star LE \$769
#37574 DUO SCAN \$4695
#37524 Polaroid SprintScan/35es \$1459
#37545 Polaroid Sprint Scan + \$1859
#37551 Umax Vista S6E \$319
#37552 Umax Vista S12 LE \$879
#37553 Umax PowerLook II \$1899

5300cs/100
16MB RAM/500MB HD
Global 28.8 Fax/Modem
Carrying Case
\$2499 #11N5B

UMAX SYSTEMS
S900D/225Mhz 32MB RAM/2GB/8x \$3999
S900L/200Mhz 32MB RAM/2.1GB/Kybd \$3599
S900L2x180Mhz proc. 32MB RAM/2.1GB \$4399
C600L/200Mhz 16MB/2.1GB/8x CD28.8 Fax \$1999
C/600L180Mhz 16MB/2.1GB/8x CD28.8 Fax \$1799
J700L/150Mhz 16MB RAM/2.6GB/CKybd \$2799

8500
180Mhz 32MB /2GB HD/CD8x \$3349
150Mhz 16MB /2GB HD/CD4x \$2599
132Mhz 16MB /1GB HD/CD4x \$2349

Printer
#67P02 \$1649
#67P03 Stylus Pro \$379
#31P82 RFS 2035 \$6349
#31P59 RFS 3570 \$7895
#96K30 \$499
#96K30 \$8495

PowerShop
PCI or NuBus
PhotoShop Accelerator
#79V88
\$1749

9500/200 CD 8x
128MB/4GB Fast & Wide HD
FWB F&W Accelerator/IMS 8MB Card
Radius Pressview 21SR
Radius Ext Kybd
\$9795
#17B95

7600
132Mhz 16MB /1.2GB HD/CD8x \$2195
120Mhz 16MB /1.2GB HD/CD4x \$1899

Printer
#67P02 \$1649
#67P03 Stylus Pro \$379

MONITOR
#89D41 Apple 15" \$399
#89D62 Apple 1705 \$699
#82D67 Apple 1710 \$799
#82D69 Apple 1710AV \$949
#82D73 Apple 20" \$1795
#84D85 17" 200SF Color \$779
#84D53 20" SF II Color \$1595
#84D87 2000CT \$3095
radius
#81425 PressView 21SR \$3195
#81714 PrecisionView 17SR \$1795
Wacom Art -Z II 6X8 \$295
Wacom Art -Z II 12X12 \$399
Wacom Art -Z II 12X18 \$649

Hard Disk
CAPACITY INT EXT
#49H76 1.2GIG \$289 #49H79 \$349
#44H05 2GIG \$349 #44H05 \$399
#42H52 4GIG \$899 #42H53 \$999
Baracuda Fast & Wide 8MS 7200RPM 512k Buffer
#45H01 4.3GB \$1029 #45H02 \$1095
Baracuda 8MS 7200RPM 1024k Buffer
#45H12 4.3GB \$1149 #45H13 \$1249
Baracuda Fast & Wide 8MS 7200RPM 1024k Buffer
\$179 #48H98
\$449 #48H36

7200
120Mhz 16MB /1.2GB HD/CD8x \$1799
120Mhz 16MB /1.2GB HD/CD4x \$1599
HP Laser Jet 4MV #62P84 \$2649
HP Laser Jet 5MP #48P98 \$969

Printer
#67P02 \$1649
#67P03 Stylus Pro \$379
#31P82 RFS 2035 \$6349
#31P59 RFS 3570 \$7895
#96K30 \$499
#96K30 \$8495
DC-50 Zoom \$769
DC-25 \$329

Due to public access that addresses you in this area, all prices are subject to change. All products carry one year warranty unless otherwise specified. All items are sold as is. All items are subject to availability. Shipping and handling fees are not included. No Sales Tax outside of CA. Business Pricing not valid for Cash/More Sale.

CIRCLE 455 ON READER SERVICE CARD

PERFORMA

580/68 LCO 40
8/800/CD/14" Built-in/Keyboard

\$889

POWERMACS

9500

200MHz 32/2GB/CD	\$3699
180MHz MP 32/2GB/CD	\$4999
150MHz 16/2GB/CD	\$2999
150MHz 0/0/CD	\$2389
132MHz 16/2G/CD*	\$2299
120MHz 16/1G/CD*	\$2099



8500 > 180MHz 32/2GB/CD	\$2899
180MHz 16/2GB/CD*	\$2699
150MHz 16/2G/CD	\$2390
120/132MHz 16/1G/CD*	\$1999/2099

7600 > 132MHz 16/1.2G/CD	\$1799
120MHz 16/1.2GB/CD	\$1649

7200 > 120MHz 16/1.2GB/CD/L2 Cache	\$1359
120MHz 16/1.2GB/CD/DOS Compatible	\$1899

8100, 7100, 6100 **CALL**

UPGRADES

WITH ORIGINAL APPLE LOGIC BOARD & PARTS

200 MHz 604e Processor Upgrade	\$995
950, 900 to Workgroup Server 9150/120	\$1550
8100s to 8500/120/132/150	\$1300-1550-1880
Quadra 840AV, 800 to 8500/120/132/150	\$1590-2090-2290
120/132MHz 604 Processor (8500 & 9500) to 150 MHz 604 Processor	\$895-795
7200/75-90MHz to 7200/120	\$550-450
7200 to 7600/120/132	\$1290-1490
7500 to 7600/120/132	\$395-595
7100 to 7200/120	\$695
630 to 6200/75 - 6300/100	\$495-795
Powerbook 500 Series Processor Card to PowerPC 100MHz Processor	\$479
8100/80, 8150/80 to 8100/100-110	\$890-990
Centris, Quadra 610, 660 to 6100 & Q650 to 7100	CALL

QUADRAS

Q950 16/0*	\$799
Q840AV 0/0*	\$779
Q800 8/0*	\$690

SOFTWARE

ADOBE Photoshop v3.0.5	\$459
ADOBE Illustrator v6.0	\$359
ADOBE After Effect LE/Production	\$625-1729
MACROMEDIA FreeHand v2.0	\$399
FRAGMENTAL DESIGN Painter v4.0	\$349
QUARKXPRESS v3.3.2	\$659

CALL FOR PRICES ON OTHER TITLES

LOWEST PRICES ON WORKGROUP/NETWORK SERVERS

6150, 7250, 8550, 9550, 500 & 700



iCN

INNOVATIVE COMPUTER & NETWORKING INC.

MOTOROLA

STAR MAX 3000/200 32/2.5/8X CD/256K	\$1979
STAR MAX 3000/160 16/1.2G/8X CD/256K	\$1579
STAR MAX 4000/200 32/2.5/8X CD/512K	\$2999
STAR MAX 4000/160 16/1.2G/8X CD/512K	\$2199

CALL FOR PRICES ON OTHER MODELS

UMAX

SUPER MAC S900/200 604E/32/2.1HD/CD	\$3499
SUPER MAC S900/150 16/2GB/CD/128 TB	\$3179
SUPER MAC J700/180 24/2.1GB/CD/IMS	\$2899
SUPER MAC C600/240 24/2.1GB/CD/28.8M	\$2179

CALL FOR PRICES ON OTHER MODELS

PRE-OWNED POWERBOOKS

145 8/120/Modem	\$429
160 12/120/Modem	\$599
165 12/120/Modem	\$639

POWERBOOKS

1400cs/117MHz/12/750	\$2299
1400cs/117MHz/16/750CD	\$2699
1400c/117MHz/16/750CD	\$3349
5300ce 32/1.1GB	\$3199
5300c 8/500	\$2289
5300cs 8/500	\$1899
PB 190cs 8/500	\$1399
Duo 2300c/20/1GB/Mod	\$1789
520-520c Available	CALL
540-540c Available	CALL



SCANNERS

AGFA Arcus II Transp/Full Photoshop	\$1749
AGFA Studioscan IISI Photo. LE	\$649
UMAX Vista \$6E Full Photo	\$599
UMAX Vista \$12 Full Photo	\$699
UMAX Powerlook II Transp/Full Photo.	\$1799
EPSON ES-1200C Pro Full Photo.	\$1099
EPSON ES-1000C 3200x3200 dpi	\$599
NIKON Coolscan 35mm, 2700dpi	\$1149
MICROTEK ScanMaker E3 300dpi	\$349
MICROTEK ScanMaker E6 600dpi	\$549
ScanMaker III 600dpi/36 Bit/Transp./Live Picd.	\$1379
VISIONEER PaperPort-VX	\$299

CALL FOR PRICES ON OTHER MODELS

Prices Subject to Change Without Notice • Call for Latest Prices
All Prices reflect 3% Cash Discount • * : Refurbished

(310) 445-6600

FAX: (310) 445-6611
FAX TOLL FREE FROM JAPAN: 00-31-114211
2045-B S. Barrington Ave, LA, CA 90025

Duo 2300 UPGRADE KIT

From Duo 200 to Duo 2300 (PPC 603e, 100MHz)

\$895

APPLE PARTS

8x-CD-ROM Apple	\$235
9500/8500 LOGIC BOARD	\$895-799
150/132/120 MHz 604 PROCESSORS	\$899-499-299
200/180 MHz 604e PROCESSORS	\$1595-975
Q840AV LOGIC BOARD	\$489
Q800 LOGIC BOARD	\$449
1.44 Floppy Drive	\$125

PERFORMAS

LC580 8/800/14" Built-in/KB	\$889
5260/75 16/1GB/CD/15" Built-in Mon/KB	\$1299
6320/120 16/1GB/CD/28.8 Mod/KB	\$1239
6360/160 16/1.2GB/CD/28.8 Mod/KB	\$1299
6400/180 16/1.6GB/8x-CD/L2 Cache/28.8 Mod/KB	\$1349
6400/200 16/2.4GB/8x-CD/L2 Cache/28.8 Mod/KB	\$1699

CALL FOR PRICES ON OTHER MODELS

MONITORS

APPLE 15" Multi	\$359
APPLE 15" AV Multi	\$429
APPLE 1705	\$599
APPLE 1710Vision	\$799
APPLE 1710AV	\$899
APPLE 20" Multi	\$1699
NEC XV15+/XV17+	\$469-769
NEC M500/M700	\$479-779
NEC XP17/XP21	\$999-1929
RADIUS PressView 17SR/21SR	\$1899-3099
RASTEROPS MC20 20" Color New	\$1379
SONY 15 SF2/17 SF2	\$449-769
SONY 17 SE2/20 SE2	\$999-1869
VIEWSONIC 17GA/P1770	\$649-779
VIEWSONIC PBGA/P8115	\$1699-1869



CALL FOR PRICES ON OTHER MODELS

PRINTERS

APPLE LaserWriter 12/640	\$1469
APPLE LW 4/600	\$769
APPLE Color 12/660	\$5290
APPLE SW 2500	\$299
APPLE SW 2400	\$229
GCC XL608 600dpi/8ppm/11.7x20	\$2299
GCC XL808 800dpi/8ppm/11.7x20/Ethernet	\$2799
GCC XL616 600dpi/16ppm/11.7x20/Ethernet	\$2499
GCC XL1208 1200dpi/8ppm/11.7x20/Ethernet	\$3799
HP DESKJET 340CM Portable Color	\$349
HP LASER JET 4MV	\$2699
HP LASER JET 5M	\$1695
HP LASER JET 5MP	\$979
EPSON STYLUS COLOR PRO XL Wide 720dpi	\$1679
EPSON STYLUS COLOR PRO 720dpi	\$379



CALL FOR PRICES ON OTHER MODELS

iCN On-Line
http://www.icni.com
E-mail: icn@icni.com

CALL THE MAC EXPERTS!

Providing complete Macintosh solutions for graphics, pre-press, and video professionals



MacUser Labs Says:

"Four Mice! A PowerMax Power Play" "Not only do the PowerMax monitors display good-looking images, but (they) are affordably priced!" and "Nice price, nice image quality, nice controls - nice monitor!"

PowerMax Trinitron™ monitors are designed specifically for the rigorous demands of the Macintosh. They ship complete with Mac-ready cables and adapters, a three year warranty, and our satisfaction guarantee: if the monitor is not just right, we'll replace it for you!

PowerMax Trinitron™ Monitors

Model PM14T 25 mm dot pitch- up to 1024x768	\$319
Model PM15T 25 mm dot pitch- up to 1280x1024	\$419
Model PM17T 25 mm dot pitch- up to 1280x1024	\$729
Model PM17TE+ 25 mm dot pitch- up to 1600x1280	\$989
Model PM20T 30 mm dot pitch- up to 1600x1280	\$1649
NEW! Model PM20T+ W/ 25 mm dot pitch!	\$1849

Wacom Tablets

ArtPad II 4x5 w/erasing Ultra Pen	\$139
ArtPad II 4x5 w/erasing Ultra Pen w/Dabber	\$159
ArtZ II 6x8 w/erasing Ultra Pen	\$309
ArtZ II 6x8 w/erasing Ultra Pen & Painter 4	\$579
ArtZ II 12x12 w/erasing Ultra Pen	\$439
ArtZ II 12x12 w/erasing Ultra Pen & Painter 4	\$689
ArtZ II 12x18 w/erasing Ultra Pen	\$699

We carry all Wacom Accessories, Pens and Tablets! You won't find anyone who knows more about Wacom!

Bonus Printer Offers!

Apple StyleWriter 1200- special ref. package!	\$149
Apple Color StyleWriter 2400- special ref. package!	\$199
Apple Color StyleWriter 2500- special ref. package!	\$729
Apple LaserWriter 4/600 w/toner	\$749
GCC Elite 600 10PPM 600 dpi w/4 Mb ram	\$1428
GCC Elite 600e/ 10PPM 600 dpi w/6 Mb ram	\$1798
Epson Stylus Color Pro 11x17 Inkjet	\$1899
GCC Elite XL 608 11x17 800/600 dpi w/6 Mb ram	\$2348
GCC Elite XL 616 16PPM 600 dpi w/8 Mb ram	\$2648

Need a scanner? We stock: Apple • Agfa • Epson • Hewlett Packard • Microtek • Nikon • Linotype Hell • Polaroid • Umax
Call one of our PowerMax scanner experts about your specific needs. We can recommend one that's just right for you: all the latest models at the nation's best prices!

As low as \$299!



Save hundreds of dollars on these specially priced bundles! Or call for your own custom configuration, usually with same day delivery!

Professional Graphic Production Station

PowerMac 8500/180 with 80 Mb Ram, 2 gig drive, internal 8x CD-rom, ext. keyboard, 17" PowerMax Trinitron monitor, Zip drive, Adobe Illustrator, Quark Xpress, Quark & Illustrator Training CDs, Umax Vista S-12 scanner and Adobe Photoshop. Only \$6399, or just \$235 per month!



PowerComputing Publishing Package

PowerComputing 604/150 with 32 Mb Ram, 1 gig drive, 8x CD-rom, keyboard, 4 Mb Vram, internal Zip drive, 17" PowerMax Trinitron monitor, Quark Xpress, Xpress Training CD. Only \$4150, or just \$159 per month!



PowerMax External Hard Drives



540 Meg External
Only \$209!

We specialize in complete arrays!

•Atto •Micronet
•FWB •Optima

PowerMax External One Gig Drive	\$329
PowerMax External 2.0 Gig Drive	\$419
PowerMax External 4.0 Gig Drive	\$949
PowerMax External 9.0 Gig 7200 RPM Tomahawk	\$2099

We also stock hundreds of factory refurbished Apple CPUs! Call for pricing and availability on these limited time offers!

Why Buy From PowerMax?

- Over 90% of our orders ship within 24 hours. We stock every major brand of Mac product from Adobe to Zoom!
- We speak plain English- no technobabble or high pressure sales tactics!
- We offer flexible terms, and are experts on easy leasing!
- We consult with you, we want to make sure what you buy is what you need.
- Unlike most catalog outlets who try to keep prices low by limiting service options- we are a dealer who actually offers more expertise and service than most local full-priced dealers! We keep prices low through aggressive purchases, high volume and years of experience!
- All we ask is that you call a couple of the other guys first- then call us. You'll really appreciate our difference! We stock all the lines below!

•Adobe •Agfa •Atto •Canon •DayStar •Epson •GDC •Global Village •Hewlett Packard •Image •Kingston •Kodak •LaD'e •Mac •Magnavox •Microtek •Mitsubishi •Motorola •NEC •Nikon •Optima •PowerComputing •QMS •Quantum •Radius •Samsung •Seagate •Seiko •StreamLogic •Sony •SyQuest •Tektronix •TrueVision •Umax •US Robotics •Visioneer •Xante

Receive FREE with every CPU:

Canvas 3.5, Comptons Encyclopedia CD, Netscape Navigator, and one month free internet access!

WHILE SUPPLIES LAST!

No one stocks more and knows more about Apple New, Apple Vintage, and Apple Refurbished!

Performa 6300 Ref 16/1.2/4x CD	\$999
Performa 5200 Ref 16/1.2/4x CD/TV Card	\$1288
Performa 6360 160 16/1.2/8x CD	\$1388
Performa 6400/180 16/1.6 Gig/8x CD	\$1699
Performa 6400/200 16/2.4 Gig/8x CD	\$1899
Performa 6400/200 Video Editing System	\$CAll!
PowerMac 7200/120 16 Ram/1.2 Gig/4x CD	\$1375
PowerMac 7200/120 16 Ram/1.2 Gig/8x CD	\$1499
PowerMac 7500/100 16 Ram/1.2 Gig/4x CD	\$1649
PowerMac 7600/120 16 Ram/1.2 Gig/4x CD	\$1799
PowerMac 7600/132 16 Ram/1.2 Gig/8x CD	\$1999
PowerMac 8500/132 Ref 16 Ram/1.2 Gig/8x CD	\$2149
PowerMac 7200/120 16/1.2 w/Pentium/8x CD	\$2199
PowerMac 8500/150 16 Ram/8x CD	\$2449
PowerMac 8500/180 32 Ram/8x CD	\$2888
PowerMac 9500/200 32 Ram/8x CD	\$CAll!
PowerMac 9500/180MP 32/2000/8x CD	\$CAll!
Powerbook 1400CS 12/750	\$2477
Powerbook 1400CS 16/750/CD	\$2889
Powerbook 1400C 16/Gig/CD	\$3467
Powerbook Duo 2300C 8/750 Active Matrix	\$CAll!

Motorola StarMac Compatibles

Complete 603e-based systems, starting at \$1499
Complete 604e-based systems, starting at \$2149

Power Computing

PowerComputing Power 100 3 Nubus 8/Gig/CD...\$1099
We stock the complete PowerComputing line!...\$CAll!

Umax SuperMac Compatibles

SuperMac C500 L160 16/1.2/CD/28.8 Modem	\$1299
SuperMac C600 L180 16/1.2/CD/28.8 Modem	\$1729
SuperMac C600 L200 16/2 Gig/CD/28.8 Modem	\$1939
SuperMac C600 L240 16/2 Gig/CD/28.8 Modem	\$2249
SuperMac J700 L150 16/2 Gig/CD	\$2699
SuperMac J700 L180 24/2 Gig/CD	\$2999
SuperMac S900 L150 16/2 Gig/CD	\$3449
SuperMac S900 L200 32/2 Gig/CD	\$3699
SuperMac S900 L225 32/2 Gig/CD	\$4199
SuperMac S900 L180 W/2 604E Processors	\$4499



Overwhelmed? Only PowerMax will give you the straight scoop on the pros and cons of each model and manufacturer!



POWER MAX

Knowledge is Power

800-613-2072

Call today for your free PowerMax Catalog!

Local line: (503) 624-1827 • Fax (503) 624-1635

HTTP://WWW.ILUMINATUS.COM/Powermax • E-Mail: powermax@europa.com

Prices subject to change without notice. Prices reflect cash discount.

We accept educational and corporate purchase orders, and are experts in financing for virtually any size business!



COMPU 2000 TO ORDER CALL **1-888-977-3000** **SCHOOL'S FORTUNE 1000 & GOV'T P.O.'S ACCEPTED.**

CENTER TOLL FREE Monday thru Friday 8AM to 7PM Sat 10AM to 5PM (Pacific)

FAX YOUR REQUEST TO (310) 664-6455 INTERNATIONAL SALES (310)664-6454

POWER MACS	PERFORMAS	POWERBOOK	SCANNERS	PRINTERS
6100/7100/8100.....CALL	5320/120 16/1GIG/CD.....1495	190 CS 8/500.....1295	UMAX,HR,AGFA	APPLE,HREPSON
7200/120 16/1.2/8X CD...1345	6360/160 16/1.2/8XCD...1345	1400/117CS 12/750 .....CALL	MEMORY	STORAGE
7200/120 16/1.2/CD/DOS.2045	6400/180 16/1.6/8XCD...1395	1400/117CS 16/750/6X ...CALL	Call For Current Prices	
7600/132 16/1.2/8X CD...1845	6400/200 16/2.4/8XCD...1795	1400C16/1GIG/6XCD .....CALL	LOW BUSINESS LEASING	
8500/150 16/1.2/8X CD...2455	6400/200VEE 32/2G/CD.CALL	MONITOR	WE WELCOME VISA, M.C. AmEx & DISCOVER	
8500/150 16/2G/8X CD...2695	MONITOR	APPLE 15/1705.....395/679	Prices shown include 3% cash discount and due to publication time may vary.	
8500/180 32/2G/8XCD.....2965	8550/200 32/2G/CD A/SH..4695	1710/1710 AV .....879/949		
9500/180MP 32/2G/CD.....CALL	8550/200 32/2G/CD/DAT...4795	NEC M500/M700.....399/749		
9500/200 32/2G/8XCD.....3995	8550 32/2G/CD/ASH/DAT...5595	SONY 200SX/200SF.649/739		

CIRCLE 411 ON READER SERVICE CARD

TRADE YOUR MAC FOR A NEW ONE. We Pay Top \$\$\$ For Your Mac & Mem.

We custom configure and test your system. Specializes in Pre-Press, Publishing, Digital Video products.

WE BUY - SELL - TRADE Competitive Leasing Rates are Available **FREE MOUSE PAD WITH EVERY ORDER**

PowerMacs	Powerbooks	Upgrades	Demo Macs	Memory	Parts
9500 180 MHZ CALL	5300CE 32-1Gb \$ 3740	Same day Upgrade No down Time!!	Power Mac 8100 /AV 1040	Dimms 16/32/64 72 /159/299	Floppy 1.44 99
9500 200 MHZ 3699	5300c 16-1GB 2995	Prf 63X to 6300 603-100Mhz CALL	Q 800/ 840/950 685/790/	30 Pin 1/ 4/16 8 / 28 / 105	POWER SUPPLIES CALL
9500 150/16-2GB 250	5300cs 8-500 1850	PM 7200 To 120 Mhz 429	Q660 AV 8/230 485	72 Pin 8/16/32 45 /72 /159	AV Card \$175
8500 180 Mhz 2950	5300cs 16/750 2250	PM 7200 To 7600 120 999	PM 6100 785	2X - 4X CD 50 /105	Bd 180/ 200Mhz 899/ 999
8500 150 16-2GB-CD 2490	5300 8-500 1349	8100 to 8500/180Mhz 1825	Si/CI 190 / 250	HD 1.GB - 2.GB-4GB Call	Call for Logic Boards & more
8500 132Mhz 2175	Call for New PB 1400	8100 to 8500/150Mhz 1525	8500 132/120 1990 / 1790	Omega JAZZ Drive 459	Computer Graphics & Networking
7200 120Mhz 1390	Demo Powerbooks	Upgrade to 200 or 180 Mhz CALL	6200 8/1.2/ 4x Cd 889	Global Village Modem 179	
Call For 200 & 180 Mhz	PB 180c Color 895	All PowerBook Upgrade CALL	PM 7500 /7600 1290/1945	Call For:	All prices Reflect cash Discount Visa, Mastercard, Amex Accepted << Prices are subject to Change.>>
7600 16-1GB-C Cd 1849	520C / 540C 1199/1699	7100/ 80 to 7500/100 650	Performa	Monitors, Printers, Scanners.	
8500 132Mhz 2175	5300cs 1599	Q/Cts 610-660 to 6100 490	6400-200/180 1825/1675	All Apple Parts In Stock and	
7200 /75/90/120 CALL	520C 8/240 /Mod 1175	Q800-840 to 8100 699	Call for latest prices.	We do Advance exchange.	
Call for config. not listed		Call for Upgrades not listed	6320/6400/6214/5212/575	Leasing Available.	

TEL: 310-441-4771 10922 W. Pico Blvd. Los Angeles, CA 90064 Fax: 310-441-4770

CIRCLE 432 ON READER SERVICE CARD

Computer Pros Your Macintosh Source. **1-800-319-4MAC (4622)**

International Orders (305) 825 9574 **DISCOVER** **VISA** **MasterCard**

E-Mail: mailman@synaptix-inc.com Web address: http://www.synaptix-inc.com

<p>POWER MACINTOSH</p> <p>7200 120MHz 16/1.2GB/8xL2...\$1395</p> <p>7200 120MHz 16/1.2GB/8xL2/DOS...\$1895</p> <p>7600 120MHz 16/1.2GB/8xCD/L2...\$1695</p> <p>7600 132MHz 16/1.2GB/8xCD/L2...\$1995</p> <p>8500 150MHz 16/2GB/4xCD/L2...\$2495</p> <p>8500 180MHz 32/2GB/8xCD/L2...\$3295</p> <p>9500 180MP 32/2GB/8xCD/L2...\$4599</p> <p>9500/200 32/2GIG/8xCD/L2...\$3799</p> <p>ALL APPLE WORKGROUP SERVERS...CALL</p>	<p>SCANNERS</p> <p>Apple ColorOne 1200/30.....\$785</p> <p>Apple ColorOne 600/27.....\$585</p> <p>UMAX Vista S-8 w/Tran/Full Photo...\$895</p> <p>VISTA S6E w/Full Photoshop...\$595</p> <p>UMAX PowerLook2 w/Trans.Adap/Software.....\$2995</p> <p>Trans.Adapter for S-6/S-8.....\$295</p> <p>VISTA S-12 w/trns.....\$995</p> <p>UMAX COMPUTERS.....CALL</p>	<p>POWER BOOK</p> <p>1400CS 12mb/750mb/dual-scan.....\$2195</p> <p>1400CS 16mb/750mb/6xCD/dual-scan...\$2595</p> <p>1400CS 11mb/GIG/6XD/active-matrix...\$3195</p>	<p>SIMMS/DIMMS</p> <p>4MB .....\$45/55</p> <p>8MB .....\$75/95</p> <p>16MB .....\$135/175</p> <p>32MB .....\$240/335</p> <p>64MB .....\$465/645</p>
<p>APPLE MONITORS</p> <p>Apple MultiScan 14" Display.....\$295</p> <p>Apple MultiScan 15" Display.....\$365</p> <p>Apple MultiScan 15"AV Display.....\$395</p> <p>Apple MultiScan 1705 Display.....\$725</p> <p>Apple MultiScan 1710 Display.....\$895</p> <p>Apple MultiScan 1710AV Display...\$995</p> <p>Apple Vision 20" MultiScan.....\$1895</p>	<p>PRINTERS</p> <p>Apple Color StyleWriter 1500.....\$235</p> <p>Apple Color StyleWriter 2200.....\$375</p> <p>Apple Color StyleWriter 2500.....\$335</p> <p>Apple LaserWriter 4/600PS.....\$775</p> <p>Apple LaserWriter12/640PS.....\$1495</p> <p>Apple LaserWriter 16/600 PS.....\$2195</p> <p>Apple ColorLaserWriter12/600 PS...\$5795</p> <p>GCC Elite XL 608.....\$2195</p> <p>GCC Elite XL 808.....\$2895</p> <p>GCC Elite XL 1208.....\$3895</p>	<p>PERFORMAS</p> <p>6360 160MHz/16/1.2GIG/BXCD/28.8...\$1295</p> <p>6320CD 16/1.2GB/4xCD/15" Monitor/ kb/mouse/28.8/software.....\$1599</p> <p>6400/180 16/1.2GB/BXCD/ 28.8...\$1499</p> <p>6400/200 16/1.2GB/BXCD/ 28.8...\$1699</p>	<p>KEY BOARD</p> <p>Apple Extended Keyboard.....\$145</p> <p>Apple Design Keyboard.....\$75</p> <p>MACally Extended Keyboard.....\$72</p>
		<p>PERIPHERALS</p> <p>Apple QuickTake 150.....\$585</p> <p>Apple 600e 4xCD-ROM.....\$285</p> <p>Apple Design Power Speakers.....\$135</p> <p>Newton Message Pad 130.....\$795</p> <p>Newton Message Pad 2000.....CALL</p> <p>E-Mate 300.....CALL</p> <p>PENT DOS CARD P-100.....\$995</p> <p>586-DOS CARD 100MHZ.....\$799</p>	<p>STORAGE</p> <p>lomega ZIP Drive.....\$195</p> <p>lomega Jaz Drive.....\$495</p> <p>Syquest EZ-Flyer 230MB.....\$285</p> <p>Syquest 200MB.....\$435</p> <p>Seagate 2.1gig capella.....\$385</p> <p>Seagate 2.1 Barracuda.....\$695</p> <p>Quantum 2.1 Tempest.....\$395</p> <p>Seagate 4.3 Capella.....\$995</p>

*Govt/Education PO'S Welcome *Prices reflect a 3% cash discount. *Prices subject to change. * Hablamos Español



we beat any price advertised in this magazine!

FREE 8MB of RAM! A \$50 VALUE GIFT.*

Motorola StarMax 4000/200MHz /16MB/1.2GB/8xCD

FOR ONLY \$2,499
mouse & keyboard included!



APPLE COMPUTERS

9500/200MHz **NEW!**



INCREDIBLE LOW PRICE \$3,399.
FROM:

- 7200 120MHZ/16MB/1.2GB/8XCD/1MBVR.....\$1,449.00
- 7200 PC/120MHZ/16MB/1.2GB/8XCD/Pentium100.....\$2,159.00
- 7600 132MHZ/16MB/1.2GB/8XCD/2MBVR.....\$1,899.00
- 8500 180MHZ/32MB/2.0GB/8XCD/2MBVR.....\$2,899.00
- 9500 150MHZ/16MB/2.0GB/CD/.....\$2,899.00
- 9500MP 180MHZ/32MB/2.0GB/8xCD/.....\$4,799.00

PERFORMAS

PERFORMA 5320



16MB MEMORY/ 1.2GB HD 28.8BPS FAX/MODEM/ CD 15" MONITOR/SOFT. BUNDLE
NEW! LOWER PRICE \$1,559.

- 5320¹²⁰ 16MB/1.2GB/CD/28.8Modem/15"TV/Video syst.....\$1,699.00
- 6360¹⁶⁰ 16MB/1.2GB/CD/28.8Mdm/Software Bundle.....\$1,199.00
- 6360¹⁶⁰ 16MB/1.2GB/CD/28.8Mdm/TV/Video syst.....\$1,379.00
- 6400¹⁸⁰ 16MB/1.6GB/8xCD/28.8Modem/Soft. Bundle.....\$1,299.00
- 6400¹⁸⁰ 16MB/1.6GB/8xCD/28.8Mdm/Software/TV/Video syst.....\$1,469.00

APPLE SERVERS



7250/120MHz
16MB/1.2GB/CD/256K-L2 Ethernet AUI and 10base T /More than \$4000 in bundled Software. Your WWW Server is Here!
ONLY \$1,799.

- WorkGroup Server Solution**
- 7250¹²⁰MHZ/16MB/2.0GB/8xCD.....\$1,799.00
 - 8550¹³²MHZ/24MB/2.0GB/CD.....\$3,999.00
 - 8550²⁰⁰MHZ/32MB/2.0GB/8xCD/DAT.....\$5,799.00
- Internet Server Solution**
- 7250¹²⁰MHZ/16MB/2.0GB/8xCD.....\$2,199.00
 - 8550¹³²MHZ/24MB/2.0GB/8xCD.....\$4,599.00
 - 8550²⁰⁰MHZ/32MB/2.0GB/8xCD.....\$4,999.00
- Apple Share Server Solution**
- 7250¹²⁰MHZ/16MB/2.0GB/8xCD.....\$2,699.00
 - 8550¹³²MHZ/24MB/2.0GB/8xCD.....\$5,499.00
 - 8550²⁰⁰MHZ/32MB/2.0GB/8xCD/DAT.....\$6,599.00
- Software Bundle Includes: Navigator/ Webstar/ Adobe PageMill & Acrobat/ NetCloak/ Filemaker Pro CGI/ BBEdit/Tango&Butler/ Apple Client/ E Mail/Image Map/Apple RAID/Apple Search /AppleScript & more./
Apple Share Server Solution includes Apple Share Software.

MEMORY

SPECIAL OFFER 16MB RAM



LOWER PRICE \$79.

- DIMMS**
- 8Megabytes.....\$39.00
 - 16Megabytes.....\$79.00
 - 32 Megabytes.....\$159.00
 - 64 Megabytes.....\$319.00
- SIMMS**
- 8Megabytes.....\$39.00
 - 16Megabytes.....\$79.00
 - 32 Megabytes.....\$159.00

MONITORS



Apple 15AV* \$459.

- Apple**
- Multiscan 15".....\$379.00
 - Multiscan 15AV.....\$459.00
 - Multiscan 1705.....\$649.00
 - Multiscan 1710.....\$799.00
 - Multiscan 20".....\$1,699.00
- NEC**
- XV 15".....\$465.00
 - XV 17".....\$779.00
 - XE 21".....\$1,749.00
 - XP 21".....\$2,149.00
- Sony**
- SX1 15".....\$379.00
 - SF 2 15".....\$445.00
 - SF 2 17".....\$739.00
 - SE2T 17".....\$1,059.00
 - SF2 20".....\$1,649.00
 - SE2 20".....\$1,899.00

SCANNERS

- Agfa**
- SnapScan.....\$339.00
 - StudioStar.....\$789.00
 - Arcus II.....\$1,769.00
- Apple**
- Apple Color One.1200/30.....\$759.00
 - Apple Color One.....\$519.00
- Microtek**
- ScanMaker E3.....\$279.00
 - ScanMaker E6.....\$499.00
 - ScanMaker III.....\$1,299.00
- UMAX**
- Super Vista S6-E.....\$269.00*
 - Super Vista S12.....\$719.00
 - PowerLook Pro.....\$1,269.00
- *After Manuf. rebate!

PRINTERS

Color Stylewriter 2500



- Apple**
- Color StyleWriter 1500.....\$229.00
 - Laserwriter 4/600.....\$779.00
 - Laserwriter 12/600.....\$4,999.00
 - Laserwriter 12/640.....\$1,439.00
- HP**
- DeskJet 870CXI.....\$465.00
 - DeskJet 870Cse.....\$489.00
 - DeskWriter 1600CM.....\$1,879.00
 - LaserJet 5MP.....\$1,019.00
 - LaserJet 6MP.....\$939.00
- Epson**
- Stylus Color 500.....\$269.00
 - Stylus Color.....\$379.00
 - Stylus Color 1500.....\$939.00
 - Stylus Color Pro.....\$399.00
 - Stylus ColorPro XL.....\$1,639.00
- Tektronix**
- Phaser 140i.....\$1,479.00
 - Phaser 350.....\$3,199.00
- Xerox**
- XPrint 4915 Color.....\$4,499.00

MEDIA

IOMEGA ZIP DRIVE



- FOR ONLY \$135.**
- Iomega**
- Drive Cartridge
 - ZIP.....\$135.00.....\$14.00
- Syquest/Microtech**
- Drive Cartridge
 - EZ 135.....\$109.00.....\$19.00
 - EZFlyer 230.....\$259.00.....\$23.00
 - 88 Megabytes.....\$44.00
 - 200 Meg.....\$339.00.....\$59.00
 - 270 Meg.....\$219.00.....\$46.00

IOMEGA JAZ w/o Cartridge



- ONLY \$369.**
- JAZ Ext. w/3 Cart.....\$589.00
 - JAZ Int. w/Brackets.....\$339.00
 - JAZ 1GB Cartridge.....\$95.00
- *After Manuf. rebate!

DYNATEK



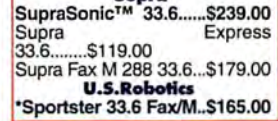
- SPECIAL OFFER CDM 400 Recordable CD Drive**
- FOR ONLY \$949.**

PINNACLE



- SPECIAL OFFER RCD 4X4 Recordable CD Drive**
- FOR ONLY \$949.**

MODEM



- SUPRA 33.6**
- FOR ONLY \$119.**
- Farallon**
- Netopia™ ISDN.....\$299.00
 - Global Village
 - Telep. Platinum 33.6.....\$165.00
 - Telep. Speaker 33.6.....\$239.00
 - Platinum PC Pro.....\$469.00
- Hayes**
- *Accura 288 v.34 (Ext.).....\$149.00
 - *Optima 288 (Ext.).....\$269.00
- Supra**
- SupraSonic™ 33.6.....\$239.00
 - Supra Express 33.6.....\$119.00
 - Supra Fax M 288 33.6.....\$179.00
- U.S. Robotics**
- *Sportster 33.6 Fax/M.....\$165.00

SOFTWARE



- Quark Xpress V3.32**
- LOW PRICE \$619.**
- Adobe Systems**
- PageMaker.....\$459.00
 - Photoshop 4.0.....\$459.00
 - Illustrator 5.0.....\$379.00
 - Page Mill 2.0.....\$99.00
- Macromedia**
- Director.....\$799.00
 - Free Hand.V7.0.....\$259.00

STORAGE

- Dynatek**
- 2.1 GB Ext. HD.....\$449.00
 - 4.35 GB Ext. HD.....\$899.00
 - 9.0 GB Ext. HD.....\$1,599.00
- Fujitsu**
- 4.3 GB Int. HD.....\$869.00
 - 4.3 GB Ext. HD.....\$919.00
- IBM**
- 2.1 GB Int. HD.....\$349.00
 - 2.1 GB Ext. HD.....\$399.00
- Quantum**
- 1.2 GB Int. HD.....\$269.00
 - 1.2 GB Ext. HD.....\$319.00
- Seagate**
- 4.3 GB Int. HD.....\$799.00
 - 4.3 GB Ext. HD.....\$859.00

Digital Video



Apple TV/Video System

ONLY \$189.

CALL 1-800-404-9976 **FedEx** **SCHOOLS and US GOVERN are WELCOME**

* w/ purchase of any Mac System with fax/modem and Printer & Monitor. ** ALL PRICES ARE CASH DISCOUNTED & SUBJECT TO CHANGE WITHOUT NOTICE. FAX:(305) 591-4391

CIRCLE 543 ON READER SERVICE CARD

8500/180
16/2G/8XCD
ON SALE!

\$2899

- > PPC 604 AT 180MHZ
- > VIDEO IN & OUT
- > AVID VIDEO SHOP
- > 256K CACHE
- > 3 PCI SLOTS
- > TOWER CASE

7600/120
16/1.2G/4XCD
ON SALE!

\$1599

- > PPC 604 AT 120MHZ
- > VIDEO IN
- > AVID VIDEO SHOP
- > 256K CACHE
- > 3 PCI SLOTS
- > DESKTOP CASE

COMPU AMERICA

"The Computer Specialist"

1800-533-9005

EMAIL: CompAmer@artnet.net

(310) 446-1771 10435 Santa Monica Blvd
 FAX Bids LA, CA 90025
 (310) 475-7744

HTTP://WWW.COMPU-AMERICA.COM

Come and see our HUGE showroom! We ship WORLDWIDE!
 We accept Government, Fortune 1000, and University P.O.'s.

PERFORMA 6400
16/1.6G/8XCD
2 PCI SLOTS!

\$1399

- > 180MHz CPU
- > Software Bundle
- > 101 Keyboard
- > INTERNET INCLD
- > 28.8 FAX/MDM
- > Perfect for Home.

DUO 2300C
8/750 \$1279
20/1.2GIG/14.4 \$1799

PRICE WAR!!!

- > 100MHz CPU
- > 14.4 FAX/MDM
- > LightWeight Champ
- > Active Matrix Color Screen



PowerComputing



PowerComputing



PowerComputing

PowerTower Pro 225e

225MHz 604e Full Tower
16/2G/8XCD/8MB VRAM
1MB CACHE, KEYBOARD

\$3899 ONE YEAR ON SITE WARRANTY.
 REFURBISHED BY POWERCOMPUTING.

PowerCenter 604/150

150MHz 604 Low Profile
16/1G/4XCD/1MB VRAM
512k CACHE, KEYBOARD

\$1599 ONE YEAR ON SITE WARRANTY.
 REFURBISHED BY POWERCOMPUTING.

PowerCenter 604/120

120MHz 604 Desktop
16/1G/4XCD/1MB VRAM
512k CACHE, KEYBOARD

\$1199 ONE YEAR ON SITE WARRANTY.
 REFURBISHED BY POWERCOMPUTING.

POWERBASE IN STOCK NOW!

POWERMAC

7200/75	8/500/4XCD	899*
7200/90	8/500/4XCD	999*
7200/120	16/1.2G/8XCD	1199
7200/120	16/1.2G/8XCD/PEN	1899
7500/100	16/1GIG/4XCD	1399/1199*
7600/120	16/1.2G/4XCD	1599/1399*
7600/132	16/1.2G/8XCD	1899
8500/120	16/1GIG/4XCD	1799
8500/132	16/1.2GIG/4XCD	2099
8500/150	16/2GIG/4XCD	2499
8500/150	16/2GIG/8XCD	2599
8500/180	16/2GIG/8XCD	2899
9500/120	16/1GIG/4XCD	CALL
9500/132	16/1GIG/4XCD/V	2399
9500/132	16/2GIG/4XCD	2199
9500/150	16/2GIG/4XCD/VID	2999
9500/200	16/2G/8XCD	3899
6100/66	16/500/4XCD/DOS	899*
8100/100	8/700	1599*
8100/110	16/2GIG/4XCD	1999*
WGS7250/120	16/1.2	1595
WGS8550/132	24/2GIG/DAT	2495
WGS9150/120	16/1GIG	2495

MOTOROLA

RISC PC PLUS DTP603E/100	CALL
POWERSTACK DT-603/66	CALL
POWERSTACK MT-604/133	CALL
POWERSTACK II PRO 3000 200MHz	CALL

GCC

GCC ELITE XL 808	2599
GCC ELITE XL 616	2349
GCC ELITE XL 608	2099

POWERBOOKS

1400C/133	16/1GIG/CD	CALL
1400C/117	16/1GIG/CD	CALL
1400CS/117	16/1.2/CD	CALL
1400CS/117	12/750	CALL
5300CE/117	32/1GIG	2999
5300CS/100	8/500	2199
5300CS/100	16/750	2199
5300CS/100	8/500	1799
5300/100	8/500	1199
190CS/66	8/500	CALL
190/66	8/500	899
DUO 2300C	20/1.2GB/14.4	1799
DUO 2300C	8/750	1289
DUO 280C	4/320	1099
150	8/250	749

Apple Printers

SW 1200	129*
SW 2400 COLOR	179*
SW 2200	349
SW 1500	229/179*
SW 2500	279/199*
Apple Personal Laser 320	549
Apple LaserWriter Select 360	1099
Apple LaserWriter 4/600PS	749/649*
Apple LaserWriter 12/640/PS	1429
Apple LaserWriter 12/600PSC	5299
Apple LaserWriter 12/660PSC	4999
Apple LaserWriter 16/600PS	2099

VIEWSONIC

VIEWSONIC 15GA	469
VIEWSONIC 17GA	699
VIEWSONIC G1770	689
VIEWSONIC F1770	789

PERFORMAS

6400/200V	16/2.4GIG/8XCD	2199
6400/200	16/2.4GIG/8XCD	1789
6400/180	16/1GIG/4XCD	1399
6320/120	16/1GIG/4XCD	1249/1099*
6300/100	16/1.2G/4XCD	999*
6360/160	16/1.2G/8XCD	1299
6290/100	8/1.2GB/4XCD	899*
6220/75	16/1GIG/4XCD/TV	899*
6205/75	8/1GIG/4XCD	749*
6200/75	8/1GIG/4XCD	749*
6116/66	8/700/4XCD	829*
640DOS	12/500/4XCD/DOS	729*
5320/120	16/1.2/4XCD/15"	1499
5260/100	16/800/4XCD	1399
5200/75	8/800/4XCD	1099*/999*
631/66	8/500/2XCD	699*

APPLE Monitors

Apple Ms 14"	299/249*
Apple MS 15"	399/299*
Apple 1705 17"	649/529*
Apple 1710AV / 1710	899/799
Apple Multiscan 20"	1699/1199*

SONY Monitors

Sony 1005F/1005X	479/399
Sony 2005F/2005X	769/689
Sony 3005F	1599

NEC Monitors

NEC 15XV+	489
NEC 17XV+	699/599*
NEC M500 15"	499
NEC M700 17"	799

PRINTERS

5M color	10ppm color Laser	6999
5SIMX	24PPM LASER	3799
5M	12ppm 600dpi laser	1779
6MP	PS 600DPI Laser	899
4MV	11x17 Laser	2299
DeskWriter	680c INKJET	299
Deskjet	870C/1 INKJET	499
Deskjet	870CSE	499
EPSON	STYLUS PRO II	399
EPSON	STYLUS COLOR PRO	499
EPSON	STYLUS COLOR PRO XL	1699

RADIUS

PRESSVIEW 21SR 21"	3099
SUPERMATH 21TXL	1199*
PRECISION VIEW 21"	2249
RADIUS 15" COLOR PIVOT	399*

UMAX

S900D/150/0/8CD/NO VID	2499
S900L/150 16/2GIG/CD/ZVID	2999
S900L/180 32/2GIG/CD/4VID	3299
S900L/200 32/2GIG/CD/4VID	3499
S900L/225 32/2GIG/CD/8VID	3899
S900 180MP 32/2.1/8XCD	4399
J700L /150 16/2.1/8XCD	2599
J700L /180 24/2.1/8XCD	2899
C500 /160 16/1.2/CD	1297
ISTA S6E Photo Shop LE	299
VISTA S6 FULL PHOTO	479
VISTA S12 PHOTOSHOP LE	579
VISTA S12 MAC PRO II	599
POWERLOOK II	1799
GEMINI D-16 FULL PHOTO	1099
POWERLOOK 2000	4499

All prices are subject to change without notice. All prices are cash dicounted. An Asterisk "*" reflect refurbished.

CIRCLE 467 ON READER SERVICE CARD

LATEST

Mac S.A.L.E INTERNATIONAL

SPECIALS*** COMPLETE USED SYSTEM SPECIALS ***

Mac IIsi 5/80
Complete Color System
W/ Apple Color Monitor & Kbd.
\$399.00



Mac IIcx 4/80
Complete Color System
W/ Apple Color Monitor & Kbd.
\$375.00



Mac SE 4/40
Complete System (800K)
W/Built-in Monitor & Kbd
\$229.00

***USED/ *REFURBISHED*****Desktop CPU's**

Mac Plus No Kbd or Mouse		\$99.00
Mac SE (800K)	2/80	\$199.00
Mac II	4/40	\$129.00
Mac II CX	4/80	\$179.00
Mac IIX	4/80	\$179.00
Mac IIFX	4/80	\$249.00
Mac LC	4/40	\$169.00
Mac LC II	4/80	\$199.00
Mac IISI	5/80	\$229.00
Mac IICI	4/80	\$249.00
Mac IIVX	5/80/CD	\$449.00
Mac Portable	1/40	\$249.00
Centris 650	8/500/CD	\$599.00
LC 630	8/500/CD/DOS	\$899.00
Quadra 650	8/500/CD	\$699.00
Quadra 700	4/230	\$549.00
Quadra 800	8/500/CD	\$849.00
Quadra 900	16/500	\$949.00
Quadra 950	8/500	\$999.00
WG Server 80	16/1GB/DAT	\$1599.00
Performa 200	4/80	\$349.00
Performa 460	4/230	\$299.00
Performa 476	4/160	\$499.00
Performa 600	5/80/CD	\$449.00

(Performa's Are CPU Only)

Printers

LaserWriter IINT	\$499.00
Personal LaserWriter NTR	\$549.00
Laser Select 300	\$299.00
*Personal Laser 320	\$449.00
LaserWriter 4/600	\$549.00
LaserWriter Pro 630	\$999.00
LaserWriter Pro 810	\$1499.00

*** NEW ***

Apple 14" RGB Display	\$379.00
Apple 16" RGB Display	\$729.00
Work Group Server 60 8/500/CD with AppleShare	\$899.00
Work Group Server 80 8/500 with AppleShare	\$1099.00
Sejin Ext. II Keyboard	\$55.00

**HP ScanJet IIcx
Flatbed Color Scanner**

Includes: Adobe PhotoShop LE & OCR Software

**\$199.00**

400 X 400 dpi Optical Resolution
1600 X 1600 dpi Enhanced Resolution
1 Pass Color 24-bit (16.7 million colors)
SCSI / 8.5" X 14" Scanning Area

**PowerBook 160
4/120**

68030 25MHz, Gray Scale

\$499.00**PowerBook 165
4/120**

68030 33MHz, Gray Scale

\$549.00

*Add 8MB Ram & 14.4 Modem
For Only - \$100.00

*** NEW *****StyleWriter 1200****\$159.00****Color StyleWriter 1500****\$249.00***** USED *****Color StyleWriter 2200 or 2400****\$159.00*****USED/ *REFURBISHED*****PowerBooks**

PB 170	4/80	\$529.00
PB 180	4/80	\$699.00
PB 180C	4/120	\$999.00
Duo 210	4/80	\$349.00
Duo 230	4/80	\$399.00
Duo 280	4/240	\$699.00
Duo 280C	4/320	\$999.00
Duo Dock		\$249.00
Duo Dock II		\$379.00
Duo Floppy Adapter		\$59.00
Duo Battery Recharger		\$35.00
PB Battery Recharger		\$35.00
PB Int. Fax/Data Mdm		\$25.00
PB 14.4 Express Mdm		\$79.00

Monitors

Apple 13" RGB Display	\$225.00
Apple 14" Color Display	\$299.00
* Apple 14" MultiScan	\$225.00
Apple 14" AV Display	\$325.00
Apple 16" RGB Display	\$649.00
Apple 17" MultiScan	\$799.00
Apple 1710 AV Display	\$799.00
Apple 20" MultiScan	\$1399.00
*Performa Plus Display	\$250.00
Apple Two Page Mono	\$479.00

Accessories

Mac IISI NuBus Adapter	\$39.00
Apple OneScanner	\$249.00
Apple Ext. 1.4MB Floppy	\$85.00
Apple PowerCD Drive	\$59.00
Apple Ext. II Keyboard	\$75.00
Absolute Battery with Recharger Combo (140-180C)	\$69.00

*** NEW *****•Apple CD-300i Plus•**

2X Speed Tray Loading Int. CD-Rom Drive
ONLY - \$59.00

•Personal LaserWriter•**NTR Logic Board****With Trade-In ONLY \$79.00**

We Now Feature A Huge Inventory Of Parts For All Apple Product And Also Offer Extended Warranties

Visit Our Web Site At: www.getnet.com/macsale Or E-Mail Us At: macsale@getnet.com

Limited Quantities/Prices subject to change
Prices represent a Discount - off Full Price
Returns at discretion of Mgmt/15% Restocking fee

1-800-729-7031

1150 W. Alameda Dr, Suite 1 & 2
Tempe, AZ 85282
(602) 858-0900 / Fax: (602) 858-0811

WE WANT TO BUY YOUR NEW/USED MAC EQUIPMENT

CIRCLE 401 ON READER SERVICE CARD

Parts • Trades • Upgrades

BARGAIN BASEMENT

Apple Performa 6300/100

- 100-MHz PowerPC 603e
- 16MB of RAM
- 1.2GB hard drive
- 4X internal CD-ROM
- one PDS slot
- built-in LocalTalk
- 15" Apple Multiscan
- Apple keyboard
- internal 14.4 faxmodem



RECONDITIONED \$1599

Apple Performa 5200/75LC

- 75-MHz PowerPC 603
- 8MB of RAM
- 1GB hard drive
- 4X internal CD-ROM
- one PDS slot
- built-in LocalTalk
- 15" Apple Multiscan
- Apple keyboard
- internal 14.4 faxmodem



NEW \$1399

We Specialize in Parts!

- POWER SUPPLIES
- FLOPPY DRIVES
- LOGIC BOARDS
- RAM SIMMS

MACINTOSH SYSTEM 7.5 CD	35
1MB 30-pin 120ns SIMMS	12
New Duo Type 1 Batteries	15
Centris 650 Logic Board	299
PowerBook 140-180 v/c adapter	49
StyleWriter ink cartridges: 2 for	29
Quadra 840AV Logic Board	499
ImageWriter IQ ribbon	6
Quadra 800 Logic Board	449
Ilisi Power Supply	CALL
PowerBook Canvas Tote Case	19
Quadra 950 Logic Board	519
Quadra 660AV NuBus Adapter	49
Quadra 660AV Logic Board	399
Personal NT Logic Bd.	49
Quadra 900 Logic Board	449
Apple PowerCD Carrying Case	10
40MB 1.3-height Hard Drive	39



Quadra 950

- 33-MHz 68040 processor
- 8MB of RAM
- 500MB internal hard drive
- 5 expansion slots
- Sixteen SIMM sockets

NEW \$1199



NEW!
800/840AV/8100
POWER SUPPLIES
GENUINE APPLE



Apple Color Printer
Brand New



\$69



Color StyleWriter 2400
FACTORY REFINISHED



Apple
QuickTake 100

MAC LOGIC BOARD UPGRADES!

Personal NT to NTR printer upgrade	exchange \$99
LaserWriter IIInt/NTX to IIf	exchange \$399 NT/299 NTX
Mac II or IIx to IIcx	exchange \$299
Centris 610 to Quadra 660AV	exchange \$199
Quadra 800 to Quadra 840AV	exchange \$299
Quadra 950 to PowerMac 9500/120	exchange \$1999
IIvx, IIcx/IIci to Centris 650	exchange \$299
Performa 630 to PowerMac 6200	exchange \$699
Performa 630 to PowerMac 6300	exchange \$699

MACINTOSH CPUs

LC580 8/800/4XCD NEW	\$1199
Apple Performa 635 4/250/CD	\$749
Apple Performa 637 8/250/CD	\$799
Apple PowerMac 6100 8/250/CD	\$949
Apple PowerMac 6200 8/1GB/CD	\$1049
Centris 650 4/0	\$649
Quadra 660AV 4/0	\$599
Quadra 840AV 0/0	\$999
Quadra 800 8/0	\$899
Quadra 950 8/500 NEW	\$1199
PowerMac 7500/100 16/1G/CD NEW	\$1599
PowerMac 9500/120 16/1GB/CD NEW	\$1999
Apple PowerMac 9500/132 16/2GB/CD	\$2599
WGS 9150/120 16/2GB NEW	\$2799

• = FACTORY REFINISHED

ACCESSORIES

660AV NuBus adapter	\$49
610 NuBus Adapter	\$49
Ilisi NuBus Adapter	\$79
Apple OneScanner	\$279
Apple Color OneScanner	\$399
HDI External 1.44 for PowerBooks	\$129
Bernoulli 90PRO external	\$69



HP DeskWriter 310
Great for PowerBooks!

Color StyleWriter Pro

\$99

Trade in your StyleWriter or
StyleWriter II for this great price!
*Working trade-ins only

VIDEO CARDS

RasterOps 24MX NEW	\$249
E-Machines DoubleColor SX NEW	\$129
8100 series AV Card	\$349
7100 series AV Card	\$349
6100 series AV Card with PDS adapter	\$449

MONITORS

Apple 14" MultiScan NEW	\$329
Apple 14" AV NEW	\$349
Apple 15" MultiScan	\$329
AppleVision 1710 Display	\$649
AppleVision 1710AV Display	\$749
Hewlett-Packard 17" with card	\$649
Hewlett-Packard 20" with card	\$899
Radius TPD 19" mono	\$399
Radius TPD 21" mono	\$549
Radius PrecisionColor Display/20	\$1299
Radius PrecisionColor Pivot	\$549

• = FACTORY REFINISHED

PRINTERS

Apple StyleWriter 1200	\$159
Apple Personal LaserWriter LS	\$299
Apple Personal LaserWriter 300	\$299
Apple Personal LaserWriter NT	\$449
Apple Personal LaserWriter NTR	\$549
Apple LaserWriter IIInt	\$699
Apple LaserWriter IIIntx	\$899
Apple LaserWriter Pro 630	\$1199
Apple LaserWriter 4/600PS	\$649
Hewlett-Packard DeskWriter C	\$249
Hewlett-Packard DeskWriter 550c	\$229

Laser toner cartridges sold separately

POWERBOOKS

PowerBook 520 4/240 NEW	\$1099
PowerBook 170 4/80	\$799
PowerBook 180 4/80	\$999
PowerBook 160 4/80	\$699
PowerBook 150 4/240	\$649
Duo 230 4/80	\$499
Duo 250 4/250	\$799
Duo 280 4/250	\$999

• = FACTORY REFINISHED

Best IN Parts!
SHREVE
Systems



TO PLACE AN ORDER CALL

1-800-227-3971

1200 Marshall St. • Shreveport LA 71101

ALL CREDIT CARDS STRICTLY VERIFIED



FAX (318) 424.9771 • TECH (318) 424-7987
CUSTOMER SERVICE & ORDER INFO (318) 424.9791
PURCHASING & INFORMATION (318) 424.9791

HTTP://www.shrevesystems.com

Products are refurbished unless indicated as "new". Prices reflect a 2% cash discount and are subject to change without notice. Non-defective returns are subject to a 15% restocking fee.

MAC LOGIC BOARD UPGRADES



Quadra 800 to PowerMac 8100 Logic Board Upgrade

starting at **\$599** with exchange



Quadra 650 to PowerMac 7100 Logic Board Upgrade

starting at **\$499** with exchange

Power Macintosh 9500/120

Only

Brand New!

\$1999

- 16MB of RAM
- 120-MHz PowerPC™ 604
- built-in AAUI Ethernet
- internal 4X CD-ROM
- 512K Level-2 cache
- six PCI expansion slots
- twelve DIMM sockets



Power Macintosh AV Card Video Upgrade

starting at **\$349**



*For PowerMac 6100, 7100 and 8100 series. 6100 requires a PDS adapter (\$100 additional cost)

Quadra 660AV to PowerMac 6100 Logic Board Upgrade

starting at **\$399** with exchange



Power Macintosh 7500/100

Brand New!

Only **\$1599**

- 16/1GB/CD
- 100-MHz PowerPC™ 601+
- built-in AV capability
- internal 4X CD-ROM



Apple Performa 6200/75

- 75-MHz PowerPC 603
- 8MB of RAM
- 1GB hard drive
- 4X internal CD-ROM
- one PDS slot
- built-in LocalTalk
- 15" Apple Multiscan
- Apple keyboard
- internal 14.4 faxmodem



Workgroup Server 95

- 33-MHz 68040 processor
- 16MB of RAM
- four Nubus slots
- one processor-direct slot
- internal DDS-2 DAT optional
- int. 4X CD-ROM drive
- Built-in Ethernet



RECONDITIONED **\$1399**

NEW **CALL**

Specials Specials Specials

Apple PowerBook 520

\$1099

- 4MB RAM
- 160MB Hard Drive
- passive grayscale display
- 25MHz 68LC040

NEW

\$19



"Chip Chiller"
THERMO-ELECTRIC COOLER WITH HEAT SINK FOR PPC 601+ PROCESSORS

Avid VideoShop™ 3.0 CD-ROM

It's easy to record, assemble, and edit your own QuickTime movies with VideoShop™. Apply special effects, add soundtracks, titles, transition effects, it's all here!

\$49



\$99
Includes ClarisWorks™ 3.0, 160MB 1/2 height hard drive and Global Village Bronze Faxmodem

DOS COMPATIBILITY CARD

\$399



FOR POWERMAC 6100 / PERFORMA 6100
Includes 486DX2/66 processor
DEMO UNITS

\$129

E-MACHINES DOUBLECOLOR SX

- *ACCELERATED 8-BIT COLOR
- *HARDWARE PAN AND ZOOM
- *VIRTUAL SCREENS



\$399

Apple QuickTake 150 REFURBISHED

\$199

Hewlett-Packard DeskWriter REFURBISHED

NEW

1.44 DISK DRIVES

\$129 and up

661-0474 or 661-0121



14.4 PCM-CIA For PowerBook 190 and 5300 series

\$99

NEW

\$49

Internal Global Village 14.4 faxmodem for Performa 630, 640, 5200, 6200 and 6500

HARDWARE ONLY

\$699



PowerBook 150 4/240

\$279

Newton 110 REFURBISHED



\$229



REFURBISHED StyleWriter 2200



1-800-227-3971

Products are refurbished unless indicated as "new". Prices reflect a 2% cash discount and are subject to change without notice.

9500/200 128/2GB CD \$5999
SONY 20" SFl, 2MB-V-Key

8500/180 64/2GB CD \$3999
APPLE 17" KEY

9500/200 NEW 32/2GB CD 3599	8500/180 NEW 32/2G CD 2999
9500/150 NEW 16/2GB CD 2999	8500/150 NEW 16/2G CD 2499
7600/132 NEW 16/1GB CD 1899 7600/120 1699	8500/132 NEW 64/1G CD 2489 16/1G CD 2199
7500/100 NEW 16/1GB CD 1499	8500/120 NEW 16/1GCDV 1999
7200/120 NEW 16/1GB 8XCD L2 1399	7200/120 DOS 16/1GB 8XCD 2029



New products one year warranty! **PRICE LIST** web-www.planetek.com/maccity

(800)505-8991 TO ORDER CALL
CUSTOMER SERVICE
Tel(818)505-8991
Fax(818)505-8992

WE GUARANTEE QUALITY AND BEST PRICES. SINCE 1987
ALL PRICES REFLECT C.O.D CASH DISCOUNT
NO TAX OUTSIDE CALIFORNIA Prices are subject to change w/o notice
11026 Ventura Blvd Studio City, CA 91604

NEW PERFORMA
6400/200 16/2GCD 1879
6400/180 16/1GCD 1399
6360/160 16/1GCD 1299

PowerComputing Clones
PowerTower 604e 225/180e \$1879
PowerCenter 604/132 AS LOW AS

POWERMACS MEMORY

64MB	299
32MB	189
16MB	84
08MB	49

StarMax MOTOROLA
4000 OR 3000 Series
604e 200 OR 160 MHz
16 OR 32MB. 8XCD
28.8 Fax Modem
Up to five PCI Slots
AS LOW AS \$1499

Supremac UMAX
S900L 604e CPU
225/200/180MHz
J700L 604 CPU
180/150MHz
C600L 603e CPU
240/200/180MHz
LOWEST PRICE

1710AV 929
1710 849
1705 679
15" AV 479

SONY 1599
20SFl 749
17SFl 749
VIEWSONIC CALL

1400c/133 16/1G CD \$3999

1400c/117 16/1G CD \$3499

POWERBOOK CDS

1400cs	12/750 CD \$2949	5300cs/5300c	5300cs/190cs
	12/750 \$2499		190/520
			CALL

Style 2500C\$3599 Style 1500 \$2499
HP 6MP \$889 LASER 4/600 \$749

CIRCLE 442 ON READER SERVICE CARD

voice: 510-689-9488 fax: 510-689-9487 Place Your Orders OnLine!

1-888-447-3728 • MacResQ • www.macresq.com

Toll Free

MONITORS!	PRINTERS!	DESIGN SPEAKERS!	MICE!	PB 2300C!	UPGRADE CARDS!	LW ACCESSORIES!
------------------	------------------	-------------------------	--------------	------------------	-----------------------	------------------------

Parts, parts, parts!!

CD 300+ (tray) NEW!	\$49
CD 600+ (tray) NEW!	\$89
CD 300i (caddy)	\$29†
mounting kits avail- call for prices!	
Manual inject floppies (661-0121)**	\$49†
Auto inject floppies (661-0474)**	\$79†
Apple ADB II mice -NEW!	\$39
120 mhz processor cards	\$99!

Portables:

PowerBook Duo 230 12/120/14.4	\$499†
PowerBook Duo 250 12/200/14.4	\$699†

Displays:

Apple 15" Multi-scan Display (w/base)	\$249†
Apple 14" Performa Display (.29)	\$199†

LW Printer Accessories:
LW, Pro, 16/600, 12/640, etc- call!

PowerSupplies:**

LC thru Q 605	\$19
PM 7100	\$59
Mac II cx/ci/ Q 700	\$49
Q 800 / PM 8100	\$109
PM 8500 / 9500	\$129
Duo Dock	\$69
Q 900 / 950	\$129

APPLE DESIGN SPEAKERS -I'S \$89/ II'S \$59

CD ROM'S!

POWERBOOKS!

MR Mac-Res-Q.

† = Used, 90 Day MacResQ Warranty • * = Refurbished (90 Day Warranty) • All Parts Sold With a 90 Day MacResQ Exchange Warranty • ** = Exch. Required For Orders of 5 or Less • All Major Credit Cards With NO Surcharge.

CIRCLE 437 ON READER SERVICE CARD

MAC PROFESSIONAL INC. **800.244.4622** Fax. 818.719.9115

6430 VAREL AVE. #105, WOODLAND HILLS, CA 91367

ALL PRODUCTS CARRY MANUFACT. WARRANTY. ALL PRICES ARE CASH EQUIVALENT & SUBJECT TO CHANGE. WE ACCEPT VISA/MC/AMX. NO TAX OUTSIDE CA. CONSUMER, DEALER & INTERNATIONAL SALES WELCOME.

• GOVT. FORTUNE 1000 & SCHOOL P.O.'S. WELCOME • LEASING AVAILABLE • WE GUARANTEE BEST AVAILABILITY, PRICE, SERVICE, DELIVERY & SUPPORT • SINCE 1988 •

POWER MACS			VISIT US ON THE WEB HTTP://WWW.MACPROFESSIONAL.COM			MONITORS		
7200/120	16/1.2-CD	1350	POWER BOOKS			APPLE 15AV/1710/AV	475/859/979	
7200/120 DOS	16/1.2-CD	2149				COMPLETE LINE CALL		
7600/132	16/1.2-CD	1850	DIGITAL VIDEO / CAMERA					
7600/132	48/2000-CD	2095				MEDIA 100		
8500/132	16/1000-CD	2295	QX 3750					
8500/150	16/2000-CD	2695				QX/component CALL		
8500/180	32/2000-CD	2995	TARGA 2000					
9500/180 MP	32/2000-CD	4595				HOT!		
9500/200	32/2000-CD	3995	TARGA 2000 PRO					
PERFORMAS						RADIUS VIDEO VISION 2.0 PCI		
6400/180	16/1.6-CD	1395	449 / 850					
6400/200	16/2.4-CD	1850				CALL		
6360/160	16/1.2-CD	1195	399 / 639					
UMAX - SUPERMAC BEST BUY!						1150 / 995		
S900 / 225	32/2000-CD	3795	DRIVES					
S900 / 200	32/2000-CD	3419				8/16GIG DISK ARRAY 2750/5750		
S900 / 180 DP	32/2000-CD	4145	ZIP /JAZ /EZ DR 179/469/119					
J700L / 180	16/2000-CD	CALL				PINNACLE VERTEX 2.6 1345		
C600L / 240	16/2000-CD	2195	YAMAHA 4X CD WRITER W/TOAST 999					
CALL FOR YOUR FREE FULL LINE CATALOG								

CIRCLE 495 ON READER SERVICE CARD



FAX (714)428-0778 Int'l (714) 428-0777
 Since 1988 215 E. Baker St
 Costa Mesa, CA 90804
<http://www.macbase.com>

Power Mac 7200 Series

120 Mhz 16/1.2GB/8xCD/L2

- PowerPC™ 601 running at 120 Mhz
- Three PCI slots
- Built in Video & Ethernet
- 8x CD ROM

Mon. & Kb sold separately

\$1399

120Mhz 80/1.2GB/8xCD/L2 **\$1749**
 120Mhz 24/1.2GB/CD/DOS **\$2098**

Power Mac 7600 Series

7600/132Mhz 16/1.2GB/CD/L2

- PowerPC™ 604 running at 120 Mhz
- Three PCI slots
- Built in digital video input capabilities
- Includes 256K level 2 cache

Mon. & Kb sold separately

\$1729

7600/120 16/1.2GB/8xCD **CALL**
 7600/132 128/2GB/8xCD **\$2589**

Power Mac 8500 Series

150 Mhz 16MB/2GB/4xCD/L2

- PowerPC™ 604 running at 150 Mhz
- Three PCI slots
- Built in digital video input capabilities
- Includes 256K level 2 cache

Mon. & Kb sold separately

\$2359

150 Mhz 16/1.2GB/8xCD/L2 **\$2359**
 180 Mhz 32/2GB/8xCD/L2 **\$2979**

Power Mac 9500 Series

200 Mhz 32/2GB/CD/L2

- PowerPC™ 604 running at 200 Mhz
- Six PCI slots
- 12 DIMM Slots supporting 768MB of RAM
- Includes 512K level 2 cache

Mon. & Kb sold separately

\$3659

150 Mhz 16/2GB/CD/VI **\$2998**
 200 Mhz 48/2GB/CD/VI **\$3988**
 200 MP 32/2GB/8xCD **CALL**

UNIVERSITY, SCHOOL, GOVERNMENT, & FORTUNE 1000 P.O.s ACCEPTED



PowerBook Series

Duo 2300c 8/750/M

- Motorola 68LC040 CPU 66.33 Mhz
- Optional Duo Dock II Plus
- PowerPC expandable
- Active Color Matrix display

\$1559

1400cs/117 12/750 **\$2489**
 1400cs/117 16/750/6X CD **\$2889**
 1400c/117 16/1.0GB/6X CD **\$3489**
 1400c/133 16/1.0GB/6X CD **\$3989**
 5300cc/117 32/1GB **\$3399**
 5300c/100 16/750 **CALL**
 Duo 2300c 20/1GB/M **\$1899**
 Global Village 28.8 pc **\$319**
 GV PowerPort Combo PC **\$469**

Printers

Apple LaserWriter 12/640 PS

* Offers 600- by 600-dpi, clear printing * Comes with 4MB of RAM, expandable to 64M* RISC processor—the 30-MHz AMD 29040* Optional Duplex printing w/ 12MB RAM

\$1498

APPLE

2400 **\$279**
 1500/2500 **\$249/\$349**
 LW 4/600 **\$729**
 LW 16/600 **\$2079**
 Color LW 12/660 **\$5678**

HP HEWLETT PACKARD

HP 4MV **\$2769**
 HP 6MP **\$899**
 HP 5M **\$1749**

MOTOROLA

PowerPC 603c™ 160 or 200 Mhz, a minimum of 16 or 32MB standard memory, and a 256K or 512K Level 2 cache. Every Motorola StarMax 3000 or 4000 come pre-loaded with the same Mac OS you know and rely on. 8X speed CD-ROM, five-year limited warranty. Three or Five PCI expansion * Mouse/Keyboard * Motorola Lifestyle 28.8 data/fax modem (external) * Popular software and CD titles included * more

3000 DT/160 16MB/1.2GB/8xCD **\$1459**
 3000 MT/160 32MB/2.5GB/8xCD **\$1859**
 3000 DT/200 16MB/1.2GB/8xCD **\$1959**
 3000 MT/200 32MB/2.5GB/8xCD **\$2359**
 4000 DT/160 16MB/1.2GB/8xCD **\$2189**
 4000 MT/160 32MB/2.5GB/8xCD **\$2349**
 4000 DT/200 16MB/1.2GB/8xCD **\$2529**
 4000 MT/200 32MB/2.5GB/8xCD **\$2739**

Performa Series

Performa 6300 16/1.2GB/CD

\$1598

LC 580 8MB/800/KB **\$899**
 631 8/500/CD **\$999**
 6200CD 8/1.2GB/CD/Ref **\$899**
 6220CD 16/1.0GB/CD **\$1099**
 5200 8MB/800/CD/KB **\$1279**
 6218CD 16/1GB/CD/15" **\$1349**
 5260 16/800/CD/15" **\$1398**
 6360CD 16/1.2GB/8xCD **\$1298**
 6400/180 16/1.6GB/CD **\$1459**
 6400/200 16/2.4GB/CD **\$1659**

1400cs/117 12/750 **\$2489**
 1400cs/117 16/750/6X CD **\$2889**
 1400c/117 16/1.0GB/6X CD **\$3489**
 1400c/133 16/1.0GB/6X CD **\$3989**
 5300cc/117 32/1GB **\$3399**
 5300c/100 16/750 **CALL**
 Duo 2300c 20/1GB/M **\$1899**
 Global Village 28.8 pc **\$319**
 GV PowerPort Combo PC **\$469**

2400 **\$279**
 1500/2500 **\$249/\$349**
 LW 4/600 **\$729**
 LW 16/600 **\$2079**
 Color LW 12/660 **\$5678**

HP HEWLETT PACKARD

HP 4MV **\$2769**
 HP 6MP **\$899**
 HP 5M **\$1749**

Monitors

Apple MultipleScan 20 Display

* 0.26-mm aperture grille pitch* Up to 1,280 by 1,024 at 60 Hz * 20-in diagonal Trinitron CRT 19.1-in diagonal viewable image

\$1769

MultipleScan 14" **\$329**
 MultipleScan 15" **\$399**
 MultipleScan 15AV **\$469**
 Multiple Vision 1705 **\$629**
 Multiple Vision 1710 **\$879**
 Multiple Vision 1710av **\$959**

SONY

MultiScan 155X 1 **\$429**
 MultiScan M2005X 17 **\$729**
 MultiScan M2005F 17 **\$829**
 MultiScan 20SE2T **\$1889**
 PressView 21SR **\$2999**
 Rasterops MC21 **\$1779**
 Rasterops MC20 **\$1379**
 NEC XV15+ **\$469**
 NEC M700 17" **\$789**
 NEC XV17 PLUS **\$769**
 NEC XE21 **\$1779**

UMAX Computer Corporation

S900L/200

SUPERmac

Mon. sold separately

\$3498

Offering 200 Mhz PowerPC™ 604 processor, 8X CD-ROM, 6 PCI slots, 5 expansion drive, 32 MB of RAM, 2.1GB HD, 1MB 4MB VRAM Video, Built in SCSI-2 and 10Base-T, Ext KB, Mouse, Conflict catcher 3.0 Asante Net doublet, Mac™ OS, and FWD CD-ROM & H.D Tool kit

S900L/225 32/2.1GB/CD **\$3999**
 S900L/180 32/2.1GB/CD **\$3298**
 J700/150 16/2.1GB/CD **\$2658**
 J700L/180 24/2.1GB/CD **\$2998**
 C600/200 16/1.2GB/CD **\$1949**
 C600/240 16/1.2GB/CD **\$2159**

Specials Limited Supply

HP 2GB HARD DRIVE **\$379**

IOMEGA

ZIP DRIVE W/CART. **\$149**
 JAZ DRIVE W/CART. **\$499**
 JAZ QUESTAGE 1GB **\$97**

EZ CUST JAZ 1GB W/CART \$459

* After \$50 manufacture mail-in-rebate

MEMORY

8MB DIMM **\$69**
 16MB DIMM **\$89**
 32MB DIMM **\$179**
 64MB DIMM **\$349**
 256K L2 DIMM CACHE **\$59**
 512K L2 CACHE DIMM **\$119**
 1MB V-RAM **\$49**
 4MB SIMM **\$45**
 8MB SIMM **\$59**
 16MB SIMM **\$89**
 32MB SIMM **\$179**
 4MB FB 5300 & 190 **\$69**
 8MB FB 5300 & 190 **\$89**
 16MB FB 5300 & 190 **\$159**
 32MB FB 5300 & 190 **\$289**

Free FedEx Two Day Shipping

*Only For Memory products purchased

Apple Workgroup Server

9150/120 16/2GB/CD/DAT **\$2549**
 7250/120 16/2GB/8xCD **\$1899**
 7250/120 16/2GB/8xCD/A.S **\$2698**
 8550/200 32/2GB/8xCD/A.S **\$4798**
 8550/200 32/2GB/8xCD/DAT/A.S **\$5598**
 7250/120 16/2GB/8xCD/Inter. **\$2295**
 8550/200 32/2GB/8xCD/Inter. **\$4459**

BUSINESS LEASING AVAILABLE

CUSTOM CONFIGURATION AVAILABLE

Peripherals

Rasterops

Opticolor 128 8MB **NEW! \$1299**

TRUEVISION

TARGA 1000 PCI **\$2189**
 TARGA 2000 PCI **\$3359**

AGFA

ARCUS II **\$1799**

COMPUTER REVELATIONS

POWERMAC

7200/120 8/500/CD \$1699
7200/120 16/1.2 GIG CALL
7600/13216/1GIG CALL
8500/13216/1GIG/CD CALL
9500 CALL

PRINTERS

LWRITER 12/640 CALL
HP 5MP \$999
HP 6MP CALL
HP 1600 C/PS CALL
HP 4MV \$2699
STYLEWRITER 1500 CALL
STYLEWRITER 2500 \$399

POWERBOOK

190 8/500 \$1099
190cs 8/500 \$1499
5300 8/500 \$1299
5300CS/100 CALL
5300C/100 CALL
5300CE/100 CALL

UMAX / SUPERMAC

S90L CALL
S900D CALL

SCANNERS

MICROTEK SCANNERS CALL
UMAX S12 \$749
POWERLOOK II \$1929
HP SCANJET 4C \$969
ES1200/PRO \$1175
AFGA ARCUS II \$1899

RADIUS

APPLE 1710AV \$1049
APPLE 1705 \$779
CPD 17SF2 \$799
PRECISION 17"R CALL
PRECISION. 21"R \$2299
THUNDER COL. CALL
CPD 15SF CALL

NEC

NEC 17XV \$779
NEC 17XP CALL
NEC 21XE \$1899
NEC 21XP \$2199

Performas

6360 \$1499
6400/180 CALL
6400/200 CALL
APPLE SUPERDRIVE \$149
INTERNAL / WITH EXCHANGE

COMPAG HEWLETT PACKARD **Tektronix**

FUJITSU *Microsoft radius and more!*



POWERBOOK 1400's ARE HERE!

ALL APPLE PARTS & ACCESSORIES IN STOCK
Rentals / Service available in NYC area
CALL US FOR ALL OF YOUR LEASING NEEDS!
1 800 275-9924
in NY 516 737-0800
FAX 516 737-0923
331E DANTE COURT HOLBROOK NY 11741
NEW & USED BOUGHT & SOLD
Ask about our **EXTENDED WARRANTY**

CIRCLE 474 ON READER SERVICE CARD

1-800-334-KIWI

Kiwi Computers • Save on refurbished Macs

Performas	Power Macs
5215 8/1 Gig CD built-in 15".....\$1099	6100, 7100 and 8100.....Call
6116 8/700 CD w/15" Multiscan.....\$1149	7200/75 8/500 CD.....\$949
6200 8/1 Gig CD CPU only.....\$799	7200/90 8/500 CD.....\$1149
6200 8/1 Gig CD w/15" Multiscan.....\$1149	7200/120 16/1.2 Gig CD.....Call
6220 16/1 Gig CD TV 14.4 w/15" Multiscan.....Call	7500/100 16/1 Gig CD.....\$1349
6300 16/1 Gig CD 28.8 modem CPU only.....\$999	7600/120 16/1.2 Gig CD.....\$1649
6300 16/1 Gig CD 28.8 w/15" Multiscan.....\$1349	8500/120, 132, 150 and 180.....Call
6320 16/1 Gig CD TV 28.8 w/15" Multiscan.....Call	9500/120, 132 150 and 200.....Call

Monitors & Printers	Monthly Specials
Apple 15" Multiscan.....Call	Upgrade Performa 630 series to 6300/100mhz.....\$499
Stylewriter 1200.....\$135	GV Mercury 19.2 modem for PB 500.....\$88
Color Stylwriter 2400.....\$199	GV Platinum 28.8 modem for P5200/6200.....\$125
Color Stylwriter 2500.....\$245	Apple TV/Video card for Performa.....\$99

NEW UMAX/SUPERMAC CLONES IN STOCK

Visa/Mastercard/American Express No Surcharge.

School, University and Govt. PO's Accepted.

Refurbished products have a 90 day warranty • Return subject to a 15% restocking fee • Price subject to change without notice.

Call Toll Free: 1-800-334-5494

International: 310-553-4507 Fax: 310-286-9667

Hours: Mon-Fri 8am to 6pm, Sat 9am to 2pm • Better Business Bureau Member

Kiwi Computer, P.O. Box 67381, Los Angeles, CA 90067

CIRCLE 404 ON READER SERVICE CARD

Mac Storm

In California Since 1988

1-800-594-4007

Int'l (310) 829-9780

Fax (310) 315-1009

email: macstorm@k-net.net

Powermacs	Performas	Powerbooks	Motorola Starmax	Umax/Supermac	H P	Viewsonic	
<p>9500/132</p>  <p>7200/12016/1g/cd/8x/12 1425</p> <p>7200/120 16/1g/cd/dos 2099</p> <p>7600/13216/1g/cd/12 2099</p> <p>8500/150 16/2gb/cd Call</p> <p>8500/180 32/2g/cd Call</p> <p>9500/200 32/2g/cd 3799</p> <p>9500/180MP Call</p>	<p>63160 8/500/cd/14"/SW 1099</p> <p>6200/75 8/1/cd (R) 1050</p> <p>6300/75 16/1.2g/cd (R) 1250</p> <p>6320/120 16/1.2g/cd 1299</p> <p>6360/160 16/1.2g/cd 1399</p> <p>6400/180 16/1.6g/cd Call</p> <p>6400/200 16/2.4g/cd Call</p> <p>6400/200 Video Editing 2479</p>	<p>Duo 2300C 8/750 1399</p> <p>Duo 2300C 20/1.1GB 1799</p> <p>1400cs/117 12/750 Call</p> <p>1400cs 16/750/cd/6x Call</p> <p>1400c/117 16/1gb/cd/6x Call</p>	<p>3000/160 16/1.2g/cd 1599</p> <p>3000/160 32/2.5g/cd 1895</p> <p>3000/180 16/1.2g/cd 1679</p> <p>3000/180 32/2.5g/cd 1945</p> <p>3000/200 16/1.2g/cd 1875</p> <p>3000/240 32/2.5g/cd 2475</p> <p>4000/160 16/1.2g/cd 2129</p> <p>4000/160 32.2.5g/cd 2275</p> <p>4000/200 16/1.2g/cd 2399</p> <p>4000/200 32/2.5g/cd 2599</p>	<p>C500/160 16/1.2g/cd 1379</p> <p>C600/180 16/1.2/cd/m 1699</p> <p>C600/200 16/2.1/cd/m 1899</p> <p>C600/240 24/2.1/cd/m 2195</p> <p>J700/150 16/2.1g/cd 2575</p> <p>J700/180 24/2.1g/cd 2875</p> <p>S900/150 16/2.1/cd 3199</p> <p>S900/225 32/2.1/cd 3899</p> <p>S900/180mp 32/2/cd 4199</p> <p>Vista S6E 299</p> <p>Vista S6E Pro 559</p> <p>Vista S12 Pro 799</p>	<p>Deshwriter 680C 299</p> <p>Deskwriter 870CXc 495</p> <p>Deskwriter 870 CXi 485</p> <p>Laserjet 6MP 885</p> <p>Laserjet 5M 1689</p> <p>Deskjet 1600CM 1869</p> <p>Laser 4MV 11x17 2679</p> <p>Laser 5SiMX 3699</p> <p>Scanjet 4C 829</p> <p>Scanjet 4S 219</p> <p>Color LJ 5M 6845</p>	<p>15 ES 15" 359</p> <p>15 GS 15" 379</p> <p>17 GA 17" 659</p> <p>17 PS 17" 719</p> <p>20 G 20" 1195</p> <p>P 815 21" 1695</p> <p>G 810 21" 1459</p> <p>PT 810 21" 1675</p>	
<p>Apple Monitors</p> <p>Multiscan 14" Call</p> <p>Multiscan 15" Color 489</p> <p>Multiscan 15AV 489</p> <p>Multiscan 1705 Call</p> <p>Applevision 1710 Call</p> <p>AppleVision 1710AV Call</p> <p>Multiscan 20" Call</p>	<p>Workgroup Servers</p> <p>8550/200 32/2g/cd/in 4299</p> <p>8550/200 32/2g/cd/AS 4649</p> <p>8550/200 32/2g/cd/dat 4749</p> <p>8500 32/2g/cd/dat/AS 5495</p>	<p>Radius</p> <p>Pressview 21SR 3095</p> <p>Pressview 17SR 1865</p> <p>Multiview 21" 1449</p> <p>Precisionview 21 2245</p> <p>2 Pg display 21GS 979</p> <p>2 Pg display 20GS 799</p> <p>Thunder 30/1152 779</p> <p>Thundercolor 30/1152 1499</p> <p>Precisioncolor 8k/1600 479</p>	<p>Agfa</p> <p>Studiocan II S1 599</p> <p>Snapscan 600dpi 349</p> <p>StudioStar LE 799</p> <p>Arcus II 1899</p>	<p>NEC</p> <p>XV 15+XV 17+ 439/759</p> <p>M500 15" Display 485</p> <p>M700 17" Display 759</p> <p>P750 17" Display 995</p> <p>P1150 21" Display 1899</p> <p>XE21/XP21 1625/1899</p>	<p>Epson</p> <p>Clr. Stylus 500 289</p> <p>Clr. Stylus Pro 379</p> <p>Clr. Stylus Pro XL 1699</p> <p>636 Executive 829</p> <p>636 Artist 1229</p> <p>636 Professional 1699</p>	<p>RasterOps</p> <p>MC 15 Mono 255</p> <p>MC 20 Mono 699</p> <p>MC 21 Mono 799</p> <p>17S Color 789</p> <p>MC 17 Color 899</p> <p>MC 20 Color 1349</p> <p>MC 21 Color 1699</p> <p>MC 80 Color 1899</p>	<p>Truevision</p> <p>Bravado 1000 625</p> <p>Targa 1000 1899</p> <p>Targa 1000 Pro 2049</p> <p>Targa 2000 2999</p> <p>Targa 2000 Pro 3379</p> <p>Targa 2000 DTX 6495</p> <p>Targa 2000 RTX 8995</p>
<p>Network Servers</p> <p>500/132 32/1g/cd 6999</p> <p>500/132 32/1g/cd/dat 8699</p> <p>700/150 32/1g/cd 9599</p> <p>700/150 48/4g/cd/dat 11999</p> <p>700/200 24/8g/cd 13799</p>	<p>Apple Printers</p> <p>Imagewriter II 389</p> <p>Stylewriter 2200 375</p> <p>Stylewriter 1500 269</p> <p>Stylewriter 2500 359</p> <p>Laser Select 300 639</p> <p>Laserwtr 4/600 PS Call</p> <p>Laserwtr 12/640 PS 1425</p> <p>Col. Laserwtr 12/660 Call</p>	<p>Sony</p> <p>15SF2 469</p> <p>17SF2 769</p> <p>17SE2T 949</p> <p>20SF2 1625</p> <p>R540 2.6gb MO 1999</p>	<p>Nikon</p> <p>Scantouch AX 110 339</p> <p>Scantouch AX 210 699</p> <p>Scantouch AX 1200 1569</p> <p>Super Coolscan 1899</p>	<p>Microtek</p> <p>Scanmaker E3 299</p> <p>Scanmaker E6 559</p> <p>Scanmaker E6 Pro 799</p> <p>Scanmaker III 1365</p>	<p>Lowest rates on Corporate Leases</p>		

CIRCLE 440 ON READER SERVICE CARD

MICRO OUTLET

800-801-4MAC

http://www.microoutlet.com
email:sales@microoutlet.com

FAX-310-533-0501



POWER MAC 9500/8500 SERIES

Call For:
Latest pricing
System config.
Lease payment
Product Info

9500/200	32/2GB/8XCD/L2	\$ 4050
9500/180	MP 32/2GB/8XCD/L2	5175
9500/150	0/0/8XCD/L2	2599
9500/150	16/2GB/8XCD/L2	3025
8500/180	32/2GB/8XCD/L2	3049
8500/150	16/2GB/8XCD/L2	2650
8500/150	16/1.2GB/8XCD/L2	2585
8500/150	16/2GB/4XCD/L2	2449
8500/132	16/1.2GB/4XCD/L2	2200
8500/132	16/2GB/4XCD/L2	2300

POWER MAC 7600/7200 SERIES

Call For:
Latest pricing
System config.
Lease payment
Product Info

7600/132	16/2GB/8XCD/L2	\$ 2099
7600/132	32/2GB/8XCD/L2	2179
7600/132	16/1.2GB/8XCD/L2	1975
7600/132	32/1.2GB/8XCD/L2	2055
7600/120	16/1.2GB/4XCD/L2	1699
7600/120	32/1.2GB/4XCD/L2	1779
7600/100	16/1.0GB/4XCD	1549
7200/120	16/1.2GB/8XCD/L2	1400
7200/120	16/1.2GB/8XCD/DOS/L2	2050

WORKGROUP/NETWORK SERVERS

Call For:
System config.
Lease payment
Product Info

6150/86	16/1.2GB/CD/Int	\$ 1805
7250/120	18/1.2GB/CD	1710
7250/120	18/1.2GB/CD/Int	2120
7250/120	18/1.2GB/CD/As	2500
7250/120	18/2GB/CD/As	2680
8550/132	24/2GB/CD/Int	3990
8550/132	24/2GB/CD/As	4370
8550/132	24/2GB/CD/Dat/As	5275
8550/200	32/2GB/CD/Int	4485
8550/200	32/2GB/CD/As	4845
8550/200	32/2GB/CD/Dat	4940
8550/200	32/2GB/CD/Dat/As	5700
500/132	32/2GB/CD/Dat/Unix	8995
700/150	32/1GB/CD/UNIX	8940
700/150	48/4GB/CD/Dat/Unix	12300

MOTOROLA/UMAX SERIES

Call For:
System config.
Lease payment
Product Info

MOTOROLA STARMAX SERIES		
SM 3000/200	16/1.2GB/8XCD/L2/SW/28.8/Kb/d	\$ Call
SM 4000/200	16/1.2GB/8XCD/L2/SW/28.8/Kb/d	Call
UMAX SERIES		
J700/150	16/2GB/8.7CD/KEY/V/Car	\$ 2675
J700/180	24/2GB/8.7CD/KEY/V/Car	2849
S800/225	32/2GB/8.0CD/KEY/V/Car	3859
S800/200	32/2GB/8.0CD/KEY/V/Car	3489
S900/150	32/2GB/8.0CD/KEY/V/Car	3159

POWERBOOK SERIES

Call For:
Powerbook Upgrades
Our Sales Team is here
to help you!

190CS	8/500	\$ 1499
5300CS	8/500	1875
5300CS	19/750	2345
5300C	8/500	2295
5300C	19/750	2725
5300CE	32/1GB	3495
DUO2300C	8/750/14.4 Mod	1449
DUO2300C	20/750MB/14.4 Mod	1869
DUO2300C	20/1.1GB/14.4 Mod	1849
1400C	16/1GB/8XCD	3899
1400CS	16/750MB/8XCD	2879
1400CS	12/750MB	2479

PERFORMA SERIES

Call For:
Software & CD Titles
Optional Accessories
Perfect Choice for
Children and
Students

5260/75	8/800MB/CD/Kbd/14"	\$ 1225
6320/120	16/1.2GB/CD/Kbd/28.8	1149
6320/120	16/1.2GB/CD/15"/Kbd/28.8	1499
6320/120	16/1.2GB/CD/15"/Kbd/28.8/TV	1599
6380/180	16/1.2GB/8XCD/Kbd/28.8	1325
6400/180	16/1.2GB/8XCD/Kbd/28.8	1749
6400/200	16/1.2GB/8XCD/Kbd/28.8	1825
6400/200	16/1.2GB/8XCD/Kbd/28.8/V.E.	2275

MONITORS

Call For:
Product Not Listed
VRAM or Videocard Options

Apple	Multiscan 14"	\$ 295
Apple	Multiscan 15"	409
Apple	Multiscan 15" AV	465
Apple	Multiscan 1705	649
Apple	Multiscan 1710	849
Apple	Multiscan 1710AV	939
Apple	Multiscan 21"	1599
Hitachi	All Models	Call
Mitsubishi	All Models	Call
NEC	All Models	Call
Radius	All Models	Call
Sony	All Models	Call
Viewsonic	All Models	Call

PRINTERS

Call For:
Printer's Features
Printer Upgrades

Apple	StyleWriter 1500	\$ 199
Apple	StyleWriter 2400(R)	230
Apple	StyleWriter 2500	359
Apple	LaserWriter 4/600	729
Apple	LaserWriter 12/640	1445
Apple	LW 12/600PS/Color	5199
Epson	Stylus Color 500	270
Epson	Stylus Color 1500	879
Epson	Stylus Pro XL	1899
HP	DeskJet Series	Call
HP	LaserJet 6MP	889
HP	DeskJet 756cm Platter	8749

SCANNERS

Call For:
Product's Features

AGFA	Arcus II	\$ 1745
AGFA	StudioScan IISI	625
AGFA	StudioStar FV	949
AGFA	StudioStar LE	789
Epson	Action Scanner II	380
Epson	ES-1000C	550
Epson	Express. 636 Artist	1228
Epson	Express. 636 Ekac.	621
Epson	Express. 636 Prof.	1899
Umax	VistaS6E ProMac	525
Umax	VistaS12 MacDix.	895
Umax	Powerlook II	1869
Visoneer	Paperport VX	280
Visoneer	Paperport	89

PERIPHERALS

KEYBOARDS

Apple	Design Keyboard	\$ 75
Apple	Extended Keyboard II	135
Radius	Extended Keyboard	49
MODEMS		
Apple	GeoPort Telecom Kit	\$ 189
Farallon	Netopia (ISDN)	295
Global Village	Teleport 33.6	165
Global Village	PowerPort PC Card	325
Global Village	Platinum Pro PC Card	469
Supra	Express Modem 33.6	119
Supra	Fax Modem 33.6	189
Supra	Powerbook Internal 14.4	119
Supra	Simple Internet 28.8	134
Supra	Sonic Modem 33.6 V.34	265
U.S. Robotics	Sportster 28.8 PC Card	279
U.S. Robotics	Sportster 28.8 w/ Voicemail	194

PERIPHERALS

DOS Cards

Apple	Pentium 100Mhz	\$ 899
Apple	586 100Mhz	675
Apple	6100 Series w/8MB's	199
Video Cards		
TrueVision	Targa 2000	\$ 3749
TrueVision	Targa 2000 (Pro)	4299
ATI	Exclaim 2mb Videocard	269
ATI	Exclaim 4mb Videocard	389
IMS	Twin Turbo 4mb V-card	469
IMS	Twin Turbo 8mb V-card	755
Cameras		
Apple	Quicktake 150	\$ 589
Kodak	DC-20	295
Kodak	DC-40	265
Kodak	DC-50	899
Connectix	Quick Cam	79
Connectix	Color Quick Cam	229

SOFTWARE

Adobe	Illustrator v8.0	\$ 329
Adobe	Photoshop v3.0.5	359
Adobe	PageMaker v6.0	359
Adobe	Premier v4.1	469
Adobe	Alter FX v3.1	610
At Ease	Workgroup v3.0	230
BestWare	M.Y.R.B. Acc. v6.0 Payr.	129
BestWare	M.Y.R.B. Acc. v6.0	75
Cassidy & Cr	Conflict Catcher v3.0	55
Connectix	Ham Doubler v1.6	59
Connectix	Speed Doubler v1.1	55
Intuit	Quicken v8.0	85
Microsoft	Office v4.2.1	449
Microsoft	PowerPoint v 4.0	255
Microsoft	Word v6.0.1	259
Quark	Express v3.3.2	640
Symantec	SAM Intercept v4.0	69
Symantec	SAM Intercept v3.0	69

MAC DRIVES

Removable Ext. Hard Drives

Omega	Zip 100 MB & Cartridge	\$ 179
Omega	Jazz 1 GB Original & Cart.	469
Omega	Jazz 1 GB Generic & Cart.	439
Syquest	EZ 135 MB & Cartridge	139
Syquest	EZ 130 MB & Cartridge	285
HARD DISK DRIVES INT./EXT.		
IBM	2.1 GB Ultrastar	\$ 349 \$ 419
IBM	4.0 GB Ultrastar	995 1079
Quantum	1.2 GB Tempest	269 329
Quantum	2.1 GB Tempest	379 439
Quantum	3.2 GB Tempest	489 559
Quantum	2.1 GB Atlas	549 629
Quantum	4.3 GB Atlas	875 949
Quantum	4.5 GB Atlas II	1035 1095
Seagate	2.4 GB ST32155N	499 575
Seagate	9.0 GB ST18171N	2049 2149
MAGNETO-OPTICAL DRIVES		
Fujitsu	230 MB Dynamo Ext.	\$ 489
Fujitsu	840 MB Dynamo Int.	549
Fujitsu	840 MB Dynamo Ext.	699
Olympus	230 MB PowerMo Ext.	485
Olympus	2.6 GB PowerMo Ext.	1799
Pinn. Micro	2.6 GB Vertex Ext.	1499

MEMORY

MEMORY		
4MB	30 Pin Simm	\$ 55
16MB	30 Pin Simm	155
4MB	72 Pin Simm	29
8MB	72 Pin Simm	39
16MB	72 Pin Simm	79
32MB	72 Pin Simm	179
8MB	Duo 2300 Simm	79
16MB	Duo 2300 Simm	149
20MB	Duo 2300 Simm	189
36MB	Duo 2300 Simm	349
48MB	Duo 2300 Simm	489
8MB	PB5300/180 Simm	79
16MB	PB5300/180 Simm	149
32MB	PB5300/180 Simm	169
8MB	168 Pin Dimm	45
16MB	168 Pin Dimm	79
32MB	168 Pin Dimm	189
64MB	168 Pin Dimm	329
VRAM		
1MB	7200,7500,7600,8500 Series	\$ 35
1MB	8100,7100,8100 Series	79
2MB	ATI VRam Card-8500 Series	159

MISCELLANEOUS

CACHE CARDS		
256K	Performa 6400 Series	\$ 110
256K	L2 Dimm, 7200-8500 Series	79
256K	L2 Dimm, 9500 Series	139
512K	L2 Dimm, 7200-8500 Series	129
REMOVABLE CARTRIDGES		
Syquest	200MB or 270MB	\$ 85
Syquest	EZ 135MB / 230MB	19/25
Imega	100MB / 1GB	15/89
Nomag	200MB	58
CD ROMS		
Apple	600 I Internal CD	\$ 85
Apple	600 E External CD	159
Philips	CDD-200 CD Rec. Ext.	1089
Yamaha	100E CD Rec. Ext.	999
Sony	2x CD Rec. Ext.	1089
Pinn. Mic.	1000 2x CD Rec Ext.	589
3 Year Extended Warranty		
BankVest CAPITAL CORP.		
ASK ABOUT OUR LEASING PROGRAMS		

SPECIALS

CDR/JAZZ COMBO WITH 4X CDR TOAST, 1 JAZZ CART		\$ 1289 ⁰⁰
SYQUEST CARTRIDGES 200MB / 270MB		\$ 65 ⁰⁰
OMEGA JAZZ EXTERNAL DRIVE		\$ 469 ⁰⁰
QUANTUM TEMPEST 1.2GB		\$ 269 ⁰⁰
2.1GB		\$ 375 ⁰⁰
3.2GB		\$ 489 ⁰⁰

2785 PACIFIC COAST HIGHWAY #178 TORRANCE, CA • 90505 PHONE: 310-533-0496 FAX: 310-533-0501
BUSINESS HOURS: MONDAY-FRIDAY 7:00 AM to 7:00 PM PST SATURDAY 10:00 AM to 2:00 PM PST

Price is promotional only. The advertising price may vary. All prices include sales tax. Shipping and service fees are non-refundable. We accept the currency of U.S. All returns subject to 14 day restocking fee. All returns must have an authorization number (A.N.). Graphics shown do not necessarily represent actual product.

Systems & Peripherals Memory & Upgrades

Macworld SHOPPER

MacUSA
Since 1983
800-809-0880
Voice: 818-704-8923
Fax: 818-704-9858

Check out MacUSA on the Web at:
<http://www.macusa.com>
Dealer and International Onlens Always Welcome!
We'll Beat Any Price!
Reach us on the Internet at: macusa@earthlink.net
Free Shipping for All California Purchases.
Discover, Visa, American Express, & MasterCard
23751 Roscoe Blvd., Canoga Park
California 91304, U.S.A.

PRICES REFLECT CASH DISCOUNT AND ARE SUBJECT TO CHANGE

Software Blowout!!!

MS Office V4.21 (Excel, Word, Powerpoint)	\$525	\$195!!!
Microsoft Word 5.1/6	\$75	\$59
Microsoft Excel 5	\$125	
Microsoft Powerpoint 4	\$99	
Adobe Photoshop 3.0/5	\$275	
Adobe Illustrator 6.0	\$250	
Adobe Premier 4.2	\$295	
Adobe Pagemaker 6.0	\$295	
Adobe After Effects	\$495	
Adobe Acrobat Pro 2.1	\$275	
Adobe Streamline	\$75	
Strata Pro 1.75	\$400	
Microsoft Office for Win 95	\$295	

All other Microsoft, Adobe, Claris, and Macromedia products available at discount prices. Prices valid while supplies last.

PowerMac Blowout

7200	SSSCALLSSS
7600	SSSCALLSSS
8500	SSSCALLSSS
9500	SSSCALLSSS

We do custom configuration.

Macromedia Freehand 5.5	\$295
Macromedia Studio	\$750
Macromedia Fontographer	\$190
Macromedia Director	\$400
Macromedia Fontographer	\$190
Macromedia Xres	\$150
Macromedia Extreme 3D	\$250
Claris Works	\$49
Claris Filemaker Pro Deluxe 2.1	\$75
Kai's Power Tools / Bryce	CALL
Fractal Designs Painter 4.0	\$250

PowerBook Blowout

5300 CALL

Call for New Powerbook line.

Workgroup Server

8550/7250 CALL

Monitors
Apple, NEC, Sony, Viewsonic

Scanners
Agfa, Apple, Epson, Hewlett Packard, Microtek

Printers
Apple, Hewlett Packard, Epson

Performa Bundle

6300	SSSCALLSSS
6320	SSSCALLSSS
6400	SSSCALLSSS

CIRCLE 448 ON READER SERVICE CARD



"Friends don't let friends use 'DOS'!"

... Buy or Sell Any Macintosh Through Us!

United Computer Exchange
800.755.3033 770.612.1205
Visit Our Online Exchange at www.uce.com

UNITED COMPUTER EXCHANGE

CIRCLE 436 ON READER SERVICE CARD

Trinitron™ Super Sale

17" Std.-Res. Trinitron (R)	\$285.00
17" Hi-Res. Trinitron (R)	\$325.00
Apple 15" MS Multi-Scan (R)	\$319.00
Apple 14" MS Multi-Scan (R)	\$249.00

Drives

Int. 160 MB Hard Drives HH (N)	65.00
Int. 40 MB Hard Drives TH (N)	25.00
Apple 1.44 FDHD (N)	99.00
Ext. 4x CD-ROM Drives (N)	119.00
Int. 4x CD-ROM Drives (N)	85.00

ADB

Radius Extended Keyboard (N)	45.00
Radius Mouse (N)	16.50

Check out our 80 page Online Catalog!
<http://www.poweron-line.com>
(916) 652-1880 • (916) 652-1881 FAX

POWER ON
COMPUTER SERVICES
(800) 673-6227

CPU's (BEST POWERCOMPUTING PRICES!)

PowerBook 145 4/40 (U)	399.00
PowerBook 160 8/80-12/120	499/549.00
PB Duo 2300c 32/750/14.4 (N)	1799.00
Mac SE 4/160, Key & Mse (U)	165.00
Mac SE/30 4/160, Key & Mse (U)	325.00
P6205 24/1000 603/75 (R)	939.00
P6300 16/1.2/CD 603/100 (R)	1149.00
P5200 8/800/CD/15" mtr (R)	1189.00
HP ScanJet IICx Mac/PC (N)	175.00
StyleWriter 2500 (R)	275.00

**OUR GOAL IS TO BEAT OUR COMPETITOR'S PRICES
CALL US LAST FOR A SPECIAL DISCOUNT!**

MEMORY NEW DRIVES NEW

30 PINS
72 PINS
168 PIN DIMMS

VIDEO RAM
CACHE CARD

POWERBOOK MEMROY
ALL SERIES AVAILABLE

PRINTER MEMORY
MAJOR BRANDS AVAILBALE

LIFETIME WARRANTY ON MEMORIES

ACCELERATORS

1-800-427-2021

HBR ENTERPRISES

11628 SANTA MONICA BLVD. #201 LA. CA. 90025
M-F 7:30AM - 6PM SAT 10AM - 3PM
FAX 1-310-826-2573

QUANTUM
INT. & EXT. DRIVES

IOMEGA
ZIP & JAZ DRIVE
ZIP & JAZ CART.

FWB
CD RECORD/WRIITER

NEC
MULTISPIN CD-ROM DRIVE

TERMS: VISA, MC., AMX., DISCOVER,
PRE-PAID, C.O.D & APPROVED P.O.s
INTERNATION. 1-310-826-3363 <http://www.dnm.com/hbr/>
RETURN ITEMS ARE SUBJECT TO APPROVAL AND RESTOCK. FEE. PRICES SUBJECT TO CHANGE

CIRCLE 452 ON READER SERVICE CARD


MEMORY

**Guaranteed Lowest Prices
Lifetime Warranty**

PowerBook Memory Specialists!

168 Pin DIMM

- 8 MB—128 MB
- 72 Pin SIMMS
- 1 MB—64 MB
- 30 Pin SIMMS
- 1 MB—16 MB
- Memory for all PowerBooks
- Memory for all Printers
- VRAM, DIMM, CACHE

**Now Selling Printers
Best Prices!** 

Eritech International
4551 San Fernando Rd. #110, Glendale, CA 91204
1-800-808-6242

We accept P.O.s from government, schools & qualified firms.
Ph: 818-244-6242 <http://www.eritech.com> Fax: 818-500-7699

CIRCLE 469 ON READER SERVICE CARD

PERIPHERAL ENHANCEMENTS CORPORATION

WORLDWIDE MEMORY MANUFACTURERS

800/259-6565

www.peripheral.com

Founded in 1986, Peripheral Enhancements Corporation, (formerly Peripheral Outlet, Inc.) is a leading worldwide manufacturer of computer memory upgrades. Our ten-year relationship with customers is built on mutual trust and respect. You have no time for problems; that's why our salespeople don't promise unless they can deliver. Top-quality memory, delivered on time, as agreed and at affordable prices, are the cornerstones upon which Peripheral Enhancements Corporation builds its relationships.

Unsurpassed Technical Support. Our tech support team stays abreast of the changing memory business, offering reliable, informed answers to your questions. Easy-to-follow instructions are available with each shipment. Technical assistance is toll free!

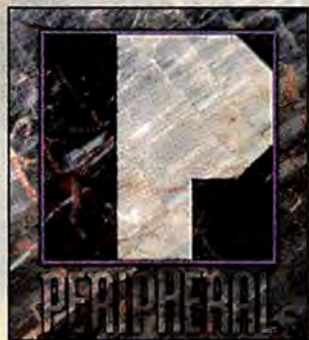
Lifetime Warranty. Peripheral Enhancements Corporation stands behind every product we sell. We test each and every module prior to shipping. If a problem ever arises with a part, however, send it back for a prompt repair or replacement, often performed within 24 hours of our receiving the part from you.

100% Reliability. Our buyers source top-quality components worldwide and build modules with quality unsurpassed in the industry. Every memory module sold is 100% tested before shipping and backed by a lifetime warranty. No arguments, no hassles.

Aggressive Pricing. Peripheral Enhancements Corporation sells millions of dollars in upgrades every week. Our consistent buying in large quantities assures you a competitive price, every time you order.

International Toll Free Numbers
Distributors and Resellers only, please.

Australia 1 800 122 764
Belgium 0800 7 1661
Denmark 8001 6175
Finland 08001 10123
France 0800 90 1997
Germany 0130 818 983
Greece 00 800 11 948 0302
Italy 1 678 77937
Japan 0066 33800 120
Luxembourg 0800 4009
Netherlands 0602 26638
Norway 800 12698
Portugal 0501 11 077
Spain 900 931 089
Sweden 020 797 857
Switzerland 155 7608
UK 0800 962 058
USA 1 800 256 6581



PERIPHERAL ENHANCEMENTS CORPORATION

327 East 14th, PO Box 2329
Ada, Oklahoma 74820
405/332-6581 FAX 405/436-2245
sales@peripheral.com
HOURS: Monday-Thursdays 6AM-7PM,
Friday 6AM-6PM CST

MEMORY FOR THE MAC CALL FOR THE BEST PRICES!

168 pin DIMMs for PCI Macs

8, 16, 32, and 64 Megabyte SIMMs

72 Pin Memory for Nubus Macs

4, 8, 16, 32, and 64 MB non-composite SIMMs

Standard 30 pin SIMMs

1, 2, 4, 8, and 16 Megabyte SIMMs

PowerBook 5300/190 Memory

4 / 8 Megabyte upgrades
16 / 32 Megabyte upgrades
40 / 48 / 56 Megabyte upgrades

PowerBook 500-series Memory

4 / 8 Megabyte upgrades
16 / 24 Megabyte upgrades
32 Megabyte upgrade

PowerBook 100-series Memory

2, 4, 6, 8, and 10 MB Upgrades - Call for the latest prices! All PowerBook memory upgrades include necessary tools, static protection, and instructions for safe installation.

Duo-series Memory

4 / 8 Megabyte upgrades
12 / 14 Megabyte upgrades
20 / 28 Megabyte upgrades

Video RAM

1 MB VRAM for 7200/7500/8500
2 MB VRAM for ATI Video Card
256K/512K VRAM 80ns

Cache Cards, Etc.

Cache DIMMs for 7200/7500/8500
256K-1MB Cache Card for PowerMacs

68882 Math Coprocessors

68882 25 MHz, 33 MHz, and 50 MHz FPU's

Newton Upgrade Products

512K, 1 MB, and 2 MB Static RAM Storage Cards
2 MB, 4 MB, and 8 MB Flash Storage Cards
16 MB, 20 MB, and 24 MB Flash Storage Cards

We accept Visa/MC/Amex/Discover, and COD Cashiers check upon approval. Educational, Government, and Fortune 500 P/Os accepted upon approval. Due to volatility in the market all prices and availability are subject to change without notice.

We carry memory for all popular desktops, laptops, workstations, and printers.

Miscellaneous

68040 Processors with FPU

25 MHz, 33 MHz, and 40 MHz.

LaserWriter 320 2, 4, 6 MB upgrades

LaserWriter Pro 810 4MB/8 MB upgrades

T.I. MicroLaser 1 MB

Hewlett Packard printers

68851 16MHz PMMU

if requested, MODE 32 software included free w/PMMU

Mac Portable 3 - 7 MB Cards

TOLL FREE TECHNICAL SUPPORT

Our tech support and installation instructions are the best in the industry! We have a **LIFETIME WARRANTY** on all of our memory products.

Order by 6:00 PM CST for same day shipping!*

Overnight delivery from \$8.00

*some restrictions apply

Run Your Mac Faster & Save!



**Accelerate Mac LC,
LC II, Color Classic,
IICI, IISI, IIVX, or
Performa 600 to '040
Speed Starting at \$199**

Sonnet Presto™ LC 040 50/25 MHz accelerators increase Mac LC, LC II, or Color Classic performance 470% as fast as a stock machine (processor performance, MacBench2). Use RAMDoubler or Virtual Memory to break the 10MB barrier with the Presto LC (except Mac LC, OS 7.1+req'd). The Presto LC is only \$199, or with a hardware Floating Point Unit (FPU), only \$249.

The 80/40MHz version for the Mac IISI*, IICI, IIVX, or Performa 600 increases processor performance by 250-500%. The 80/40 MHz Presto is only \$299, or with FPU and 128K level 2 cache, \$399.

All Prestos are 100% application software compatible and run through System 7.5.5*. The Prestos are easy to install in the Macs' processor direct slot, and come with clear installation instructions. (*Some configurations are not compatible with RAMDoubler or Virtual Memory. Adapter req'd for IISI)

**Allegro's Fast 68030s
Give New Life to Mac
SE, II, IIX, LC, LC II,
Color Classic from \$99**



Give your older Mac more muscle. Sonnet Allegros™ are packed with features at bargain prices. The 33MHz Allegro LC for the Mac LC, LC II, Color Classic doubles your cpu speed, adds 16K level 2 cache and includes an FPU—all for only \$149. The 33MHz Allegro SE increases performance 460%, includes an FPU and 4 SIMM slots to expand memory up to 16MB for a bargain \$199. Allegro Mac II, IIX models double '030 speed to 33MHz for a mere \$99.



**150MHz
PowerPC 604
for 7500..\$399**

Give your Power Mac 7500 the PowerPC 604 upgrade it was designed for. This power-packed upgrade is 100% compatible with your existing software and hardware—including cache card. Just plug it in and enjoy the productivity you deserve. *with 601 card trade-in.

66MHz PowerPC 601 with 256K Cache
For Quadra 605, LC/Performa 47X/57X/58X/63X.....\$599



**Upgrade Your
PowerBook 520/540
to 100MHz 603e with
8MB Memory for \$399***

This is the genuine Apple Computer upgrade product designed to bring your trusted PowerBook 520 or 540 into the PowerPC generation with a speedy 100MHz 603e PowerPC processor. With this upgrade you can run all native PowerPC applications the way they were meant to be. Upgrade your reliable ethernet-equipped PowerBook to PowerPC, and prepare for the MacOS future. The upgrade includes 8MB of memory and is compatible with your existing RAM expansion board. *Price after a \$100 discount for trade-in of your existing 68LC040 card.

**Run the Fastest
Quadra Ever!
100/50 MHz is
Faster than 840AV**



**Only
\$399**

Plug the Sonnet QuadDoubler™ into a Quadra 610, 660AV, 700, 900, or Centris 610*, 660AV, 650 and run virtually twice as fast as before for only \$399. No software upgrades or changes are required. Just plug the QuadDoubler into your CPU socket and power up your Mac. A CPU extraction tool is even included to simplify installation. The QuadDoubler includes a Floating Point Unit for superfast rendering or calculations. A cache card is also available for the Quadra 700/900 for even more performance. *The Centris 610 QuadDoubler runs at 80/40 MHz and is value-priced at \$299 (without FPU \$199).



**Add Math Coprocessor to
68040 Macs & PowerBooks**

Give your Quadra, Centris, or PowerBook 520/540 a math coprocessor for rendering, Photoshop, CAD, or other Math intensive applications. 25MHz 68040 \$125*, 33MHz 68040 with heat sink \$169*. Add a full 66/33MHz 68040 with FPU to your PowerBook 520 or 540 for \$249*. This also speeds 520 to 66/33MHz. Call for PB190, Duo280 FPU. *68LC040 trade-in req'd.

Power FPU

Add FPU support to the Apple 68K emulator. Run all 68K FPU applications at full speed on your Power Mac FPU hardware. Eliminate most coprocessor not installed errors. 10x faster than Software FPU. By John Neil & Assoc. \$75.



Sonnet Is Cache King



We build 'em & will not be undersold!

256K for 6100/7100.....	\$49
256K for 7200/7500.....	\$59
512K for 7200/7500/7600/8500 ...	\$109
256K for 5260/5400/6360/6400	\$99



SONNET SONNET TECHNOLOGIES, INC.
18004 Sky Park Circle, Irvine, California 92614
714-261-2800 Fax 261-2461 sales@sonnettech.com

800-786-6260

<http://www.sonnettech.com>



VISA, MasterCard and AMEX no surcharge. We used to have a surcharge; we don't anymore. Government, corporate and education P.O.s welcome. We actually welcome all types of customers, as long as you are nice to our sales reps. One year limited warranty on all products. If you step on it and break it we limit the warranty, otherwise we don't limit it too much. All returns require an authorization and are subject to a restocking fee. We think you'll love our products; if you don't we have to pay Chuck to process the return, so you have to help pay for Chuck. ©1997 Sonnet Technologies, Inc. Sonnet, the Sonnet Logo, Allegro, Presto and QuadDoubler are trademarks of Sonnet Technologies.

CIRCLE 463 ON READER SERVICE CARD

SIZZLIN' HOT PRICES



WITH A NORTHWEST FLAVOR
FROM "THE LLB CO."



1.800.848.8967

International: 206.746.0229

Web Site: [HTTP://llb.com](http://llb.com)

Fax: 206.746.5168

DRIVES

QUANTUM	
2.1GB EXTERNAL DRIVE	\$479
2.1GB INTERNAL DRIVE	409
ATLAS 4.3GB EXTERNAL DRIVE	1225
ATLAS 4.3 INTERNAL DRIVE	1127
APPLE	
EXTERNAL 4GB DRIVE	\$1089
APPLE 2GB EXT DRIVE	450
IOMEGA	
ZIP 100 EXTERNAL DRIVE	\$199
ZIP 100MB CARTRIDGE SINGLE	ZIP 19
100MB CARTRIDGE 3 PACK	49.50
ZIP 100MB CARTRIDGE 10 PACK	139
JAZ 1GB EXT. SCSI DRIVE	499
JAZ 1GB CARTRIDGE SINGLE	123
JAZ 1GB CARTRIDGE 5 PACK	479

SCANNERS

UMAX	
Powerlook Engine	\$1369
Powerlook 2000 Engine	2908
Powerlook II Engine	1505
Powerlook II Trans. Adptr	320
Mirage Engine	5858
POLAROID	
Sprintscan 35 LE	\$979
Sprintscan 35 ES	1559
Sprintscan 35+	2015
Sprintscan 45	7529
NIKON	
Coolscan II Ext Lx/20	\$1125
Scanlouch AX-1200	1055
Coolprint Dig Printer	1835
Super Coolscan LS	2049
Super Coolscan SF100 AutoLd	529

POWERBOOK MEMORY!

PB5300	
8MB	\$78
16MB/32MB	139/259
48MB	353

PB2300	
4MB	\$74
8MB	116
16MB	141
20MB	241
32MB	306
36MB	310
48MB	453

PB500	
4MB/8MB	\$74/79
16MB/32MB	142/270

PB-DUO	
DUO 4MB	\$75
DUO 8MB	89
DUO 12MB	135
DUO 20MB	220
DUO 28MB	289
DUO 36MB	313

PB190	
4MB/8MB	\$60/102
12MB/16MB	136/150
32MB 70NS	245

PB150	
4MB/8MB	\$53/80
12MB/20MB	164/261
28MB	354

MEMORY

DIMMS

128MB 60NS	\$920
64MB 60NS	350
32MB 60NS	173
16MB 60NS	85
8MB 60NS	45

EDO DIMMS NEW!

3.3VOLT FOR STARMAX	
64MB	\$419
32MB	237
16MB	95
8MB	59

EDO DIMMS NEW!

5VOLT FOR POWERBASE (POWER COMPUTING)	
32MB	\$217
16MB	95
8MB	55

72-PIN SIMMS

32MB 60NS	\$175
16MB 70/60NS	84/86
8MB 70/60NS	36/39
4MB 70/60NS	21/23

36-BIT/32 BIT

32MB 70NS/EDO	246/180
16MB 70NS/EDO	114/89
8MB 70NS/EDO	52/40
4MB 70NS/EDO	35/35

30-PIN SIMMS

16MB 70NS	\$120
8MB 70NS	65
4MB 80/70NS	29/31
4MB PAL II/IIIX	60
2MB 80/70NS	18/20

Electronic Orders:
E-Mail: 73423.1272
@Compuserve.com

FREE CATALOG: 1.800.848.8967

- PO's are accepted upon approval.
 - All major credit cards accepted & charged when order is shipped.
 - No surcharge on charge cards.
 - Prices subject to change, not responsible for errors.
 - We welcome International orders.
 - Orders received before 8:00pm EST weekdays shipped same day.
 - Open 6am to 7pm M-F 9am to 4pm PST
 - Returns subject to a 15% restocking fee.
- The LLB Co., Inc.
13228 NE 20th St., Ste. B,
Bellevue, WA 98005

ACCESSORIES

NEWER TECHNOLOGY

PB1400 SERIES	
NUpower 1400 200MHZ	\$645
PB500 SERIES	
Newer NUpower 167 MHz OMB	\$653
Newer NUpower 167 MHz 8MB	899
MAXPOWER-604E	
POWERPC UPGRADE	
N 7MX 180A MAXpower 180MHZ	\$832
N 7MX 200A MAXpower 200MHZ	1015
POWERBOOK DUO DOCKING PRODUCTS	
16ice UltraDock	\$242
Color MicroDock/SCSI MicroDock	242/138

MISC

FPU	
CENTRIS FPU 25 MHz	\$189
DUO/P600 FPU 33 MHz	52
COLOR CLASSIC FPU 25 MHz	49
LCIII FPU 33 MHz	49
LC/LCII FPU 16 MHz	49
LC575 FPU 33 MHz	240

VRAM	
256K VRAM	\$15
512K VRAM	20
1MB VRAM PM72/75/8500	49
2MB VRAM PM9500	119

CACHE	
256K CACHE CARD	\$55
512K CACHE CARD	220
1MB CACHE CARD	329
256K DIMM CACHE	64
512K DIMM CACHE	139

NECESSITIES	
CONNECTIX RAM DOUBLER	\$55
CONNECTIX RAM & SPEED DOUBLER	89
KENSINGTON TURBO MOUSE	109
MAC101E KEYBOARD	95

MODEMS

GLOBAL VILLAGE	
#284346 Teleport 33.6 INET W/SW	\$179
#137391 Teleport 33.6 Speakerphone Ed	265
#137379 Powerport Platinum PC Card	349
#137380 Powerport ProPro PC Card	519

SUPRA	
#5033FX Supra 33.6 v.34 Fax Modem	\$199
#5033XP Supra 33.6 v.34 Fax Modem	149
#50334E-MC Supra 28800 V.34 S/R	173
#50335S SupraSonic 33.6 v.34 W/Voice	275
#5014XP SupraExpress 144 Plus	45

US ROBOTICS	
#USR 388579 Sportster 14400 Mod Fax	\$78
#USR 719100 Sportster 28.8 V.34 Inet Bndl	175
#USR 719119 Sportster 28.8 V.34 Voice	205
#USR 719113 Sportster V.34 PC Card	215

MEGAHERTZ	
#MHZ XIA2288 Cruise Card 28.8	\$259
#MHZ XIA3288 Cell Capable Cruise 28.8	252

Memory
CD ROM

THE LLB CO.



1-800-553-4230

Call Mac Xtra Now!

Fax • 206-746-5324

International 206-746-3803

72-Pin SIMMs

For G 605/650, 610, 650, 700, 800-840AV,
LCIII/475/630, PERI 450-550/575 / 615/6C,
PMAC 617/1100
WB80/101/110/115/118/150

4MB 70NS/60NS	- \$21/23
8MB 70NS/60NS	- 36/39
16MB 70NS/60NS	- 84/89
32MB 60NS	- 175

PC SIMMS

4MB 70NS/EDO	- 35/35
8MB 70NS/EDO	- 52/40
16MB 70NS/EDO	- 114/89
32MB 70NS/EDO	- 175/180

168-Pin DIMMs

For PM 8500, 8500, 7500, 7200

8MB	--- \$45
16MB	--- 85
32MB	--- 173
64MB	--- 350



<http://www.macextra.com>

EDO DIMMs

new!

3.3volt

for Starmax & Gateway 200

64MB	--- \$419
32MB	--- 237
16MB	--- 95
8MB	--- 59

5volt

for Power Computing
PowerBase system

32MB	--- \$202
16MB	--- 95
8MB	--- 55

PLEASE CALL US FOR ALL
YOUR MEMORY NEEDS!

Powerbook Series

PB 500 Series

4MB	- \$74	8MB	- \$79
16MB	- 142	32MB	- 220

PB 2300 Series

4MB	- \$74	8MB	- \$114
16MB	- 149	32MB	- 306
36MB	- 310		

PB DUO 190 Series

4MB	- \$60	8MB	- \$102
12MB	- 136	16MB	- 137
32MB	- 245		

PB 5300 Series

8MB	- \$78	16MB	- \$139
12MB	- 127	48MB	- 353
32MB	- 259		

PB DUO 210/230 Series

8MB	- \$89	12MB	- \$135
20MB	- 220	36MB	- 313

PB Accessories

Nupowr 200 Mhz CPU	- \$645
(Powerbook 1400)	
Nupowr 167Mhz 8MB	- 899
Nupowr 167Mhz 0MB	- 653
VST PB5300 Bat/Chrgr	- 329
Apple PB500 PC Upgr	- 1229
Int. Battery pk 140/180	- 59
Battery PB100	- 49

Modems

-GLOBAL VILLAGE-	
Teleport Plat. 28.8 V.34	--- \$63
Powerport Plat. PC Card 28.8	--- 349
Powerport Plat. PC Card Pro	--- 519
-SUPRA-	
Express 33.6 EXT V.34	--- \$149
14.4 V.32BIS	--- 69
33.6 V.34 Fax Modem	--- 199
Supraonic 28.8 V.34	--- 275
Supraonic 33.6 V.34 w/Voice	--- 275
Express 28.8 EXT V.34	--- 149
-MOTOROLA-	
ISDN Bitsurfer Pro	--- \$365
-US ROBOTICS-	
28.8 V.34 Internet Bundle	--- \$175
28.8 Sportster Ext w/Voice	--- 205
28.8 Sportster V.34PC card	--- 215

Media

-IOMEGA-	
ZIP 100 Single	--- \$19
ZIP 100 5-Pack	--- 49.50
ZIP 100 10-Pack	--- 139
JAZ 540MB Single	--- 69
JAZ 540MB 5-Pack	--- 294
JAZ 1GB Single	--- 123
JAZ 1GB 5-Pack	--- 479
-SYQUEST-	
EZ FLYER 230MB Cart.	--- \$29.50
5YJET 1.3GB Cart.	--- 108
5YJET 1.3GB 3/1K Cart.	--- 278
5YJET 1.3GB 5-PK Cart.	--- 482
-SONY-	
MO 128MB 3-Pack	--- \$44
128MB Format 3-Pack	--- 50
MO 230MB 3-Pack	--- 55
230MB Format 3-Pack	--- 60
DD5 4MM 2GB Data	--- 8
DD5 4MM 4GB Data	--- 23
-VERBATIM-	
128MB 3.5 MO Disk	--- \$18
230MB MO Disk	--- 20
600MB/512K MO Disk	--- 51
650MB/1024K MO Disk	--- 51
1.2GB/512K MO Disk	--- 60
1.3GB/1024K MO Disk	--- 60
DATA 4MM DC 197 FT	--- 6.50
DATA 4MM DC 295 FT	--- 7.50
DATA 8MM DC 367 FT	--- 6.50

FPU's

FPU'S/MATH/COPROCESSOR	
CENTRIS FPU 25MHZ	--- \$186
FPU 33MHZ DUO/P600	--- 51
FPU Color Classic 16MHZ	--- 48
LC575 33MHZ FPU	--- 238
LC FPU 16MHZ	--- 49
LCIII FPU 16MHZ	--- 49
-VRAM-	
256K 80NS V RAM	--- \$15
512K VRAM	--- 20
1MB V RAM (DIMM)	--- 48
2MB V RAM (DIMM)	--- 119
-CACHE-	
256K Cache 617/1100	--- \$55
256K DIMM Cache	--- 64
512K DIMM Cache	--- 139

Drives

-APPLE DRIVES-	
1.2GB Drive	--- \$399
2GB/4GB Drive	--- 450/1089
-QUANTUM-	
1.2GB Int/Ext Drives	--- \$525/589
2.1GB Int/Ext Drives	--- 589/479
4.3GB Int Drive	--- 1127
4.3GB Ext Drive	--- 1225
-NEC-	
6XE Multi-spin CD Drive	--- \$369
4XC 7-CHR CD-Rom Drive	--- 359
4X 4Y Int. CD-Rom Drive	--- 176
-IOMEGA-	
Zip 100 Drive w/Ctg.	--- \$199
Jaz 1GB Drive w/Cart.	--- 499
-SYQUEST-	
EZ FLYER 230 Drive	--- \$295
5YJET 1.3GB Drive	--- 495

Mac Xtra

Prices subject to change without notice.
Office Hours: MT, 7am to 6pm; Sat., 9am to 4pm

Overnight Del. \$7.50 and UPS ground #8 & up
Returns subject to approval & restocking fee
We accept P.O.'s from fortune 500 & educational institutions

Mac Xtra • 1075 Bellevue Way NE, Ste. 114,
Bellevue, WA 98004
Phone (206) 746-3803 • Fax (206) 746-5324



NEW MEMORY NOW ON SALE!

DIMMs	8mb	\$ 40
	16mb	\$ 70
	32mb	\$ 155
	64mb	\$ 325

SIMMs	72 PIN	4mb	\$ 22
		8mb	\$ 32
		16mb	\$ 72
		32mb	\$ 152

SIMMs	30 PIN	1mb	\$ 15
		2mb	\$ 18
		4mb	\$ 28
		16mb	\$ 99

PBOOK	500/5300	16mb	\$ 135
		24mb	\$ 210
		32mb	\$ 265

We'll do our best to beat any price. All prices are subject to change. Limited to stock on hand.

1416 Wilshire Bl., Santa Monica, CA 90403
 TEL: (310) 394-0001 FAX: (310) 394-7744
 visit our web site! <http://www.macsolutions.com>



(800) 809-3289

WE BUY & SELL MACS. University & School P.O.'s welcome. No CC surcharges!
 CIRCLE 410 ON READER SERVICE CARD

MEMORY

LIFETIME GUARANTEE

PC & Mac Memory in stock at Lowest Prices



University, Government & Corporate P.O.s with Approved Credit

- SIMMs
- DIMMs
- SIPs
- DIPs
- ZIPs
- VRAM
- CACHE

CPU's
 PowerBook Memory
 Printer Memory
 EDO Memory

DMS

Data Memory Systems, Inc.
 24 Keewaydin Dr. Salem, NH 03079
 Tel: 603-898-7750 / Fax 603-898-6585
 Web Site: www.datamem.com/datamem
 Email: datamem@aol.com



800-662-7466

Memory Upgrade Specialists Since 1987

CIRCLE 447 ON READER SERVICE CARD

M E M O R Y

30Pin SIMM 2k 60/70ns
1MB.....\$13
2MB.....\$22
4MB.....\$29
16MB.....\$139

POWERBOOK RAM
500/5300/190/2300
4 MB.....\$ 59
8 MB.....\$ 89
16 MB.....\$ 139
32 MB.....\$ 269
48 MB.....\$ 399

L2 CACHE
256k - 61/71/81XX...\$25
256k - 72/75/85XX...\$49
256k - 54/64XX...\$99
512k - 72/75/85XX...\$99

VRAM
1MB DIMM7X/8X/9X.\$29
256k SIMM 61/71/81...\$15
512k SIMM 61/71/81...\$25

L I F E T I M E W A R R A N T Y

SIMM 2k•72pin 60ns	DIMM 2k•168pin 60ns
4 MB.....\$19	8 MB.....\$39
8 MB.....\$35	16 MB.....\$79
16 MB.....\$75	32 MB.....\$159
32 MB.....\$145	64 MB.....\$319

CALL OR LOG ON FOR LATEST PRICING!



HIGHEST QUALITY!

800/900-4599

Voice 954/725-9777 • Fax 954/725-9977



<http://www.sourcecomp.com>



30 DAY MONEY BACK GUARANTEE

EXPERT TECHNICAL ASSISTANCE

SAME DAY SHIPPING BY 5 PM EST

GOVT & EDUC NET POs WELCOME

NO CREDIT CARD SURCHARGES

ORDER 24 HRS ONLINE/TELEPHONE

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

WE WILL BEAT ANY PRICE!

CIRCLE 409 ON READER SERVICE CARD

Memory & Upgrades

Services Digital Production • Data Recovery

Macworld

SHOPPER

MEMORY

<http://www.memory-tech.com>
Complete pricelist on our WebSite!

DIMMS		SIMMS		POWERBOOK			
16Mb \$78	32Mb \$169	16Mb \$89	32Mb \$165	16Mb \$132	32Mb \$225	48Mb \$385	8Mb \$79
64Mb \$309		64Mb \$398		16Mb \$150	24Mb \$185		16Mb \$135
EDO DIMMS				16Mb \$132	24Mb \$205	32Mb \$255	48Mb \$385
16Mb \$115	32Mb \$205	64Mb \$405		16Mb \$135	32Mb \$255	48Mb \$385	

Prices may change due to memory market fluctuations.
Austin • Texas Email: info@memory-tech.com
Local: 512/451-2600 Fax: 512/451-3323

800-950-8411

WE SHIP WORLDWIDE!
MasterCard, VISA, American Express and Corporate AmEx. Purchasing card accepted.
All memory new with lifetime warranty. All returns subject to 15% restocking fee.

CIRCLE 445 ON READER SERVICE CARD

DIGITAL IMAGING

Slides & Negatives \$3.75
4x5 chromes/negs \$30
Large Posters & Displays
Scanning High & Low Res
Photo CD Scans & LVT Output
Short Run 1200 dpi Color Output
Quantity Prints, Slides, Overheads

Show & Tell 39 W 38th St., NY, NY 10018
212 840 2912 • 212 840 7953 (fax)

CIRCLE 550 ON READER SERVICE CARD

SLIDES \$2.75

FIERY \$4.75

an introductory offer!
PC & MAC, 35mm SLIDES & DUPES,
SCANS, OVERHEADS, COLOR PRINTS

NEXT WAVE PRODUCTIONS
MULTIMEDIA PRESENTATIONS AND ONLINE SERVICES
134 TENTH AVENUE NEW YORK, NY 10011-4727

call 212 989 2727, 800 445 9002
www.NextwaveProd.com

CIRCLE 488 ON READER SERVICE CARD

RAM

SIMMS & DIMMS
• LIFETIME WARRANTY •
POWERBOOK MEMORY INCLUDING PB 1400
THE FINEST QUALITY WITH THE BEST PRICE!
MONITORS • SOFTWARE
MODEMS • PRINTERS
ALL STORAGE DEVICES

1.800.844.8356
FIBER CANYON
<http://www.myhomepage.net/~fiber canyon>

CIRCLE 416 ON READER SERVICE CARD

"A Macworld never goes by without me checking to compare prices. I always look to see if what I need is there."
—Owner, Computer Consultants

Macworld SHOPPER

Data Recovery in hours.

- Over 10 years of experience with clients worldwide including Apple, NASA, HP, and FedEx.
- We've recovered more than half-a-million megabytes of Mac Data alone.
- You only pay when there's a recovery.
- Express One-Day Service is available.
- Call 24 hours a day.

415-496-5556 • FAX 415-495-5553 • RESTRICTIONS MAY APPLY
381 Clementina Street • San Francisco, California 94103

LAZARUS DATA RECOVERY
Working at the speed of business.
800-341-DATA

CIRCLE 427 ON READER SERVICE CARD

WHEN YOU ABSOLUTELY POSITIVELY HAVE TO GET YOUR DATA BACK...

MICRO COM™
OVER 15 YEARS OF EXCELLENCE

800 469-2549
19011 Ventura Blvd. Tarzana, CA 91356 818 881-7417 • 818 881-8015 Fax

*Recovered water damaged drive

CIRCLE 422 ON READER SERVICE CARD

ONTRACK DATA RECOVERY

The World Leader in Professional Data Recovery Services!

- Mac Specialists
- Any Media
- All Operating Systems
- Emergency Services

Mention this ad for a FREE diagnostic evaluation!

Ontrack DATA RECOVERY
Mpls • LA • DC • London • Tokyo • Stuttgart
1-800-872-2599
www.ontrack.com
©1996 Ontrack Data Recovery, Inc.
CIRCLE 459 ON READER SERVICE CARD

Fiery DocuColor Copies Overnight!

Digital color originals from your files. Send FTP or Priority Air Express to Imagers and get the completed job the next morning. Get quality color and technical support!
As low as \$.50 per original

IMAGERS® Digital Production Center
800-672-7032
404-351-5800
www.imagers.com
1575 Northside Dr. Suite 490 Atlanta 30318
CIRCLE 456 ON READER SERVICE CARD

PROFESSIONAL DATA RECOVERY SERVICES.

Hard Drives, Floppy Drives, Syquest, EZ-135, ZIP, JAZ, Optical & Bernoulli.

TOTAL RECALL™
THE DATA RECOVERY COMPANY™

800 743-0594 VISIT US AT... www.recallusa.com
2462 WAYNOKA ROAD • COLO. SPRINGS, CO 80915 • TEL (719) 360-1616 • FAX (719) 380 7022
CIRCLE 458 ON READER SERVICE CARD

SCANNING SERVICES Overnight!

Kodak PHOTO CD SERVICE PROVIDER
Pro/\$8 • 35mm Master/\$9.00

IMAGERS® Digital Production Center
800-672-7032
404-351-5800
www.imagers.com
1575 Northside Dr. Suite 490 Atlanta 30318
CIRCLE 500 ON READER SERVICE CARD

DESKTOP OUTPUT SERVICES

50% OFF
YOUR FIRST JOB

MAC & PC FILES ACCEPTED

- Linotronic output up to 3386 dpi
- Dye-Sublimation ■ Wax Thermal
- Color Laser Prints/Copies
- Big Color Posters

Celebrating 10 years of offering the highest quality, fastest turnaround and lowest prices.

SPECTRUM ARTS, LTD.

7455 New Ridge Rd., Suite E Hanover, MD 21076

800-788-1357 410-691-7715 301-621-1181

www.spectrumarts.com

CIRCLE 465 ON READER SERVICE CARD

MAC REPAIR & UPGRADE

24 HOUR SERVICE TURNAROUND • LONGER WARRANTY
FREE DIAGNOSTIC • COMPETITIVE PRICE



DT & T
MACINTOSH
SERVICES, INC.

- * Specialize in component repairs:
 - Power Mac • Power Book • Logic boards
- * Advance Exchanges

800-622-7977

720 East Evelyn Ave., Sunnyvale, CA 94086 • Tel: 408-720-9899 • Fax: 408-720-9459
<http://www.dttservice.com>

CIRCLE 504 ON READER SERVICE CARD

Postscript Slides Overnight!

Send PC/Mac files FTP or Priority Air Express to Imagers and receive the completed slides the next morning for \$4.95 each. Economy slides at \$3.00 each in 48+ hours. Call Today!

Great Value!

\$3.00
Slides Only

Quality Guaranteed

IMAGERS
Digital Production Center

800-672-7032

404-351-5800

www.imagers.com

1575 Northside Dr. Suite 490 Atlanta 30318

CIRCLE 503 ON READER SERVICE CARD

Big Color Posters Overnight!

Send PC/Mac files FTP or Priority Air Express to Imagers and receive the completed posters the next morning. \$84 for 36 x 48 on our Lasermaster Pro Ink Jet. \$189 for 54 x 72 Express.



IMAGERS
Digital Production Center

800-672-7032

404-351-5800

www.imagers.com

1575 Northside Dr. Suite 490 Atlanta 30318

CIRCLE 502 ON READER SERVICE CARD

Data Recovery and Assistance:

800 440-1904



DriveSavers' advanced, proprietary techniques and amazing success stories have been featured on CNN, C-Net, and NextStep, and appeared in *The Los Angeles Times*, *MacUser*, and *Nation's Business* (to name just a few). That's because, since 1985, businesses and individuals have trusted us to recover data others said was lost forever. Just give us a call. We can save it!

Visit us at: www.drivesavers.com

400 BEL MARIN KEYS BL., NOVATO, CA 94949, PHONE: 415-382-2000, FAX: 415-883-0780

CIRCLE 510 ON READER SERVICE CARD

MAC REPAIR

Mac Shop Northwest

- Apple™ Certified Technicians
- One-Day Service Turnaround*
- Hard Disk Repair & Data Recovery
- Up to 75% below Dealer Rates
- Component-Level Repairs
- Expert Advice and Prices by Phone
- Power Supplies & Logic Boards*
- Lifetime Repair Warranty*

Tel: 1-503-642-3456
*on many repairs. Visa/MC/AX. Fast overnight shipping available. We use genuine Apple™ parts.



1-800-MAC-SHOP

CIRCLE 515 ON READER SERVICE CARD

Shopping for a Mac product on the Web?

Use the **Web Shopper** at **Macworld ONLINE**

www.macworld.com

Discover a new way to shop! Find exciting offers and more at the **Web Shopper** on Macworld Online — **The Essential Macintosh Website.**



Buyer's Guide



Contact your Macworld sales representative for more details on advertising online.

(800) 888-8622

www.macworld.com/buyers/guide

DIRECTORY

Macworld DIRECTORY

ACCOUNTING SOFTWARE

COMPLETE BUSINESS SOLUTIONS

One-stop shop for hardware, software, financing and services for any size business. Our accounting programs range from basic to sophisticated multi-user systems plus Point of Sale, Inventory, Invoicing and Payroll packages. Call for a catalog or e-mail us at info@maxworld.com.

MAX COMPUTERS • (800) 656-6299

1506 25th Street, San Francisco, CA 94107
<http://www.maxworld.com/> • Fax (415) 695-0257

CIRCLE 565 ON READER SERVICE CARD

COMPUTER TRAINING

Video Training for MACS

Clearly explained, easy-to-follow 4-tape set shows how to use your Mac more productively. Covers the Mac OS, word-process, spreadsheets, file-management tips, much more! 400 minutes of expert training for only \$89.95.

Visa/MasterCard. 30-Day Money Back Guarantee.

SCRIBBLERS MEDIA, INC.

1775 N. State Street • Girard, OH 44420
(800) 860-2324 (24hrs) • www.scribblers.com

CIRCLE 576 ON READER SERVICE CARD

GENEALOGY SOFTWARE

REUNION®

The family tree software rated best by Macworld (6/95), MacUser (1/96), MacHome Journal (4/95). Create large wall charts, perfect for family reunions! To order call MacWarehouse (800)255-6227. Free demo on CIS, AOL (keyword: roots) and our Web site: <http://www.LeisterPro.com>.

LEISTER PRODUCTIONS

P.O. Box 289 Mechanicsburg, PA 17055
tel: (717)697-1378 • e-mail: info@LeisterPro.com

RELIGION

Bible Study on Disk or CD-Rom

Verse Search provides more features and study tools than any other Macintosh Bible study product. We have been providing quality Bible software since 1981 and we continue to improve and expand our product line.

If you would like to increase your productivity when studying the Bible and creating your lesson plans or sermons, Verse Search is a must! Using Verse Search, and its add-on products, you can find the Bible verses, commentary or dictionary information you want, then paste them directly into your lesson plan or sermon.

Call for a free catalog or visit our web page.

<http://www.brs-inc.com/bible>

BIBLE RESEARCH SYSTEMS

2013 Wells Branch Pkwy. #304, Austin, TX 78728
(800) 423-1228 (512) 251-7541

ADVERTISE IN THE DIRECTORY

Advertise in the Directory!

Make sure you're part of the resource directory that reaches further than any other directory, delivery 625,000 targeted active buyers! All this at a very low cost!

For more information on advertising,
call 800/888-8622

COLOR POSTCARDS

500 4"x6" color Postcards for \$95!

Effective, inexpensive way to promote your business. Great for product and upgrade announcements. Printed on high-quality stock using state-of-the art printing technology. Your order will be ready in 2 weeks.

PAPER CHASE PRINTING

7176 Sunset Blvd., Los Angeles, CA 90046
800-36Paper • fax: 213-874-6583 • chasepaper@aol.com

CIRCLE 574 ON READER SERVICE CARD

DRIVE SALES & REPAIRS

FLOPPY DRIVE REPAIR & SALES

Mac 3.5" 400k, 800k & 1.44 MEG \$40.00
Advanced Exchange \$50.00 to \$85.00
New & Refurbished Drives CALL
Price includes most parts, cleaning & alignment. 1yr warranty on repair, 2yrs on new drives. Schools + Gov't. PO's accepted. Expert Data Recovery.

UPTIME COMPUTER SUPPORT SERVICES

<http://www.scvnet.com/~uptime>
Valencia, California 805-254-3384 Fax 805-254-1950

CIRCLE 571 ON READER SERVICE CARD

POWERBOOK BATTERIES & RAM

Your Best Battery & RAM Source!

From PB 100 to 5300, Erudite has what you need to stay mobile...at prices that won't slow you down. We feature power products from BTI, Absolute, Xtend, memory from Viking, Southland — all new & backed by warranty. Call or e-mail for your best price! Visa/MC/Amex/Discover Accepted.

ERUDITE PRODUCTS CORP.

409 Grand Ave., Englewood, NJ 07631 800-310-8505
E-Mail: sales@EPC-Online.Com, www.epc-online.com

CIRCLE 577 ON READER SERVICE CARD

COMPUTER INSURANCE

INSURES YOUR MAC

The Computerowners™ insurance policy repairs or replaces hardware, media and purchased software. \$49 a year covers up to \$2,000 of equipment against theft, fire, accidents, power surge, natural disasters and more! \$50 deductible. Call for immediate coverage or information. 1-800-800-1492.

SAFWARE, The Insurance Agency, Inc.

5760 N. High Street, PO Box 656
Columbus, Ohio 43085

CIRCLE 569 ON READER SERVICE CARD

GENEALOGY SOFTWARE

Family Heritage File™

Most powerful and easy genealogy program. Rated "BEST" by Macworld. Designed by genealogy professionals • Graphic Pedigree, Descendants, Families, Individuals, Marriages, Surnames • Unlimited Info/Individual • Export • GEDCOM • Jewish/LDS features. Demo \$7. Free Lit. Pak.

STAR-COM MICROSYSTEMS

Order Direct • Visa/MC OK • 801-225-1480
Windsor Park E., 25 W. 1480 N., Orem, UT 84057

VIDEO ADAPTERS

VGA TO THE MACS!

MacVGA (new low price) \$9.95
MacVDD (universal, 4 switches) \$14.95
ResFly (resolutions on the fly) \$14.95
MSD/PC (reverse MacVGA) \$9.95
VGA Switcher (share a monitor) \$49.95

MACADAPT

Visa/MC/AmEx/Disc • 510-525-0789 • fax:525-5740
zjames@macadapt.com • <http://www.macadapt.com>

CIRCLE 593 ON READER SERVICE CARD

Shopping for a Mac product on the Web?

Use the Web Shopper at

Macworld ONLINE

Discover a new way to shop! Find exciting offers and more at the **Web Shopper** on Macworld Online — **The Essential Macintosh Website.**

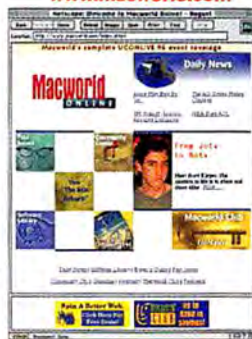


Contact your Macworld sales representative for more details on advertising online.

(800) 888-8622

www.macworld.com/buyers/guide

www.macworld.com



continued from page 226

Web. Hey, is there some Yahoo Web listing that I don't know about?

Only one OS per computer, please. Exactly what kind of computers run Jurassic Park? (1) The hacker says they're "Thinking Machines supercomputers." (2) The CPU cases are labeled Quadra 700. (3) When the system reboots, we see white lettering on a blank, dark screen saying "system ready"—ah, so it's DOS! (4) Yet the 12-year-old brainiac girl says, "It's a Unix system! I know this!"

So which is it? Despite all the contradictory clues, the actual desktop gives it away: they're Macs, complete with Chicago font, Trash, and QuickTime movies. (I love the QuickTime movies: you can see their scroll bars moving as they play, even though they're supposed to be live security-camera video!)

If you can copy a disk once, you can copy it again. Among technothriller plots, a favorite is the one I call "Chase That Disk!" The main character, racing against time, copies forbidden data onto a floppy or onto one of today's more fashionable mini-CDs. For the rest of the movie, the hero desperately tries to elude

the criminals who want that disk back.

So why doesn't he or she just make some copies of the disk and avoid two more hours of trying not to get blown up?

I know, I know: dumb question. I may as well ask why the villain always explains his entire scheme to James Bond before preparing to kill him.

If you're going to invent an OS, at least make it modern. In dreaming up the "advanced" operating systems featured on movie computers, Hollywood has made some funny choices. The *Eraser* OS is gray-scale only, and there's no mouse; worse, you have to type out commands and file names (like "COPY FILE 'SECRETDATA' TO DISK") instead of dragging icons. The OS in *Disclosure* is pretty cool—a spinning 3-D letter *e* tells you that e-mail has arrived—but I'll bet that Apple-Newtonesque crumple—the-e-mail-into-a-ball animation gets old fast.

The doozy, though, is *Mission: Impossible*. They're using PowerBooks, all right, but what kind of stone-age OS is running them? The typing is in all caps, white lettering against a black background. Once again, there's no mouse; you have to use cursor keys to move down the menus! For

a more futuristic but still realistic look, they should just install the shareware extension Aaron, as Jeff Goldblum does in *Independence Day*.

Funny thing, by the way: the good guys may use Macs, or they may use some phony Hollywood OS. But they never, ever save the world using Windows. Now *that* would be implausible.

The Upshot

I realize, of course, that Hollywood producers simply want to make their movies as interesting and entertaining as possible. But with only a little more effort, screenwriters could make computer plots engaging *and* plausible; even real-world computers can do amazing things.

Of course, striving for a little more realism means more work for the screenwriters, but I'm confident they can do it. After all, these are the same writers who got Tom Cruise safely off an exploding helicopter chasing a bullet train through a railroad tunnel at 160 miles per hour. **m**

Contributing editor DAVID POGUE's novel, *Hard Drive* (Ace, 1995), features a lethal virus that behaves plausibly. Nobody's yet made it into a movie.

There
are **big**
advantages
to a **small**
college.

Just ask: Ronald Reagan—40th President of the United States, Eureka College, Illinois; Paul Newman—Actor, Kenyon College, Ohio; Patricia Carbine—President, The Ms. Foundation for Education & Communication, Rosemont College, Pennsylvania; George McGovern—Former United States Senator, Dakota Wesleyan University, South Dakota; Julia Child—Television Chef/Author, Smith College, Massachusetts; Carl T. Rowan—Journalist/Former Diplomat, Oberlin College, Ohio.

Ask people who graduated from small colleges and went on to accomplish great things.

Choose a small college for the same reasons they did. High-quality education. A wide variety of majors. Small classes where you get to know your professor. Small colleges are affordable and can help with financial aid. Those are just some of the advantages!

If you're considering college, consider a small independent college. Contact: Council of Independent Colleges, One Dupont Circle, Suite 320G, Washington, D.C. 20036.

Technothrillers for Dummies

COMPUTER BASICS FOR THE PLAUSIBILITY-IMPAIRED SCREENWRITER

BACK WHEN I WAS FIVE, I watched a terrifying movie on TV called *Colossus: The Forbin Project*. It was about a supercomputer that takes over the world. I was deeply scarred by this movie; not until the Mac came along, 20 years later, could I even look at a computer without shuddering.

But today, we laugh at *Colossus*. A computer smart enough for world domination? Yeah, right. We'd be impressed at just seeing one fax from Word 6.

Yet even though we've learned all about computers in the last few decades, Hollywood hasn't. Computers are an essential plot element of every self-respecting blockbuster today—but you'd barely recognize these futuristic, magical, omnipotent machines that never freeze, crash, or need system updates. Nearly 50 percent of American households have computers today—don't the screenwriters think we know what computers are like? Cars, TVs, and microwaves appear in movies, too, but you don't see *them* talking, flying, and taking over the world.

In the interests of improving future movies' plotline credibility, here's a "Guide to Real-World Computer Behavior for the Hollywood Screenwriter."

Computers don't chirp, beep, whoosh, or chatter. Nothing screams "fake computer!" like the little futuristic noises they make in movies. In *Eraser*, *Wargames*, and *Independence Day*, on-screen messages—"Access denied," and so on—blink and beep like air-raid alarms. *Jurassic Park*, *Disclosure*, *Broken Arrow*, and *Mission: Impossible* offer noisy versions of every interface element on earth: dialog boxes appear with a whoosh, progress bars chirp as they progress, the insertion point blinks and beeps, text chatters as it spills onto the screen, menu commands clink as the cursor rolls over them, and buttons go *boop!* as they're clicked. *The Net* takes the

cake, though: Sandra Bullock's keyboard actually beeps as she *types*. In fact, in her world, anything with a screen blinks and beeps—airport flight-schedule monitors, hotel reservation systems, and hospital terminals. Poor woman!

I've never used a computer that makes all those little chirps. Heck, it might be fun; maybe someone should write a chirpy little shareware control panel called *MovieMac*. But my hunch is that our machines would be unbelievably annoying. Can you imagine trying to work in an office filled with blinking, booping computers? You'd go nuts.



You can't dial in to another computer unless it's expecting you. Movies are full of clever hackers dialing in to other computers and sneakily changing data. It isn't so bad in *Wargames*, where Matthew Broderick changes his grade this way—we see how he gets the password and telephone number. But in *Mission: Impossible*, Tom Cruise's buddy dials in to a foreign embassy's security computer—wirelessly, no less!—and edits the photograph of an employee in its files, without a password or phone number. Talk about *Mission Impossible!*

A virus is a program, not a magic spell.

Screenwriters love computer viruses as a plot device. But they forget that a virus is just software. It (or whatever program it has infected) must be *run*—double-clicked—to do its viral deeds. Sorry, Sandra, but simply shoving a floppy disk into a Mac can't unleash a virus. (You gotta love that they filmed that scene in *The Net* at a Macworld Expo, though.)

Furthermore, a virus runs only on the computer type for which it was written—like Mac, DOS, or Unix. Remember Jeff Goldblum's little masterpiece in *Independence Day*, which he writes on his Power-

Book but easily beams in to the computer of an alien spaceship? We've been told that unfortunately for the fate of humanity, these aliens have "vastly superior technology." I doubt their computers would be running any of our crude attempts at an operating system.

Of course, I could be wrong. Maybe those spaceships *were* running Windows. Never underestimate Microsoft's marketing.

The Internet isn't magic, either. There also seems to be some confusion about how the Internet works. Both *Disclosure* and *Mission: Impossible* feature impossible e-mail

addresses like *Job@34:14* and *dig.ts@rec*. Furthermore, the opening scene of *Mission: Impossible* has Netscape Navigator showing a real-time, full-screen video feed of a live TV show—on a PowerBook. Man, I gotta get me whatever kind of modem *they* were using.

And then there's *The Net*, whose plot begins dubiously when Sandra's friend Fed Exes a Web site to her on a floppy disk (say what?). Then we see the villains changing police records, grounding airplanes, and killing people in hospitals, all via the *continues on page 225*



Help



Accounts



Register



Checks



Prn Chks



Calendar



Cat



Transfer



Reconcile



Graphs



Budget



Retrieve

Document1

This Is Where...



Power HD



Apps Server



Checking: P

DATE	NUMBER	DESCRIPTION
		CATEGORY MEMO
12/12 1996		Opening Balance [Checking]
12/12 1996	1001	Rent
12/12 1996		Car Payment
12/12 1996		

Net Worth Graph

Monthly Assets, Liabilities and Net Worth

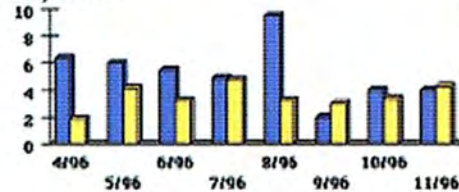
\$ in 1,000.00



Income and Expense Graph

Monthly Income and Expenses
4/1/96 - 11/30/96

\$ in 1,000.00

Net Savings and Expense Comparison
as a Percentage of Total Income

Net Sav	4.22
Interest	0.49
Rent	2.91
Auto	2.90
Clothng	3.84
Expens	
Dining	
Utilities	
Insurance	
Miscellaneous	
Other	
Total	\$42,000.00

Record

Restore



checking: Write Checks

PAY TO THE ORDER OF Bill Goins DATE 12/12/96
 \$ 750.00
 Seven hundred fifty and 00/100***** DOLLARS
 ADDRESS 804 Martin Luther King Blvd.
Smithtown, TX
78756
 MEMO Not Trout & Ries

CATEGORY Entertainment

Record

Restore



Current Balance: \$-750.00

Payee & Description

Contains

Date: All Transactions

Cancel

OK



The Ink Box



Trash

Introducing PowerBase™ from Power Computing.

180, 200, 240MHz Mac™ OS systems starting at just \$1,495.

Meet PowerBase. While your kids sleep at night, this is where you will plan their future and chart your dreams. This is where you may write the next great novel or the business plan that changes your life.

PowerBase is a powerful Mac™ system that handles Photoshop™ as easily as Kid Pix™, edits real video as easily as it runs educational software, plays the latest 3D games as easily as it surfs the internet and balances your checkbook.

MacUser magazine awarded PowerBase their coveted "five mice" rating and Macworld gave PowerBase their prestigious Editor's Choice Award easily beating out all other 603e-based systems from Apple, Motorola and Umax.

PowerBase is simply the best Mac available for home, school or small business.



Complete Internet Solution

PowerBase 180, 200, 240MHz

- Upgradeable 180MHz 603e
- 16 MB RAM (160 MB Max)
- 1.2 GB IDE Hard Drive
- 8X CD-ROM Drive
- 256K Level 2 Cache
- 2 MB Accelerated Video (4 MB Max)
- Built-in 3D Video Acceleration
- 3 PCI Expansion Slots
- 14" Color Monitor
- Global Village Platinum 28.8 Modem
- Apple Internet Software Kit
- Extended Keyboard and Mouse
- External Labtec Speaker Set
- \$1,000 in Bundled Software

\$1955 200MHz Just \$2255
240MHz Just \$2655

Complete Home Office Bundle

PowerBase 180, 200, 240MHz

- Upgradeable 180MHz 603e
- 32 MB RAM (160 MB Max)
- 1.2 GB IDE Hard Drive
- 8X CD-ROM Drive
- 256K Level 2 Cache
- 2 MB Accelerated Video (4 MB Max)
- Built-in 3D Video Acceleration
- 3 PCI Expansion Slots
- Power 15" Multimedia Display (vis.13.7)
- Microsoft Office 4.2.1 Bundle
- Intuit's Quicken Special Edition
- Extended Keyboard and Mouse
- External Labtec Speaker Set
- \$1,000 in Bundled Software

\$2265 200MHz Just \$2565
240MHz Just \$2965

Complete Multimedia/Video Editing System

PowerBase 180, 200, 240MHz

- Upgradeable 180MHz 603e
- 24 MB RAM (160 MB Max)
- 2 GB AV Compatible SCSI Hard Drive
- 8X CD-ROM Drive
- 256K Level 2 Cache
- 2 MB Accelerated Video (4 MB Max)
- Built-in 3D Video Acceleration
- 3 PCI Expansion Slots
- Power 15" Multimedia Display (vis.13.7)
- Digital Video Full Screen Video In/Out
- Adobe Photoshop/Premier LE Software
- Extended Keyboard and Mouse
- External Labtec Speaker Set
- \$1,000 in Bundled Software

\$2845 200MHz Just \$3145
240MHz Just \$3545

To order, contact a Power Computing Consultant
at 1-800-410-7693

Circle 161 on reader service card



PowerBase Features:

- Upgradeable CPU
- Exclusive 2D/3D Rage™ Video
- 2MB VRAM (Millions Colors on 17")
- 8x CD-ROM
- \$1,000 in Bundled Software
- PS/2 Mouse & Keyboard Support
- Only "Five Mice" Rated 603e System



Some things change.



Some things never do.



Ten years ago, Turbo Mouse turned the world of mouse technology upside down.

We put the ball on top, not on the bottom. So you move only the ball, not the entire mouse.

Over the years, the design has changed. Our latest version, Turbo Mouse 5.0, features a sleek new shape, time-saving MouseWorks Software, ultra-smooth

movement, and an advanced four-button design.

What hasn't changed is Kensington's tradition of quality. Quality that has made us the first choice of both editors and users alike. *In fact, Turbo Mouse has won more awards than any Macintosh input device in history.*

How did Turbo Mouse stay number one all these years? By knowing what to change. And knowing what not to.

MacWAREHOUSE

1-800-255-6227



1-800-222-2808

KENSINGTON

www.kensington.com



1-800-258-2088

PCeConnection

1-800-986-2259

MouseWorks is a trademark and Turbo Mouse and Kensington are registered trademarks of Kensington Microware Limited. All other trademarks are the property of their respective owners. © 1997 Kensington Microware Limited. 1/97

Circle 1 on reader service card