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Features

Cover Story
66 The Macworld Web Traveler's Companion
BY SHELLY BRISBIN All plugged in with too many places to go? Streamline your online excursions with Macworld's guide to the best the Web has to offer. Plus: the best browser, search tips, and utilities every traveler should have.

LAB TEST
74 Put Your Files in the Fast Lane
BY BRUCE FRASER Fasten your seat belts! Which server operating system is the swiftest for the way you work? Macworld Lab put Mac OS, Windows NT, and Unix to the test to see which gives your files the fastest ride.

80 The Beauty of the Beast
BY STEPHAN SOMOGYI The power of Unix can be yours on the Mac today—but it's not for everyone. See how Linux and Mac OS X can bring speed and stability to a Mac near you.

Create

Motion
93 Presenting with HTML
BY JIM HEID Use the language of the Web to make truly portable presentations.

Web
97 Dynamic HTML without Tears
BY TOM NERINO Create groovy DHTML effects—but avoid learning a new dialect.

Print
103 Extend QuarkXPress
BY DAVID BLATNER Learn why QuarkXPress is built for companionship, and which are its choicest X'Tensions.
Reviews

32 ★★★★★ Power Macintosh G3/300;
33 ★★★★★ Power Macintosh G3/350;
33 ★★★★★ Power Macintosh G3/350 DVD;
33 ★★★★★ Power Macintosh G3/400

Professional systems

34 ★★★★★ Macromedia Director 7
Multimedia authoring suite

36 ★★★★½ Dreamweaver 2
Web-page design tool

41 ★★★★½ SurfJet Agent 1.0;
41 ★★★★½ Web Buddy 2.0;
41 ★★★★½ WebWhacker 3.0
Offline Web tools

42 ★★★★★ Shadow Filter 1.12;
42 ★★★★★ Three-D Luxe Filter 3.0;
42 ★★★★★ VariFocus Filter 1.1
Photoshop plug-ins

44 ★★★★★ Extensis Intellihance Pro 4.0
Image-correction Photoshop plug-ins

46 ★★★★★ DiskWarrior 1.0
Disk-repair utility

46 ★★★★★ Hard Disk ToolKit 3.0.1
Disk-drive utility

48 ★★★½ Ipix Pro;
48 ★★★★★ PanoTouch 1.01;
48 ★★★★★ VR ObjectWorx 1.01;
48 ★★★★★ VR PanoWorx 1.01;
48 ★★★★★ VR SceneWorx 1.0
QuickTime VR tools

51 ★★★★★ Stuff-It Deluxe 5.0.2
File-compression utility

53 ★★★★½ Boris AE 2.0;
53 ★★★★★ CineMotion 1.0 for After Effects
After Effects plug-ins

54 ★★★★½ Font Reserve 2.0
Font-management software

55 ★★★½ Consultant 2.5.3
PIM for Palm organizers

56 ★★★★★ Iomega Zip 250
Removable-media drive

58 ★★★★★ ComuniGate 3.01
Integrated mail-server system

60 ★★★★½ Monsoon MM-1000 Speakers
Multimedia speakers

62 ★★★★½ Myth II: Soulblighter
Adventure strategy game

www.macworld.com April 1999 3

Opinion

17 Letters

23 The Vision Thing
BY ANDREW GORE What lurks in the dark shadows of e-commerce?

164 The Desktop Critic
BY DAVID POGUE The unvarnished truth about cable modems.

10 How to Contact Macworld

Secrets

87 URL Magic Tricks
BY JOSEPH SCHORR Wrangle and reorganize unruly URLs.

89 Quick Tips
BY LON POOLE Tips, tricks, and shortcuts.

Underused QuickTime animation goodies finally get their day in the sun, page 28.

Bigger, faster, better the new Iomega Zip 250, page 56.

News

27 NetBoot Your Mac
Apple’s new Mac OS X Server opens up the door to network computing.

28 QuickTime Sprites Finally Take Flight
New animation programs take advantage of interactive features in QuickTime 3.

28 Packin’ In the Pixels
Epson unveils the high-resolution Expression 800 flatbed scanner.

29 Product Watch
The latest products for your Mac, including a slide scanner from Polaroid and 3-D-modeling software from auto-des-sys.

30 Building for the Forbidden Interface
Micro Conversions and Formac offer expansion cards for the iMac’s off-limits mezzanine port.
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On the Road

IN HIS ESSENTIAL EXTRAS FOR THE
PowerBook G3 ("Road Gear," January 1999), Stephan Somogyi noted that
unless you own the PowerBook G3/300, you'll need to get the DVD-Video Kit
from Apple.

I've had an order in for a DVD-Video Kit since July 1998. My local Apple deal­
er has received zero kits. I've been round and round with Apple's customer rela­
tions, all to no avail. The bottom line is, if you already have your PowerBook , forget
about getting a DVD-Video Kit. You'd be better off returning your existing machine
and purchasing new, because the only way you are going to get the kit is to buy one
of the high-end machines that includes it.

Christopher Rants
 Sioux City, Iowa

I N "ROAD GEAR," YOU MENTION THE
wireless modem service of Metricom's Ricochet but miss the best part. Rico­
chet works in many airports, in addition to the areas it officially covers. By staying
at a hotel close to an airport, I always have access to the Net without any
hassles. I used to run an ISP, and I know—Ricochet is a very good ISP.

Mark Shapiro
San Jose, California

RICOCHET DOES WORK IN SEVERAL AIRPORTS. FOR A FULL
list of coverage areas, go to www.ricochet.net
/coverage/citylist.html.—Ed.

PowerBook Blues

I FOUND MANY OF THE TIPS IN
David Pogue's "Survival Skills" very interesting (January 1999). At one point
he says there is never any need to shut
down the PowerBook between routine uses. While this is theoretically true, I
have discovered some problems with the sleep feature. Often, when the Power­
Book is reawakened for the second or third time, I run into memory problems,
slower processing, more frequent freeze­ups, and control-strip malfunctions. Over­
all, the PowerBook G3 has not met my expectations for performance and often
does not meet my modest needs.

John Victor
Bloomsfield Hills, Michigan

Share More

SERIOUS SHAREWARE® ONLY SERVES
as a reminder that Macworld should regularly cover shareware, since it is such
an important part of the Macintosh experience (January 1999). I suggest that you
make shareware coverage a monthly fea­
ture. I am sure every reader will be disapp­
pointed that some favorite item was not
covered (although previous issues have
mentioned many shareware applications
and utilities in passing). Outside such indis­

pensable interface enhancements as Finder­
Pop, GoMac, Kaleidoscope, and Window
Monkey, my favorite is the PIM Consul­
tant, which is so sophisticated it could easily
be marketed as a commercial product.

Dana Sutton
Corona, California

We love shareware and agree that it is worthy of
as much coverage as it can get. However, until
someone finds a way to download shareware by
clicking on paper, the Internet is still the ideal
medium for shareware coverage. -> That is why
we maintain the www.macdownload.com site
(through ZDNet), which is loaded with reviews
of shareware products.—Philip Dyer

Making the Grade

I READ DEKE MCCLELLAND'S REVIEW
of Illustrator 8 (Reviews, January 1999)
and was surprised to see in the summary,
"Cons: Gradient Mesh tool is more sizzle
than substance." Maybe it needs more
control, but I think it is the best tool I
have ever seen in 2-D design. What it can
do is very impressive and high-quality.

Berry Farah
Montreal, Quebec, Canada

NUM-ing Upgrade

I COMPLIMENT STEPHAN SOMOGYI
on his review of Norton Utilities for
Macintosh 4.0 (Reviews, January 1999). It
was thorough, fair, and deservedly critical.

I've relied upon Norton's software since
continues
My first Mac purchase five years ago, and I have always found it strong and reliable.

But that changed with my upgrade to version 4.0. Merely opening the program freezes or crashes my PowerBook 1400. Norton hasn’t been able to suggest how to get the program to even run. Somogyi hit the nail on the head in stating that this release was not yet ready for sale.

Terence A. Tungseth
Los Angeles, California

Into Intuos

Deke McClelland’s review of the Wacom Intuos (Reviews, January 1999) described its innovative new axial rotation, simultaneous multiple pointing devices, tool memory, zoom, combination buttons, and ergonomic design (am I forgetting anything?), then marked it down because current software doesn’t yet support all of its newest features and its driver isn’t compatible with older tablets. This is like docking Sherlock because most Web sites’ search engines don’t support it. Come on! All other reviews of the Intuos I’ve read give it excellent marks.

Gagan Boparai
Pittsburgh, Pennsylvania

The Missing Link

As Christopher Breen noted, MacLinkPlus Deluxe has room for improvement (Reviews, January 1998). If MacLinkPlus Deluxe wasn’t like the opposite sex (can’t live with it, can’t live without it), it would be easier to take. When is someone who understands Macs going to work for DataViz? Apart from the problems Breen pointed out, there are several others, ranging from annoyances to serious problems. For instance, AppleWorks 3 isn’t supported, and the program crashes regularly on Word files. I’m thinking of divorcing version 10 and going back to my old flame—version 9.7.

David Growe
via the Internet

Remember the Faithful

Why is there no serious coverage of high-end programs such as Newtek’s Lightwave 3D? I appreciate David Biedny’s fondness for Electric-Image Animation System 2.8 (Reviews, January 1999), but that is not the only high-end 3-D program on the Mac!

In general, Macworld doesn’t seem to bother with high-end applications. The iMac is here—we know already. I understand that you want to pick up all the new members of the Apple family, but you must remember who else is reading your magazine. A lot of us are trying to push the envelope a little, and we would like to stay on the Mac platform.

Scott Davis
New York, New York

Game Options

Philip Dyer forgot one other low-cost option for playing PC games—the low-end PC (The Game Room, January 1999). Especially when compared with the cost of Orange Micro’s “solutions,” you really come out ahead. Right underneath my copy of Macworld is a pile of PC ads and catalogs that have 200 MHz to 300 MHz PCs for under $600! A good PC box and an A/B monitor switch work great for my job, where I constantly encounter both platforms. We tried the Orange Micro cards and, for the money, we were sadly disappointed.

Jay Drew
Vail, Colorado

I’ve always been jealous of the variety of titles available for Windows. As Philip Dyer points out, PC emulation—using software or hardware—is slow and expensive.

There’s another, hidden problem with PC emulation: it reduces the incentive for game companies to make Macintosh versions of their games. Why hire Mac-savvy programmers and pay more production costs if the Mac users are buying the Windows versions? PC emulation is fine for translating an occasional spreadsheet, but if we use it as a long-term solution to gaming, Mac-native games will always be too little, too late, and too slow.

The Mac just isn’t a gaming platform. Why make a silk purse from a sow’s ear? Either bite the bullet and buy a full-fledged PC, or save yourself a thousand bucks and get a game console.

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*Prices additional software under Windows NT Workstation 4.0. Prices quoted are for U.S. only
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Choose 215 at www.macworld.com/getinfo
Put the 'Book Back

CANADA'S NEW NATIONAL paper, National Post, launched her 26 using Macs from end to end.

Our executive editor gave every reporter a choice: we could take either a desktop or a PowerBook.

After wrestling with the choice, almost every reporter here, including me, went with the desktop. Yes, it would be convenient to take the PowerBook home, but it would be a hassle to plug in the power cord and hook into the corporate network every day.

The desktop's full-size keyboard is still more comfortable than a portable's, and a 17-inch monitor is still a lot more screen real estate than a PowerBook offers. And while the TrackPad is a great pointing device, I've yet to find the person who prefers it to a good old-fashioned one-button mouse.

Portable computing devices, including the PowerBook, may one day free us from our desks. Here in Toronto, though, reporters of National Post, when given the chance to be free, decided to stay down on the cubicle farm.

DAVID Akin
Oakville, Ontario, Canada

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CORRECTIONS


In “Comin’ at Ya” (January 1999), the captions for Micro Conversions’ Game Wizard and ATI Technologies’ Xelair VR 3-D accelerators were reversed. Also, Tomb Raider II needs Rage II or better for RAVE to work, not Rage Pro.

In the infographic “The Lay of the Land” (“Road Gear,” January 1999), the VGA-out and S-Video-out labels on the PowerBook G3 were reversed.
We could tell you lots of nice things about CANVAS™ 6.

"Deneba's SpriteLayers technology lets you create some interesting transparency effects that would be difficult if not impossible to make in a dedicated drawing program... In the competition of the graphics titans, Canvas 6 is fighting with a unique set of weapons."

Macworld – Feb., 1999

"Canvas 6 is sure to please faithful users... Canvas continues to deliver a vast scope of graphics tools in one convenient application, and does a remarkable job of breaking down barriers between bitmap and vector graphics."

PC World Online – Dec. 28, 1998

"No program comes close to Canvas' ability to combine vector and bitted map graphics... No other program provides this level of transparency control."

Macworld – Mar., 1999

But these experts beat us to it.

"Canvas is a mature standalone graphics application that skillfully integrates its separate components, including raster-image editing, vector illustration, text layout, Web graphics production and a huge clip-art library."

Windows Magazine – Mar., 1999

"Canvas is a compelling alternative to suite-based solutions that require separate illustration and image editing programs to perform the same functions... Canvas has always performed well with technical illustrations, featuring extraordinary dimensioning capabilities and numerous precision drawing aids... The program warrants serious consideration from newcomers seeking an elegant and relatively inexpensive tool."

PC Magazine – Jan., 1999

"With its elegant interface, Canvas is a compelling alternative to suite-based solutions that require separate illustration and image editing programs to perform the same functions... Canvas has always performed well with technical illustrations, featuring extraordinary dimensioning capabilities and numerous precision drawing aids... The program warrants serious consideration from newcomers seeking an elegant and relatively inexpensive tool."

"SpriteLayer technology represents an industry breakthrough because it allows users to apply an unlimited variety of compositing effects to any type of object or group of objects... [SpriteLayer] technology is an excellent piece of programming wizardry. With it, designers can easily experiment with complex graphic ideas that would have been prohibitive or impossible in any other program... Deneba has given designers a creative tool that makes it more convenient than ever to play around with any and all of their graphic elements in one place."

Digital Design & Production – Jan./Feb., 1999

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WITH A LITTLE COMMON SENSE, YOU CAN SHOP THE WEB SAFELY

If you've ever been in midtown Manhattan, you've probably seen the Going Out of Business businesses. You know: "Lease Expired! Closing After 20 Years! Our Loss Is Your Gain!" Banners like these are spread across the windows of dozens of little shops, declaring unbelievable discounts. Of course, most of these shops have been going out of business for a decade or more. In fact, the only thing you're less likely to find in New York than a polite cabbie is a Going Out of Business business that actually has. And as for those big discounts, it's true you can save 50 percent or more—if you don't mind that the original price was double the normal retail price. These stores bank on the gullibility of casual consumers, impulse buyers, and tourists. Only in New York, right?

Caveat Emptor

As it turns out, the Internet has proved to be fertile ground for its own unique breed of hucksters. With just a little bit of pocket money, a savvy designer, and a Web server, anyone can set up an electronic storefront that looks slick, professional, and credible faster than you can say Ponzi scheme. Internet newsgroups are bulging with stories of Web merchants who have overcharged customers, not delivered products as promised, or just plain taken the money and run.

Even with the Web's honest operators it can still be hard to know if you're really getting the best deal. It's amazing how many Web sites claim to have the lowest prices for a particular item. Let's say you're trying to buy a copy of The Truman Show on DVD. First you check out Amazon.com and find your DVD in stock for $20.99—about 30 percent off the retail price. Not bad, but at VideoBuy.com it's only $14.99.

And even at that kind of price, the Web's not necessarily a bargain. None of these discount prices include shipping and handling or taxes. At VideoBuy.com and Amazon.com that's an extra $4.95. That can kill your savings in a hurry.

Of course, all this assumes that the products you want are in stock. Suppose you're ordering several DVDs, and one is on back order. You have two choices: wait several weeks for that one title to arrive, or split your order in two parts and pay separate handling charges for each.

And just because all this shopping is being done via computer, don't assume there's no opportunity for human error. I've ordered products that weeks later I was told never existed. This past Christmas I used Amazon.com to buy my mother a book about yoga for people over 50. The company shipped her a book on modern architecture, complete with festive holiday gift wrapping. To its credit, Amazon.com quickly shipped her the correct title and credited me the shipping charge. But still, imagine my mother's surprise when she unwrapped her Christmas present.

Tips for Safe CyberShopping

Now, you might think I'm down on Internet commerce. I'm not. What I am down on is the unqualified enthusiasm with which buying over the Net is being pushed these days. I believe shopping on the Web is a good thing, since it gives busy consumers another way to save time and money, but it's good only when used wisely. To help you avoid some of the pitfalls I've run into, here are five tips:

1. Size Matters For now, it's too hard to tell the good guys from the bad, so stick with the big-name sites, unless you know someone who's already had a good experience with a no-name vendor.

2. Research Go to a good newsgroup site, like DejaNews, and do a search on the name of a site. If you find 10,000 messages that start off with "Boy, these guys stink," you may want to shop elsewhere.

3. Shop Around Even among the major brands there can be a real difference in price. And don't forget to figure in the shipping charges!

4. Start Small Keep your first purchase from an unfamiliar site relatively inexpensive. This way, if you get stuck, you won't be out much money.

5. Click "No" When in doubt, just click "no." You can always come back later and pick up where you left off, hopefully with a higher comfort level.

Take these few commonsense precautions, and you increase the odds that your online buying experience will be a good one. It amazes me that while people will obsess over sending their credit-card number over the Web, they won't give a second thought to the much more likely possibility that what they order will come late, broken, or not at all.

Oh, yes, and one final tip: just like those Going Out of Business come-ons, if a deal seems too good to be true... it is.

Has Andy got a deal for you: send him your comments at visionthing@macworld.com, and he'll read them—no charge!
Happy Easter
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Don’t let your important data become Lost in Space™

When your Macintosh computer is not functioning properly, it is important that you have the right tool to find and correct the problem. And as any knowledgeable robot will tell you, one can never have too many tools when important data is at stake. TechTool Pro 2 checks and repairs more aspects of your Macintosh than any other utility available. Besides repairing and recovering damaged drives (including those with the new HFS+ format), you can also test all those other critical parts of your system that other utilities ignore like RAM, CPU, floppy drives, scanners, modems, Internet connections, CD-ROM drives and much, much more. TechTool Pro will even help your computer run faster by optimizing your disk drives.

But just because TechTool Pro is the most advanced Macintosh troubleshooting utility available doesn’t mean that it’s difficult to use. In fact, we’ve added an easy-to-use interface that makes checking and fixing your Macintosh a snap. For the advanced user, our expert mode allows you to control and configure TechTool Pro in almost any way you wish.

So if Macintosh troubles are making you feel like a bubble-headed booby, check out TechTool Pro. After all, you have the most powerful computer in the galaxy. Shouldn’t you be using the most powerful utility?
The scene during Steve Jobs's Macworld Expo keynote was impressive: a network of 49 iMacs, mounted in a grid of metal racks, each running a QuickTime movie from the same server. It was a dramatic demonstration of NetBoot, a feature in Apple's new Mac OS X Server that allows multiple Macs to be booted and configured from a single machine.

NetBoot comes close to fulfilling the dream of a network computer: cheap PCs that share applications, data files, and other resources stored on a powerful server. You don't even need a hard drive or any other local storage on your Mac. Instead, the Mac boots from a partition on the server, which you also use to store your documents and system preferences. On a fast network it should be nearly transparent: you might have to enter a password to access your files, but otherwise the Mac experience won't be much different.

Diskless iMac? Thanks to NetBoot, Apple could theoretically offer steeply discounted iMacs, sans local storage, in bundles that include Mac OS X Server. Indeed, as part of his demonstration, Jobs showed an iMac, its hard drive removed, booting from the server.

However, citing economies of scale, Apple says a diskless iMac would not be much cheaper than a standard model, and the company has made it clear that it has no intention of offering such a machine. NetBoot's main selling point, in Apple's view, is the control and convenience it offers network administrators, not cost savings made possible by stripping down a popular consumer machine.

With NetBoot, you can perform a single installation of system software and applications and make them available to any Mac on the network. NetBoot also includes system-management tools that allow you to control access to applications and other files. For example, some users on the network might have rights to all applications, while others are restricted to using Microsoft Office. Because the files reside on a server, you can use them from any Mac on the network as long as you have the correct access privileges.
Going to School  The centralized control that NetBoot permits will have particular appeal for schools, which can use the software to run a classroom full of iMacs from one Mac OS X Server. Even if schools have to pay close to retail price for the iMac clients, the server itself won’t strain most budgets: Apple charges $995 for a software-only version or $4,999 for a version bundled with a 400MHz Power Mac G3.

NetBoot, of course, is just one part of Mac OS X Server, which evolved from Apple’s Rhapsody development efforts. At the server’s core is the same Mach microkernel that will provide the basis for Mac OS X, Apple’s next-generation operating system. The server also includes the BSD 4.4 version of Unix; the Apache 1.3.3 Web server; and WebObjects 4, a development tool for large-scale dynamic Web sites. The latter represents the Macintosh debut of the Web authoring software, which was previously available only for Unix and Windows NT workstations.

Adobe Brings CyberStudio into the Fold

When Adobe Systems (408/536-6000, www.adobe.com) announced in January that it was buying GoLive Systems, maker of the popular GoLive CyberStudio Web authoring package, many industry analysts asked, “What took them so long?” But for loyal CyberStudio users, excitement about the acquisition has to be mixed with some trepidation. The deal appears to make sense. CyberStudio users tend to be professional designers and developers, the same folks who rely on such Adobe products as Photoshop, Illustrator, and ImageReady. Adobe’s only foray into HTML editing is PageMill, a consumer-level tool that has long been eclipsed by CyberStudio, Macromedia’s Dreamweaver software, and other packages.

Lessons Learned? Adobe’s track record with PageMill is raising fears among CyberStudio boosters that their favorite Web tool will get short shrift. Once the toast of the Mac Web design crowd, PageMill stalled when Adobe turned its attention to creating a Windows version. The result was a dated Mac program that couldn’t handle many of the hottest new Web innovations.

CyberStudio loyalists are understandably concerned that Adobe will again turn its attention to the Windows market and deprive Mac users of a top-notch Web design tool. There’s no doubt that Adobe will offer a Windows version of CyberStudio: GoLive was working on one even before the Adobe deal went through. Nevertheless, Adobe marketing vice president Bruce Chizen says that Adobe has learned the lesson of PageMill and recognizes the need to keep CyberStudio as a Web design counterpart to its other professional-level software packages. A cross-platform presence could even offer unexpected advantages for CyberStudio users: many Web authors who prefer CyberStudio were forced to use Macromedia’s Dreamweaver when their organizations insisted on purchasing a cross-platform tool. Adobe has not said when the program will be available on Windows.

CyberStudio’s development team in Hamburg, Germany, will continue to develop the software as Adobe employees, and GoLive CEO Andreas Politza will join Adobe as an Internet-strategy consultant—both signs that Adobe intends to exploit GoLive’s Net savvy, not crush it.

PageMill Prospects? PageMill’s future is also up in the air. Chizen and Politza say they will compare the technologies in PageMill and CyberStudio and decide whether Adobe needs a consumer-level Web design tool. Their choices? Merge the two programs, continue selling PageMill as a low-end product, or kill PageMill and offer an entry-level version of CyberStudio similar to GoLive’s current $99 CyberStudio Personal Edition.

Midrange Scanner Packs In the Pixels

IT’S NOT THE CHEAPEST FLATBED SCANNER YOU CAN BUY, but the new Expression 800, from Epson America (310/782-0770, www.epson.com), offers 36-bit, 800-dpi optical resolution for less than $1,000. Three versions are available: the $699 Executive bundle, which includes Xerox TextBridge OCR software and a limited edition of Adobe Photoshop 5.0; the $799 Artist bundle, which adds Monaco Profile Lite for scanner calibration; and the $999 Professional bundle, which further adds a transparency adapter.—MACWORLD STAFF

QuickTime Sprites Finally Take Flight

The interactive-animation features buried within QuickTime 3 will soon get their day in the sun, courtesy of new tools from Electrified (formerly Lari Software; 919/968-0701, www.electrified.com), Totally Hip Software (604/685-6525, www.totallyhip.com), and others. These programs support QuickTime’s new wired sprites—graphic elements that can perform defined actions based on user input.

Electrified  After an extended paid beta period, Elec-
trifier has finally shipped Electrifier Pro 1.0, a $595 program that lets designers integrate any QuickTime-supported media into an interactive movie. The program's long gestation has resulted in many refinements for an initial release, including a tab that provides an instant preview of your movie.

Electrifier lets you place graphic elements known as actors in a movie window. You can then assign actions to each element by dragging icons from palettes. These actions control how an actor will respond to mouse-clicks or behave over time. For example, you can attach a URL to a moving graphic, or define on/off buttons for playing an embedded QuickTime movie. Movies can incorporate the full range of QuickTime media, including QuickTime VR panoramas. A 30-day trial version is available from Electrifier's Web site.

Electrifier has already announced version 2.0 of the software. Set to ship by mid-year, it is expected to add features relevant to Apple's upcoming QuickTime 4 release. (Apple was set to unveil QuickTime 4 at the recent Macworld Expo in San Francisco but delayed the announcement for unspecified reasons. The new QuickTime will reportedly offer real-time streaming capabilities.)

**Scripted Sprites**

Totally Hip's new LiveStage software takes a different approach. Targeted at Web authors who might otherwise turn to Java, DHTML, or Flash to produce animations, LiveStage provides a QuickTime scripting language that resembles Macromedia Director's Lingo.

A LiveStage project consists of sprites driven by associated scripts. You can use expressions and variables to program complex behaviors, from simple mouse-over button effects to a complete game of Tetris or Minesweeper. It's all deliver-

ing to the user's Web browser as a single, compact QuickTime file.

Totally Hip offers a $199 developer release bundled with Web Painter 3.1, the company's Web animation program, and Apple's QuickTime 3 Pro software. The initial version will support only bitmapped vector images, System 7 sounds, and MIDI sound files. You can build wired QuickTime VR movies by setting up sprites—such as navigational controls—in LiveStage and then using QuickTime Pro to composite them with a QTVR panora-

ma. Totally Hip offers a save-disabled demo version of LiveStage on its Web site.

Although they support multiple data types, Electrifier and LiveStage rely on QuickTime's vector format to keep file sizes small. While LiveStage uses its bundled companion program, Web Painter, to generate still graphics in the vector format, Electrifier can directly import Adobe Illustrator files and convert them to the QuickTime format. Unlike bitmap graphic formats, these files are minuscule and can be smoothly enlarged to full screen.

**More Wires**

Other vendors have introduced their own tools for creating wired sprites. Deep Forest Multimedia (www.mountain-inter.net/-bmeisle/) is offering a demo version of its forthcoming WiredZone, which will sell for $99. Squamish Media Group (www.smgvr.com/msVRmain.html) has announced mapsAVR, a $99 program that lets you add sprite-driven directional indicators and navigation controls to multinode QTVR panoramas. A freeware program called Spritz (http://home.earthlink.net/~dmegavran/spritz/download.html) lets you create wired QuickTime movies that function as simple interactive elements, such as a button bar for navigating a Web site. The program requires Mac OS 8.5.

**storage**

**Media Limited for 8× CD-Rs**

**VENDORS SLOW TO OFFER DISCS CERTIFIED FOR NEW RECORDERS**

by Michael Gowan

All CDs are not created equal. If you want to take full advantage of the new 8× CD recorders from APS Technologies, Smart and Friendly, and others, you'll need 8×-certified CD-R media. As of mid-January 1999, only a handful of media vendors were offering certified discs, but most of the leading players plan to offer 8× media in the near future.

**Sensitive Layers**

A recordable CD is constructed of multiple layers, including dye and polycarbonate strata. Because it records at such a high speed, an 8× mechanism requires a dye continues
that marks easily and a poly-carbonate layer with clearly defined ridges. You can burn 4X CD-Rs in an 8X drive, but only at the lower speed.

Fortunately, you probably won’t have to pay a premium for the higher-speed discs. APS Technologies (800/862-6831, www.apstech.com) and Smart and Friendly (818/772-8001, www.smartandfriendly.com), which sell CD-R drives that use the same 8X Sanyo mechanism, both offer 8X-certified recordable discs for $20 per 10-pack, about what you’d pay for name-brand 4X discs. The drives themselves sell for about $500 each, compared with $300 for 4X drives.

**Brand Plans**

Among name-brand manufacturers, TDK (916/625-1000, www.tdk.com) offers 8X discs for about $2 each. Imation (888/466-3456, www.imation.com) says it will soon offer 8X media—at prices 10 to 15 percent higher than what it charges for 4X discs. How-

ever, in Macworld testing, we were able to record Imation’s 4X-certified discs at 8X on both 8X recorders.


Maxell currently offers 6X-certified media; Sony says its CDs have been tested at up to 6X but are certified only for 4X recording. Hi-Val, a discount brand available at CompUSA, offers 4X CDs for about $1 apiece.

### iMac Boards Use Forbidden Interface

**NEW CARDS PLUG INTO IMAC MEZZANINE SLOT**

**by Kristina De Nike**

When Apple developed the iMac, the company made it clear to hardware vendors that one component was off-limits: the mezzanine slot on the iMac motherboard. But the engineers at Micro Conversions (817/468-9922, www.microconversions.com) and Formac (www.formac.com) didn’t listen.

Both companies have developed expansion boards that plug into the forbidden slot—despite warnings from Apple that customers may void their iMac warranty if they use the products.

**iMac Wizard**

Micro Conversions has announced an iMac version of the Game Wizard, a 3-D graphics accelerator designed for use with popular computer games. The $199 board features 3Dfx’s Voodoo2 chip, which has become a standard for game acceleration in the PC market. It supports 8MB of RAM, compared with a maximum of 12MB for the PCI version. The card is tightly sandwiched between the iMac motherboard and chassis, and concerns about heat ventilation preclude additional memory, the company says.

**Thin SCSI**

Formac, a German company that designed the Vision 3D Pro graphics cards sold in the United States by Maxell, has introduced a $100 Ultra Wide SCSI card that plugs into the mezzanine slot, letting you use scanners, external drives, and other SCSI peripherals with your iMac. The card features a single external SCSI 3 connector; these are thinner than standard SCSI connectors and the cables can be hard to find, but they are available. Drives connected to the card can be used to boot up the iMac.

Formac will bundle the card with its Power RAID Control software, which lets you set up RAID levels 0 and 1 storage systems. Formac says the card will work with other drive-formatting packages as well. The card is scheduled to ship by the time you read this. The company also plans to offer a $149 mezzanine board that incorporates a SCSI connector, a TV tuner, and an S-Video in port.

**No Piece of Cake**

Installing a mezzanine card can be tricky: you have to open the iMac and remove five screws that hold the motherboard in place; the slot is on the flip side of the motherboard. To install the Game Wizard, you must also reroute the iMac’s internal video cable to a connector on the board. Micro Conversions and Formac expect that most customers will opt for dealer installation.

The new multiflavored iMacs lack a mezzanine slot, so the cards will work only in the original Bondi blue model. However, Formac says it is developing an adapter that will essentially restore the slot to the newer iMacs, allowing use of the mezzanine cards.—**JEFFY K. MILSTEAD**

**CONTRIBUTED TO THIS REPORT.**
Introducing Mitsubishi's Award-Winning Diamond Pro® 900u With The Breakthrough DIAMONDTRON NF™ CRT.

Mitsubishi's new DIAMONDTRON NF (Natural Flat) CRT technology represents an unprecedented improvement in the way you'll look at monitors from this moment on. The revolutionary, truly flat-faced CRT creates distortion-free, intuitively correct images that are much easier on your eyes. Conventional CRTs produce curves and distortions that are hard on your eyes, increasing fatigue and reducing productivity.

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Power Macintosh G3's

DESKTOP MACS' ENHANCEMENTS ARE MORE THAN SKIN DEEP

ONE GLANCE AT APPLE'S NEW two-toned Power Macintosh G3 series reveals that the iMac was no aberration. With their bold blue-and-white design and inclusion of such new technologies as FireWire and USB, the new Power Mac G3's continue down the road paved by the iMac.

The new desktop Macs are as notable for what they lack as for what they include. For example, you'll find no floppy drives or serial ports on these machines. Thankfully, neither will you find the underpowered graphics chip sets included with earlier Macs. All four models include ATI's powerful Rage 128 2-D/3-D graphics card with 16MB of SDRAM, along with two FireWire ports, two USB ports, an ADB port, and a 10/100BaseT Ethernet port.

You'll notice no mention of SCSI. Apple has drawn a line in the sand with this series of computers—FireWire is in, SCSI is (mostly) out. If you want SCSI, you'll find it in the 400MHz model in the form of an Ultra II PCI SCSI card; if you want it in the less powerful Macs, you must purchase a SCSI card separately.

Kind of Blue

Initially, the most striking features of the new Power Mac G3's are the translucent-blue faceplate, backplate, and top; the ice-colored side panels revealing the ghostly G3 logo beneath; and four sturdy handles protruding from the corners of the case.

The front panel sports a CD-ROM or DVD-ROM drive, an empty drive bay, a speaker port, a power switch, and programmer's and reset switches.

The keyboard and mouse—dead ringers for the iMac's—may disappoint some users. This keyboard feels cheap compared with the huge Apple keyboards of old, and some people may mourn the loss of three function keys, the end key, and the option and control keys on the right side of the keyboard. (Kudos to Apple, however, for including a USB extension cable for those who plan to store their new Mac under a desk.) And although the mouse looks great, many users will find it unacceptable because of the round design, it's impossible to tell the top of the mouse from the bottom by touch.

Open Sesame

You may forget your disappointment with the input devices of the G3's when you see their side door, which folds down to expose the inner workings. With the door open, you have ready access to every component you're likely to touch—the moth-
erboard containing the G3 processor, four SDRAM slots, four PCI slots (three 33MHz, 64-bit slots and one 66MHz, 32-bit slot, occupied by the graphics card), modern connector, and internal battery is attached to the door and lies flat when the case is open. This is a brilliant design.

The layout for internal drives is just as remarkable. At the bottom of the Power Mac’s case is a metal tray that holds the Ultra ATA drive and offers space for two additional internal storage devices. To mount a new device, simply remove a single screw, disconnect the data and power cables from the ATA drive, and slide out the metal tray. To place additional drives in any of the free, numbered spaces, fasten the drives, put the tray back, and plug in the drives. Note, however, that placing a 1.6-inch drive in the middle space makes it impossible to close the door. Two additional power connectors are included, although you must provide your own data cables.

It’s swell that the internal workings of the new Macs are so easily accessible, but it’s unfortunate that opening the door reveals so few PCI slots. With virtually no FireWire peripherals available at the moment, users who need fast external storage devices must rely on SCSI and therefore tie up one of the three open PCI slots with a SCSI adapter card.

**High Performance**

It should come as no surprise that these machines turned in convincing MacBench scores (see the benchmark, “Blue Blazers: New G3’s Shine”). As you might expect, the new 300MHz model, with its 512K backside cache, fared worse in the Processor test than our baseline system—the former top-of-the-line Power Mac G3/300, which has a 1MB backside cache. The Processor scores for the more powerful Macs, with their 1MB cache, fell just about where we expected—14 to 30 percent faster than that of the baseline system.

More surprising—and welcome—were the Graphics scores. With the ATI Rage 128, the entry-level Power Mac achieved a Graphics score nearly twice that of the baseline machine; in the more powerful new models, the card yielded more than double the graphics performance of the baseline Power Mac. Also impressive was 3-D-gaming performance: Running the RAVE version of Quake, none of the new Macs pulled fewer than 50 frames per second (fps) from the game. The baseline system, which uses a Rage Pro graphics chip set, achieved only 23 fps.

Adobe Photoshop tests revealed the benefits of having a SCsi drive for certain operations. The ATA drives in the 300MHz and 350MHz models were not as quick as the baseline system’s SCSI drive at performing Gaussian Blur and image-resize operations (adding more RAM to the new Power Macs improved Photoshop performance). On the other hand, Photoshop scrolling was much sprightlier on the new Power Macs—approximately twice as fast on all configurations.

**Macworld’s Buying Advice**

The beauty of these new Macs goes much deeper than their striking exteriors. They are clearly the fastest Macs to grace the market; they’re also solidly built, easy to upgrade, and attractively priced. Although users with legacy SCSI and serial devices will have to add a SCSI PCI card as well as a serial adapter to use their old peripherals, these components are readily available and not prohibitively expensive. Less forgivable for professionals are the small allotment of PCI slots and the inclusion of input devices that emphasize form over function. But these inconveniences are mitigated by the fact that the new Macs introduce FireWire and USB to the desktop—technologies that are sure to be staples of computing in the twenty-first century.—**CHRISTOPHER BREEN**

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**New Desktop Systems Compared**

<table>
<thead>
<tr>
<th>Company</th>
<th>Product</th>
<th>Mouse Rating</th>
<th>List Price</th>
<th>Phone</th>
<th>Backside Cache</th>
<th>RAM</th>
<th>Hard Drive</th>
<th>CD/DVD Drive</th>
<th>Zip Drive</th>
</tr>
</thead>
</table>
Macromedia Director 7

MULTIMEDIA TOOL BECOMES MORE POWERFUL—AND MORE APPROACHABLE

Take a Deep Breath and recite the full name—all 18 syllables of it. Macromedia Director 7 Shockwave Internet Studio is the most Web-savvy Director yet. Not that Macromedia is ignoring creators of games, CD-ROM titles, or interactive kiosks; many of Director’s new features are just as welcome in these non-networked applications. But the program’s Internet focus is unmistakable. And for creating hybrid projects—such as a CD-ROM that retrieves updates from a Web site or a muliuser game that enables distant players to lock horns—Director 7 is a dream.

In Director’s Chair
Director veterans will feel at home in Director 7. It has all the familiar trapings: the Stage, where you position and arrange your project’s media elements; the Cast, which holds media elements that you import or create using Director’s built-in tools; and the Score, a timeline-like window where you choreograph your project’s flow and interactivity.

Creating a project in Director generally involves working with these key components as well as with Lingo, Director’s built-in programming language. You’re also likely to work with behaviors, which are canned Lingo scripts that perform common tasks. When you’ve finished, you can create a projector, a double-clickable version of your project that you can distribute to others. For Web-destined projects, you can create Shockwave movies that rely on Macromedia’s popular browser plug-in. You can also create Java applets, although these provide only limited support for Director’s capabilities.

Director 7’s body may be similar to that of previous versions, but its engine is new. In Director 7 you can have as many as 1,000 channels in the Score window, up from 120 in Director 6.x. Projects can play back at speeds of up to 999 frames per second, up from 500. In short, it’s hard to imagine a project that would exceed Director 7’s playback capabilities.

One downside of this engine rebuild: Director 7 bids farewell to 680X0 Macs and to Windows 3.1. It’s bad enough that you can no longer develop projects on these systems—you can’t even create projectors for them. If you want to create titles for elderly computers, Director 7 isn’t for you.

New Media, New Control
Director has long provided built-in tools for creating richly formatted text and bit-mapped graphics. In Director 7 there’s a new data type on the block: vectors. Director 7’s new Vector Shape window provides a FreeHand-like pen tool for drawing bandwidth- and memory-friendly shapes, complete with Bézier control points and optional solid-color or gradient fills. Director 7 automatically antialiases vector shapes. Even better, you can control every property of a vector shape using Lingo scripts. Combine this with Director 7’s Internet-access features, and you could create a dynamic bar or line graph that changes depending on certain data retrieved from a Web site.

Director 7 can import bitmaps containing alpha channels, thus simplifying the creation of special transparency effects, such as feathering and drop shadows. Director 7 also adds support for the PNG graphics format and for animated GIFs.

Director 7 greatly simplifies such common animation tasks as rotating media elements. For example, to create an animation of a spinning star in previous versions, you had to create multiple versions of the star, each rotated to a different angle, and then laboriously swap one for the next to animate the rotation. In Director 7 you can simply use keyframes or Lingo to rotate or skew any media element. That means much less work for you, and smaller, more memory-efficient projects.

Better Behavior
Director’s heritage as an animation program has always complicated the creation of interactive projects. Implementing simple interactivity—such as creating a set of buttons that enable users to branch to different screens—meant writing scripts in Lingo.

Director 6 streamlined authoring a bit by introducing behaviors—canned scripts that perform common tasks. In Director 7, behaviors are dramatically improved. A new Library palette provides fast access to dozens of behaviors in categories ranging from animation to navigation to Internet streaming (see “Director Behaves”). To assign a behavior to an item, you simply drag and drop that behavior’s icon.

Director 7 provides behaviors for the most-common interactivity chores, and they work well. Even if you don’t know a lick of Lingo, you can create an interactive production containing branching buttons, QuickTime movies, animations, and streaming audio.

Lingo still lurks beneath the surface of every behavior, and you’ll need Lingo mastery to modify a behavior’s scripts. But the good news is that unlike Director 6.x behavior scripts, Director 7’s are laden with comments that make them easier to understand and tweak.

And speaking of Lingo, it too has evolved. Programmers can now use space-efficient dot syntax to get and set properties. Common in modern languages such as JavaScript, dot syntax makes for less verbose scripts.

Text (and HyperText) Power
Director has had first-rate text features since version 5 introduced the word processor–like Text window, antialiased text, kerning, and the ability to import Rich Text Format (RTF) files. But Director developers always faced the specter of missing fonts: to ensure that text would look as intended, they either had to license and distribute custom fonts or settle for using ubiquitous (and often boring)
fonts such as Helvetica and Times.

Director 7 changes this by enabling you to embed any fonts installed in your system directly in a project. Director compresses its so-called Shocked fonts so that they take up only about 10K to 20K apiece. You can trim this even further by embedding only those characters that you actually need. Shocked fonts are available only to the project in which they’re embedded, so there are no licensing or copyright issues to contend with.

Also new is the ability to import HTML files with most formatting intact. You can even import Web pages over the Internet by entering a page’s URL in the Import dialog box, although this often yielded error messages in our tests. Director 7 does a reasonably good job of retaining a page’s formatting, recognizing tables, fonts, and common formatting tags. Director 7 doesn’t import images referenced in HTML pages, but it does retain hyperlinks. You must use Lingo programming to have a hyperlink launch a Web page, but one of Director 7’s built-in behaviors can handle this for you.

Director 7’s other Internet-related enhancements include behaviors that post text entries to a CGI running on a Web server, and a new multiuser server that makes it possible to create networked games and chat spaces.

For bandwidth-friendly audio, Director 7 also includes Headspace’s Beatnik Xtra, which includes behaviors that let you play and control Beatnik music files. Director 7 also supports the Shockwave Audio format, which lets you deliver streaming audio using a conventional Web server (see “Making Waves with Streaming Audio,” Create, February 1998).

But remarkably, the Macintosh version of Director 7 provides no way to compress Shockwave Audio files; the manual tells you to use Macromedia’s SoundEdit 16, which is no longer included with the Director suite.

For sound editing, Mac users get Bias’s Peak LE while Windows users get Sonic Foundry’s Sound Forge XP. Both are scaled-down versions of first-rate audio editors. We prefer Sound Forge XP to Peak LE—it was more stable in our tests and its interface is less cluttered—but either is sufficient for simple sound-editing and conversion tasks.

Even if you already have sound-and image-editing programs, you cannot buy Director 7 separately unless you’re a registered user of a previous version, in which case you can buy the upgrade for a steep $449. Macromedia should make Director 7 available separately. You’ll still need to buy the Windows version of Director to create projects for the Windows platform.

**Macworld’s Buying Advice**

For a major upgrade, Director 7 is remarkably well behaved. But it isn’t perfect. Some bugs in its text-handling features can cause crashes in text-heavy projects. And a change in the way the Stage works causes display problems with movies in a window, which many Director developers use. A little Lingo script generally fixes this. But by and large, Director 7 is an outstanding upgrade, packing more power and introducing new features that finally make Director approachable for beginners.—**Jim Heid**

**IF YOU DON’T LIKE DIRECTOR—or you can’t spend $1,998 to develop for both Mac and Windows—look into iShell, from Tribeworks (415/732-7004, www.tribeworks.com). From the developers of Apple’s defunct Apple Media Tool, iShell combines solid authoring features with an unbeatable price tag.

Tribeworks has put a unique twist on the open-source software-distribution approach popularized by Linux. iShell is free: register at Tribeworks’ Web site, and you get a download password. To create a Mac or Windows run-time version of a project, you register for a free run-time license file.

Tribeworks hopes you’ll like iShell enough to pay $2,000 for a one-year “full membership,” which gets you technical support, the ability to create run-times without registering each project you create, and the full source code to iShell itself.

iShell’s interface differs from that of Apple Media Tool (AMT), but the programs are conceptually similar. As with AMT, iShell’s only content-creation function is a rudimentary text tool—you create your content in other programs and then import it. As you import media elements, you can assign events and commands that branch to other screens, play movies, move movie clips across the screen, and so on.

Many of iShell’s authoring features pale alongside Director’s. But iShell provides excellent support for QuickTime, including QuickTime VR and QuickTime 3 effects. The program can’t display HTML pages—as Director can—but it can access files over the Web, making possible CD-ROM-Web hybrid projects.

iShell lacks Director’s depth and maturity, and its documentation is literally a work-in-progress. Still, iShell deserves a look. Budget-minded developers will love its price tag, and Director haters will appreciate its object-oriented authoring style. If Tribeworks’ open-source gamble pays off, iShell could evolve into a major contender.

**Tribeworks iShell: Free Authoring at a Price**

**Bundle of Joy**

How has Director 7’s supporting cast changed? Gone are the Xres image editor and Extreme 3D modeler. For image editing you get Macromedia Fireworks, which is a solid, all-around image editor particularly adept at creating Web graphics (see Reviews, October 1998).

For a major upgrade, Director 7 is a reasonably good job of retaining each project you create, and the full source code to iShell itself.

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**RATING: ★★★★★ ★★★★★ ★★★★★ ★★★★★ ★★★★★

PROS: Simplified authoring; excellent Web features; beefed-up playback engine; vector and alpha-channel support.

CONS: Mac version can’t compress Shockwave Audio files; some text-handling bugs; application not sold separately. COMPANY: Macromedia (415/252-2000, www.macromedia.com). LIST PRICE: $999 (Director-only upgrade from earlier versions, $499; full Studio upgrade from earlier versions, $499).**
Dreamweaver 2
MACROMEDIA DREAMS UP IMPRESSIVE UPDATE

PAST VERSIONS OF MACROMEDIA'S DREAMWEAVER WERE SOLID BUT HARD TO LOVE, WITH A CLUNKY INTERFACE THAT DISCOURAGED THE EXPLORATION THAT ALLOWS MERE USERS TO BECOME WIZARDS. BUT WITH A NEW EMPHASIS ON USABILITY, ADDED TO NEW CUTTING-EDGE FEATURES, DREAMWEAVER 2 PROMISES TO DELIGHT BOTH DESIGNERS AND CODE GEEKS.

Winning Features for Designers
Dreamweaver 2 is packed with improvements to its page-design tools. The best addition, the Tracing Layer, recognizes the fact that in many shops, a designer creates a comp for a Web page in Adobe Photoshop or QuarkXPress and hands a color printout to a Web jockey, who then applies text and other formatting to rows, columns, or an entire table; select and format noncontiguous cells; and sort table contents. Splitting and merging table cells is a snap, and an included JavaScript extension lets you swap the axes.

Previously, Dreamweaver's many floating palettes were a recipe for screen clutter. In version 2, you can dock palettes together into a single tabbed window. The program now makes excellent use of contextual menus and has fewer annoying modal dialog boxes. It also includes precoded objects, such as one that lets you quickly create image-rollover effects. And a new, smart eyedropper tool lets you pick up a color from anywhere on your desktop; Dreamweaver snaps it to the nearest Web-safe color.

Dreamweaver takes advantage of all the features in the 4.0 browsers but also offers backward compatibility. You can lay out pages using layers and then convert the layers to backward-compatible tables with a single menu command. You can use JavaScript behaviors that target specific browser versions, or go for lowest-common-denominator effects. Because it's available for both Mac and Windows, Dreamweaver tries hard to cover all the platform and browser bases. As before, you can check your pages for HTML compatibility against profiles of Netscape Navigator and Microsoft Internet Explorer, but version 2 adds profiles for Opera Software's Opera and Microsoft's WebTV browsers.

Happy Geeks Are Productive Geeks
Nothing annoys HTML coders like having a visual tool arbitrarily rewrite their carefully honed code. Dreamweaver has always respected custom HTML, and the new version continues and extends this tradition. The program won't change tags it doesn't recognize, instead highlighting unknown tags in yellow; it also recognizes (and won't change) code that works with server-side tools.

Dreamweaver comes with a nice set of prewritten JavaScript behaviors, including form validation and layer and timeline control, and can trigger Shockwave or Flash content. You can preview multimedia content right in the Dreamweaver document window, without having to switch to a browser.

The new version catches up to GoLive CyberStudio (now an Adobe product) in site management by adding a visual site map, the ability to check and repair broken links, and an improved FTP tool for uploading and downloading sites. The supercharged find-and-replace function fixes tags and files throughout a site and accepts regular expressions.

A feature unique to Dreamweaver is the program's amazing extensibility, going far beyond mere scripting. While competitors such as CyberStudio allow developers to create new JavaScript functions, Dreamweaver supports a Document Object Model that lets programmers use JavaScript and HTML to write custom menu commands, behaviors, inspector palettes, and objects. There's even a way to create plug-ins in C.

Dreamweaver 2 seems to be faster than previous versions, though just as RAM-hungry; with larger sites, the program complained about memory until I boosted its RAM footprint from the suggested 20MB to 32MB.

Macworld's Buying Advice
Thanks to its interface improvements, Dreamweaver has outgrown its ugly-duckling phase and is much easier and more fun to use. Smart innovations like the Tracing Layer show that Macromedia has been paying close attention to the way designers work in real production environments, and Dreamweaver's first-do-no-harm approach to HTML shows a nice appreciation of the challenges that Web coders face. Fully competitive with CyberStudio, but with unique strengths of its own, this striking upgrade should win Dreamweaver many new converts.—TOM NEGRINO

Rating: ★★★★★ Pros: Superb table handling; excellent design and layout tools; very good code control; excellent extensibility. Cons: RAM-hungry and not always polite about it.
Fool God.
Introducing the revolutionary series
of Sony FD Trinitron® displays.
If you think God is in the details, then we have the display for you. The new, virtually flat FD Trinitron display series is the most revolutionary advancement in image technology since the invention of Trinitron in 1968. The colors are remarkably sharp and bright, the resolution incredibly high, and the focus amazingly precise from top to bottom, side to side and corner to corner. In fact, the images on screen are so real, they can fool just about anyone.

Sony FD Trinitron displays give you the tightest aperture grille pitch (0.22mm) and the broadest horizontal scan range available. Not to mention USB peripheral ports that make connections miraculously simple. Call us perfectionists. But when it comes to image performance, no detail is too small.

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**Virtually Flat FD Trinitron CRT** for minimized distortion and reflective glare.

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www.sony.com/FD

FD Trinitron
Offline Web Tools

ONCE BENEFICIAL, NOW NECESSARY?

A s the Mac and its bundled software applications adopt new features, some third-party software is relegated to the "old and in the way" pile. Take Microsoft Internet Explorer 4.0 and Mac OS 8.5's Sherlock search utility, for example. Now that Internet Explorer lets you save Web pages as offline archives, are utilities that perform a similar function still useful? And since Sherlock can search the Web for items that interest you—and that support Internet Explorer channels.

Each of the applications also has a more comprehensive set of filters than does Internet Explorer. With the latter, you can exclude files attached to a Web page in only a general way—you can filter all images, sounds, and movies. With Web Buddy and WebWhacker, you can be more selective about which MIME types you download.

While Web Buddy and WebWhacker share some advantages over Internet Explorer, they aren't twins. Web Buddy is the easier to use when you're surfing the Web, because it's available to you from within your browser; to use WebWhacker, you must switch from your browser into the WebWhacker application. And if you want to perform scheduled downloads, WebWhacker must be running; Web Buddy launches itself at the appointed time.

Web Buddy offers other convenient features you won't find in WebWhacker: you can create and file bookmarks with a single click, and a translation feature lets you turn Web pages into word-processing documents. (You can export files in WebWhacker as well, but only as separate HTML and graphics files.) Regrettably, Web Buddy's translation is a hit-or-miss affair—some pages translate complete with text and graphics, while others fail to translate at all.

WebWhacker isn't entirely outdone by Web Buddy, however. Unlike Web Buddy, WebWhacker allows you to search for text in the pages you've downloaded. And most important, WebWhacker is compatible with Mac OS 8.5. In my tests, Web Buddy 2.0 froze three different Macs running OS 8.5 whenever a scheduled event initiated a dial-up Internet connection. (The problem doesn't exist under OS 8.1.)

Sherlock's Smarter Brother?

SurfJet Agent is another program that might fare better if there weren't a free alternative. Much like OS 8.5's Sherlock, SurfJet Agent logs on to the Internet and queries search sites based on keywords you've entered. As with Sherlock, you can include a wide variety of terms in a single search, but unlike Sherlock, SurfJet Agent lets you indicate your level of interest via sliders to help determine the relevance of the search results.

However, SurfJet Agent failed to find sites easily found by Sherlock. When I tested both applications, using my name as the search term, Sherlock found more than a dozen references; SurfJet Agent failed to locate a single one. And adding search sites to Sherlock is easy—just drop them onto the System Folder. SurfJet Agent requires that you enter the URL for new search sites as well as arcane prefix codes such as &TERM_1=. Let's hope a future version of the program searches farther afield and is easier to configure.

**Macworld's Buying Advice**

Although Web Buddy 2.0 is a more flexible and feature-packed offline Web reader than WebWhacker 3.0, it gets only a conditional recommendation due to its continued problems with OS 8.5. SurfJet Agent 1.0 is off to a good start, but it needs to offer a friendlier way to add search sites.—CHRISTOPHER BREEN

### SurfJet Agent 1.0

**RATING:** **CONS:**

**CONS:** Difficult to add search sites; searches not always broad enough.


**LIST PRICE:** $50.

### Web Buddy 2.0

**RATING:** **CONS:**

**CONS:** Doesn't translate all Web pages; Mac OS 8.5-compatibility problems.

**COMPANY:** DataViz (203/268-0030, www.dataviz.com).

**LIST PRICE:** $50.

### WebWhacker 3.0

**RATING:** **CONS:**

**CONS:** No auto-launch feature for scheduled downloads.


**LIST PRICE:** $50.
Photoshop Plug-Ins

FILTER TRIO OFFERS SHADOW, BLUR, AND 3-D EFFECTS

SOME VENDORS OF ADOBE Photoshop plug-ins use the smorgasbord approach, bundling a variety of special-effects filters and other add-ons into one low-cost package. Andromeda Software takes a different tack, offering individually priced plug-ins that specialize in certain tasks. The latest are Shadow Filter 1.12, for applying elaborate shadow effects; VariFocus Filter 1.1, for performing selective sharpen and blur operations; and my personal favorite, Three-D Luxe Filter 3.0, for creating textured 3-D models in Photoshop.

All three plug-ins sport interfaces inspired by MetaCreations' Kai's Power Tools, with controls that resemble what you might find on an alien spaceship (see "Aesthetic Appeal"). The screens appear somewhat cluttered—and baffling—at first, but once you get the hang of the interfaces, the plug-ins are easy to use.

Limited 3-D
Andromeda's original 3-D plug-in, Three-D Filter, let you map Photoshop images to the surface of a cylinder, sphere, box, or plane. The new Three-D Luxe Filter goes beyond its predecessor by letting you add a wide range of photo-realistic textures to 3-D objects.

In Three-D Luxe's 3-D Geometry mode, you use slider controls to set lighting conditions, apply surface and background colors, rotate and scale the object, and determine how the image is mapped to the 3-D shape. You can scale the image, change its position on the object's surface, and create tiled copies. Aside from scaling, however, you can't modify an object's geometry, nor can you import models created in other 3-D programs.

Three-D Luxe displays a wire-frame view of the object in a large window, but you can quickly generate a rendered preview that shows lights and shadows. When you're finished, the plug-in produces an image of the 3-D object with the photo mapped to it.

The new Texture mode lets you apply a wide range of photo-realistic textures to objects. The plug-in ships with about 75MB of canned textures, organized by type (biological, mechanical, and so on). The textures are beautifully rendered and lend themselves to some eye-popping surface effects. All of them can be bump-mapped, giving the impression that the object's surface is deformed. You can create your own bump-mapped textures or convert the active Photoshop image into a bump map.

Only the Shadow Knows

Alien Skin's Eye Candy and Extensis PhotoTools both include plug-ins for creating drop shadows, but neither comes close to offering the range of features in Andromeda Shadow Filter. This plug-in lets you generate multiple drop or cast shadows in different colors, at different sizes, with various levels of sharpness. It also offers unlimited undo's.

You can use as many as four light sources and set the angle of the casting plane, the surface on which the shadow appears. For objects (such as fishbowls) that are partially transparent, you can also create transparent shadows. The plug-in can't add noise to a shadow, but you can do that easily enough in Photoshop.

Out of Focus

VariFocus adds a few wrinkles to Photoshop's Gaussian Blur and Unsharp Mask filters by letting you apply these effects through a mask. You can use the filter to create depth-of-field effects in which selected parts of an image are focused more sharply than others.

The masks in VariFocus Filter are gray-scale images that determine how strongly the blur or unsharp-masking effect is applied; the effect is stronger in light areas and weaker in dark areas. You can scale the masks, or rotate them in increments of 90 degrees.

The plug-in ships with 15 prebuilt masks, but many photographs will require custom-built masks, and creating them can be cumbersome.

Macworld's Buying Advice

Of the three plug-ins, Three-D Luxe Filter 3.0 probably has the broadest appeal. It offers a great way to add perspective effects and other 3-D imagery to pictures, though it's limited to a few standard geometric shapes and can't import models created in other programs. Shadow Filter 1.12 offers a wide range of shadow-generating functions but is probably overkill for most artists, especially if you already have the more modest shadow filter in PhotoTools or Eye Candy. VariFocus Filter 1.1 is probably the least useful of the three, since you can create many selective blur effects almost as easily using Photoshop's built-in tools.—STEPHEN BEALE

Shadow Filter 1.12


Three-D Luxe Filter 3.0


VariFocus Filter 1.1


Aesthetic Appeal Andromeda Shadow Filter 1.12 features a MetaCreations-inspired interface.
Show this to the salesguy who tries to sell you a printer with your new Mac

Just because you bought a new Mac doesn’t mean you have to buy a new printer. If you already have a PC-printer, you can easily connect it using PowerPrint Serial—to—Parallel or USB—to—Parallel. With PowerPrint, your Mac can print to over 1500 PC-compatible inkjet, laser, and specialty printers.

PowerPrint includes both the cable and printer drivers you need to print. The only things not included are ideas on what to do with all the money you save. Call us today.

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Extensis Intellihance Pro 4.0

IMAGE-CORRECTION PLUG-IN CAN'T MATCH TEST STRIP

ALTHOUGH ADOBE PHOTOSHOP offers an array of tools for improving the look of your images, figuring out the best mix of brightness, color cast, and other adjustments for a particular photograph can be a challenge. Extensis Intellihance Pro 4.0, a Photoshop plug-in, makes it easy to see how different combinations of settings will affect your image. Once you've got the right mix of adjustments, you can apply them with a single mouse-click. It's great idea, but the most significant addition to this upgrade—the new Power Variations mode—is implemented more successfully in a competing plug-in, Vivid Details' Test Strip (see Reviews, May 1998).

Sincerest Form of Flattery?
Power Variations, one of Intellihance's three modes, is almost a feature-by-feature copy of Test Strip (prompting Vivid Details to file a patent- and trademark-infringe- ment lawsuit against Extensis). The plug-in presents your image in a multiple-pane layout; each pane shows variations in a single attribute, such as Green/Magenta Cast (see "Copycat"). Click on the pane that looks best to you, and that becomes the active image. You can also print the variations to proof them on paper.

Some features in Power Variations go beyond their Test Strip counterparts. You get a larger selection of layouts, up to a five-by-five grid. Any layout can include a single subdivided image or repeating images; Test Strip offers a repeating-image option in only one of its color-adjustment modes. And you can store any combination of settings in a single preset and run them directly from an Extensis menu that appears in Photoshop; Test Strip presets can be run only from the plug-in. But where it really counts—making precise color corrections—Intellihance falls short.

Color theory holds that adding a certain percentage of one primary color is the same as subtracting its opposite. For example, adding 10 percent green to an image is the same as subtracting 10 percent magenta, as you can see in Photoshop's Color Balance dialog box. It follows that if you add 10 percent green and 10 percent magenta, you're back where you started and your image should be unchanged. That's what happens when you add the two colors in Test Strip. But add them—or any other complementary pair—in Intellihance's Power Variations mode, and the colors shift noticeably.

Other omissions make it look as if the upgrade was rushed out the door. In all three modes, Intellihance lacks an Undo feature, and its functions don't show up in Photoshop's Actions palette (Extensis says it will address the latter problem in a forthcoming update). The Power Variations interface is also a bit sloppy: the labels that identify each pane in the layout appear to be pop-up menus until you click on them and see that there are no additional selections.

Plug-in à la Mode
Intellihance's other two modes, Intelligent Adjustment and Fine Tuning, also borrow from Test Strip. These modes let you experiment with different mixes of contrast, brightness, descreening, saturation, color cast, sharpness, despeckling, and dust and scratch removal. You can compare the effects using the same layouts available in Power Variations mode.

The Intelligent Adjustment mode offers limited options for each setting, but you can adjust those settings manually using the plug-in's Fine Tuning mode. For example, the brightness choices in Intelligent Adjustment mode are Off, Deeper Shadows, Shadow Emphasis, Balanced Tone, Midtone Emphasis, and Highlight Emphasis. In Fine Tuning mode, you can modify brightness through a Photoshop-style Curves function or by entering numeric values for shadows, midtones, and highlights.

As in Power Variations, you can store the effects as presets and apply them directly from the Extensis menu. Presets also appear in a pop-up menu above each pane in the layout.

Intellihance ships with dozens of presets that theoretically cover most common image-correction scenarios, such as compensating for too much flash in a digital photograph. However, only a few presets seem useful when real-world photos are concerned, and there's little you can do with them that you can't do with Photoshop's Actions palette and built-in image-correction tools. One exception is Intellihance's descreening function, which converts scanned halftones from a magazine or newspaper into moiré-free continuous-tone images suitable for printing. Intellihance's Fine Tuning mode also gives you greater control over despeckling than Photoshop does.

Macworld's Buying Advice
Extensis Intellihance Pro 4.0 is easy to use and lets you compare and apply a wide range of image modifications. However, its Intelligent Adjustment and Fine Tuning modes add little to Photoshop's built-in image-correction functions, and the Power Variations mode suffers from a flawed implementation of color theory. Extensis may call it Intelligence Pro, but most imaging professionals are better off sticking with Test Strip. —STEPHEN BEALE

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**DiskWarrior**

**NEW TOOL FIXES DAMAGED DIRECTORIES**

Every Mac volume has a catalog—a kind of table of contents—that the OS uses to find your files. If the catalog becomes badly damaged and you don’t have a backup, your data could be lost. Alsoft’s DiskWarrior comes to the rescue by repairing mangled catalogs, displaying impressive stability and reliability for a 1.0 release.

DiskWarrior’s sole focus is the reconstruction of catalogs, a process that’s beneficial for healthy as well as broken catalogs. Unlike Symantec’s Norton Disk Doctor, DiskWarrior doesn’t examine your disk, run through a checklist of possible errors, and fix them one by one. Instead, DiskWarrior takes a holistic approach: it looks at the existing catalog data, collects additional information the OS has stored elsewhere on the disk, and uses all the information to recreate an entirely new catalog.

By rebuilding a damaged catalog, DiskWarrior can resurrect previously deleted files as well as those believed to be lost. If the catalog is healthy to begin with, rebuilding has a measurable speed benefit because a fresh catalog is much easier to search. On a test volume, the Mac OS’s Disk First Aid took 1 minute and 44 seconds to scan the catalog; after rebuilding, it took only 39 seconds. (To rebuild a disk’s catalog without DiskWarrior, you’d have to back up, initialize, and restore the disk; simply defragmenting files with a disk optimizer doesn’t have the same effect.) And DiskWarrior proved remarkably reliable: not once during testing did the program create a bad catalog or cause any disk-related vexations.

DiskWarrior’s user interface is remarkably straightforward. You simply select a disk and press the Rebuild button (see “Foolproof”), and DiskWarrior builds a new catalog. Once it’s finished rebuilding, you can preview how your disk will look with the new catalog: DiskWarrior monts the original and rebuilt catalogs as read-only disks and lets you explore them in the Finder. You can then use the preview catalog to copy files off the disk, without changing anything on the disk itself. If you decide you want to keep the rebuilt catalog, DiskWarrior uses it to replace the old one.

Only one noticeable flaw appeared during testing: if a disk was damaged in such a way that the Mac OS refused to mount it, DiskWarrior wouldn’t work with it.

**Macworld’s Buying Advice** Although it’s not as comprehensive as Norton Disk Doctor, DiskWarrior performs its one crucial function well and should be part of any collection of disk tools. Not only is the program useful for sprucing up healthy disks but it also increases your odds of recovering files that might otherwise be lost.—**Stephan Somogyi**

**RATING:**

**PROS:** Reliable; foolproof user interface; useful preview feature; speeds up healthy drives. **CONS:** Can’t see unmountable disks; not as comprehensive as Norton Disk Doctor. **COMPANY:** Alsoft (281/353-4090, www.alsoft.com). **LIST PRICE:** $69.95.

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**Hard Disk ToolKit 3.0**

**FORMATTER-DRIVER PACKAGE IMPROVED BUT FAR FROM PERFECT**

Even though Apple’s own Drive Setup software originally formatted your Mac’s internal drive, the formatter is unlikely to recognize any hard disks you add; it’s very picky about which drives it works with. One solution is FWB Software’s Hard Disk ToolKit 3.0.1, a collection of disk-driver tools that support hardware from third parties as well as from Apple. This update improves performance and integrates FWB’s RAID ToolKit, but the fundamental flaws remain: some features and functions are still hard to find, and the package could be more cohesive.

As in previous incarnations of Hard Disk ToolKit, the core application formats and partitions drives, installs drivers, lets you configure installed drivers, and tests drives for errors. Version 3.0 adds a bit of window dressing, such as tabs in the user interface (see “Just Add Tabs”), but most of the changes lie under the hood.

With the integration of RAID ToolKit, you can now create striped, spanned, and mirrored RAID arrays from within Hard Disk ToolKit. The IDE driver now supports the hugely useful SCSI Disk Mode for PowerBooks, and the SCSI driver offers improved performance and compatibility—for example, FWB has updated the driver for removable drives to resolve a long-standing problem that thwarted attempts to repair removable media with Apple’s Disk First Aid utility. A smaller but particularly valuable feature is FWB’s improved window dressing, making it easier to find and use the program.

Hard Disk ToolKit demands that you enter a separate password for every partition; ideally, there should be an option for entering a single password for each drive. And although FWB touts the program’s encryption as “rock-solid,” it doesn’t offer any data to back up this claim. Any worthwhile encryption scheme must withstand public scrutiny, yet FWB remains mum about its technology. Network Associates’ PGPdisk, despite its limitations, is a much better solution for storing encrypted data.

**Macworld’s Buying Advice** With a user interface that’s essentially unchanged from that of version 2.5, Hard Disk ToolKit 3.0.1 is more of an incremental upgrade than a major revamp. If you already own the program, you’ll find the $49.95 upgrade worthwhile; if not, version 3.0’s fast, reliable driver is reason enough to buy the package. Overall, this collection is indispensable for anyone who maintains many drives or is concerned about drive reliability and performance.—**Stephan Somogyi**

**RATING:**

**PROS:** Reliable driver; supports SCSI Disk Mode; integrates RAID features. **CONS:** Interface lacks cohesion; weak security features. **COMPANY:** FWB Software (415/345-4300, www.fwb.com). **LIST PRICE:** $199.
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Virtual-Reality Production Tools

NEW QUICKTIME VR SOFTWARE—PLUS SOMETHING COMPLETELY DIFFERENT

You can call it immersive imaging, or you can call it interactive photography, but it's more fun to call it virtual reality. With Apple's QuickTime VR technology, you can create panoramic movies (scenes that users can explore with the mouse and keyboard) and object movies (which let users rotate and examine objects). Although Apple's S395 QuickTime VR Authoring Studio remains the best all-around VR authoring package (see Reviews, March 1998), competing programs have some feature and price advantages. I tested three programs from VR Toolbox (www.vrtoolbox.com): VR PanoWorx 1.01, for creating panoramas; VR ObjectWorx 1.01, for creating object movies; and VR SceneWorx 1.0, for linking multiple VR movies into scenes. I also tested AdessoSoft's PanoTouch 1.01 (www.adessosoft.com), an Adobe Photoshop plug-in that makes it easy to retouch and enhance panoramas.

The Worx

VR PanoWorx is nearly identical to its predecessor, Roundabout Logic's Nodester 1.5 (see Reviews, October 1998). A single tabbed window steps you through importing original images, stitching them, and compressing the final panorama, but new commands facilitate the rotation and reorganization of imported images, chores that Nodester doesn't handle well. VR PanoWorx also supports URL hot spots, which link to Web addresses. When exporting a final panorama, you can create a low-resolution streaming preview—a feat that even Apple's Authoring Studio can't perform. Like Nodester (and unlike Apple's Authoring Studio), VR PanoWorx has a built-in image editor and lets you reduce a panorama's file size—features that can eliminate side trips to Photoshop for minor touch-ups and Web optimizing.

On the downside, VR PanoWorx's approach to saving files is cumbersome. To simplify moving projects among computers or platforms, the program stores both the original source images and the stitched panorama in a single file that can be 35MB or more—and that can take a good half-minute to open or save. By comparison, Apple's Authoring Studio stores pointers to your original files, so its documents are extremely small.

Like its panorama-making cousin, VR ObjectWorx is nearly identical to its earlier incarnation—Widgetizer—but adds Mac OS 8.5 interface tweaks and support for URL hot spots. It also shares Widgetizer's biggest shortcomings: no cropping features and the inability to import conventional QuickTime movies.

Although QuickTime VR lets you store multiple movies in a single disk file, with hot spots enabling users to jump from one node to another, Nodester and VR PanoWorx are limited to creating VR movies containing just one node. Enter VR SceneWorx, the only stand-alone program for creating multiple-node VR movies. Boasting features that even QuickTime VR Authoring Studio lacks, VR SceneWorx lets you import existing content—single-node panoramas, object movies, conventional movies, and still images—and link it using hot spots.

VR SceneWorx shares its siblings' tabbed-interface design but, unlike the others, supports Mac OS 8.5 Open and Save dialog boxes. You can import a background image file to aid in scene design, and VR SceneWorx has a set of simple drawing tools for creating a background.

After mapping out a scene, you
A n alternative to Quick-Time VR is Interactive Pictures' (423/482-3000, www.ipix.com) Ipix, which offers some unique advantages—and also some big disadvantages.

Unlike QuickTime VR panoramas, Ipix scenes are spherical: users can look straight up and straight down. Spherical images often are of little value for outdoor scenes (who wants to look down at a dirty sidewalk?) but are ideal for many interior subjects, such as a room with an ornate ceiling. You shoot Ipix scenes with a fish-eye lens, which captures a full 180-degree hemisphere. While QuickTime VR demands a dozen or more images to capture a full scene, Ipix requires just two.

Interactive Pictures offers numerous Ipix development tools, including kits that bundle a digital camera, fish-eye adapter, tripod and mounting bracket, and production software. I tested the $1,995 Ipix Pro kit (11½), which includes an Olympus D-340L camera. The kit’s software, Ipix Wizard, uses a series of straightforward dialog boxes to step you through the production process. My results were only fair, with stitching artifacts frequently visible where the two images met.

For playback, Ipix offers free Windows and Mac OS plug-ins, as well as a Java applet that eliminates the need to download a plug-in. Version 2.0 of Ipix Wizard, due out by the time you read this, will add the ability to create multiple-bandwidth versions of a scene and improve Java playback.

Ipix Wizard includes serial-numbered keys that enable you to create 12 to 24 scenes, depending on the package you buy. To make more scenes, you buy additional keys at $25 per scene.

Although Ipix’s spherical imaging is potentially valuable for some applications, the stitching quality and per-scene charges put Ipix a distant second to QuickTime VR.

import movies and images, position them on the background, and create hot spots to link them to each other or to Web pages. You can then export everything to a single QuickTime movie, optionally recompressing some or all of the media. A preview mode lets you test your hot spots and links. However, VR SceneWorx lacks an undo feature, and its manual—like those of its siblings—is inadequate.

No-Warp Speed

Experienced VR producers will import a stitched panorama’s PICT file into Photoshop, retouch it, and create a new panorama. The problem is that the contents of a stitched PICT appear warped, making many retouching jobs difficult or impossible.

With AdessoSoft’s PanoTouch, a plug-in for Photoshop 4 and later, you use the PanoTouch Import command to open a stitched PICT; PanoTouch unwraps the PICT and displays it as a QuickTime VR movie, complete with zoom and pan controls (see “Retouching with PanoTouch”). Navigate to the area of the panorama you want to retouch and click on Import, and PanoTouch extracts that portion, unwarps it, and opens it as a new image file. The PanoTouch Export command automatically replaces that portion of the original stitched PICT, which you can convert to a panorama using the authoring tool of your choice.

On the downside, PanoTouch can’t import and unwarps an entire stitched PICT at once. If you need to retouch several noncontiguous areas, you have to endure the import-export routine for each. PanoTouch can’t work with partial panoramas, and the workaround (described in the excellent manual) is cumbersome.

Macworld’s Buying Advice

VR PanoWorx and VR ObjectWorx are fine production programs, despite their shoddy documentation and colossal file sizes; VR SceneWorx is a reasonably priced, well-designed program that every serious QuickTime VR developer should consider. For casual VR producers, PanoTouch does too little and costs too much. But for VR professionals, PanoTouch is a genuinely useful, if pricey, tool for polishing panoramas.—JIM McID
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Stufflt Deluxe 5.0
COMPRESSION UTILITY RELEASED TOO SOON

Occasionally we have to judge a flawed product even though we've been assured that fixes are on the way. Such is the case with version 5.0.2 of Aladdin Systems' Stufflt Deluxe, the default compression utility for the Macintosh. Although Aladdin has promised that Stufflt's bugs will be squashed in updates to be delivered by the time you read this, it's my duty to report on the current—rather than potential—state of this blighted product.

Stufflt Deluxe allows you to compress files and folders into Stufflt archives and expand just about any compressed file you're likely to find on the Internet. Stufflt SpaceSaver—now included with Stufflt Deluxe—offers background compression and expansion as well as name-based and label-based compression. Just include a user-definable keyword in a folder or file name or give an item a label, and SpaceSaver automatically compresses the item.

And now to the bugs. First, Stufflt Deluxe 5.0's new cross-platform file format purportedly makes it easier to swap Stufflt archives between Macs and PCs. But although my Mac could open Stufflt archives that had been compressed on a PC, the reverse wasn't possible: Mac-compressed Stufflt archives refused to open on a PC with Aladdin Expander 2.0 for Windows.

Another bug involves Stufflt's True Finder Integration (TFI), which lets you convert files and folders into Stufflt archives, self-extracting archives (SEAs), and MacBinary and BinHex files simply by appending a .sit, .sea, .hqx, or .bin suffix, respectively, to the item's name. Under Mac OS 8.5, if you use TFI to convert a Stufflt archive into an SEA, Stufflt puts the wrong files in the SEA.

Aladdin claims that these kinks will be worked out by the time you read this. What the update won't address is Stufflt Deluxe 5.0's new file format: archives you create with this version can't be opened with an older version of Stufflt Deluxe or Stufflt Expander.

Aladdin claims that Stufflt Deluxe 5.0 increases compression by about 20 percent over previous versions, but that number depends on the files being compressed. Compressing a folder with 25 PICT files, Stufflt Deluxe 5.0 did create a smaller archive—100K versus Aladdin DropStuff 4.5's 116K. But when I stuffed a folder containing ResEdit 2.1.3 and all its components, the Stufflt 5.0 archive was 4K larger than its DropStuff 4.5 counterpart. Stufflt Deluxe 5.0 is also slower than version 4.5: on a 250MHz PowerBook G3, even with the Fast Compression option enabled, version 5.0 took 4 minutes and 10 seconds to stuff a 103MB folder; DropStuff 4.5 took only 3 minutes and 50 seconds.

Although Aladdin stumbled with this version of Stufflt Deluxe, the program's not all bad. Its many compression options are available via contextual menus, and the program now supports the MacBinary III format. You can view the contents of an SEA without expanding the file, by choosing Remove Self-Extracting from the Magic Menu that appears in the Finder's menu bar. And the included DropConverter utility lets you batch-convert old Stufflt archives to the new format.

Macworld's Buying Advice
Stufflt Deluxe 5.0.2 is buggy, slow, and likely to be incompatible with the version of Stufflt Expander you currently have. Let's hope these criticisms are now moot—that Aladdin has fixed the bugs and the compatibility problems, making Stufflt Deluxe once again worthy of our recommendation.—CHRISTOPHER BREEN

job opportunities

- Information Architect
  Baltimore: A local advertising and marketing company is looking for someone to head up their new internet services department which will complement their current direct mail business. This high-end management position requires a background in both ad agencies and internet marketing for major corporations.

- Web Programmer
  Dallas: A small multimedia consulting firm is searching for a top-notch web programmer with programming ability in Perl, CGI, Java, Flash, and HTML. Director and Lingo knowledge is a definite plus. Will start out on a project basis. There is an opportunity to become a permanent member of the team.

- Senior Mac Systems Engineer
  Philadelphia: Distinguished national bank is seeking an intelligent and resourceful individual to provide high-end tech support for 200+ people. The successful candidate will have an advanced background in computer networking and operating within a highly dynamic, very conservative corporate environment. Certification in both Apple and Windows NT systems a plus.

- Tech Writer
  Boston: Software developer looking for an efficient, well-organized tech writer capable of handling multiple tasks. Must be proficient in FrameMaker and have at least 2 years of experience writing, editing, and proofreading user's guides and/or online help for computer applications. Knowledge of RobotHelp a plus.

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Putting intelligence to work

- Senior Visual Designer
  San Francisco: Interactive technologies company needs a perfect match for this position, Must have URL's to submit portfolio, understanding and experience with web technologies (Illustrator and Debabelizer as well as HTML and Microsoft), 3-5 years combined web, print and CD ROM experience required.

- UNIX System Administrator
  Washington, D.C.: Large company looking for someone to take on primary technical responsibility for day-to-day management & support of UNIX and NT based computer systems and networks. This person will assist in planning and implementation activities related to these systems and networks. Ability to coordinate with other technical personnel to ensure smooth interaction with various computer systems.

- Graphic Designer
  Chicago: Creative and witty designer needed for full-time permanent position. Job will require internal layout and production of books geared toward the general population. These books are image heavy and a knowledge of RGB and CMYK design issues is vital. Ideal candidate will have a minimal yet sensible style to their work. This well-known...
After Effects Plug-Ins

BORIS AE 2.0 AND CINEMOTION OFFER SPECIAL EFFECTS, ENHANCED VIDEO PROCESSING

Both hobbyists and professionals will find a lot to like in two new and different sets of plug-ins for Adobe After Effects. Artel Software's Boris AE 2.0 should appeal to anyone looking for more variety in his or her special effects, while DigiEffects' CineMotion 1.0 for After Effects is designed for digital videographers looking for the best output quality. Both are important additions to any After Effects toolbox.

Boris AE is a compelling collection of 44 filters ranging from fun to functional, with filters for distortion, color correction, lighting, keying, special effects, and simple 3-D object mapping. Many of the plug-ins render noticeably faster than their After Effects equivalents—for example, the critical Unsharp Mask and Blur filters are twice as fast as After Effects' built-in filters, and more controllable to boot.

Another gem is the Pixel Chooser, an incredibly powerful option that lets you mask an effect very precisely with values derived from any other layer in the composition without using any additional After Effects masking techniques. The Digital Video Effects filter delivers a z-axis for "flying" elements, with built-in soft shadows, light sources, and opacity blends; a particle system offers customizable shapes and controllable velocity and gravity effects. But many After Effects users will want Boris AE just for its excellent distortion plug-ins, including an industrial-strength displacement filter.

For video artists looking to push the limits of captured video, CineMotion's extensions to 3:2 pull-down functionality surpass After Effects' built-in conversion capabilities. The documentation is disappointing, but CineMotion's ten plug-ins ease the process of making video look more like film and offer precise control over captured-video variables. The highlight is Film Motion, a filter that processes fields of video in various ways to yield different looks and gives you full control over interframe blurring, which simulates the motion of a camera shutter. Adjustable parameters let you tailor the effect to conditions in the processed footage.

Complementing Film Motion are plug-ins that enhance footage containing digital artifacts. These plug-ins give you fine control over banding, grain, noise, and field interlacing. Selective HSB Noise, for example, delivers separate noise values for a layer's hue, saturation, and brightness channels.

Macworld's Buying Advice

Both of these filter collections are worthwhile investments for serious After Effects devotees. Boris AE 2.0 has more diverse special effects, while CineMotion for After Effects excels at optimizing video for professional applications. Both deliver exactly what they promise: a picture that will please any eye.—DAVID BIEDNY

Boris AE 2.0


CineMotion 1.0 for After Effects

Font Reserve 2.0

MANAGING FONTS ON YOUR Macintosh can be confusing and tedious, even if you use a suitcase-based font-management program such as Symantec's Suitcase or Alsoft's Master Juggler. Font Reserve 2.0 takes a different approach by eliminating the suitcase metaphor and letting you manage your fonts in a database. Whether you work with dozens of fonts or just a few, it's the most comprehensive and easy-to-use font-management software available today.

The heart of Font Reserve is a database browser that lets you view and manage the fonts in your system. The program automatically scans any local or remote hard drive for fonts and then stores information about each located typeface in a database. You can also load fonts without opening the browser—just drag them into a desktop applet.

Once you've loaded the fonts, you can designate each one as temporarily or permanently open. Font Reserve also supports font activation, which speeds your workflow by automatically activating a font when you open a document that contains it. The package includes a free QuarkXPress extension that enables automatic font activation in QuarkXPress, but Font Reserve can also activate fonts in many other programs, including Microsoft Word, Macromedia FreeHand, and FileMaker.

Font Reserve's power is not limited to accessing fonts. Once inside the browser, you can use filters to display fonts that meet certain parameters—for example, TrueType faces that begin with the letter Q. You can sort fonts by a wide range of criteria, including type foundry and design class. You can also view and print type samples of selected fonts.

In addition to offering a font browser, Font Reserve ships with a control panel that lets you toggle the application on and off with no restarts, and hence no downtime in your workflow. The package also includes 40 Bitstream fonts. Font Reserve 2.0 is Mac OS 8.5-compatible, and—thanks to the new version's support for AppleScript—it can be fully automated.

Macworld's Buying Advice Some of Font Reserve's capabilities, such as sorting typefaces by foundry, may seem like overkill. But they show how DiamondSoft has taken a bottom-up approach to font management. Font Reserve 2.0 is more expensive than other font managers, but it is a must-have application for anyone who uses more than the standard set of Mac-resident fonts. You can also give it a trial: DiamondSoft offers a free, fully functional demo on its Web site, limited only in the number of fonts you can open.—ANDREW SHALAT

Consultant 2.5
PIM SYNCs WITH PALM ORGANIZERS

MAC USERS WHO WANT TO share contact and schedule information with 3Com's Palm family of handheld organizers don't have many options. The original Palm desktop software for the Macintosh was abysmally slow, and Now Synchronize, which was supposed to let you exchange data between the Palm and Qualcomm's Now Up-to-Date/Now Contact bundle, was limited and unreliable.

So, what's an organizationally challenged Mac user with PIM envy to do? An inexpensive Palm-compatible PIM—Chronos's Consultant—has been quietly winning converts among the Mac Palm crowd. Consultant 2.5.3 gives you most of the bells and whistles you'd expect in a PIM, including a full-featured contact manager and a calendar that offers day, multi-day, week, month, year, Gantt, and list views.

Consultant sports a colorful, albeit cluttered, interface. Alas, unlike Now Up-to-Date, Consultant doesn't support timed to-do's or zero-duration events, and entering event times is more cumbersome than it could be. On the plus side, automatic word completion and telephone-number formatting help save keystrokes, and you can book events by describing them in plain English; Consultant translates your requests into calendar items, complete with links to the appropriate contact (see "Easy Events").

If memory is tight, you might want to use the accompanying program called Mini-Consultant to look up and filter contact or schedule data; it uses only half as much RAM as the main application (about 1MB). By clicking on icons in the Finder's menu bar, you can also display telephone numbers for your favorite contacts or review the day's events—even if neither program is running.

Pop-up alarms notify you of upcoming events, but you can't dismiss or snooze the alarms without having Consultant or Mini-Consultant open.

To use Consultant's Palm-synchronization feature, you'll need to download the latest version of the Palm conduit-manager software from 3Com's Web site. Data exchange between Consultant and my Palm III was generally reliable, and the online manual did a good job of explaining the rules that govern how individual fields are handled. The most glaring problem is that incomplete to-do's on the Palm always show up on the current day in your calendar, even if they're due later.

Macworld's Buying Advice By the time you read this, 3Com may have shipped new desktop software based on Claris Organizer. Even so, Consultant 2.5.3 is a fairly good PIM in its own right. If you use a Palm organizer, download the demo version from Chronos's Web site and give Consultant a try.—FRANKLIN TESSLER

RATING: ••• PROS: Translates English descriptions into events; synchronizes with Palm organizers. CONS: No timed to-do's or zero-duration events; limited alarms; incomplete to-do's appear on current day. COMPANY: Chronos (801/957-1774, www.chronosnet.com). LIST PRICE: $39.95 (with Palm synchronization, $49.95).

www.macworld.com April 1999 55
Iomega Zip 250

WITH HIGHER-CAPACITY MEDIA, more polished software, and an improved enclosure, the new 250MB Zip drive is a good product made even better. The $199 unit reads and writes to Iomega's new $16.99 250MB cartridges, but also supports 100MB Zip media. While it has a few annoyances, the Zip 250 is a good buy.

The drive is housed in a familiar purple enclosure, but with a few improvements. The unwieldy power brick in the original Zip drive has shrunk to the point where the word brick seems a misnomer. The drive now also features a power switch in front. On the downside, it still supports just two SCSI IDs, 5 or 6, and the case still rattles when you shake it.

When reading or writing a file to the new 250MB media, the new Zip is zippiest, offering a 40 percent performance boost over the old drive. However, the new drive is a bit slower than the original when writing to 100MB media.

With the original Zip drive, Iomega put its software utilities on the included Zip cartridge, inviting users to install the software and then overwrite the cartridge. IomegaWare now comes on a CD-ROM that includes Mac and PC versions.

Iomega has honed its Tools application, which lets you create a rescue disk with a complete or minimal System Folder and a copy of Apple's Disk First Aid software. After a system crash, you can boot from the cartridge and check the internal drive.

The software also lets you add copy protection to Zip cartridges. However, the interface is vexing; the opening window presents a set of icons with no labels. The only way to use the program is to take a guess and click on a button.

The CD also includes an easy-to-use audio-capture application called RecordIt, which lets you copy songs from an audio CD or record voices with the Apple microphone. You can then store these sounds on your Zip disks for playback. However, Zip disks are no match for a CD—the RecordIt player pauses frequently during normal computer use.

Macworld's Buying Advice Iomega has reason to crow, as the new Zip drive improves on an already strong product. Thanks to the popularity of the original drive, Zip cartridges remain a good way to share data with coworkers. With the new higher-capacity media, the Zip is now more attractive as a backup device. However, Zip disks, while generally reliable, are not the sturdiest removable media you can buy. If you plan to use the drive for archiving, you'll need to purchase backup software and make multiple backup sets.

Iomega will continue to sell the 100MB drive through 1999, and plans a USB version of the Zip 250 for the second half of the year.—Kristina De Nire

RATING: ** PROS: Higher-capacity media; backward compatible with 100MB media. CONS: Cryptic software interface; limited SCSI ID choices.

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communigate 3.0

mail server fights spammers

the deluge of spam on the internet is threatening to seize, rather than grease, the wheels of progress. Users swamped with unwanted advertisements are desperately seeking relief, and Stalker Software’s CommuniGate 3.01 mail server delivers it.

several new Internet mail features help categorize and filter messages, and new security features prevent spammers from using your server to relay mail to others.

CommuniGate consists of files containing the main server; a client application; various administrative tools; and individual gateway modules for POP, SMTP, UUCP, mailing lists, faxing, printing, and paging. New in this version is an address-book service module, for publicly publishing e-mail-address directories. This release also includes, at long last, an installer application, along with excellent HTML-based documentation. As with previous releases, you must obtain activation codes for each module you intend to buy beyond the LAN-based server-and-client bundle.

CommuniGate’s SMTP module controls spam in several ways. First, and most important, it makes a distinction between local and remote users based on the originating IP address, allowing local users to relay messages to the Internet. You give selected remote users the same privileges by flagging them as “friends,” preventing spammers from using the server as an intermediate relay station. Second, it can verify return addresses to ensure they’re accurate; spammers often use forged or illegal return addresses. Third, it checks your local blacklists to reject mail from known spam sources. Finally, it can check external blacklists that others maintain.

These features, as well as the program’s existing support for MIME content, make CommuniGate an excellent e-mail server. Alas, CommuniGate’s client hasn’t kept up with the times: it doesn’t display MIME or HTML data in its message browser, storing them instead as attachments that you must process using external programs. Users today consider MIME and HTML display essential. An alternative is to use an e-mail client with this support, such as Qualcomm’s Eudora or Netscape’s Messenger, in conjunction with the CommuniGate server components.

MACWORLD’S BUYING ADVICE

With its modular architecture, multiple gateways, MIME support, and excellent spam control, CommuniGate 3.01 is a powerful mail server. Combine it with a MIME- and HTML-capable mail client, and you’ve got yourself a first-rate Internet and LAN e-mail solution.

MEL BECKMAN

RATING:  4  4  4  4  PROS: inexpensive; antispam features; multimedia gateways. CONS: Mail client can’t display MIME and HTML data. COMPANY: Stalker Software (415/383-7164, www.stalker.com). LIST PRICE: 25-user LAN-only gateway and client, $200; configured for Internet with POP and SMTP gateways, $300; other gateway modules, $100 each.
Do you Yahoo?
Have you seen the difference with...

ViewSonic on top!

When you’re surfing Yahoo!, you want the biggest, brightest images you can get. Which is exactly why you should Yahoo! with the new ViewSonic PT795 19" (18.0" viewable) monitor. It performs like a 21" (various viewable) monitor while taking up barely more space than a typical 17" (various viewable) model.

But while the footprint is small, it's big on screen quality. The PT795 is the first 19" (18.0" viewable) PerfectFlat™ SonicTron™ monitor. The PerfectFlat screen provides the user a distortion-free image, especially while viewing graphic-intensive images.

The PT795 is equipped with a 4-port Universal Serial Bus (USB)® hub which enables you to instantly connect USB compatible peripherals without having to reboot your Mac. 0.25-0.27mm variable AG pitch, SuperContrast™ screen, flicker-free at 1,600 x 1,200 with an 87Hz refresh rate. TCO '99 certified. For very big performance in a very small space, you can’t top the ViewSonic PT795.

For more information on the company that’s won over 500 industry awards, visit ViewSonic at: www.ViewSonic.com/mac

(Mac® Sold Separately)
Monsoon MM-1000 Speakers

FLAT SPEAKERS DELIVER ROUND SOUND

TIME FOR A WORD-ASSOCIATION test. I say coffee; you say tea. I say sky; you say cloud. I say computer speakers; you say... tiny? If so, it's time to change your tune. Sonigistix has released the Monsoon MM-1000 Amplified Multimedia Speaker System—a satellite-subwoofer speaker combination that may alter your expectations of how computer speakers should look and sound.

As soon as you unpack the box, you'll notice that the two satellite speakers are a scant half-inch deep. These speakers are based on planar magnetic technology, a design—typically found in high-end stereo speakers—that doesn't require traditional speaker cones and deep enclosures.

Planar magnetic speakers have a tough time creating low bass frequencies, which is where the Monsoon's subwoofer comes in. This four-slot, toaster-size black box sits under your desk, and its 5.25-inch speaker produces enough bottom-end sound to satisfy music lovers and gamers alike. You can adjust the bass with a knob on the front of the subwoofer. Regrettably, there's no way to change the left-right balance of the satellite speakers and there's no on/off button.

In addition to the bass control, the subwoofer's front end features a volume control and a bass-boost button. The back of the subwoofer sports two miniplug stereo inputs, connectors for the satellites' bare-wire leads, and an input for the lightweight remote control.

Good design is nice, but the proof of a speaker's worth is the sound it produces. Because of their small size and inexpensive components, most computer speakers are a collection of compromises—certain frequencies are artificially boosted or cut to make the speakers sound lively or to produce thumping low frequencies.

From this listener's point of view, such is not the case with the Monsoon speakers. They deliver well-balanced, transparent audio and have more in common with a good pair of home-stereo speakers than with typical computer speakers. High frequencies are readily apparent without being shrill, middle frequencies lack the boxiness found in most computer speakers, and the low end is rich but not thumpy. The sound will also please gamers. There's a nice sense of separation—important when you need an audio clue to tell you where the next intergalactic cootie lurks—and the subwoofer offers enough oomph to enhance the effect of any game's exotic weaponry.

Macworld's Buying Advice If you can afford the S229 price tag, get these speakers. They are glorious.—CHRISTOPHER BREEN

The TelePort Internal 56K
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Myth II: Soulblighter
UPDATE IMPROVES ON PERFECTION

After tweaking the last few lines of code in the real-time strategy game Myth: The Fallen Lords, the folks at Bungie must have felt a bit like Michelangelo after applying the final daubs to the Sistine Chapel: "Not bad, but what are we going to do to top this?" The original Myth offered beautifully rendered 3-D terrain, a solid tactical element, superb physical modeling, free Internet gaming via bungie.net, cross-platform play, and support for 3Dfx-based hardware acceleration. Could the company produce a compelling sequel that wasn't a regurgitation of the original? In a word: yes.

Although Myth II maintains nearly all the elements of the original, the sequel refines rather than reiterates. You continue your battle with the forces of the Dark, but this time you discover a more detailed world in which the legions of both Light and Dark have an expanded set of characters, all with embellished abilities. Bowmen now carry a flaming arrow for setting grass afire—a wonderful tactical enhancement for discouraging or fricasseeing your opponents. Regrettably, your troops are all too willing to march right into the same fire. And as if the too-quick-on-the-draw dwarfs from Myth I weren't nuisance enough, Myth II includes mortar dwarfs who fire deadly—although inaccurate—projectile weapons.

Bungie has also improved Myth's interface. All formations are now mouse selectable in a small menu bar at the bottom of the game screen, and rotating troops is easier—just select them and use the arrow keys to pivot.

The range of environments is wider in Myth II: you'll have occasion to fight indoors, within the walls of an enemy castle, and on board a ship. Animated 3-D objects such as windmills and drawbridges add to the visual luster of the game. Squeamish players can now turn off the blood and gore. Two powerful but complex editing tools let you alter game elements and create maps. Myth II supports RAVE 3-D hardware acceleration on systems that carry at least 32MB of RAM and a Rage Pro or Rage 128 chip set.

Oh, and one more thing. Myth II is a kick to play—in single-player mode or against human opponents.

Macworld's Buying Advice Bungie has done a marvelous job of enhancing what was already a stellar game. It's a foregone conclusion that fans of the original will buy Myth II: Soulblighter. If you have the slightest interest in real-time strategy games, check it out.—Christopher Breen

RATING: 4½
PROS: Interface and graphics refinements; RAVE support.
CONS: Troops are a bit dim about the hazards of fire.
LIST PRICE: $49.

Turning Myth Into Reality This castle wall is just one of Myth II's environmental enhancements.

OUR EDITORS CAN BEAT UP THEIR EDITORS

Matthew Rotherberg
Director of Online Content, Mac Publishing LLC.

Industry Experience
Joined MacWEEK in 1990

Broke scoops on Apple's first Power Macs and successive models as well as its first scanners, cameras and color printers, Adobe's Photoshop 5 and K2 DTP packages, QuarkXPress 4.0, and innumerable other products.

Ran MacWEEK's print-news operation, then led its transition from print to the Web.

Background
Traded in his manual typewriter for a state-of-the-art Mac SE in 1988. Bitten by the DTP bug, Matthew paid his dues as a publishing consultant before breaking into MacWEEK's mail room. Matthew has served MacWEEK as a speaker and agent provocateur at industry trade shows across the United States and Europe.

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by Shelly Brisbin
Picking Your Ride: THE BEST BROWSER

EVERY INTERNET TRAVELER NEEDS A BROWSER—THE SOFTWARE that serves as your window to the Web. Although any browser will display Web pages and keep track of your favorite sites, the contenders differ in style and performance. The good news is that choosing the wrong Web browser won't cost you a dime. Netscape Communicator and Microsoft Internet Explorer are both free, and you'll find a copy of each included with Mac OS 8.5. The bad news is that each of these applications mixes nifty features with annoying inconveniences.

The Contenders The first thing you should know is that your browser is probably outdated, especially if you're using a version that came with the Mac OS. On the Mac OS 8.5 CD, Apple shipped Internet Explorer 4.01 and Netscape Navigator 4.0.5 (Netscape's older stand-alone browser, which doesn't include features built into the mega-application Netscape Communicator). Here, we concentrate on version 4.5 of both Internet Explorer and Netscape Communicator, available from the respective companies' Web sites as large downloads.

Bigger and Slower Netscape's browser has put on weight: what was once a simple Web browser (Navigator) is now part of Communicator, which includes e-mail and news clients and a Web authoring application. As a result of its bulk, Communicator can require twice the RAM of Internet Explorer and takes up lots more disk space. The Internet Explorer bundle also includes a news and mail client, but it's a separate application (Outlook Express).

Although Communicator takes the booby prize for biggest browser, both applications suffer from a lack of speed. Communicator seems to take you to Web pages a bit more quickly, but each browser requires the same amount of time to complete a complicated page. Their slowness is particularly noticeable when you compare Communicator or Internet Explorer with Navigator 4.07, the older, browser-only offering from Netscape (still available from Netscape's Web site) that delivers pages in much less time.

Besides its own RAM bulk, another factor that slows down Communicator is the program's preinstalled browser plug-ins. These add substantially to RAM demands. You can trim Communicator's bulk by removing plug-ins you don't need.

Unfortunately, Internet Explorer's slowness can't be blamed on plug-ins or other extras. This makes its performance that much more disappointing. Its only performance advantage is that text elements load first (Communicator loads them only after building the page), making it possible to scan an Explorer page while it's still being drawn on your screen. You might even decide to move on to another page before Explorer gets around to filling in ad banners or navigation elements—a potential time-saver.

Communicator does beat Internet Explorer hands down when it comes to rendering Dynamic HTML (DHTML) animation. Communicator positions and rotates images correctly and efficiently. Explorer, on the other hand, often bungles or drops DHTML objects and delivers those it can handle at a painfully slow pace. If you need to view DHTML pages, stick with Communicator, despite its other limitations.

Style Points Each browser includes a selection of clever features that help you surf more efficiently, but Internet Explorer's are more elegant. In Internet Explorer, URLs autocomplete as you type, as do Web-based form fields if you've entered information about yourself (name, e-mail...
SHOPPING
With a Web browser and a credit card, you can find and buy just about anything online. The good sites offer secure transaction processing to protect your credit-card number from theft. Most online stores also offer fast delivery and competitive prices. Watch out for e-stores that charge high shipping rates, and be sure to compare prices with those of other sites. You may be surprised how much of a difference there is.

BEST PLACE TO FIND A DEAL
CompareNet (www.comparenet.com)
Here you'll find electronics, home office equipment, automotive items, sports equipment, and lots more. CompareNet isn't a department store, however; its primary function is to help you narrow down a list of products and compare them, based on price and features. With that information in hand, you can click on a CompareNet partner link to go to a commerce site and make a purchase. The site's comparison criteria are well chosen, and the ability to create a custom table of just the products you're interested in is very slick.

BEST MUSIC STORE
CDnow (www.cdnow.com)
Selection and depth are two major reasons to shop for music at CDnow. True, the prices are not the lowest you will find online, but they are somewhat below retail and sales are frequent. Devotees of a particular artist can even find listings here of compilation CDs that contain songs the artist recorded.

Music Boulevard (www.musicblvd.com) offers a bit less selection but includes a tremendous amount of artist information, including links to album and concert reviews and feature articles.

BEST COLLECTIBLES SITE
eBay (www.ebay.com)
This massive auction site is a treasure trove of stuff, both modern and collectible. It connects sellers and buyers of just about anything that people can collect, ranging from sports memorabilia to old coins, records, and movie posters. Since eBay is an auction site, it is a wild and woolly place. When you bid on and buy items, eBay acts as an intermediary for the auction; you actually purchase goods from individuals or businesses that list items on eBay. Because you must take the seller's word for the condition and value of mer-

Microsoft Internet Explorer 4.5


Netscape Communicator 4.5

RATING: ★★½ PROS: Superior DHTML support; collapsible tool bars; smart browsing locates pages without a URL. CONS: No autofill features; potentially high RAM overhead from tightly integrated mail and composer tools; poor printing options. COMPANY: Netscape Communications (650/284-1900, www.netscape.com). LIST PRICE: Free.
chandise you buy, be particularly cautious as you make your purchases.

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MSN Expedia Travel
(www.expedia.msn.com)
Price a trip right from Expedia's front page, and compare prices even without giving a password. Registered users can purchase tickets and save and print itineraries. Expedia includes a full range of travel information, maps, and trip-planning tools to help tourists and business travelers price and route their trips.

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PERSONAL FINANCE
Money management is among the hottest topics on the Web, because so many people are interested in financial planning and investment and also because the Web is an excellent medium for viewing, calculating, and manipulating numbers. Many major money sites offer educational information as an enticement to subscribe to a more detailed version of the service, while others offer online brokerage, loan services, and other financial products with the advice and free stock quotes.

BEST MONEY-MANAGEMENT SITE
Quicken.com (www.quicken.com)
Quicken.com offers a lot of everything for those interested in keeping track of their money. You'll find financial tutorials, tax planners, mortgage calculators, retirement planners, investment-research features, and lots of great money-management tips and tricks.

BEST INVESTMENT TOOL
MSN MoneyCentral Investor
(http://investor.msn.com)
Like Quicken.com, Microsoft's money site offers a wide array of information and services, but MoneyCentral Investor is primarily geared toward those seeking to analyze and manage an investment portfolio. Among its standout features are custom portfolio tracking and detailed company research for investors.

Check out Morningstar.Net (www.morningstar.net) if you're particularly interested in tracking mutual funds. Morningstar is a well-regarded mutual-fund rating service and offers a dizzying array of information about thousands of funds. Both MoneyCentral Investor and Morningstar.Net offer more in-depth data for paid subscribers.

REFERENCE
Reference sites make it easy to find words, statistics, maps, and just about anything else you might find in dusty books on a reference shelf.

BEST WORD REFERENCE
Merriam-Webster
(www.m-w.com/dictionary.htm)
Simple to use but full-featured, the Merriam-Webster site provides definitions, synonyms, and antonyms for common (and not-so-common) English words. Unlike some online dictionaries, Webster's is nice enough to check your spelling. It also offers alternatives to words it can't locate.

BEST GEOGRAPHICAL REFERENCE
World Factbook
(www.odci.gov/cia/publications/factbook/index.html)
The CIA's World Factbook is not a guide to intelligence activities but a wondrous collection of information about the geography, climate, people, governments, and customs of the world, arranged by region and country. It's updated annually.

BEST MAP SITE
MapBlast (www.mapblast.com)
Type in a street address and MapBlast shows you a map of the neighborhood. You can get driving directions (complete with a choice of the fastest or easiest route to follow). You can also search for area lodging, restaurants, business services, transportation, and much more. The site makes it easy to print or e-mail your map, and zoom in and out to get a better look.

BEST LIFE-SKILLS LEARNING SITE
Learn2.com (www.learn2.com)
The answers to questions you're afraid to ask (for risk of appearing silly) can often be found at Learn2.com. There's information and instruction on all sorts of everyday tasks, such as changing a tire, applying eyeliner, or shopping a bicycle. You can search or simply browse a selection of categories, including automotive, health and fitness, and travel.

NEWS
Online you can find news tailored to almost any interest. Most well-regarded news outlets have their roots in print or broadcast media, but a few online-only players have gained a reputation for speed and depth of coverage in a particular field.

BEST PLACE TO FOLLOW
BREAKING NEWS
ABC News.com (http://abcnnews.go.com)
It's an interesting fact of Web life that sites run by television networks can be among the best places to find timely and detailed news coverage. The ABC News site does not usually include in-depth analysis, but it does cover a wide range of news, including politics, health, technology, and sports. The site is updated throughout the day. True to its TV parentage, ABC News.com offers streaming video, via RealPlayer, but there's a lot to like about the site even if you're a reader rather than a watcher.

If you're following a story closely, also check close runner-up CNN (www.cnn.com).

BEST FREE SOURCE OF BUSINESS NEWS
CBS MarketWatch
(www.cbsmarketwatch.com)
Business news is easy to come by on the Net, but more and more sites are charging subscribers for access to a large portion of their content. One exception is CBS MarketWatch. It combines investor-oriented business news, updated throughout the day, with analysis of market activity and with special-interest sections. These include sections on legal issues, tech stocks, international business, and columnists' commentary.

If you have some money to spend, you should give the Wall Street Journal Interactive Edition (http://interactive
THERE IS AN INCREDIBLE AMOUNT OF INFORMATION ON THE Internet, but you can’t make use of what you can’t find. Whether you use Mac OS 8.5’s Sherlock or a Web-based search site, follow these tips to design searches that take you where you want to go—straight to the information and resources you’re most interested in.

Most of these techniques apply to searches conducted both with Web-based search engines and with Sherlock. Sherlock allows you to query several search engines at once, which means not only that you will get the widest possible array of responses but also that you’ll need to filter those responses carefully.

Start with Yahoo If you want to find lots of good information about a broad topic, without wasting your time on obscure links, make Yahoo (www.yahoo.com) your first search stop. Yahoo is a good place to start, because it’s both a directory and a search engine. Not only can you browse to find groups of sites within a broad category but you can also type in a search request that brings back farther-flung results.

Why is this is helpful? When you’re doing a simple search, you want a good mix of information, but preferably without an overwhelming amount of junk. Yahoo first searches its well-organized directory to find matches to your query, only afterward turning to more-random keyword matching. Extra bonuses: Yahoo’s interface is uncluttered, and the hierarchical catalog is easy to browse and understand. Yahoo also forgoes the “in your face” commercialism of some competitors that offer shopping opportunities along with legitimate search results.

Cast a Broad Net If you don’t have any idea what the Web has to offer on a given topic and want to view as many search results as possible, try a metasearch—in other words, make use of several search sites simultaneously. Both Sherlock and MetaCrawler (www.metacrawler.com) allow you to do this. MetaCrawler gives you a wide choice of general-purpose search sites, such as Infoseek and Lycos. Sherlock allows you to search any site for which you have a plug-in installed, including such special-interest sites as Info-Mac and Amazon.com.

Keep Focused If you do have a good idea what you’re looking for, make your search as specific as possible. This will limit the number of unrelated search results you’ll receive. For example, search for Bengal cat breeders rather than just Bengal to avoid getting back a long list of sites about tigers, Indian provinces, and the pro football team in Cincinnati. If you don’t get enough results when you do this, it means your initial search was too narrow. Try removing one word of the query, say breeder, to retrieve more results.

Look for an Exact Match One way to be even more specific is to put quotation marks around your search strings. Doing this tells most search engines that you want items that include the words you’ve specified only when those words appear as a phrase.

Search by Proximity If search terms don’t necessarily form a contiguous phrase but are likely to occur close to one another, try a more advanced, near search. You can experiment with this using AltaVista’s (www.altavista.com) Advanced Search. Just enter your complete query in the search box. For example, “tropical fish” near aquarium will find references to tropical fish that live in aquariums, rather than the ocean-going kind. This search will deliver more results than tropical aquarium fish and omit references to unwanted nontropicals.

Try an Advanced Search By now, you may be starting to wonder what else is possible if you can do something as obscure as search for terms that are near each other. Indeed, near is just the tip of the conditional-search iceberg. Conditional, or Boolean, searches give you more flexibility to find what you’re looking for when using most search engines. You can narrow a search or widen it by using special terms, such as and, or, and not, between your search words. For example, another way to find out about your favorite feline without reading up on its bigger cousins would be to search for “Bengal cat” NOT tiger.

Some search engines require you to enter the separators in uppercase. Others require (or allow) you to use timesaving symbols instead: the plus symbol (+) for and, and the minus symbol (-) for not. If you’re having trouble, check the search engine’s help area to find out the engine’s particular way of doing things.

Ask a Question Natural-language searching lets you ask a plain-English question, such as “What is Joe DiMaggio’s lifetime batting average?” Only a few search engines, including AltaVista and InfoSeek, can do this type of search. Sherlock also supports it. It’s a powerful way to combine the best aspects of an exact-match search and a Boolean search. Be warned: you won’t often get a precise answer to your question, but you will frequently find links that provide the information you need within a click or two.

Get Help One of the best ways to search the Web efficiently is to learn the rules of the search engine you use most. All major search engine sites provide a help area with some instructions. Most abide by a general set of rules for phrase searches and Boolean searches, but a few search sites also offer special features that are described only in this area.

ENTERTAINMENT Whether you’re enamored of a certain movie star or fervently following a football team, you’ll find that the Web is an excellent source of information on all forms of diversion. Listings, news, scores, and statistics abound for couch potatoes.

BEST WEATHER SITE
AccuWeather (www.accuweather.com) Type in a city name or zip code and view the current temperature and forecast. You’ll also find weather maps and updated weather satellite photos.

BEST SOURCE OF TV LISTINGS
Gist TV Listings (www.gist.com) Type in your zip code and the Gist site will give you a detailed listing of all that’s on cable, satellite, or broadcast television in your area.

More than simply providing listings, Gist allows registered users to create a customized TV grid with schedules for their favorite channels, search for movies and other shows by keyword, and receive show reminders by e-mail. The interface is slick and easy to use, and the information is complete.
Movies, actors, directors, and screenwriters are cleverly cross-referenced in a list of alternative and foreign film titles. The site's listings are surprisingly complete, including all of the films made by most major film personalities and even a list of alternative and foreign film titles. Best of all, Internet Movie Database is interactive, too, allowing viewers to add their opinions in the form of ratings.

If you're trying to find out what's playing in theaters near you, we recommend a trip to Movielink (www.movielink.com). It's just like phoning 777-FILM (a service available in most cities; you tell the computer your zip code and it tells you what movies are playing in your area) but without the Moviefone man's ... distinctive voice.

**BEST SPORTS SITE**

CNN/SI (www.cnnsi.com)

Sports Illustrated's in-depth analysis combines with CNN's timely coverage to create a thorough, up-to-date site. Organized by sport, with links to standings, features, statistics, and team rosters, CNN/SI is easy to navigate and chock-full of info on all major pro and college sports, including women's sports.

**BEST WORKDAY DIVERSION**

The Onion (www.theonion.com)

Arranged like a typical online newspaper, The Onion takes satirical pokes at pop culture, politicians, and the latest news.

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**Your Packing List: ESSENTIAL WEB UTILITIES**

**ARMED WITH A WEB BROWSER AND THE URLs OF SITES** you're interested in, you're ready to venture onto the Web ... almost. Here are some accessories that can make your travels faster. You probably don't need them all, but the right one may make your journey much easier.

Anarchie Pro 3.5  Upload, download, and search with ease, using this FTP (File Transfer Protocol) client and internet-file search tool. As an FTP tool, Anarchie Pro ((track; $35), from Stairways Shareware (www.stairways.com), is superior to any browser. FTP sites and directories open like folders in the Finder, letting you smoothly maneuver through download sites, viewing directories in their own windows or sorting them by name or date. Since Anarchie is a full-featured FTP client, you can upload files to Internet servers in addition to downloading them. It's also an HTTP client (somewhat like a Web browser), so you can use it to get a fast list of links from a Web page. This tool is also among the first to integrate Sherlock's search capabilities and other Mac OS 8.5 conventions into its software.

URL Manager Pro 2.5  Tame large collections of bookmarks and e-mail addresses by using this shareware gem from Alco Blom (www.url-manager.com). URL Manager (track; $25) adds two menus to your browser—one with URL Manager bookmarks and another with commands and help. With just a click or a keystroke, you can access previously stored bookmarks and add new bookmarks to your URL Manager collection (some other bookmark managers require you to import bookmarks).

RealPlayer 5.0  It's no longer necessary to load up on third-party browser plug-ins just to make sure you can watch the QuickTime video of Bill Gates getting cream-pied or hear the latest sound clips on your favorite band's Web site. These days, browsers and the tools that come with them can handle almost all common file types. If you use Internet Explorer, however, RealPlayer 5.0 (track; free), from Real Networks (206/674-2700, www.real.com), is an exception worth downloading. (It's bundled with the current version of Netscape Communicator.) It not only plays streaming audio but can also play the streaming video found at many sites, including those run by network and cable TV. At press time, Real Networks released a public beta of RealPlayer G2—a version that has been available to Windows users for awhile. No ship date was announced.

Surf Express Deluxe 1.5  This tool's purpose is to make you wait less for the Web pages you go to most. Surf Express Deluxe (track; $45), from Connectix (650/571-5100, www.connectix.com), uses cache-management techniques to optimize the browsing of sites you visit often, making the sites load significantly faster (see Reviews, March 1999). You can also search cached files with Surf Express to find a URL and the date you last visited it. If you haven't upgraded to Mac OS 8.5, you'll also be interested in the Supersonic Search application included in this package. It's not Sherlock, but it does let you pick from a menu of search options—stock quotes, news, Web sites, and newsgroups—and enter a query. Supersonic Search displays its results in your browser, opening it if necessary.

Web Buddy 2.0  Several tools—including Internet Explorer—allow you to browse Web sites offline. For those who use Netscape Communicator, however, Web Buddy 2.0 (track; $40), from DataViz (203/268-0030, www.dataviz.com), has the best browser integration of the add-on tools (see Reviews, in this issue). Web Buddy adds an extra tool bar to your browser that lets you download a single page or a complete Web site in just a few clicks. You can also schedule updates to download at intervals you choose.

**THE LAST WORD**

Like tour guides trying to show off Europe in a week, we've been able to hit only a few of the Web's highlights. Much more awaits you, whether you use links you find at these sites or—with the help of a search engine—you take off on your own. Bon voyage!

Motion Cam 350

USB Digital Camera
Motion JPEG Compression

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• 350,000 pixels—best picture quality in its class
• Draws power from USB connection
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• Flicker-free capture
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Put Your Files in the Fast Lane

BY BRUCE FRASER

Since the original Macintosh arrived with its built-in networking, Mac users have been using their Macs together to get work done. Today, the arrival of high-speed networking and the pervasiveness of the Internet have made using a network part of most people's everyday lives—and part of the procedures and workflow of nearly every business.

If your workgroup isn't networked, it's time to consider getting connected. Even if you are connected, your workflow may be stuck in gridlock—a situation that might be remedied with the addition of a speedy server on which to store all your files and spool your print jobs. In this, the first in a series of

Using a Server
Can Speed Up
Your Workflow,
but Which One Is
Right for You?

Windows NT
Unix
Mac OS
Macworld articles focus on working effectively in a networked world. Macworld Lab tested Mac OS-, Windows NT-, and even Unix-based servers to find which operating system provides the best speed and services.

Are You Being Served?
Considering all the pros and cons of installing a server in your workplace can be enough to drive you crazy. Flashy consultants will tell you that while you may be comfortable with the Mac OS, the Mac's not really a suitable server. You'll hear recommendations that you should jump to Windows NT—or even Unix (see the sidebar "Publishing Powerhouses").

While Windows NT certainly has its strengths, we found that the current Mac OS is a powerful serving platform that may be able to fulfill all your needs without forcing you to brave the wilds of a foreign operating system. And the upcoming Mac OS X promises even more speed benefits.

To Buy or Not to Buy? Which server is best for you—if you need one at all—depends on what you're looking to gain from a server.

With all the buzz surrounding servers, the general notion is that if you don't have a server, you can't possibly have an efficient workflow. That isn't necessarily true—your need for a server really depends on how your work group is organized. For example, if most tasks are handled from start to finish by one person, a server may not be much help. But for the vast majority of us, most projects are a collaborative effort and usually involve a good deal of file transmission across a network.

In most cases, it's true that incorporating a server into your workplace will help you transfer data more quickly. A server definitely helps if your machine lags several times a day because someone else on the network is reading a file on, or writing a large file to, your hard drive. Likewise, if your printer gets bogged down processing one large job after another, a server can help there, too. However, if you're still hesitant about adding a server to your family of Macs, you might want to consider a simple file-sharing solution.

The Old-Fashioned Way Using the Mac OS's built-in file sharing works for file transfers, but this approach has two major disadvantages. For starters, if someone else on the network accesses your hard drive while you're working, you'll see a dramatic performance hit. You can address this problem by dedicating a Mac with no server software (usually an older, slower Mac) as a central repository for files. This way, individual workstations on the network don't get clobbered.

However, even if you set up an old Mac in the corner for shared files, a second disadvantage remains. File sharing slows down significantly as network traffic increases. If you try to copy a file while someone else on the network is printing, for example, file copying slows down and the print job takes longer than expected. The frequency of these delays depends on how often people are downloading files, transferring data, and ordering print commands—and your tolerance for these delays will depend on how often they occur and whether they interfere with your daily needs. The only solution to this second dilemma is to add a real server.

Network Upgrade Don't forget that adding a server won't change the top speed at which data can travel on your network. If you're still running slow Ethernet, you should upgrade to 100BaseT before taking another step. The added muscle of any new server you buy will be wasted if your network doesn't offer the extra bandwidth for moving data. While 100BaseT isn't quite ten times as fast as 10BaseT Ethernet, you'll almost certainly achieve at least an 800 percent speed gain by increasing your bandwidth.

Break the Speed Limit
Be forewarned: a server will do more than speed up your network; it will also change the way you work. Depending on the choices you make, you may find new challenges facing you, from the small and annoying to the big and pricey. For example, you may need to change your file-naming conventions to accommodate a new platform and you may also need to learn the ins and outs of a new operating system. Regardless of your server-platform choice, you'll need to evaluate your tech-support needs and plan backup strategies in case the server crashes.

Taking all this into account, if you have a Mac-only office, there's a distinct
advantage to sticking with the Mac OS as your server platform. Using a Mac server will be less disruptive to your workflow than bringing in a new platform: file naming won’t be an issue, and maintenance will be simpler since you probably have experience with in-house troubleshooting.

Windows NT offers serious power for relatively few bucks, but you’ll typically have to do everything yourself—unless you buy a more pricey, preconfigured system from a manufacturer, such as Intergraph (256/730-5441, www.intergraph.com), that delivers NT solutions for Mac environments.

With different OS selections to choose from, it’s important to consider all factors before making a decision. Although speed should not be the only consideration, it is the initial reason you’d consider adding a server to your network. Unless a server would accelerate your work, there’s little reason for making such an investment.

### Clocking the Speed
There are several factors that influence a server’s speed. The server’s operating system must be compatible with the Mac clients, and the server must be powerful enough to handle the simultaneous commands of several workstations. To help you find the best server platform for your small office, Macworld Lab torture-tested servers running both the Mac OS and Windows. We tested the Apple server-software choice (AppleShare IP 6.1) and

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**Macworld Lab Test**

**Speedy Servers**

For general file serving, AppleShare IP 6.1 running on a Power Macintosh G3/333 is hard to beat. Mac OS 8.5 file sharing, using the same hardware, has substantial difficulty when subjected to a heavy load of network traffic. iRex 6.5.1, running on a Silicon Graphics server, beat AppleShare at copying files to the server. The Windows 2000 Server beta looks promising. For print serving, Windows NT 4.0 and Solaris 2.6 are good choices.

*Best results with network noise in red. Best results over an idle network in green. All scores are in seconds.*

<table>
<thead>
<tr>
<th>Macintosh Servers</th>
<th>Copy File to Server</th>
<th>Copy File from Server</th>
<th>Print File</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mac OS 8.5 file sharing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>without noise</td>
<td>55</td>
<td>48</td>
<td>NA</td>
</tr>
<tr>
<td>with noise</td>
<td>240</td>
<td>333</td>
<td>NA</td>
</tr>
<tr>
<td>AppleShare IP 6.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>without noise</td>
<td>16</td>
<td>11</td>
<td>88</td>
</tr>
<tr>
<td>with noise</td>
<td>26</td>
<td>21</td>
<td>130</td>
</tr>
<tr>
<td>Windows Servers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows NT 4.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>without noise</td>
<td>40</td>
<td>44</td>
<td>69</td>
</tr>
<tr>
<td>with noise</td>
<td>52</td>
<td>55</td>
<td>78</td>
</tr>
<tr>
<td>Windows NT 5 Beta</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>without noise</td>
<td>32</td>
<td>14</td>
<td>64</td>
</tr>
<tr>
<td>with noise</td>
<td>42</td>
<td>21</td>
<td>109</td>
</tr>
<tr>
<td>Unix Servers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iRex 6.5.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>without noise</td>
<td>12</td>
<td>14</td>
<td>89</td>
</tr>
<tr>
<td>with noise</td>
<td>*</td>
<td>*</td>
<td>83</td>
</tr>
<tr>
<td>Solaris 2.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>without noise</td>
<td>29</td>
<td>14</td>
<td>67</td>
</tr>
<tr>
<td>with noise</td>
<td>41</td>
<td>17</td>
<td>83</td>
</tr>
</tbody>
</table>

Short bars are better.

NA = not applicable. * NetBench 5.01 is incompatible with iRex 6.5.1 and Macintosh clients.

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**Behind Our Tests**

To test file sharing and AppleShare IP 6.1, we used an Apple Power Macintosh G3/333 with a 333MHz PowerPC, 128MB of RAM, a two-drive RAID Level 0 array, and a default installation of Mac OS 8.5. We tested both Windows NT 4.0 with Service Pack 3 and the Windows 2000 Server beta version on a Dell Dimension XPS D333 with a 333MHz Pentium II with MMX, 128MB of RAM, and a two-drive RAID Level 0 array. Our Solaris 2.6 server was a Sun Microsystems UltraSparc 2200 with dual UltraSparc 200MHz CPUs, 1GB of RAM, and a single 4GB Wide SCSI drive (with Macintosh clients connected via Xinet’s K-Share and K-Spool). We tested iRex 6.5.1 on a Silicon Graphics Origin 200 with a 225MHz R10000 CPU, 128MB of RAM, and a two-drive RAID Level 0 array (with the Macintosh clients connected via Helios EtherShare 2.5.1).

Using a Power Macintosh G3/300, we copied a 100MB file to and from each server and sent an 80MB QuarkXPress document from each server to a print spool. We ran the tests a second time, using Ziff-Davis’s NetBench 5.01, creating network traffic with four Power Mac 7300/200’s. The computers were on a Fast Ethernet network, connected to a Farallon Fast Starlet 100TX/8. —Macworld Lab testing supervised by Kristina De Niko
Publishing Powerhouses

For high-end publishing shops, a mere file or print server may not do the trick. After all, few things can bring a network to its knees faster than moving print-resolution CMYK images from station to station. Because of this, a growing number of production environments now use Open Prepress Interface (OPI) servers, often on a Unix-based system. In general Unix servers are much more expensive than other solutions, ranging from $15,000 to more than $30,000, but they are also more robust, scalable, and capable of handling difficult tasks such as OPI.

**OPI ASAP**

For publishing professionals with time-critical projects, Unix-based OPI servers are a viable solution. These pricer, more powerful solutions speed up production by removing large, high-resolution images from the workflow and substituting low-resolution preview images that are linked to the high-resolution files through PostScript comments. When it's time to print, the high-resolution images—which live on the OPI server—are substituted for the low-resolution previews.

The immediate and obvious benefit of an OPI server is that the high-resolution image files are kept entirely off the network. Designers and layout artists work with the smaller preview images to reduce network traffic and allow the design and layout applications to run faster on the artists' workstations. For example, a typical magazine section opener image is at least 40MB; the OPI preview image can easily be less than a megabyte (much less if JPEG compression is used), subjecting the network to far less overhead.

A second benefit of OPI is that design and layout can proceed concurrently with color-correction and retouching. Typically, an image is scanned directly to the OPI server at a high enough resolution to allow for any cropping or enlargement. The OPI software then generates the low-resolution preview for use in the design and layout phases. While the designers and layout artists work on the document files, using the preview image, retouchers can work on the color-correction and fine-tuning of the high-resolution image.

OPI-compatible applications, such as QuarkXPress, Adobe PageMaker and Illustrator, and Macromedia FreeHand, record operations such as rotation, cropping, scaling, and positioning as OPI comments in the PostScript stream. Immediately before printing, the OPI server applies the modifications recorded by the OPI comments to the high-resolution image.

In addition, several OPI server-software packages, such as Helios EtherShare 2.5.1 with Helios EtherShare 2.5.1. We ran iRex (Silicon Graphics' version of Unix) on a $17,000 Silicon Graphics Origin 200 powered by a 225MHz R10000 processor and connected our Mac clients with Helios EtherShare 2.5.1. Yes, Unix can be intimidating and quite daunting (see "The Beauty of the Beast," elsewhere in this issue), but it makes it very easy for a system integrator to configure and troubleshoot the server remotely via modem. This technical support is usually included as part of the purchase through companies such as Torque Systems (415/252-5521; www.torque.com).

This Silicon Graphics server-software package proved to be a strong performer, turning in the fastest time for copies to the server of any system we tested. And Sun offers some less expensive configurations that are appealing as well.

**Dueling Servers**

To compare the performance of Unix servers to that of the Mac and Windows systems we tested for this story, Macworld Lab performed the same rigorous file-copying and print-spooling trials on two publisher-focused versions of Unix: Sun Microsystems' Solaris 2.6 with Xinet's K-AShare and K-Spool, and Silicon Graphics' iRex 6.5.1 with Helios EtherShare 2.5.1. For comparison purposes, we tested these machines with configurations similar to those of the Mac and Windows computers, but both Sun and Silicon Graphics have much heftier configurations available for customers. The Solaris server was configured slightly differently, with 1GB of RAM and a single 4GB Wide SCSI drive.

Solaris 2.6 with Xinet's K-AShare 9.03 Most Unix systems offer interfaces that are alien to Mac users and can be somewhat difficult to set up—the $28,000 Solaris server system was no exception. To its credit, however, the Solaris package offers an easier user interface than that of iRex. And with a little help, we were able to set up the server hardware, a Sun Ultra2 Model 2200 Creator 3D, with Xinet's K-AShare version 9.03 for Mac connectivity.

Copies from the server were very fast with this configuration, but copies to the server were surprisingly slow. The likeliest explanation for this is that Solaris 2.6 is fairly old and makes the drive do a lot of directory updating during writes. This problem was probably compounded by the fact that the server hardware supplied by Sun contained only a single drive. Every other server hardware system we tested contained a two-drive RAID Level 0 array.

Given the high price of this server hardware, we found this configuration's speed somewhat disappointing. However, we did achieve similar performance when running a beta version of Xinet's next-generation software—as well as the newer, friendlier Solaris 7 operating system—on a much less expensive Sun Ultra5. Furthermore, Xinet is preparing a Java-based client application that will run on the Mac. Depending on your OPI requirements, you may find Solaris an adequate, if not stellar, performer. And Sun offers some less expensive configurations that are appealing as well.

**Do You Need Unix?**

Given the price of Unix-based servers, adding equipment like this is probably an option only for the most bandwidth-greedy—and cash-rich—of workgroups. However, if OPI sounds like something you need to implement in your publishing shop, making an investment in a Unix-based server is a wise choice.

www.macworld.com April 1999 77
The Road Ahead: Future OSs

Adding a publishing server to your network will certainly speed up workflow, but a server you invest in today should also serve you well tomorrow. Aside from the solutions currently available, we uncovered future server operating systems and saw what they have in store for you. Upcoming operating systems promise improved Mac support, but these platform evolutions shouldn’t dramatically affect the Macintosh-friendly solutions of today.

**Mac OS X** Traditionally, Apple has focused its efforts in the server arena on ease of use at the exclusion of speed. However, Apple (408/996-1010, www.apple.com)—a company that at one point sold Unix servers running IBM’s AIX—has turned to a homegrown Unix-based operating system for its server-software strategy.

The $99 Mac OS X Server, announced at Macworld Expo in January, is based on Rhapsody, the interim Apple operating system that originated at Steve Jobs’s Next. Because Mac OS X Server, like Mac OS X, is based on a Unix core, it provides standard Unix networking support, such as TCP/IP and Network File System (NFS, the Unix equivalent of the Mac’s AppleShare) in addition to AppleTalk. That means it can be a server for Unix workstations and Windows clients in addition to Macs using AppleTalk or TCP/IP.

However, the first version of Mac OS X Server appears to be most appropriate either for people in the market for a Web server or for system administrators who want to boot many iMacs off of a server, not for people looking for a file server.

**Windows 2000 Server** More than a year ago, Microsoft (425/882-8080, www.microsoft.com) hyped its Windows 2000 Server—formerly known as Windows NT 5—as providing great support for Macintosh clients. Due to be released late this year or early 2000, Microsoft’s server solution promises more speed and improved manageability.

The biggest change from Windows NT 4 will be faster performance, as evidenced by Macworld Lab tests of a recent beta version of Windows 2000 Server (see the benchmark, “Speedy Servers”). Under Windows 2000 Server, networked Macs are connected via IP, which provides for faster communication. Macintosh clients will also get native support for Apple Remote Access, so PowerBooks can easily dial into a Windows 2000 Server-based system.

Network managers will finally be able to manage the Mac file services and clients in a standard Windows 2000 control panel, rather than having to use the separate MacFile control panel.

**NetWare** Novell’s (408/967-8400, www.novell.com) NetWare was the first network operating system to support Mac clients, back in 1988. But Novell ceased its Mac support with the release of NetWare 5. (Earlier versions support Mac clients, but their Mac-connectivity software doesn’t work with NetWare 5.)

Novell handed over the development of Mac-connectivity software to Prosoft Engineering (925/426-6100, www.prosofteng.com), which should ship NetWare 5 clients by year’s end for both AppleTalk and TCP/IP-based networks. Beta versions are available for download now.—Galen Gruman

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### Here to Serve You: Operating Systems Compared

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Company</th>
<th>Phone</th>
<th>Server Software</th>
<th>Server Hardware</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mac OS 8.5</td>
<td>Apple</td>
<td>408/996-1010</td>
<td>AppleShare IP 6.1</td>
<td>Apple Power Macintosh G3/333 with a 333MHz PowerPC, 128MB of RAM, and a two-drive RAID Level 0 array.</td>
<td>Fastest all-around server in file transfers, but disappointing print-spooling results.</td>
</tr>
<tr>
<td>Windows NT 4.0</td>
<td>Microsoft</td>
<td>425/882-8080</td>
<td>No software needed for Macintosh compatibility.</td>
<td>Dell Dimension XPS D333 with a 333MHz Pentium II with MMX, 128MB of RAM, and a two-drive RAID Level 0 array.</td>
<td>Affordable server option that shines in print commands but is sluggish at file copying.</td>
</tr>
<tr>
<td>iXe 6.5.1</td>
<td>Silicon Graphics</td>
<td>650/933-1980</td>
<td>EtherShare 2.5.1</td>
<td>Silicon Graphics Origin 200 with a 225MHz R10000 CPU, 128MB of RAM, and a two-drive RAID Level 0 array.</td>
<td>Reasonable solution for multiprocessor office, but too pricey for mere file sharing.</td>
</tr>
<tr>
<td>Solaris 2.6</td>
<td>Sun Microsystems</td>
<td>800/786-0404</td>
<td>Xenet's K-Share</td>
<td>Sun Microsystems Ultra2 Model 2200 Creator 3D with dual UltraSpars 200MHz CPUs, 1GB of RAM, and a single 4GB Wide SCSI drive.</td>
<td>Costly server with decent print-spooling times.</td>
</tr>
</tbody>
</table>

78 April 1999 MACWORLD
settings as well as how each one handled extremely heavy loads of commands.

Mac OS File Sharing Simple file sharing has long been one of the Mac's strong points—it's built into every Mac, it's easy to use, and it's very robust. The most probable scenario for using Mac OS file sharing is to set up an old Macintosh to handle these demands. Macworld Lab tested Mac OS file sharing using an Apple Power Macintosh G3/333 running a default installation of Mac OS 8.5—a setup that is faster and more costly than what you'd typically use for just file sharing.

Although the Power Mac G3/333 is a speedy machine, when it ran the Mac OS's built-in file sharing, it was the slowest of all the servers we tested—even when the network was idle.

With a busy network, though, the main weakness of file sharing became glaringly obvious: copies to the server took well more than four times as long as they did with the next-slowest configuration, Windows NT 4.0, and copies from the server took slightly more than six times as long as they did with Windows NT 4.0, which was again the next-slowest configuration. File sharing may be a reasonable solution for light-duty file serving with a few users and relatively small files, but heavy network traffic—three or four users, for example—will quickly render this approach ineffective.

If your network is hitting the wall, it's time to consider adding a real file server.

AppleShare IP 6.1 Loading AppleShare IP 6.1 ($999 for 50 users) onto the same Power Mac G3 used for file sharing resulted in dramatically improved file-copy times. Although the Mac has traditionally not been held in high regard as a server contender, AppleShare IP, the one solution custom-built for Mac clients, is the fastest all-around performer and includes automatic support for PC clients as well. Apple's new Power Mac G3 line of server solutions starts at $3,299.

AppleShare IP 6.1 came in first or second on all of our file-transfer tests. For general file serving in a Mac environment, AppleShare IP 6.1 shines—it's fast, even under a heavy network load, and it's relatively easy to set up. Plus, you'll be glad not to have to worry about introducing a different platform to your shop. (The previous version, AppleShare IP 6.0 [see Reviews, February 1999], is incompatible with Mac OS 8.5 despite having shipped only a few weeks before that OS upgrade.)

Windows NT We tested Windows NT 4.0 on a Dell Dimension XPS D333 powered by a 333MHz Pentium II with MMX. The NT 4.0 server was easy to configure; we used default settings and encountered no problems connecting the Mac clients.

As a file server, the NT 4.0 solution proved disappointing, giving slower file-transfer performance than all other configurations we tested—with the exception of Mac OS 8.5 file sharing. In part, this is due to the fact that NT can connect to Mac clients using only the slower AppleTalk protocol. However, such performance lags vanish with Windows 2000 Server, which supports the faster IP protocol. An additional alternative on the Windows platform is Thursday Software Systems' Dave 2.0 (see "Mac Life Preservers," April 1998). This $119 software solution loads on the Mac clients and allows them to connect to a Windows NT 4.0 server via TCP/IP.

When copying to the server with Dave installed, we saw performance gains similar to what we experienced when using the Windows 2000 Server beta (see "Speedy Servers"), but copies from the server were much slower—comparable to what we got when running NT 4.0 without Dave.

Although neither Windows NT package offers the performance boost of AppleShare IP 6.1, you can get a fully configured Wintel server for less than $1,500. However, if you decide to add Windows NT to your office, hold out for Windows 2000 Server. This OS is expected to ship before the end of the year, and early tests show greater speed and better compatibility than what you'll find with Windows NT 4.0.

The Paper Trail In addition to file sharing, print serving is an important test of a server platform's strength in a Mac-centric environment. And even though it's unlikely for a server to be busy transferring files all the time in a small or medium-size network environment, the server will likely need to continuously feed data to output devices such as imagesetters, plate setters, and proofers. To measure each server's ability in this regard, we focused our analysis on how each performed under a heavy load of network traffic.

For the most part, there isn't one configuration that works ideally as both a file and print server. Our tests demonstrate quite dramatically that for print serving, a PC running Windows NT 4.0 outperforms a Power Mac G3 running Mac OS 8.5 and AppleShare IP 6.1. Since print commands are sent using a different protocol than IP, servers optimized for IP may offer little advantage as print servers.

AppleShare, the champ on file serving, was disappointing as a print server. The more affordable Windows NT 4.0, a distinctly lackluster file server, excelled at our printing tests on a busy network.

The Last Word For general file serving in a Mac environment, don't let anyone force you to abandon the Mac OS. AppleShare IP 6.1 is hard to beat—it's fast, easy to configure, and does not require the use of a foreign operating system. For print serving, Windows NT 4.0 was the true speed champ. Not only is it the fastest in the lot, but the necessary hardware is also affordable.

If you decide to go the server route, consider more than just sheer speed so you won't be blindsided by costly technical support or platform integration. And regardless of your platform selection, remember that integrating a server into your office will undoubtedly put your files in the fast lane.
Most Mac users break the world of computer operating systems down into two camps: Us (the Mac OS) versus Them (Windows). But that black-and-white view of the computer world ignores an operating system you probably rely on every day without knowing it—and one with the promise to turn your Mac into a far more powerful computer than you ever imagined possible.

We're talking about Unix, the operating system that keeps the Internet up and running, poses one of the greatest threats to Microsoft's monopoly, and is poised to sweep into Mac users' lives with the introduction of Mac OS X, expected later this year.

Unix has a reputation for being a scary, complicated system that's the polar opposite of the friendly, easy-to-use Mac OS. And that reputation is somewhat deserved—but that's not the whole story. New versions of Unix that run on Mac hardware are giving slow Power...
of the Beast
The Beauty of the Beast

Macs new life by turning them into screaming-fast Internet servers. Apple is also hard at work on the upcoming Mac OS X, making the power of Unix more friendly and appealing to the average Mac user. That's why, even if you've made the solemn vow never to type on a command line, knowing about Unix will help bring the future of the Mac (and perhaps the entire computer industry) into focus for you.

Uncovering Unix
The first thing to understand about Unix is that it's not one single product from one developer, like the Mac OS or Windows. It's more of a specification for an operating system—in addition to the official Unix versions there are countless clones and variants, including one of the most popular ones around, Linux (www.linux.org). Linux is a free version that is developed by a group of volunteer programmers on the Internet and has taken the software world by storm—mostly because it's free, it's stable, it isn't controlled by any single monolithic corporation, and it doesn't come from Microsoft. Software giant Corel is even working on a Linux version of its WordPerfect Office suite in an attempt to break Microsoft's dominance in both the operating-system and office-suite markets.

Unix has been evolving since the early 1970s, long before the dawn of personal computers. Thus, Unix wasn't designed to run on personal computers at all—it was designed to run on expensive servers, with users logging in remotely from terminals or low-powered computers. As time has passed, personal computers have evolved to the point that they now can run Unix themselves, rather than just logging in to a remote Unix server. While most of the personal computers using variations of Unix are still Intel-based PCs, the number of Macs running Unix has begun to grow rapidly.

Unix's Face
Unix's basic user interface (called a shell) is about as far from the Mac OS as you can get—it's plain text, just like DOS. Unix doesn't have a built-in graphical user interface like the Mac OS or even Windows. When graphical user interfaces first began their proliferation—still during the days when Unix ran only on servers—researchers at MIT developed X Windows, a framework that lets developers write Unix programs that have a graphical interface.

But while the Mac has the Finder, there's no common face for Unix. Many different programmers have developed many different graphical user interfaces—typically called desktop managers—for Unix. Most of them will be just familiar enough

What's in a Name: The Many Colors of Unix

Unix isn't just one operating system—it's a term that's often used to describe all sorts of operating systems. The original Unix began life as a research project at AT&T's Bell Labs in late 1969; Unix's built-in clock considers January 1, 1970, the dawn of time. The University of California, Berkeley was also working on a version of Unix, based on AT&T's project, that ultimately saw the light of day in 1975. Berkeley's Unix was known as BSD, short for Berkeley System (or Software or Standard, depending on who you ask) Distribution, and was intended for higher-education, noncommercial use. Over time, AT&T released several revisions of its Unix; the one that really made its mark was called System V.

The Unix name has been a source of legal contention, and its trademark has changed hands several times during various corporate purchases and mergers. Because of licensing restrictions, intellectual-property rights, and also technical preferences, several Unix clones have been developed from scratch over the years, specifically to allow them to evolve independently of the large legal entities that owned the rights to the Unix name and the operating system.

Minix was one such clone, as is Linux, which began development in 1991 under the guidance of then-student Linus Torvalds. In the years since, Linux has remained open-source software—all of its source code is freely accessible to users and modifiable by anyone who would choose to do so.

There are also a number of open-source BSD derivatives out there—FreeBSD, NetBSD, and OpenBSD to name but a few. While they haven't had the public acclaim that Linux has enjoyed, each has its own fans; for example, Yahoo uses FreeBSD on all its servers. Since the different BSDs and Linux are open-source systems, there is occasional cross-pollination between the two camps. MkLinux, for example, uses various bits of device-driver code from NetBSD. Apple's Mac OS X Server is even based in part on FreeBSD—STEPHAN SOMOGYI AND GEOFF DUNCAN
that users can perform basic work, but they’re a far cry from the intuitive interface that Mac users have come to expect—partially because there are no cohesive user-interface guidelines for Unix as there are for the Mac.

**Unix's Power** So if Unix is complicated and scary, why would any Mac users care to run it on their Macs? The answers are speed and stability. Underneath its complex facade, Unix is a stable, fast operating system that is especially appropriate for use as an Internet server.

In fact, Power Macs that start to feel too slow for the Mac OS can gain new life as Unix servers, hosting Web sites or routing a workgroup's e-mail. Although the Mac OS of today is a precariously balanced construction of code, Unix is designed to do its business as quickly as possible, leaving your computer's processor mostly free to do actual work.

Unix is far more efficient than the Mac OS in the way it manages processing horsepower and memory. Unix uses preemptive multitasking, a system of controlling applications so that no single program can hog all the processor power—but programs that need a lot of power can take priority over ones that are less vital. If you've ever noticed how sluggish your Macintosh can run when some other program is working in the background, you've seen the result of the Mac OS's less efficient cooperative multitasking.

Unix also offers memory protection, a scheme that essentially provides an impenetrable wall around every running program. That way, if one program goes nuts, it not only can't hurt any other program but it can also be shut off without harming your system or forcing you to reboot. If you've ever had to reboot your entire system because of a misbehaving application—and this happens to every single Mac user—you can see what an improvement memory protection is.

As a result, even the slowest Power Mac can be shockingly fast and stable when it's running Linux. And that means organizations can keep putting those computers to use long after they would've otherwise been written off as useless.

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**The Mac OS Meets Unix**

Sure, Unix's strengths sound great—but its weaknesses (for example, its lack of a consistent, graphical user interface; its complexity; and certain security issues) loom even larger. Thankfully, Apple has decided to merge the best of Unix and the Mac OS, and the result is Mac OS X. Apple has made it clear that the version of Mac OS X intended for regular Mac users will provide the same friendly Mac interface we use every day—perhaps with some new innovations. But hidden away beneath the surface will be Unix, providing the speed and stability that Unix built its reputation on.

**The Promise of OS X** If Apple does its job right, using Mac OS X will feel like using the Mac OS and not some Mac-Unix hybrid. The same can't be said of Mac OS X Server, Apple's new $999 server operating system that's an intermediate step between the Unix-rooted NextStep environment and the Mac OS.

Apple is billing Mac OS X Server as a powerful software package for Web serving, and it's hard to argue against this: because of its Unix underpinnings, Mac OS X Server can run Apache, the free Web server software that's the most popular Web server package on the Net. What Mac OS X Server adds to Apache is a user interface—Apple has written Mac-style control panels and assistants to make setting up Apache easier than it would be on, say, a standard Linux system. (Whether it'll be as fast as Apache on Unix is still unknown—at press time, Apple wouldn't allow Macworld to test a prerelease version of OS X Server.) This isn't Apple's first time working with Unix—the company used to offer its own variant of Unix, A/UX.
Running Unix Today

Whether you want to be prepared to be a Mac OS X power user on the day the new OS is released or you just want to see how fast that old Power Mac of yours can be as an office e-mail, Web, or file server, you can get Unix experience today by running a version of it on your Power Mac.

There are two different ways to run Unix on Macs: either you can run Unix inside the normal Mac OS or you can completely replace the Mac OS with Unix.

**Unix Inside** The gentlest way to introduce Unix into a Mac environment is to use the $249 Power MachTen 4.1.1, from Tenon Intersystems (www.tenon.com). It's a full-blown version of BSD 4.4 Unix, with X Windows, networking capability, development tools, and everything else Unix has, but it runs as a Mac application. This means that you can switch from the Mac universe to Unix with the click of a mouse. The downside of this solution is that MachTen is as vulnerable as any other Mac OS app to the misbehavior of other software.

Despite these limitations, don’t be fooled into thinking that MachTen is a Unix emulator, in the same way that Connectix’s Virtual PC is a Windows emulator. The Unix software inside MachTen executes instructions native to the Mac’s PowerPC chip, meaning that MachTen and its apps run at native speeds. If you’re careful not to run too much other stuff on your Mac, using MachTen is a particularly convenient option because of the ease with which you can switch back and forth.

**Linux Takeover** Although it’s popular to run Linux on Intel-based PCs as an alternative to Windows, there are also two popular versions of Linux that run on Power Macs: MkLinux and LinuxPPC. (Another variant, Yellow Dog Linux [www.yellowdoglinux.com], is on the horizon.)

Unlike Power MachTen, both MkLinux and LinuxPPC need to take over your entire Mac when they’re running. This means that you have to restart your computer whenever you want to switch between Linux and the Mac OS. You’ll also have to dedicate at least 500MB of hard-disk space to a Linux installation. Fortunately, however, MkLinux and LinuxPPC are similar enough that despite the differences between the two, both can run the same apps.

**MkLinux** First introduced in 1995, MkLinux is the oldest Linux for the Mac, and its development was originally funded by Apple. It’s completely free—you can download it from ftp://ftp.mklinux.apple.com. For those who don’t want to spend time downloading its multihundred-megabyte bulk, you can

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**Unix on Power Mac: Where to Get It**

<table>
<thead>
<tr>
<th>Company</th>
<th>Product</th>
<th>Price</th>
<th>Phone</th>
<th>Comments</th>
</tr>
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<tbody>
<tr>
<td>LinuxPPC</td>
<td>LinuxPPC Release 4</td>
<td>$32*</td>
<td>414/427-8555</td>
<td>Fast and stable; doesn’t work on NuBus Power Macs.</td>
</tr>
<tr>
<td>Prime Time Freeware</td>
<td>MkLinux DR3</td>
<td>$20**</td>
<td>408/433-9662</td>
<td>Compatible with old Power Macs; slightly slower than LinuxPPC.</td>
</tr>
<tr>
<td>Tenon Intersystems</td>
<td>Power MachTen 4.1.1</td>
<td>$249</td>
<td>805/963-6983</td>
<td>Runs within the Mac OS; susceptible to Mac OS crashes.</td>
</tr>
</tbody>
</table>

purchase a copy for $50 from Prime Time Freeware (www.ptf.com). This gets you two CDs plus an informative book about MkLinux; if you want just the software on CD, it's $20. That tome has most of the documentation that you'd otherwise spend a lot of time hunting around for on the Net. At that price, it's a steal.

MkLinux's main advantage is hardware compatibility: it runs on just about every Power Mac out there, including the original 6100, 7100, and 8100 series. Since those are the PowerPC-based Macs that are most likely to be declared too old to use, they're also the most likely candidates for conversion into Linux-based systems. The result: Macs once slated for the giveaway pile can provide solid performance in their new lives.

**LinuxPPC** The other Mac-based Linux is LinuxPPC (www.linuxppc.com). Unlike MkLinux, whose evolution has floundered, LinuxPPC is under very active development, bringing continuous improvements in usability, speed, and reliability with it. LinuxPPC can also be downloaded for free, but it's much more convenient to purchase the $32 set of two CDs that contains all the software and source code.

LinuxPPC is leaner and meaner than MkLinux. Its developers have taken advantage of the more open systems that Apple designed and built in the days of Mac clones. The LinuxPPC team has created a Linux that is even more streamlined—and therefore faster—than MkLinux.

Unfortunately, LinuxPPC runs only on Power Macs that have a PCI bus. The good news is that it does work on all PowerPC-based systems other than the 6100/7100/8100 family; its Performa siblings; or the PowerBook 1400, 2400, and 5300 models. (The definitive list of supported hardware is at http://linuxppc.org/hardware/.) It's a pity that the first Power Mac generation is left out, but unless Apple provides the LinuxPPC team with the necessary documentation, MkLinux will remain the only option for those Macs.

Perhaps the most important thing about LinuxPPC is its attention to making Linux as painless to install as possible. The latest version of LinuxPPC, release 5.0, will include a brand-new graphical installer that will help you set up Linux on your Power Mac fairly easily. You can even set Linux to boot directly into an X-Windows graphical user interface rather than a scary command-line interface, if you so desire.

However, all these improvements to the process don't mean that running LinuxPPC is as easy as running a Mac—Linux is still something for people with a techy mentality. And much more than is the case with computers running the Mac OS, Unix-based systems are vulnerable to attack if you're not careful. Unix will often load a number of server applications invisibly and by default. If you're planning on running a Linux server that's accessible to the whole Internet, you must learn a bit more about Unix system administration than if you are just setting up a local workgroup server.

And while there are only a few general-use Linux applications out there, the numbers are growing. You can run Netscape Communicator (www.netscape.com) on LinuxPPC, and Applix (www.applix.com) will soon offer a version of its Applixware suite of business apps for LinuxPPC. One by one, the barriers to getting started with Unix are disappearing. Hopefully, by the release of Mac OS X they will have faded away completely.

**The Last Word**

Unix definitely isn't something to be afraid of; instead, it's something to be curious about. Its performance tweaks make it a faster, more reliable operating system than the Mac OS. Until Mac OS X arrives, you'll have to forfeit some ease of use if you want to give Unix a try. Whether you're just interested in experimenting with the new Linux operating system that everyone's talking about or you're actively preparing for Mac OS X, you have lots of options today for running Unix on your current Power Macintosh.

And although Apple has committed to keeping the “classic” Mac OS alive well into the next millennium, the long-term future of the Mac OS is based on Unix technology. If Apple's engineers do their job right, regular users won't have to know about Unix buzzwords or see its command-line countenance in order to reap the rewards of its power and stability.

Contributing Editor STEPHAN SOMOGYI understands Unix and many of its variations but still prefers the Mac.
CLEARED FOR FINAL APPROACH

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Choose 30 at www.macworld.com/getinfo
Literally thousands of new Web sites pop up on the Internet every day. Unfortunately, at least half of them seem to end up getting bookmarked on my computer. The result, of course, is a mess: huge lists of bookmarks; unwieldy, disorganized browser menus; and dozens of stray URLs in documents randomly scattered all over my system.

With Web and e-mail addresses coming at you from every direction, it's good to know that there are plenty of powerful URL-management shortcuts built right into the Mac OS. If you know the right tricks, you can wrangle, redirect, and reorganize those URLs with a few simple mouse-clicks.

**Detect and Connect**

The best way to extract URLs from documents of any kind is by using Apple Data Detectors (ADD) 1.0.2, an incredible free utility from Apple that helps you find, save, and connect to Internet addresses located in documents anywhere on your system. If you're not already using ADD, you should be. To download it, go to http://asu.info.apple.com and search for Apple Data Detectors. (You can use ADD with System 7.6 or later.)

With ADD installed, you can simply control-click on a selection of text in a document to create a contextual pop-up menu that lists the URLs in that selection. The pop-up menu also lists a number of options for launching or saving URLs (see “Click to Connect”). The detector can recognize e-mail addresses, Web sites, newsgroup names, and FTP site addresses. You can, for example, use ADD on a word-processing document to find a Web page's address, add the address to the list of bookmarks in Netscape Navigator, and then launch your browser and open the page—all from one pop-up menu right in your word processor.

One note about ADD: the pop-up menus provide more options than you probably need; the View In Cyberdog option is one you probably won't use, for example. So after installing ADD, make it a point to visit the Apple Data Detectors control panel, where you can turn off commands you don't plan to use.

**Clip Those URLs**

Even without ADD, Mac OS 8.5 has become quite smart about sniffing out URLs and helping you organize them. For example, you can now create two new kinds of text clippings: Web-page locations and e-mail addresses. Simply select a URL (such as www.macworld.com) and...
The Keyboard Connection

BOTH INTERNET EXPLORER AND NETSCAPE NAVIGATOR PROVIDE a number of shortcuts for opening your favorite Web pages, but have you noticed that there’s no obvious way to navigate to frequently visited sites using only the keyboard? Generally, you have to click on a button or pull down a menu or submenu in order to get to a bookmarked location.

Once you’ve created Web-page-location or e-mail-address clippings, there are a number of different ways you can use them.

- Drag a Web-page-location clipping directly into a browser window to connect to that Web site immediately. If you drag the clipping into Microsoft Internet Explorer’s Address bar (instead of into the window itself), the URL appears in the Address bar, although you won’t actually connect to the site until you press return.

- If you want to be able to access a clipping from the Favorites submenu in the Apple menu, control-click on a clipping and choose Add To Favorites from the contextual pop-up menu. This places a copy of the clipping in your system’s Favorites folder.

- You can change the name of a clipping without altering its contents, even though by default these clippings have the name of the URL they contain.

- You can drag the clippings into any drag-and-drop-aware application to insert them as text.

- Drag clippings into Internet Explorer 4’s Favorites folder to automatically add them to Explorer’s Favorites list. Even cooler, drag them straight onto the Favorites bar and they appear right on the bar. This little trick doesn’t work with Netscape Navigator, by the way.

- Double-clicking on a clipping launches your default Web browser or e-mail program. You can change these defaults by opening the Internet control panel and choosing new default applications in the E-mail and Web panes.

However, both Web browsers do allow mouse-free access to the sites you’ve already added to the Bookmarks (Netscape) or Favorites (Internet Explorer) list. Just use the commands in the figures below to perform such tasks as opening a folder of bookmarks, deleting a bookmark, and going to a favorite site.

Netscape Navigator 4

Press ⌘-B to open the Bookmarks window.

Use the up- and down-arrow keys to move to a location in the list.

Once you’ve selected a bookmark, press return to launch it.

To edit the name or contents of a bookmark, select it and then press ⌘-I.

Open and close selected folders by pressing return.

Instant Bookmarks

If you generally keep your Web browser running, here’s another way you can create shortcuts to your favorite Web sites from URLs you may come across in e-mail and other documents: You can treat a URL within text just as you do a Web-page clipping file. Select the URL, and then drag it directly into the Favorites folder in Internet Explorer—bypassing the Finder completely. The URL instantly becomes available in Explorer’s Favorites list. Or, you can drag the selection right onto Explorer’s Favorites bar to install a shortcut button right on the bar itself.

You can do essentially the same thing in Netscape Navigator by dragging a selected URL into Navigator’s Bookmarks folder.

Of course, even with these techniques, you still have to sort through your collected URLs, organize them into manageable lists, and periodically, weed out the waste. For that job, alas, no one-click tool exists.

AppleScript is great for automating everyday tasks, especially when you're using the speedier PowerPC-native AppleScript in Mac OS 8.5. But some AppleScript commands can be troublesome when they run in the background. For instance, consider the following script, which selects the items in the Recent Applications folder, moves them to the Trash, and empties it:

```
tell application "Finder''
select every item of folder "Recent Applications" of apple menu items folder
delete selection
empty trash
end tell
```

Chris Garaffa of Cos Cob, Connecticut, wrote this script, and while it was running he made the mistake of selecting the folder that contained his Web site. To his surprise, the script didn’t delete the items in his Recent Applications folder but instead deleted his Web site. The following script doesn’t use a Select command, and would have prevented this calamity:

```
tell application "Finder''
delete every item of folder "Recent Applications" of apple menu items folder
empty trash
end tell
```

The moral of the story: Be careful about selecting items while running a script in the background, beware the Empty Trash command (which never displays a warning), and always back up your files!

**Correct Dictionary Mistakes**

Q While using the spelling checker in a WordPerfect 3.5 document, I accidentally clicked Add instead of Replace and added a misspelled word to my dictionary. How can I remove the added word? And can I remove words from Microsoft Word's dictionary too?

A Corel WordPerfect stores the words you add to the spelling dictionary in a file named User Dictionary (USA), found in the Language folder inside the WordPerfect folder. To edit this file, double-click it. The file opens in the ST Utility program, which lists the words in the dictionary and lets you delete and add words. Word 6 and Word 98 store your words in a file named Custom Dictionary. To edit a dictionary file in Word 98, choose Preferences from the Tools menu, click the Spelling & Grammar tab, and then click the Dictionaries button. In the dialog box that appears, select the dictionary you want to edit by clicking its name—not the check box—and then clicking the Edit button. Word 98 opens the dictionary in a document window and turns off automatic spell-checking.

Find the misspelled word in the document window and delete or correct it. You can also type in new words, but make sure you press return after each new word to put it on a separate line. When you save this document, Word 98 may advise that you could lose formatting if you continue saving; click Yes and don’t worry. To reinstate automatic spell-checking, choose Preferences from the Tools menu, click the Spelling & Grammar tab, and turn on the option Check Spelling As You Type.

To edit a dictionary file in Word 6, choose Options from the Tools menu, and click the Spelling tab to see a list of custom dictionaries. Select the dictionary you want to edit and click the Edit button. When Word asks if you want to edit the dictionary as a Word document, click Yes. When asked how you want to convert the dictionary file, select Text Only and click OK. The file opens in a document window behind the Options dialog box; dismiss the dialog box by clicking its Cancel button. Now you can edit the dictionary in the document window.

**Open the .exe Files**

Q How can I open e-mail attachments labeled with the suffix .exe, such as tree.exe?

A Files whose names end with .exe (short for executable) are PC programs. Some .exe programs are compressed archives, which you can expand on your Mac using the freeware StuffIt Expander together with the shareware DropStuff With Expander Enhancer, which archives your Mac. Some .exe programs are compressed archives, which you can expand on your Mac using the freeware StuffIt Expander together with the shareware DropStuff With Expander Enhancer, which archives your Mac. Some .exe programs are compressed archives, which you can expand on your Mac using the freeware StuffIt Expander together with the shareware DropStuff With Expander Enhancer, which archives your Mac.
both from Aladdin Systems (www.aladdinsys.com). To run these programs, you need either a PC or PC-emulation software such as Insignia SoftWindows (510/360-3700, www.insignia.com) or Connectix Virtual PC (650/571-5100, www.connectix.com) for your Mac. If your Mac has PCI or NuBus expansion slots, you can also install a PC-compatibility card from Orange Micro (714/779-9332, www.orangemicro.com) and use it to run .exe programs.

Grab 'n' Scroll

In Mac OS 8.5.X you can scroll through a folder or disk window by grabbing its contents. Just press the ⌘ key, click anywhere in the window, and drag—the pointer turns into a little white-gloved hand.

Richard Hayes
Chandler, Arizona

Read Mail While Roaming

If you want to read and send e-mail via your regular e-mail account while you’re away from your computer, you don’t necessarily need a Web e-mail account as described in December 1998’s Quick Tips. Ned Smith of Erie, Pennsylvania, reports that you can access a POP e-mail account from any computer with a Web browser by visiting the Panda Mail site (www.bstar.net/panda/). There you supply the e-mail log-in or user ID (typically the first part of your e-mail address), e-mail password, and server name (for example, ISPname.com or pop.ISPname.com).

One caveat: Panda Mail probably won’t be able to access your e-mail account if the POP server is behind a firewall—typical with some corporate e-mail servers but usually not with ISP (Internet service provider) servers. Also, to keep your mail private, don’t forget to close the browser window when you’re done and clear the browser cache as described in December.

Clarify Phone-Line Quality

Instead of calling a 3Com BBS long-distance to check your phone-line quality as suggested in January 1999’s Quick Tips, get your modem to report the phone-line quality while it’s connected to your ISP, says William C. Roemer of Fort Collins, Colorado.

In the communications module of ClarisWorks or a terminal program such as ZTerm, which is $30 shareware (not freeware as stated in January), type AT&T and press return. Then type ATDT followed by the phone number you usually dial when you connect to your ISP—for example, ATDT555-1234—and press return. After the modem dials and connects, you’ll probably see a message from your ISP asking for your log-in name. Ignore this request and type +++ but don’t press return. The terminal program should display OK on the next line. Then type AT&V1 and press return. The program displays connection statistics, including an item labeled something like Line Quality followed by a number. A Line Quality value of 25 or less indicates that the modem can connect at high speeds. Values greater than 25 signify slower connections.

Roemer says factors that affect line quality include your modem’s distance from the telephone switching facility and the number of devices (telephones, fax machines, answering machines, and the like) connected to the same line. For example, with all telephones unplugged from the phone line, Roemer’s connection speed hovered between 48 Kbps and 50Kbps. But when four telephones were connected to the same line, the connection speed dropped to between 28.8 Kbps and 31.2 Kbps. In addition, Roemer notes that a V90 modem will frequently not connect at 56 Kbps if the ISP’s modem supports only the X2 or K56flex standard.

Antonino P. “Nino” Giuliano of Palm Bay, Florida, observes that if your modem is more than 19,000 feet from the phone company’s analog-digital switch, you can only expect a connection of between 24 Kbps and 28.8 Kbps with any kind of 56K modem.

LON POOLE answers readers’ questions and selects reader-submitted tips for this monthly column. His latest book is Macworld Mac OS 8.5 Bible (IDG Books Worldwide, 1997).

All shareware and freeware mentioned in Quick Tips is available from the Macworld Online software library (www.macdownload.com).

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About to participate in a dog-and-pony show? Besides washing your dog and brushing your pony, you're no doubt also planning to create an on-screen presentation to accompany your rant. In fact, you were probably about to open PowerPoint 98 when I interrupted you. Good thing. Microsoft PowerPoint 98 is a great program, but in today's Web-centric world, it might not always be the best choice for creating a presentation. A better choice may be an HTML editor such as Macromedia's Dreamweaver 2 or Adobe's GoLive CyberStudio—or even Apple's SimpleText.

Even if you aren't the type who dreams in HTML, you'll find that creating presentations using HTML isn't too difficult. To make it even more painless, I've created a set of template pages to get you started (see "A Simple HTML Presentation"). And if you just can't bear to tear yourself away from PowerPoint 98, you can use its HTML-export features to turn your PowerPoint presentation into HTML (see "Convert PowerPoint Presentations to HTML").

Why HTML?
With PowerPoint 98 able to do everything except wash dogs and brush ponies, why would you want to descend into the depths of HTML to create a presentation? Several reasons.

**Playback Versatility** You can quickly post the presentation on your company's Web site after the event. If you build the presentation using relative links (as I describe shortly), you can also distribute it on floppy disks or CD-ROMs.

**Easy Distribution** You can quickly post the presentation on your company's Web site after the event. If you build the presentation using relative links (as I describe shortly), you can also distribute it on floppy disks or CD-ROMs.

**More Depth** Chances are that the Web is teeming with sites that relate to your topic. In an HTML-based presentation, it's a cinch to include links to those sites. Your presentation then evolves from a simple series of bullet points into a deeper information resource—a pint-size, portable Web site unto itself.

**Playback Versatility** The nightmare: five minutes until show time and you realize you've forgotten the PowerPoint player—or for some reason you can't install it on the presentation computer. But virtually every personal computer on the planet has a Web browser, making HTML a broadly supported foundation on which to build your pitch.
Multimedia Support Thanks to browser plug-ins and Dynamic HTML, you don’t have to strip QuickTime movies, animations, audio, and other glitz from your presentation. You will sacrifice some of its playback versatility, since in order to take advantage of these flashier goodies you’ll need to bring and install necessary plug-ins on the presentation machine. But if you’re willing to make the effort (and risk the glitches that can accompany using plug-ins), you can do almost anything with HTML that you can in PowerPoint.

A Few Building Tips
Whether or not you use the templates I created, employ these tips for building your HTML presentation. Many of these also apply to conventional Web sites.

Watch Your Screen Size Power-Point and other presentation programs automatically resize slides to accommodate the screen resolution of the computer you’re using. Web browsers reflow text but won’t resize graphics and other elements. So, keep your destination screen size in mind when creating the presentation—a good rule of thumb is to design for a screen resolution of 640 by 480 pixels.

Name Files Carefully To ensure that your presentation will run properly on any Web-aware platform, name your HTML pages and their support files using all lowercase letters, and in the boring 8.3 style (up to eight characters, a period, and a three-character file extension); for example, dogshow.htm instead of Westminster.html.

Keep Your Links Relative When linking to graphics or to other pages in the presentation, use relative links rather than absolute URLs.

A Simple HTML Presentation

TO GIVE YOU A HEAD START IN BUILDING HTML-based presentations, I created a set of simple template pages, which you can download from www.macworld.com/more/. There’s one template for a title slide, one for a bullet-point slide, one for images, and so on. The templates have a simple design that works across different browsers and platforms—they’re not built for adding flashy animated effects common to PowerPoint presentations.

You can open and modify the template pages with a text editor such as SimpleText or Bare Bones Software’s BBEdit (781/687-0700, www.barebones.com), or with a WYSIWYG HTML editor such as Macromedia’s Dreamweaver 2 (415/252-2000, www.macromedia.com) or Adobe’s GoLive CyberStudio or PageMill (408/536-6000, www.adobe.com). If using a WYSIWYG editor, switch to HTML view in order to see the comments I’ve planted in the HTML. Here’s how to work with the templates.

1 Adapt the title slide. I called the title slide index.htm, the name most commonly used by Web servers to denote a directory’s default home page. It simplifies posting your presentation on the Web: simply stash the presentation in its own directory, and refer to it with a nice clean URL such as www.yourdomain.com/speech/. If you’re using a Mac-based server such as StarNine’s WebStar (510/649-4949, www.starnine.com), you might need to change this file’s name to default.html. If you’re willing to spell out a full URL—like www.yourdomain.com/speech/title.htm—for the online version of the presentation, you can change its name to anything you like. But keep in mind the file-naming recommendations I mentioned in the main text.

You’ll also need to replace the text between the template’s <title> tags (which appears in the browser window’s title bar) and any other text in the template that reads “Insert . . . . Here.”

2 Stash the images. If your presentation contains graphics, tuck them in the folder named Images and use relative URLs to refer to them.

3 Duplicate and modify. If your presentation is like most, many of your slides will contain several bullet points—base these on the template file slide1.htm. For slides that have a single idea, statistic, or quote, use slide2.htm. Using the Duplicate command (UI-D) in the Finder, make as many duplicates of these two files as you need and modify each duplicate accordingly. Remember to edit the HTML for each slide’s navigation buttons so the next and previous buttons work properly.

4 Install the right fonts. I used Microsoft’s Verdana font, which is designed to be legible on low-resolution monitors and is included with the Mac OS and with Windows 98. If your presentation machine doesn’t contain Verdana, the browser will fall back to Geneva, Helvetica, or Arial (a Helvetica look-alike in Windows). You can download Verdana and other screen-optimized fonts from www.microsoft.com/typography/fontpack/.
Convert PowerPoint Presentations to HTML

You can't imagine standing at a podium without PowerPoint 98, but you still want the distribution flexibility that HTML provides. The answer: PowerPoint's Internet Assistant, which swings into action when you choose Save As HTML from PowerPoint's File menu.

The Internet Assistant's six dialog boxes provide a broad array of options for converting your presentation. You can, for instance, have the presentation's slides displayed within a frame set, with one frame providing one-click access to each slide. You can even make the original presentation file available for downloading.

The Save As HTML feature converts each slide into a graphic, which enables PowerPoint to retain the slide's formatting—all the way down to its color scheme and template design. On the downside, this means that each slide is much bigger than an equivalent screen created in HTML. PowerPoint also creates text-only versions of the slides, but they're bland and bare as bones.

PowerPoint's Internet Assistant does a good job of bridging the gulf between PowerPoint and HTML: there's no better way to quickly convert a PowerPoint pitch for display in a browser. But if your primary goal is to create a truly HTML-based presentation, you're better off using an HTML editor.

The Internet Assistant
A. Choose between standard and framed layout. (Framed layout provides faster access to each slide.)
B. Convert each slide into a GIF or a JPEG file. (Opt for GIF unless slides contain photographs.)

C. Determine how large you want each graphic to be. (The default setting, 640 by 480 pixels, creates the smallest and most portable files.)
D. Enter your e-mail address, home-page URL, and other descriptive information that you want to appear on the presentation's opening page.
E. Choose between standard browser colors (the default, which I recommend) or custom colors for the background, text, links, and visited links.
F. Specify placement of the slide-navigation buttons, and whether to include slide notes on each page.
G. Click to carry out the conversion.

Then absolute ones. A relative link describes a location relative to the location of the page with the link—for example, /images/graphic.gif. An absolute link spells out a complete location—for example, hard_drive/presentation/images/graphic.gif.

Relative links make it easier to move the presentation (or site) from one disk drive or server to another. Absolute links tie your project to a specific disk or Web address and won't function when your project is moved.

Most current Web authoring tools create relative links automatically, but it's possible sometimes to wind up with an absolute link. That's why it's always a good idea to . . .

Test It before Show Time After creating your presentation, move it to another machine and test it to make sure all your links work properly. If you don't have a second computer, move the entire presentation folder to a different location on your hard drive and test it from there. This will at least let you sniff out any link problems.

Carry It on a PC Disk The best medium for transporting your presentation is a PC-formatted disk or removable-media cartridge. Because all PowerPC Macs can read PC-formatted media, you'll be able to copy your presentation onto either a Mac or a Windows computer with no worries.

After the Show Your pitch doesn't have to end when the presentation is over. As already mentioned, using relative links throughout makes it easy to post your presentation on a Web site or distribute it on floppies. But to really make an impression, consider distributing it on business card-size CD-ROMs, such as Mc1 Technologies' Digital Cards (781/431-7030, www.digital-cards.com).

Digital Cards have dimensions identical to those of dead-tree-based business cards, but they can be used in any standard CD-ROM drive. A Digital Card holds only 18MB, a fraction of the 600MB capacity of a normal CD-ROM but more than enough to hold an ambitious presentation containing QuickTime movies.

Digital Cards are a bit pricey—as much as $4.50 each, depending on how many you order. But their unique capabilities and high-tech appeal make them a striking finish to big-budget presentations. Anyone who receives one is likely to try it out just to see if it really works. It's a great way to guarantee that someone will take another look at your ideas—all of which are crisply showcased in a snazzy and accessible HTML-based presentation.

A contributor to Macworld since 1984, Jim Heid (www.heidsite.com) writes and lectures about Web development and multimedia.
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Dynamic HTML without Tears

Create Slick DHTML Effects in CyberStudio without Programming

by Tom Negrino

Web designers benefit from vastly broadened possibilities for their sites with the advent of Netscape's and Microsoft's version 4 browsers. Thanks to technologies such as Cascading Style Sheets and JavaScript, designers can create pages with precisely positioned elements and easy animation, and they have fine control over the look and style of text.

But there's a catch. Cascading Style Sheets are deeply geeky and hard to code by hand, and JavaScript is an honest-to-gosh programming language that requires serious effort to master. In fact, under the rubric of Cascading Style Sheets, there are actually two different critters: CSS1 and CSS-P. CSS1 allows you to specify the look and style of type and some other Web-page objects; CSS-P (P for positioning) lets you specify the position of page objects and animate objects on the page. You can manipulate both types of style sheets via JavaScript, and the result is called Dynamic HTML, or DHTML for short.

Another catch is that you can view DHTML effects correctly only using version 4.0 or later browsers. Even then, some effects are Internet Explorer-specific and some are Navigator-specific. It's essential to preview your pages in both browsers, preferably in both the Mac OS and Windows.

Whole books explain how to code DHTML, but we'll leave the programming to people who enjoy that sort of thing. For the rest of us, there's GoLive CyberStudio Professional Edition 3 and later (S299; 650/463-1580, www.golive.com), which offers friendly, visual DHTML tools. (At press time, Adobe acquired CyberStudio.) While you simply drag objects around on the screen and fill out a few Inspector dialog boxes, CyberStudio hums along behind the scenes, writing the Cascading Style Sheets and JavaScript code.

To illustrate some DHTML elements, we created a few pages of a mythical sporting-goods site called Adventure Tools (you can see this site in action at www.macworld.com/more/). The opening page of the site is an animated splash screen with three elements that fly across the page and assemble to form the Adventure Tools logo (see "Open with Animation"). A few seconds after the animation ends, the splash screen automatically jumps to the site's home page (shown above).

With DHTML-savvy tools such as CyberStudio Professional Edition, designers get to concentrate more on designing and less on programming, and don't have to rely on Web programmers. You can create sites faster and more easily — and in the world of Internet Time, this is an important consideration.  

WHAT YOU NEED

- GoLive CyberStudio Professional Edition 3
- Web browser
- Web graphics editor (optional)

Open with Animation

THE SPLASH SCREEN IS YOUR SITE'S SNAZZY "FOYER," WHICH USHERS WEB SURFERS to the main page. This is a great place to employ animation. There are three moving elements on our splash screen: a globe, a skier, and the Adventure Tools title. Each element is a transparent GIF image embedded in a floating box. The animation consists of the GIFs flying in along different paths, finally assembling the complete logo (see this in action at www.macworld.com/more/). It's important that the images be transparent GIFs, so you can see one image behind another when they're stacked.

1. Begin by dragging the Floating Box icon (A) from the Basic tab of the CyberStudio Palette onto an empty page you've named Splash.html. You do this once for each image in your animation (in this case, three images). Into each floating box, drag an Image placeholder (B) from the Basic tab of the Palette. In the Image Inspector, specify the image file with the Browse button (C) or use the Point & Shoot button (D) to find the image in the Site window. Resize the floating boxes so they fit snugly around their images, and then position the boxes where you want the images to be at the end of the animation.

2. To animate the first floating box, click on the edge of the box to select it. Then open the Timeline Editor by clicking on the Timeline Editor button (E) in the upper right corner of the document window. In the Timeline Editor window, there are three tracks and three keyframes, one for each of the floating boxes. These keyframes represent where the images will end up, so you need to reposition them along the timeline.

3. Decide how long you want the animation to last, and drag the three keyframes to that spot on the timeline. After you move the keyframes, you'll notice that each track leaves behind a dimmed keyframe at the beginning of the timeline (indicating that the track is not visible at that point on the timeline). Click on the dimmed keyframe on track 1 to select it. Click on the Visible check box in the Floating Box Inspector, and then drag the floating box in the document window to where you want it at the beginning of the animation. Click on the play button (F) at the bottom of the Timeline Editor to preview your animation. You can adjust the speed of the animation by changing the frames per second via the FPS pop-up menu (G) at the bottom of the Timeline Editor.

4. If you want, you can add keyframes in the middle of the animation by right-clicking on a track on the timeline. This allows you to create a complex path the image will follow. You can smooth the path by choosing Curve under Animation Type in the Floating Box Inspector.

5. Repeat the above processes to animate the other two floating boxes.

6. Now, to make the splash screen switch automatically to the home page, you'll use an HTML tag that goes in the header of the page. It's a short bit of code, so if you like you can switch to CyberStudio's Source mode and type <meta http-equiv="refresh" content="5; URL=index.html"> between the <HEAD> and </HEAD> tags. If you prefer Layout mode, click on the disclosure triangle (H) at the top of the splash page to open up the Head Section of the page. Under the Head tab (I) in the Palette, drag the Refresh icon to the Head Section. In the Refresh Inspector that appears, enter a delay time in seconds (5 is a good number), click on the URL button, and enter the name of the page to which you want to jump.
What Browser Is That?

FANCY DHTML ANIMATION LOOKS GREAT TO PEOPLE WHO have version 4.0 or later browsers, but people with earlier versions (and that includes most people who use America Online) won’t see the animation. For these folks, the Adventure Tools splash page will just look like a blank colored page. You can’t control what browsers people use, but you can make your page handle older browsers gracefully by having it perform browser detection, which sniffs out the browser version that’s loading the page. If the browser is capable of handling DHTML, the page loads normally. But if it isn’t, the browser switches to a simpler page you’ve prepared without DHTML. You can use browser detection on the entry page of your site to redirect users with older browsers to a completely different, simpler version of your site.

1. To add browser detection to the splash page, drag the Browser Switch Item (A) from the CyberObjects tab (B) in the Palette to the header of the splash page (click on the disclosure triangle (C) to open up the Head Section).

2. The Inspector window changes to the Browser Switch Inspector. It’s usually fine to leave Supported Browsers set to Auto, but if you have custom JavaScript on your page that you know works with some older browsers, you can enable those browsers here. In the Alternate Link field (D), type the name of the page to which you want the user’s browser to jump if that browser doesn’t pass the version test. You can also use the Browse button (E) to find the alternate page on your hard drive, or you can use the Point & Shoot button (F) to select a page in the Site window.

Styling Text

CASCADE STYLE SHEETS HELP SOLVE A PET PEEVE OF WEB DESIGNERS: LACK OF FINE control over the style and appearance of text. The detailed ins and outs of Cascading Style Sheets are beyond this article’s scope, but we can show you how to create Tag Styles, which let you apply style rules to any HTML tag within a document. For example, you can apply instant styling to all of the <H2> tags throughout your document so that when you change the style definition, all text in your document tagged as H2 also changes.

1. Select some text on your page and choose Header 2 from the tool bar’s Paragraph Format pop-up menu (A). To create a text style sheet, click on the Style Sheet button (B) at the top of the document window. A new style-sheet window opens and the style tool bar appears on top. Click the New Tag button (C) on the tool bar.

2. In the CSS Selector Inspector, type H2 in the Name field (D). Type in the name of a valid HTML tag, but omit the usual angle brackets (< and >). Set the font, style, background, alignment, and other attributes for the new H2 style using the rest of the tabs (E) in the CSS Selector Inspector. Note that as you change the attributes, the text you designated as H2 also changes. When you’re done, the formatting you selected appears under the Basics tab (F).
Make Easy Rollover Buttons

One of the most useful and common DHTML effects is the button rollover. This simple animation makes a button change appearance when the user moves the mouse cursor over the button or clicks on it. What actually happens is that the browser swaps one version of the button image for another. The Adventure Tools site uses rollovers in the navigation bar on the main page. Here's how.

1. First, make a button. Adobe's ImageStyler and Macromedia's Fireworks make creating rollover buttons a snap, much easier than with Adobe Photoshop. But no matter what you use, make sure the different images for the button's various states (rollover, click on, and so forth) are exactly the same size and resolution. Otherwise, the browser will scale the second image to fit into the same space the first image took up, and the transition between the images will look awkward.

Also make sure your buttons are opaque GIFs or JPEGs, not transparent GIFs. If the image is transparent, the user will see one button on top of another, instead of one button replacing another.

2. Now open the page that will contain the button. In the CyberStudio Palette, click on the CyberObjects tab (A), and then drag the Button Image icon (B) to the document window.

3. Name the button in the Button Inspector (C), and then click on the square marked Main (D). This is the image you'll see when the cursor is not hovering over the button. Use the Browse button or Point & Shoot button to select the image.

4. Click on the box in the Button Inspector marked Over (E). Click on the check box next to the Image Path field (F), and then use Browse or Point & Shoot to select the image you'll see when the cursor is over the button. If you like, you can repeat the process a third time with the Click box (G), which replaces the button image with a third image when the user clicks on the button.

5. Buttons are usually linked to other pages. Click on the Status & Link tab (H), click on the URL check box (I), and then use Browse or Point & Shoot to create the link to the new page. Because the navigation bar on this page is part of a frame set, you'll need to set the target of the link. Choose Body from the pop-up menu next to Target (J).

TIP If you want a text message to show up in the status bar of the browser when the user rolls the cursor over a button, click on the Status check box (K) and enter your message.
Finally, A Cross-Platform Multi-User Internet Connection

Thinking of upgrading your home or business with a local network? Do multiple users need to get on the Internet at the same time?

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Almost all QuarkXPress users know about XTensions—those plug-ins that add functionality to XPress—but relatively few people go out of their way to use them. This is unfortunate, because although QuarkXPress is a good program, you won't really see it shine until you start using it with XTensions.

There are two reasons people tend to shy away from XTensions: First, it's often cost-prohibitive for small companies to buy more than one or two (so some don't buy any at all). Second, people still feel the burn of the worst disaster in desktop publishing history: Pasteboard XT.

When Pasteboard XT first came out, it changed people's documents so that you had to have this free XTension loaded to be able to open the document. People were so angry that the developer soon released a new version to fix the problem. But in the short time that lapsed, the old XTension made its way around the world. Even though every version of the XTension since then has removed the requirement, the old version still haunts us. (If you run into this problem, visit the Markzware Web site [www.markzware.com] to get a newer version of the XTension or PBFix; then just open the file and resave it. Also from Markzware, Pasteboard XT Terminator batch-removes the requirement from all the XPress documents on your hard drive.)

If you suffer from XTension woes, the antidote is an abundance of other XTensions that are free or really inexpensive and that cure headaches rather than cause them. We can't guarantee that the XTensions in this article are bug-free, but most of them are so simple that not much can go wrong. For all of you who have asked, "Why won't XPress let me do this?" the answer is just a download away.

Watch Out
One of the most important rules of XTensions is: Be careful of the outdated ones. Some older XTensions—such as the Bob and Son of Bob XTensions from Quark—can cause major crashing problems with newer versions of XPress. Other older XTensions may cause subtle problems or simply won't run. It's best to avoid using an XTension on important documents until you know that it works for you.

Another potential pitfall is not having enough RAM allocated to QuarkXPress. The more XTensions you have loaded, and the more complex those XTensions are, the more RAM XPress needs.

Maximum Efficiency
While some users still balk at using XTensions, it's clear that adding functionality to XPress will increase your productivity. Sure, there are expensive XTensions out there—and the people who need them are happy to pay for them. There are also low-cost bundles of XTensions—such as QXTools, from Extensis (www.extensis.com); Xpert Tools, from a lowly apprentice production (www.alap.com); and Xdream, from Vision's Edge Software (www.visionsedge.com)—that offer a lot of punch for a little money. Nothing beats the joy of a freeware or shareware XTension that saves you an hour's worth of time. Of course, not every XTension in the sidebar "Essential Shareware XTensions" will be a perfect fit for what you need, but you should be able to find at least a few jewels here.


www.macworld.com April 1999 103
Essential Shareware XTensions

DOWNLOADS TO FINESSE QUARKXPRESS

QUARK'S XTENSIONS Quark (www.quark.com/Hhp007.htm) has released several XTensions, including two that are must-haves for anyone who makes pages in QuarkXPress.

Type Tricks adds Make Fraction and Make Price features (which automatically format fractions and prices), plus the ability to remove all manual kerning or add word spacing to selected text.

Jabberwocky fills any text box with (sometimes humorous) dummy text. If you're tired of the old *lorum ipsum*, then this is the XTension for you.

Quark's Web site offers several other XTensions, such as a filter that lets you import GIF images and another that lets you import text from Microsoft Word 98.

PREFERENCES Why can't you lock guides in XPress? Why is there no way to tell a spot color from a process color in the Colors palette? Fortunately, there are XTensions that let you control these and other preferences.

S&R Default Folder (Durrant Software) fulfills one of the most common requests: the ability to change the default settings in the Step And Repeat dialog box. It's easy, it's quick, and it's essential for any hard-core XPress user.

PageBorder XT (Vision's Edge Software; www.visionsedge.com) places a border around your page when you print your document. This is extremely useful when you're printing a proof of any page that's smaller than the paper you're using.

Bold Spot XT (Markzware) is the best at helping you determine which colors are spot colors and which are process in the Colors palette: when the XTension is loaded, all the spot colors appear in bold type.

Lock Guides XT (Markzware) gives you two options: lock all the guides or unlock all the guides. It's basic, but anyone who's ever accidentally moved a guide knows this could be a real lifesaver.

GENERAL PRODUCTIVITY Here are a handful of other XTensions that give you some clever shortcuts.

QX-Shadow (Extensis) is a godsend for anyone who has to make more than one drop shadow per week. It automatically builds drop shadows behind any object on your page. There are commercial XTensions with more features, but this one has everything that many people need.

xStyle (Em Software; www.emsoftware.com) lets you create, edit, and apply style sheets much faster and more conveniently than with XPress's built-in Style Sheets palette.

PasteBox XT (Markzware) lets you paste a box or group of boxes to another page, giving the box exactly the same placement on the new page that it had on the original. You can even paste the box or group to the same spot in another document.

Navigator XT (Vision's Edge Software) opens a palette that displays your page geometry and lets you navigate around your document quickly. Again, there are commercial XTensions that do this better, but this one is free.

Script Manager XT (Vision's Edge Software) is a natural for anyone using AppleScirpt with XPress. It lets you list and run your scripts and even offers script sets and on-screen object naming (instead of making you do this through a script).

TEXT QuarkXPress lets you do a lot with text, but there's always room for improvement. These four XTensions help you manage your text better than ever.

Sort Text (Durrant Software; www.durrant.co.uk) sorts every paragraph in a selection alphabetically or numerically (as long as the paragraphs are numbered).

Text Insets (Durrant Software) lets you change the text-inset amount for each of the four sides of a text box.

Word Counter XT (Markzware; www.markzware.com) counts the number of characters, lines, and words in your selection, your text box, or even the entire page. If you're an editor or a writer, this XTension is essential.

Overflow XT (Markzware) provides you with a palette that lists all overset text boxes (boxes that contain more text than they can hold). It even lets you automatically enlarge boxes until the text fits. Very nice.

PICTURES Any way to speed up working with pictures in XPress will put a smile on a production artist's face. Here are three XTensions that should do the trick.

DavidsPlace XT (Jintek; www.jintek.com) lets you import graphics or text without first having to make a picture or text box (it does so by creating a Place menu item you can choose from XPress's File menu). What's more, the XTension builds picture boxes on the fly that are exactly the size of the picture.

PictAttributes XT (Markzware) saves the scaling, rotation, skew, and offset of your graphics when you use Get Picture to replace an image in a picture box.

Drag-n-Drop XT (Extensis; www.extensis.com) lets you import pictures by simply dragging them from your desktop to your QuarkXPress page. If you've got a big monitor, you'll love this convenience.

EnhancePreviewXT-SE (Koyosha; www.koyosha.com) replaces XPress's murky screen previews of TIFF files with high-resolution images. It lets you see how your pages really look.
## Macworld Advertiser Index

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<table>
<thead>
<tr>
<th>Advertiser</th>
<th>getinfo</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEC Software</td>
<td>203</td>
<td>800/450-1982</td>
</tr>
<tr>
<td>Agfa Corporation</td>
<td>158</td>
<td>—</td>
</tr>
<tr>
<td>Agio Designs</td>
<td>265</td>
<td>800/688-2446</td>
</tr>
<tr>
<td>ALSOFT</td>
<td>140</td>
<td>800/257-6381</td>
</tr>
<tr>
<td>American Power Conversion</td>
<td>—</td>
<td>888/289-APCC</td>
</tr>
<tr>
<td>APS Technologies</td>
<td>62</td>
<td>800/285-0638</td>
</tr>
<tr>
<td>Assante Technologies</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>ATI Technologies, Inc.</td>
<td>258</td>
<td>—</td>
</tr>
<tr>
<td>ATI Technologies, Inc.</td>
<td>258</td>
<td>—</td>
</tr>
<tr>
<td>ATI Technologies, Inc.</td>
<td>258</td>
<td>—</td>
</tr>
<tr>
<td>BCA</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Boca Research</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Bottom Line Distribution</td>
<td>221</td>
<td>800/990-5693</td>
</tr>
<tr>
<td>CDW Computer Centers, Inc.</td>
<td>2</td>
<td>800/509-4239</td>
</tr>
<tr>
<td>CE Software</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Club Mac</td>
<td>96</td>
<td>800/CLUBMAC</td>
</tr>
<tr>
<td>DataViz</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Denoba Software</td>
<td>57</td>
<td>800/733-6322</td>
</tr>
<tr>
<td>Diehl Graphsoft</td>
<td>46</td>
<td>410/290-5114</td>
</tr>
<tr>
<td>Earthlink Network</td>
<td>—</td>
<td>888/EARTHLINK</td>
</tr>
<tr>
<td>Extenis</td>
<td>14</td>
<td>—</td>
</tr>
<tr>
<td>GCC Technologies</td>
<td>43</td>
<td>800/422-7777</td>
</tr>
<tr>
<td>Graphic Simulations</td>
<td>91</td>
<td>—</td>
</tr>
<tr>
<td>Heidelberg CPS</td>
<td>17</td>
<td>—</td>
</tr>
<tr>
<td>Hae Knowledge</td>
<td>207</td>
<td>800/937-3622</td>
</tr>
<tr>
<td>InfoWave</td>
<td>—</td>
<td>800/663-6222</td>
</tr>
<tr>
<td>Interland, Inc</td>
<td>10</td>
<td>800/599-0547</td>
</tr>
<tr>
<td>Iomega JAZ</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>JBA Computerworld</td>
<td>262</td>
<td>800/221-8180</td>
</tr>
<tr>
<td>Konsington</td>
<td>1</td>
<td>—</td>
</tr>
<tr>
<td>La Cia</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Mac Zones</td>
<td>—</td>
<td>800/436-0060</td>
</tr>
<tr>
<td>MacMall</td>
<td>131</td>
<td>800/222-2808</td>
</tr>
<tr>
<td>MacSoft</td>
<td>30</td>
<td>800/222-2714</td>
</tr>
<tr>
<td>MacSoft</td>
<td>28</td>
<td>800/222-2714</td>
</tr>
<tr>
<td>MacWarehouse</td>
<td>150</td>
<td>800/434-3035</td>
</tr>
<tr>
<td>Mega Haus</td>
<td>229</td>
<td>800/786-1184</td>
</tr>
<tr>
<td>MicroMat</td>
<td>67</td>
<td>800/829-6227</td>
</tr>
<tr>
<td>Mitsubishi Electronics America, Inc.</td>
<td>261</td>
<td>800/843-2515</td>
</tr>
<tr>
<td>Newer Technology</td>
<td>55</td>
<td>316/943-0222</td>
</tr>
<tr>
<td>Number Nine</td>
<td>175</td>
<td>—</td>
</tr>
<tr>
<td>Palm Computing</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>ProDirect</td>
<td>135</td>
<td>800/624-9952</td>
</tr>
<tr>
<td>Pyrus North America</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Quark</td>
<td>32</td>
<td>800/663-6222</td>
</tr>
<tr>
<td>Quark</td>
<td>77</td>
<td>800/995-4343</td>
</tr>
<tr>
<td>Silicon Graphics</td>
<td>215</td>
<td>888/744-4450</td>
</tr>
<tr>
<td>Silicon Graphics</td>
<td>215</td>
<td>888/744-4450</td>
</tr>
<tr>
<td>Sony</td>
<td>14</td>
<td>—</td>
</tr>
<tr>
<td>Tektronix</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>ViewSonic</td>
<td>—</td>
<td>800/888-8583</td>
</tr>
<tr>
<td>ViewSonic</td>
<td>—</td>
<td>877/4VIMAGE</td>
</tr>
<tr>
<td>VST Technologies, Inc.</td>
<td>73</td>
<td>508/263-9700</td>
</tr>
<tr>
<td>Wacom Technology Corp.</td>
<td>94</td>
<td>800/322-2595</td>
</tr>
<tr>
<td>Xerox Corporation</td>
<td>100</td>
<td>—</td>
</tr>
<tr>
<td>XIRF by Interex</td>
<td>—</td>
<td>800/513-9744</td>
</tr>
</tbody>
</table>

*MACWORLD April 1999 105*
# 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 log onto GetInfo at www.macworld.com/getinfo to request more information. You can choose to have the information delivered to you by e-mail, postal mail or telephone.

<table>
<thead>
<tr>
<th>SOFTWARE</th>
<th>HARDWARE</th>
<th>MAIL ORDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSINESS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>AEC Software</td>
<td>203</td>
</tr>
<tr>
<td></td>
<td>ATI Technologies, Inc.</td>
<td>256</td>
</tr>
<tr>
<td>CAO/CAM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Dianli Graphsoft</td>
<td>46</td>
</tr>
<tr>
<td>COMMUNICATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>92</td>
<td>Dialog</td>
<td>—</td>
</tr>
<tr>
<td>ENTERTAINMENT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>91</td>
<td>Graphic Simulations</td>
<td>91</td>
</tr>
<tr>
<td>86</td>
<td>MacSoft</td>
<td>30</td>
</tr>
<tr>
<td>64,65</td>
<td>MacSoft</td>
<td>28</td>
</tr>
<tr>
<td>GRAPHICS/DTP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Denoba Software</td>
<td>57</td>
</tr>
<tr>
<td>96</td>
<td>Extensis</td>
<td>14</td>
</tr>
<tr>
<td>58</td>
<td>Pynux North America</td>
<td>—</td>
</tr>
<tr>
<td>12,13</td>
<td>Quark</td>
<td>77</td>
</tr>
<tr>
<td>37-40</td>
<td>Sony</td>
<td>14</td>
</tr>
<tr>
<td>UTILITIES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>ALSOFT</td>
<td>140</td>
</tr>
<tr>
<td>43</td>
<td>Inforwave</td>
<td>—</td>
</tr>
<tr>
<td>26</td>
<td>MicroMat</td>
<td>57</td>
</tr>
<tr>
<td>43</td>
<td>Quark</td>
<td>32</td>
</tr>
</tbody>
</table>

**DIGITIZERS/SCANNERS**
- 63: Agfa Corporation
- 54.55: Heidelberg CPS

**GRAPHICS/DTP**
- 21: Denoba Software
- 96: Extensis
- 58: Pynux North America

**PRINTERS**
- 8: VST Technologies, Inc.
- 4.5: GCC Technologies
- 4.5: Telextronix

**SERVICES**
- 29: Hire Knowledge

**SECURITY**
- 57: American Power Conversion

**SOFTWARE**
- 10: AEC Software
- 22: Dianli Graphsoft

**UTILITIES**
- 6: ALSOFT
- 43: Inforwave

**EXPANSIONS/UPGRADES**
- 73: Vimage
- 50: Number Nine

**SYSTEMS**
- 19: Silicon Graphics

**FURNITURE**
- 8: Agio Designs

**GRAPHICS/DTP**
- 21: Denoba Software
- 96: Extensis
- 58: Pynux North America

**PRINTERS**
- 8: VST Technologies, Inc.

**SERVICES**
- 29: Hire Knowledge

**SECURITY**
- 57: American Power Conversion

**SOFTWARE**
- 10: AEC Software
- 22: Dianli Graphsoft

**UTILITIES**
- 6: ALSOFT
- 43: Inforwave

**EXPANSIONS/UPGRADES**
- 73: Vimage
- 50: Number Nine

**SYSTEMS**
- 19: Silicon Graphics

**FURNITURE**
- 8: Agio Designs

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<table>
<thead>
<tr>
<th>Order</th>
<th>MHz</th>
<th>RAM</th>
<th>HD</th>
<th>Cache</th>
<th>CD/DVD-ROM</th>
<th>Price</th>
<th>Or Lease</th>
</tr>
</thead>
<tbody>
<tr>
<td>#42614</td>
<td>300</td>
<td>64MB</td>
<td>6GB Ultra ATA</td>
<td>512K @ 150MHz</td>
<td>24X CD-ROM</td>
<td>$1,598</td>
<td>$64/mo.</td>
</tr>
<tr>
<td>#42615</td>
<td>350</td>
<td>64MB</td>
<td>6GB Ultra ATA</td>
<td>1MB @ 175MHz</td>
<td>DVD-ROM</td>
<td>$1,998</td>
<td>$80/mo.</td>
</tr>
<tr>
<td>#42616</td>
<td>350</td>
<td>128MB</td>
<td>12GB Ultra ATA</td>
<td>1MB @ 175MHz</td>
<td>24X CD-ROM</td>
<td>$2,498</td>
<td>$100/mo.</td>
</tr>
<tr>
<td>#42617</td>
<td>400</td>
<td>128MB</td>
<td>9GB Ultra U2</td>
<td>1MB @ 200MHz</td>
<td>24X CD-ROM</td>
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<thead>
<tr>
<th>Order</th>
<th>MHz</th>
<th>RAM</th>
<th>Cache</th>
<th>HD</th>
<th>CD-ROM</th>
<th>Modem</th>
<th>Display</th>
<th>Weight</th>
<th>Was</th>
<th>New</th>
<th>YOU SAVE</th>
<th>Or Lease</th>
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<tr>
<td>#42618</td>
<td>233</td>
<td>32MB</td>
<td>512K</td>
<td>2GB</td>
<td>20x</td>
<td>64K</td>
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<td>1MB</td>
<td>4GB</td>
<td>20x</td>
<td>56K</td>
<td>14.1&quot; Active matrix</td>
<td>7.8 lbs</td>
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<td>8GB</td>
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<td>1MB</td>
<td>8GB</td>
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<td>Floppy Drive Disk</td>
<td>56K</td>
<td>14.1&quot; Active matrix</td>
<td>7.8 lbs</td>
<td>$5,499</td>
<td>$4,899</td>
<td>$601</td>
<td>$176/mo.</td>
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- Floppy 3.5" 1.44MB 1.44MB...
- Zip 250MB 200GB...
- Zip 250MB 200GB...
- Zip 250MB 200GB...
- Zip 250MB 200GB...

Removable HD and Media

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- Zip Portastar Zip External 23 MB...
- Zip Portastar Zip External 23 MB...
- Zip Portastar Zip External 23 MB...
- Zip Portastar Zip External 23 MB...
- Zip Portastar Zip External 23 MB...
- Zip Portastar Zip External 23 MB...
- Zip Portastar Zip External 23 MB...

Modems

- Modem 56K V.90 External 802.11B...
- Modem 56K V.90 External 802.11B...
- Modem 56K V.90 External 802.11B...
- Modem 56K V.90 External 802.11B...
- Modem 56K V.90 External 802.11B...
- Modem 56K V.90 External 802.11B...
- Modem 56K V.90 External 802.11B...
- Modem 56K V.90 External 802.11B...

Powerbook Essentials

- Powerbook Essentials...
- Powerbook Essentials...
- Powerbook Essentials...
- Powerbook Essentials...
- Powerbook Essentials...
- Powerbook Essentials...
- Powerbook Essentials...
- Powerbook Essentials...

Monitors

- Monitors 20.1 Tft 14.1 Tft 14.1 Tft...
- Monitors 20.1 Tft 14.1 Tft 14.1 Tft...
- Monitors 20.1 Tft 14.1 Tft 14.1 Tft...
- Monitors 20.1 Tft 14.1 Tft 14.1 Tft...
- Monitors 20.1 Tft 14.1 Tft 14.1 Tft...
- Monitors 20.1 Tft 14.1 Tft 14.1 Tft...
- Monitors 20.1 Tft 14.1 Tft 14.1 Tft...
- Monitors 20.1 Tft 14.1 Tft 14.1 Tft...

Printers

- Printers 20.1 Tft 14.1 Tft 14.1 Tft...
- Printers 20.1 Tft 14.1 Tft 14.1 Tft...
- Printers 20.1 Tft 14.1 Tft 14.1 Tft...
- Printers 20.1 Tft 14.1 Tft 14.1 Tft...
- Printers 20.1 Tft 14.1 Tft 14.1 Tft...
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- Printers 20.1 Tft 14.1 Tft 14.1 Tft...
- Printers 20.1 Tft 14.1 Tft 14.1 Tft...

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April 1999 131
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**Yamaha**
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<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>126MB 16Pin DIMM 60ns</td>
<td>$379</td>
</tr>
<tr>
<td>128MB 16Pin DIMM 60ns</td>
<td>$399</td>
</tr>
<tr>
<td>128MB 16Pin DIMM 50ns</td>
<td>$369</td>
</tr>
</tbody>
</table>

### New G3 Macs From Apple

- **Apple's “New Blue” G3 Macs:**
  - 400MHz/1MB: $1,289
  - 300MHz/512K: $999

- **New G3 RAM:**
  - 32MB 168-Pin SIMM 60ns: $399
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  - 32MB 16Pin DIMM 60ns: $89

- **168-Pin DIMM FPM:**
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  - 64MB 16Pin DIMM 60ns: $199

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<table>
<thead>
<tr>
<th>Category</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Operations</td>
<td>140-141</td>
</tr>
<tr>
<td>Bar Code</td>
<td></td>
</tr>
<tr>
<td>Print Utility</td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td></td>
</tr>
<tr>
<td>Communications/Networking</td>
<td>143-144</td>
</tr>
<tr>
<td>Cross Platform</td>
<td></td>
</tr>
<tr>
<td>Networking Peripherals</td>
<td></td>
</tr>
<tr>
<td>Education/Entertainment</td>
<td>141-143</td>
</tr>
<tr>
<td>Discount Software</td>
<td></td>
</tr>
<tr>
<td>Graphics</td>
<td>142</td>
</tr>
<tr>
<td>CAD</td>
<td></td>
</tr>
<tr>
<td>Fonts</td>
<td></td>
</tr>
<tr>
<td>Memory &amp; Upgrades</td>
<td>159-161</td>
</tr>
<tr>
<td>Memory Upgrade</td>
<td></td>
</tr>
<tr>
<td>Digital Advertising Coordinator</td>
<td></td>
</tr>
<tr>
<td>Dennis McKown:</td>
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<tr>
<td>Fonts</td>
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<tr>
<td>Account Manager:</td>
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<td></td>
</tr>
<tr>
<td>Memory Upgrade</td>
<td></td>
</tr>
<tr>
<td>Account Manager:</td>
<td></td>
</tr>
<tr>
<td>Niki Stranz:</td>
<td></td>
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<td>Alissa Mach:</td>
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<tbody>
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<td>CorelDRAW 8.............</td>
<td>99</td>
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<td>99</td>
<td>129</td>
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<td>49</td>
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<td>Microsoft Office.........</td>
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<th>Price</th>
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<td>Additional Power Adapter</td>
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### Computers & Parts

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<td>PowerMac 7100/80</td>
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<td>PowerMac Bundles</td>
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<td>PowerBook 5300/160Mhz</td>
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### Upgrades

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### Accessories

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### Contact Information

- **Toll-Free**: 800-334-5494
- **International**: 310-553-4507
- **Fax**: 310-286-9667
- **Email**: sales@macworks.com

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### PowerMac PowerBooks Upgrades Demo Macs Storage Parts

<table>
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<tr>
<th>Model</th>
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<tr>
<td>730 Mhz</td>
<td>$4850</td>
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**Same day Upgrade No downsides!**

### PowerBooks

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<thead>
<tr>
<th>Model</th>
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<td>Special G3 292 Mhz</td>
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### Demo PowerBooks

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### Old Macs

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<td>Mac B2</td>
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### PowerMac 6100/66/6800 18/20/30 CD | $349 |

### Printers

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<td>LaserWriter III</td>
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- Power Supplies
- AV Cards
- Power supply 8C-17
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**PowerBook PRODUCTS**

### MCE PowerBook Drives

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<td>PowerBook 840GB</td>
<td>$559</td>
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### MCE powerUP 1400/43 Bundle

- Includes: PowerUP 1400/33 Mhz/512K cache & MobileStar 6406i PB Hard Drive.
- $699

### MCE powerUP 1400/43 Bundle

- Includes: PowerUP 1400/33 Mhz/512K cache & MobileStar 6406i PB Hard Drive.
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- $219

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**Memory & Upgrade Components**

<table>
<thead>
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<th>Model</th>
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<tr>
<td>PowerBook 3368</td>
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<td>PowerBook 128MB</td>
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**Kriter Cam $249**
**CapSure Card $129**
**8404801, 30ips**
**Video for 3402480063**

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**MACWORLD April 1999 153**
<table>
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<td>PowerMac 8100</td>
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<td>Sony SDT 9000</td>
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<td>12/24GB Int.</td>
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<td>Sony AIT</td>
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<td>25/50GB Int.</td>
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<td>Quantum DLT4000 20x40GB Int.</td>
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<tr>
<td>1.800.472.4921</td>
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<tr>
<td>FAX: (310) 445-6611 Tel: (310) 445-6600</td>
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$295

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$425

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$175

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Quantum Fireball EX 12.7GB

$245

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$99

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$115

IBM 330MB (p/n 4900C)

$304

IBM 700MB (p/n 4902C)

$579

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$379

Toshiba QW4260

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Verbatim 4.8GB Zip with 1MB Write cache

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More Room to Zoom - PowerBook Hard Drive Upgrade from OWC

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512k $185

1MB $329

640MB IBM Travelstar 40/2GB 12.7mm W/3 year warranty

$299

640MB IBM Travelstar 40/2GB 12.7mm W/3 year warranty

$349

840MB IBM Travelstar 40/2GB 12.7mm W/3 year warranty

$449

Level 2 Cache Upgrades

PowerBook 6100/6100 Power Mac Performa 6400/6500 G3/500/500a

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512k $34

1MB $59

6100 PowerMac/Performa $15

7100/7000 PowerMac/Performa $15

7100/7200/7300 PowerMac/Performa $18

640/650 Power Mac G3/500/500a/5300 $119

640/650 Power Mac G3/500/500a/5300 $119

Level 2 Cache Upgrades

PowerBook 4400/4400i Performa 4400/4400i UMax C500, PowerBook 144u

$379

From $379!
### PowerBooks®

<table>
<thead>
<tr>
<th>Model</th>
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<th>Memory</th>
<th>Storage</th>
<th>Other Features</th>
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<td>64 MB/8 GB IDE/DVD/Video</td>
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<td>• PowerBooks® G3 300MHz DVD</td>
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<td>G3 266MHz</td>
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<td>G3 250MHz</td>
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- **Starting as low as:** $2,795
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  - 740/850/850N $249/333/449
  - Photo 740/850/850N $249/333/449
  - Photo 1520/3000 $469/1033

### Mac surpluses Video Cards

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<td>20&quot; Trinitron</td>
<td>NOW $799!!</td>
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<td>Radius Intellicolor 20</td>
<td>20&quot; Multi-Resolution Trinitron (New)</td>
<td>$599</td>
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<td>21&quot; Color Monitors</td>
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<td>Color Pro Press/Reading Display System</td>
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<td>Radius PrecisionView 21</td>
<td>Radius MultiView 21 Super Fine</td>
<td>$469</td>
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<td>Radius Intellicolor 20</td>
<td>RasterOps Hitachi SuperScan 21 (New)</td>
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<td>Radius Intellicolor 20</td>
<td>Inkmark 21&quot; DiamondView</td>
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<td>15 &amp; 17&quot; Color Monitors</td>
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### Yamaha 4x4x16 Ext ClR with Software
- $399

### Panasonic 4x6 Ext CD·RW with Software
- $299

### Iomega Zip Ext SCSI/USB
- $109/185

### Iomega Jaz Ext SCSI
- $299

### Iomega 250MB Ext SuperFloppy Zip Drive
- $185

### IX Micro iX3D Ultimate Rez
- 128/256 MB PC-100 G3 Memory $59/99
- 128/256 MB PC-100 G3 Memory $189/CALL

### Yamaha 4x4x16 Ext CD·RW with Software
- $399

### Panasonic 4x6 Ext CD·RW with Software
- $299

### Iomega Zip Ext SCSI/USB
- $109/185

### Iomega Jaz Ext SCSI
- $299

### Iomega 250MB Ext Super Floppy Zip Drive
- $185

### IX Micro iX3D Ultimate Rez
- 128/256 MB PC-100 G3 Memory $59/99
- 128/256 MB PC-100 G3 Memory $189/CALL

### Monitors Mac Surplus Video Cards

<table>
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<th>Model</th>
<th>Features</th>
<th>Price</th>
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<td>Panasonic 4x6 Ext CD·RW with Software</td>
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### Yamaha 4x4x16 Ext CD·RW with Software
- $399

### Panasonic 4x6 Ext CD·RW with Software
- $299

### Iomega Zip Ext SCSI/USB
- $109/185

### Iomega Jaz Ext SCSI
- $299

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- We give you a four mouse pad with every system.
- We have no voice mail- there's always a live person to help you!
- We live in Oregon, where there is no sales tax and the people are friendly and polite!
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- We have no voice mail- there's always a live person to help you!
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- We offer a complete iMac® solution with more RAM & a printer included in the 17" display, plus Premiere 4.21LE! Only $1999 or just $64 per month!

### PowerMax Trinitrons®

<table>
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<th>Display Type</th>
<th>Resolution</th>
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<td>$1188</td>
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<td>PM4000T24</td>
<td>24&quot; Trinitron</td>
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<tr>
<td>G3 666 Tower</td>
<td>666 MHz for a powerful new G3!</td>
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<tr>
<td>G3 6500</td>
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<tr>
<td>G3 3000</td>
<td>3000 MHz for a powerful new G3!</td>
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<td>256MB 32x64</td>
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### SIMMs $119

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### IOMEGA

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<td>Jaz 1GB disks -5pk</td>
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### NEWER TECHNOLOGY

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<td>PowerMac G3 400MBx16MB Cache</td>
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### DESKTOP/MINITOWER

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<td>PB 3400 32MB 8X64EO 5V</td>
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<td>8MB 2x64</td>
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### POWERBOOKS

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### POWER COMPUTING/MOTOROLA

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### APPLE POWERBOOK BATTERIES

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<td>Powerbook 1400/1500/1400/1200/1200/1200</td>
<td>$210</td>
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Macworld April 1999 163
Differently Cabled

A CABLE MODEM ISN'T JUST AN EXPENSIVE GADGET—REALLY, IT'S NOT

I try not to be a bleeding-edge, early-adopting gadget freak, I really do. Yes, I admit that I bought an original Newton, and an early digital camera, and the very first Pilot organizer. But I'm not an addict—no way. I can stop any time I want. So when I learned that my area was to be the lucky recipient of a cable-modem trial, you can imagine my inner struggle.

A cable modem is one of those futuristic Internet technologies that promises to be 100 times faster than a normal modem. Only 350,000 were installed in the United States by the end of 1998, mainly because so few cable-TV companies offer them.

On one hand, the $35 monthly fee seemed steep, especially since I was already paying $20 a month for my Internet account and $25 for a second phone line. On the other hand, Macworld hasn't written much about this important new technology; I could get a cable modem as a noble journalistic experiment, making the financial sacrifice for the good of the Mac community. (Can you say "tax deduction"?) In all, I must have weighed the pros and cons for a good four seconds before calling to sign up.

Three technicians came to set up the thing, a black box about the size of a 1980s-era external hard drive. One end connects to your cable-TV jack (which I had to have installed near my desk—not another $100 sacrifice in the name of journalistic pursuits). The other end connects to your Mac's Ethernet jack.

With my first e-mail, I discovered the greatest cable-modem benefit: you're spared the usual 90 seconds of dialing, connecting, and modem shrieking. You're online instantly; you're permanently connected to the Internet, 24 hours a day.

I yelled downstairs for my wife and dog to come watch my first attempt at turbosurfing the Web. But after they'd gathered around the screen, I was horrified to discover the dirty little truth about cable modems: they don't, in fact, make Web surfing much faster. I clicked on a link—and waited. Twelve seconds for honda.com, 23 for weather.com, 24 for Macworld.com. My jaw hung open in disbelief. Where was the 100-fold acceleration? "Neat, honey," my wife reassured me before heading back downstairs. The dog was even less impressed.

The problem: even if your pipe to the Internet is a fire hose, the computers on the other end still dish out Web pages with a teaspoon. Instead of waiting for a minute—about 50K per second. You start to feel as though the Internet is one whoppin'-big external hard drive. Suddenly Internet video isn't a jerky, postage-stamp-size mess—you can actually watch TV-style video in a three-inch window without waiting.

It got better. One morning it hit me: I wasn't using my second phone line any more! See? I wasn't an out-of-control spendthrift gadget freak at all. I could cancel my second line and my ISP account, saving all kinds of money.

Furthermore—hold on a sec—no phone line, no modem. Why not sell my modem? And with no modem, my Mac's precious modem port was suddenly free to accommodate my PalmPilot cradle full-time. Yep, things were improving quickly around the Pogue Mac.

There was only one little glitch: how would I go online when traveling? Without a 3,000-mile-long Ethernet cable, my PowerBook clearly wasn't going to reap the benefits of the Internet monster machine back home. The cable company cheerfully offered its dial-up service—a toll-free number that lets me dial in to my cable-modem account from the road, for only $15 more a month plus $9 an hour. Right. So much for canceling my ISP.

Still, here's how I look at it: I'm saving six minutes a day in connect/disconnect time. If my time is worth $25 an hour, that's $912.50 a year my cable modem saves me. And if that sounds like a gadget freak trying to justify another high-tech purchase, well, you're probably right. I promise to get rid of the thing—just as soon as my satellite-dish modem comes in.


164 April 1999 MacWorld
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*Information based on PC Data Retail Hardware Report, 1998.
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