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BYE-BYE, iMOVIE

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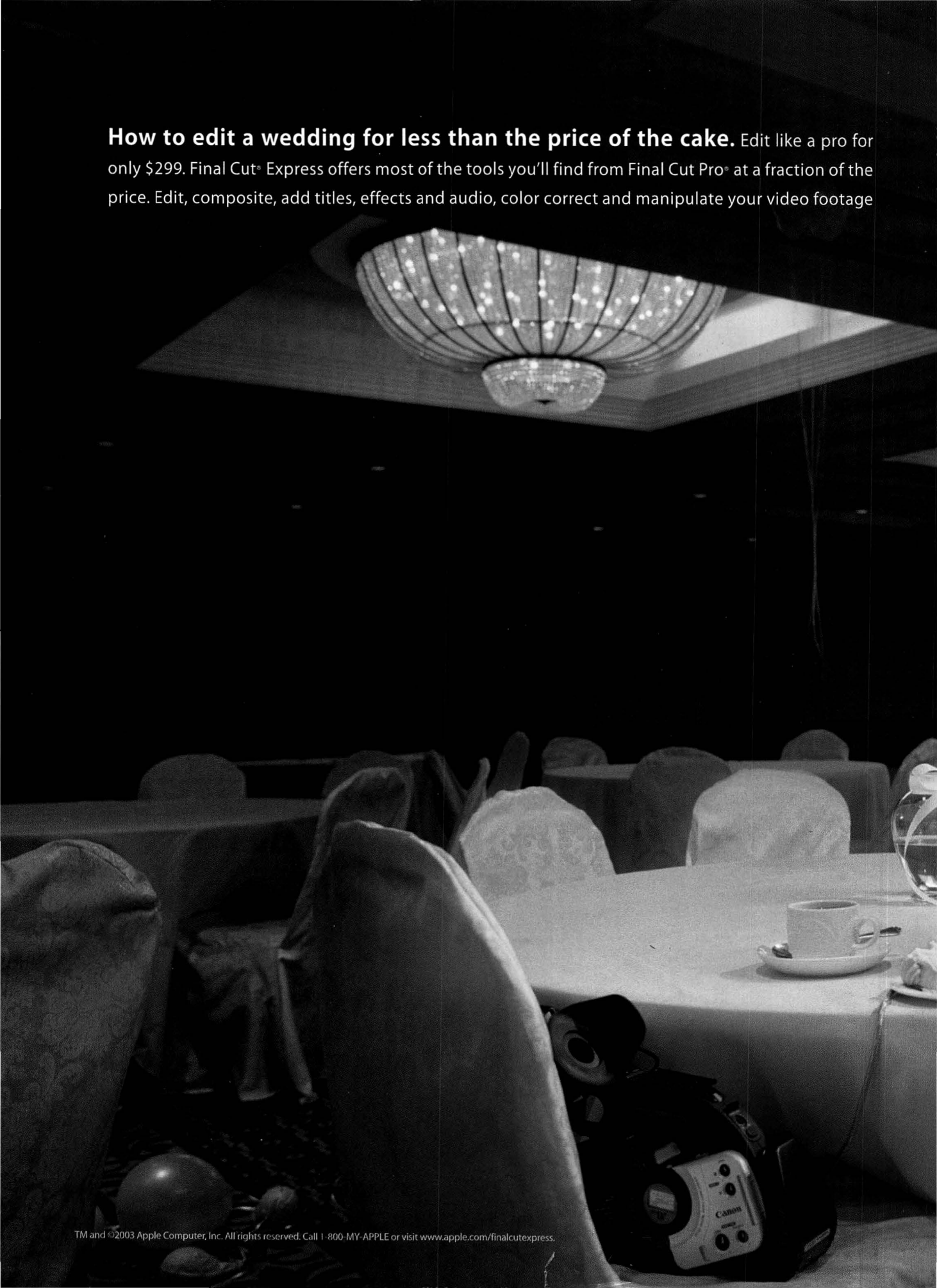
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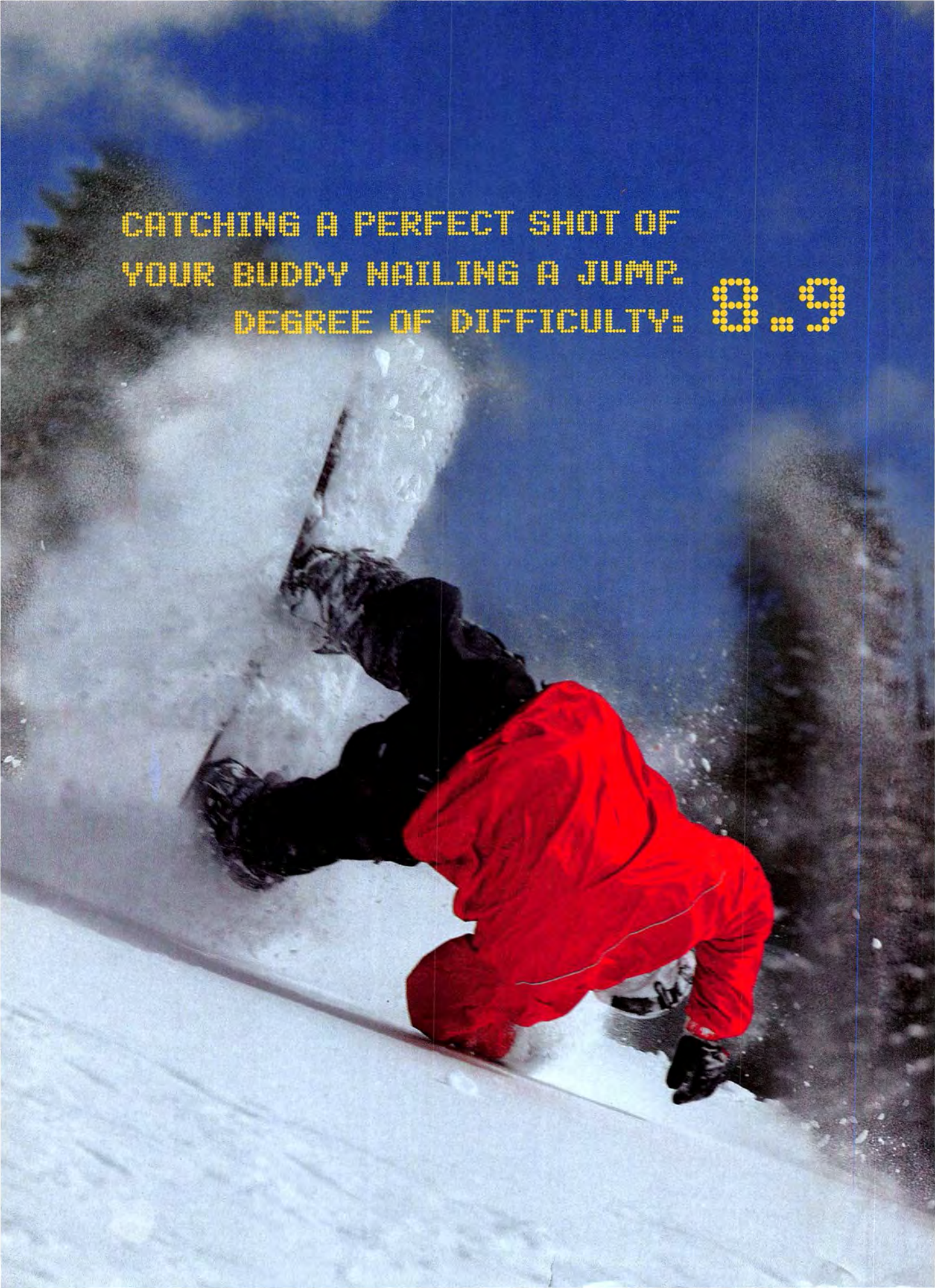
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Incorporating MacUser

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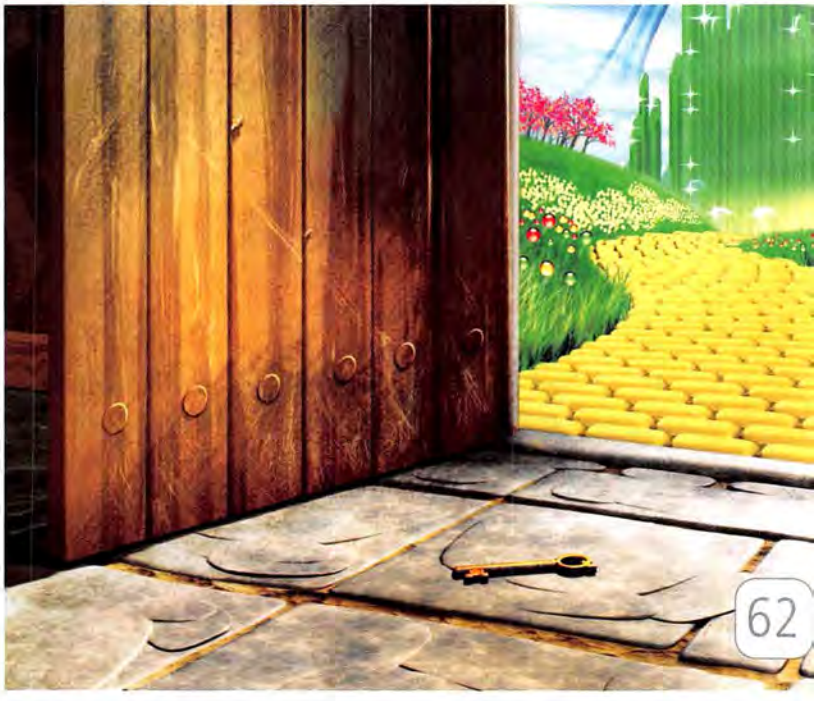

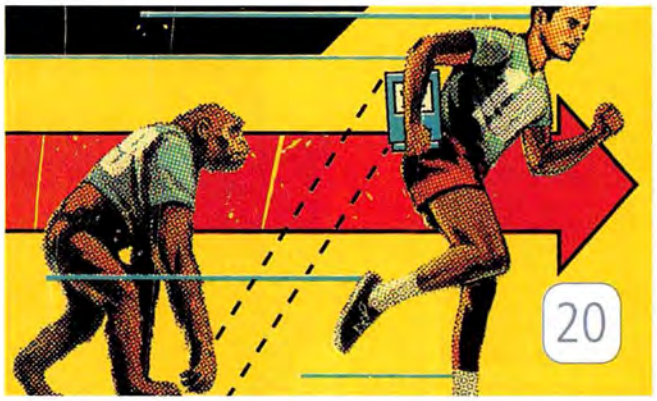

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BY RICK LEPAGE

XPress for OS X Arrives, and We've Got the Details

Quark of Fate

WHEN APPLE ANNOUNCED LAST YEAR THAT ALL MACS introduced in 2003 would start up only in Mac OS X, the loudest cries came from the professional publishing community, who had been waiting for an OS X–native update to their tool of choice, QuarkXPress. As you'll see in this month's issue, the wait is almost over.

We chose two well-respected authors to cover the QuarkXPress 6.0 announcement (page 62). David Blatner, who wrote the main piece, has been one of the leading authorities on QuarkXPress for years, writing books, teaching at seminars, and speaking at conferences on the topic. In the past year, David has become a vocal public advocate for Adobe InDesign, but it's obvious to us that he still knows XPress inside and out, and that he cares passionately about the program. We felt that it was more than appropriate for David to give you your first look at QuarkXPress 6.0's features. (Our review of version 6.0 will be written by another author and will be published after the product ships, in June.)

Quark is such a pivotal company for the Mac, and in the past year there has been a lot of chatter (and sheer speculation) on the Web about the company, its relationship to its customers, and its ties to Apple. To help you make sense of this muddle, we asked Pamela Pfiffner, creativepro.com's editor in chief, to talk to Quark about its commitment to the Mac and its plans for QuarkXPress 6.0. I've known Pam a long time, and it's wonderful to see her in the pages of *Macworld*. Her story is entertaining, enlightening, and well worth reading for anyone with even a passing interest in desktop publishing.

If you can believe the hype, QuarkXPress 6.0 will be the linchpin of the publishing industry's transition to OS X. The reality is a bit different. Production departments are notoriously slow to change, a fact Quark was well aware of as it worked to produce the latest version of XPress. This is also a major reason InDesign 2.0 hasn't taken over the publishing world. With XPress 6.0, we do seem to be past a big stumbling block on the road to OS X—but it's important to understand that this release is not going to magically make OS 9 go away. That will still take time.

A PowerBook a Month

I feel a bit as though I've been on a carousel for the past few months—I've had the chance to put three new PowerBook G4s through their paces, using each in turn as my primary Mac: the 1GHz Titanium; the 12-inch 867MHz; and now the 17-inch, 1GHz PowerBook. (This is one of the things that I *love* about my job.)

As you'll see in my review of the 17-inch model (page 32), I think it's quite a Mac. It definitely stretches the concept of portable computing—in good ways, mostly—and nicely rounds out Apple's notebook line.

Lack of choice is something Mac users occasionally complain about, but you can't say too much against Apple's current portables, which range from the ultra-affordable iBook to the no-compromise, desktop-alternative 17-inch PowerBook. But trying to decide on a machine can be a major hassle.

Looking at the G4 models, I love the compact form and low weight of the 12-inch PowerBook, but I miss the speed that comes with a faster processor and Level 3 cache. The 17-inch model, with its speed, gorgeous screen, and surprisingly slim feel, is great, but it's too big for someone who travels as much as I do. And these models' built-in Bluetooth support has made me a fan of this suddenly approachable technology: I'm hesitant to go back to the Titanium PowerBook, even if it's the true sweet spot of Apple's lineup. Choice is good; choosing is hard.

> QuarkXPress 6 is not going to magically make OS 9 go away.

Digital Hub

As a final note, I'd like to plug a *Macworld* special issue that is currently on newsstands: *Digital Hub*.

Apple has done a pretty good job of promoting the Mac as the center of the "digital lifestyle," and *Digital Hub* is designed to help people explore the wealth of possibilities a Mac offers—making videos, playing MP3s on a stereo, working with digital photos, setting up wireless networks, and more. The issue includes a DVD with tons of demos and shareware, excerpts from Jim Heid's excellent book, *The Macintosh iLife*, and more. If you've wanted to dive into iMovie, iDVD, or a similar application, you should check out *Digital Hub*. It will be available through June, and it can also be ordered through www.macworld.com. □

Does QuarkXPress 6.0 mean that you'll switch, or is the cost of upgrading too much at this time? What don't you like about Apple's portable lineup? What do you want from *Macworld*? Drop me a line about these topics or anything else related to the Mac. I can be reached by e-mail, at rick_lepage@macworld.com, or you can join in the discussion forums at www.macworld.com.

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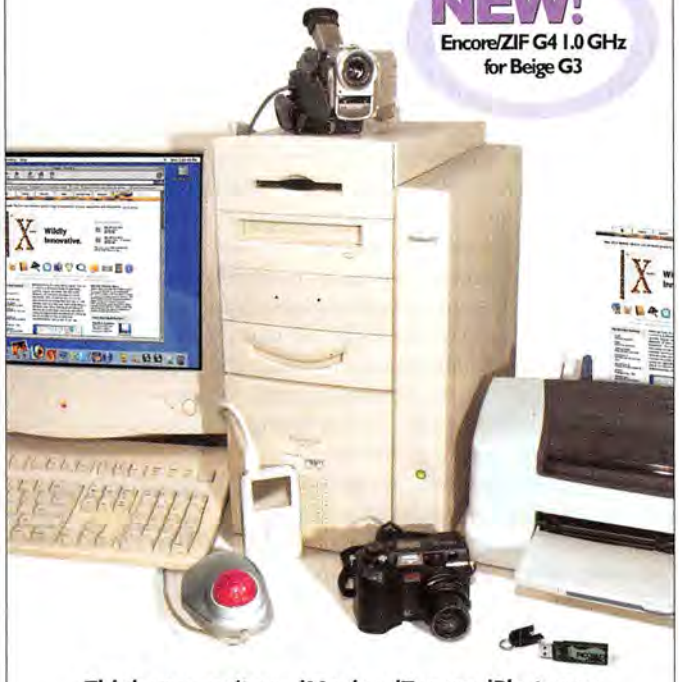

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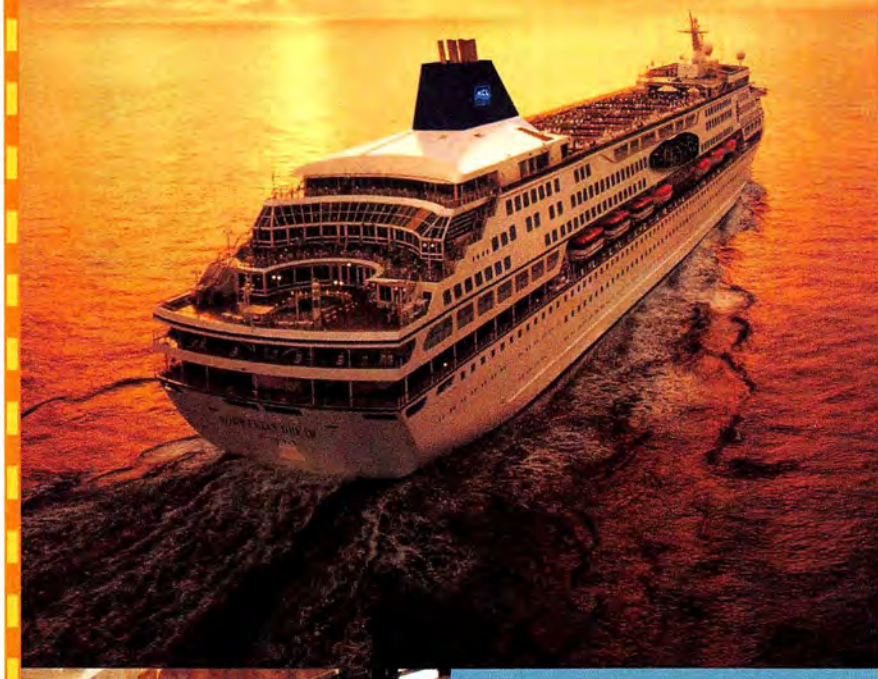

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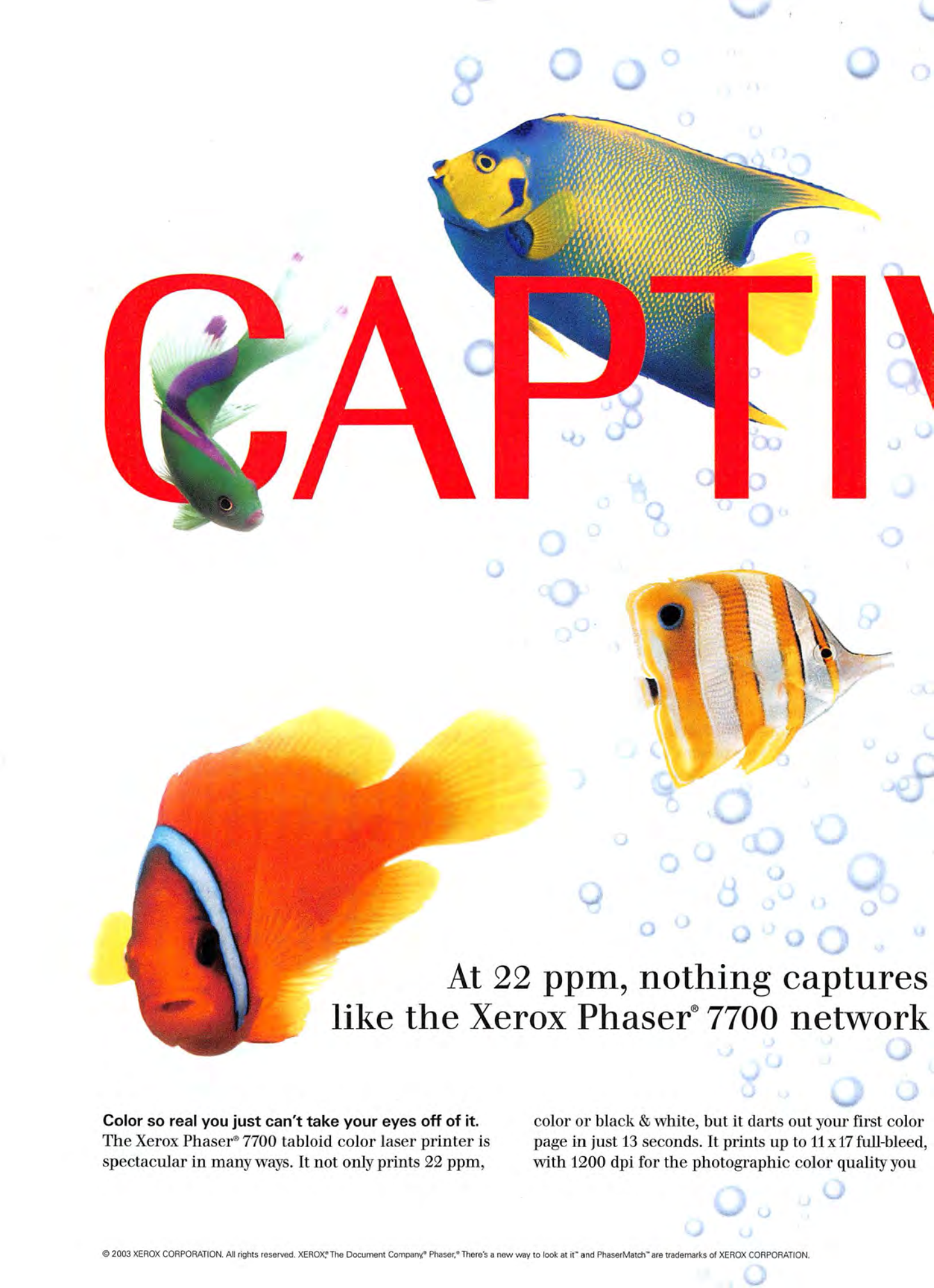

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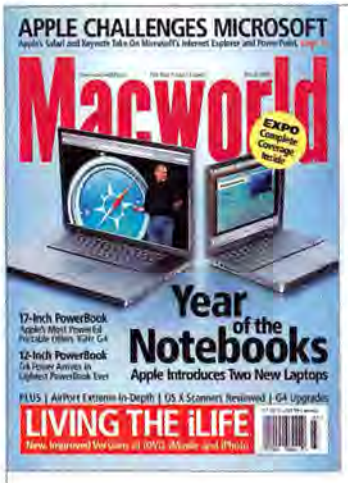

FEEDBACK

Jaguar's Cat Scan

Scan the pages of our March 2003 issue, and you'll find plenty of Macworld Expo news, which yielded PowerBook plaudits, Keynote critiques, and Safari suggestions from readers. But the article that generated the strongest reaction was David Weiss's look at scanners and OS X. Jaguar's arrival may have made it easier for scanner vendors to develop OS X–native drivers, but our readers are still trying to sort their way through a process that used to occur at the touch of a button. Maybe that's a topic for March cover model Steve Jobs to address at his next Macworld Expo keynote. □

Sweet 17

STEVE RANIERI

I have finally found a replacement for my Pismo, and it's the 17-inch PowerBook ("More Sizes Fit All," *Mac Beat*, March 2003). I believe this is Apple's best PowerBook since the Pismo line. The fiber-optic keyboard was totally unexpected. Apple will sell a ton of these things.

GARY BRAND

How terrific is a 17-inch display on a laptop? But it's a shame that with all of that real estate available below the keyboard, Apple still offers the same old trackpad. It would have been more innovative to offer a tablet—especially since the larger screen will make this laptop a true option for creative applications.

iDVD? Not for Thee.

TOM BARRETT

"iPhoto, iMovie, iDVD, iTunes Evolve into iLife" (*Mac Beat*, March 2003) states that iDVD 3 doesn't support external DVD burners. Is Apple trying to increase sales of its computers by forcing people to buy the machines that will run the new software? I just bought a new iBook, with the intention of using it as my primary computer for editing slide shows and the like for clients, and potentially making DVDs should a customer so desire. Now I find out that to use a $49 piece of software, I have to buy another $2,000 computer. Apple does not think about its current customer base and focuses its efforts on getting new business.

iDVD doesn't support external DVD burners as a result of MPEG-2 licensing issues. For a more in-depth explanation, see "Apple's Burning Issue," Mac Beat, *December 2002.—Ed.*

A Less Animated Safari

WALTER JEFFRIES

Safari is great ("Exploring Apple's Safari," *Mac Beat*, March 2003), but I have one strong suggestion: have options for turning off animation in the front and back windows. This should allow for turning on and off animated GIFs, active HTML, Java, and so forth. These things are really annoying to have on a page, and they waste processing power.

Beta-Test Different

DAVID PADFIELD

"It's All in the Presentation" (*Mac Beat*, March 2003) said that Steve Jobs was a beta tester for Apple's new Keynote. Apparently, Jobs was the only beta tester. Keynote was the first piece of software to bring my Mac to a total system crash in more than a year. I own several Macs, all of which run OS X 10.2.3, and Keynote has crashed every one of them. In effect, Apple has charged customers $100 to become beta testers for Keynote.

Scanning for Solutions

WILLIAM BAILEY

I would like to call your attention to a subtle problem with the Canon LiDE 30 software you reviewed in your OS X scanner roundup ("Welcome Back," March 2003). When I use the CanoScan Toolbox X to open an image in any Classic app (Photoshop 6.0, Adobe PhotoDeluxe 2.0, or PhotoStudio), two scans work perfectly but the third scan hangs up, producing the error message "cannot communicate with scanner." Force-quitting the Classic environment solves the problem for two more scans.

PETER SAMUEL

I waste 80 percent of my scanning time doing rescans because of the difficulty of precisely aligning engineering drawings and pictures on the glass. I almost always find that they are off 2 to 8 degrees. Am I the only person who can't align the scanning subject on the glass? Why in God's name hasn't any scanner manufacturer incorporated an adjustment option for rotating images clockwise or counterclockwise by half degrees?

You can accomplish this in Adobe Photoshop by selecting Rotate Canvas from the Image menu and scrolling to Arbitrary. Then you can enter the precise number of degrees to rotate your image.—David Weiss

JOEL SNYDER

One of the main remaining barriers that keeps me from converting to OS X is its lack of drivers for small scanners such as the Strobe Pro. I have been using the Strobe and its predecessor for years to help automate my business by scanning in invoices, documents to fax, and all sorts of other small, simple jobs.

Unfortunately, the Strobe has gone Windows-only. You might want to take a look at HP's Scanjet 3500c (after considering the comments in the next letter). It's not quite as small as the Strobe, but because it gets all its power from USB, you can tuck it away when you're not using it.—David Weiss

SAMUEL J. HUSKEY

I was happy to read that scanners are no longer stuck in limbo in OS X, and I was especially pleased that you went on to talk about the Hewlett-Packard Scanjet 3500c, which I own. Unfortunately, I have not been able to use my scanner with my com-

puter in OS X, even with version 10.2.3. I decided to try again after reading your article, but I had no luck. Are you privy to some trick unknown to the rest of us HP users? If so, please divulge your secret.

I had no luck with the drivers that came on the disc, so I downloaded the 195MB driver from HP's Web site. When I ran the installer the first time, it quit in the middle of the process, but I immediately tried running it again, and it worked. Keep in mind that I was running OS X 10.2.1; you may not have a similar experience.—David Weiss

HANS LOESER

My main purpose in scanning is to scan letters, articles, and newspaper pages into a word processor. An editable FTP might also do. But almost nothing is written about this, and I, at least, have great trouble getting such scanning done on a personal scanner such as Microtek's ScanMaker 3700.

Just about any scanner will do what you want—scanning text and bringing it into Word—in either OS 9 or OS X. You'll need OCR software, which may come with your scanner. Both OmniPage Pro X, from ScanSoft, and Readiris Pro 7, from IRIS, run in OS 9 and higher, including OS X.—David Weiss

Account for Yourself

ANNE HILL

I can't believe Jeffery Battersby gave MYOB AccountEdge (★★★★; February 2003) such a good rating when its upgrade function is so abysmal. Every time I upgrade MYOB software, I have to deal with the new application folder it creates. First I must manually move all my customized forms (provided I can remember their arcane names) into the new folder. Then I have to upgrade every file I've ever created with earlier versions of the program, so the new version can read them. This is time-consuming, unnecessary, and highly aggravating. AccountEdge should update the existing program in its existing folder. It should recognize the customized forms and ask whether I want to update them. It should be able to read files made in previous versions and update them automatically. If it did all this, then it would indeed be a ★★★★ product.

SHERRIE McMAHON

Jeffery Battersby did not mention the product's most critical flaw: its continued omission of the statement of operations, the fundamental accounting report that tells you where your hard cash actually went last period. Every first-semester business student can name the three fundamental accounting reports: the balance sheet, the income statement, and the statement of operations. You simply cannot describe a company's financial health accurately or completely without using all three reports. In my opinion, omitting any of them is a serious defect, and we have decided not to invest any further in AccountEdge as a result.

An Ill-Advised Reunion?

DARRYL W. DOCKINS

I read with horror the flawed review of Leister Productions' Reunion 8 (★★★½;

continues

Choose 85 at www.macworld.com/getinfo

March 2003). While it is true that what Reunion does, it generally does well, I was stunned by Battersby's conclusion that it has no significant cons. Since the very first version, Reunion has failed to provide users with the ability to sort their database records by any date field or, worse, by *any* field other than name. If any subject is time- and organization-sensitive, it has to be genealogy. For this reason alone, killer date-handling and -sorting capabilities are mandatory baseline criteria for a genealogy database program and a primary gauge of its practical worth in a research sense. Any database worth its salt should allow a sort on any field contained within it, as well as multiple sorts on multiple fields. Despite years of revisions and upgrades, Leister has made absolutely no improvement to Reunion's crippled date or sort capabilities since its first release.

DUNCAN DIXON

I have used Reunion for years and agree that it's a great product. However, I would not say it has no significant cons. The main one is a lack of Unicode support. This is fine if you don't have any Chinese, Japanese, Thai, Russian, or Arab relatives. For those of us who do, lack of Unicode support is a big minus.

Validating Virex

CATHERINE BURNETT

Reader Shawn O'Laughlin complained about Virex 7.1's slowness (*Feedback*, March 2003). I'm running it on a 450MHz Power Mac G3 with hard drives similar to his—a 60GB drive with Jaguar, a 20GB drive with no OS but many programs, and a 9GB drive with OS 9.1—and it certainly doesn't take six to eight hours to scan the OS X partition. Rather, it takes only about 10 minutes and doesn't slow down anything running in the background. I feel that it's a worthwhile piece of software.

The Song Remains the Same

PAUL COLVIN

It is obvious in reader Ernie Mansfield's response to Ivan Beeckmans's letter regarding the true cost of a music CD (*Feedback*, March 2003) that Mansfield has bought into the untruths spread by the Recording Industry Association of America, BMI, and others. Records at their heyday cost $6.95 retail, but those of us in the industry knew that the true cost (including all production, advertising, and royalties) of delivering a record to a store's shelves was about 75 cents per record. When CDs came out and production equipment was scarce, the cost of getting one out was indeed much higher. But today, the industry seems hard pressed to explain why it costs record companies many dollars more than the consumer pays just for raw goods. Even if you factor in inflation, the average cost of getting a CD to the shelf is way under $1.75 and has been for more than a decade.

Scrubbed Out

ROBERT H. STAPLETON

Thanks for the timely review of Steinberg's Cubase SX 1.051 (♦♦♦½; March 2003), but in my mind, the million-dollar question remains unanswered. The failing of Cubase VST has always been that it offers no MIDI scrubbing, a feature essential to anyone who does serious studio work. Has Cubase SX addressed this oversight?

I agree that MIDI scrubbing is a convenient feature. But given that it's fairly easy to click at the point in the sequence where you'd like to begin playback and then press the spacebar, this omission will hardly be a deal-killer for most people.—Christopher Breen

Beige Goes Aqua

JAY CURTIS

I am very pleased with the way my newly upgraded G3 minitower is running Jaguar, so I was surprised to read that Kristina De Nike had "serious problems running OS X on beige Power Mac G3s" ("Power Mac Power Boost," March 2003). My old beige beast (which I've upgraded with a 500MHz Sonnet G4 processor, additional RAM, and a new IBM 40GB IDE hard drive) runs Jaguar significantly faster than my 500MHz G3 PowerBook, which has a faster system bus and video display. The speed difference is no doubt due principally to the G4's AltiVec engine and to better hard-drive performance in the beige system. The problems of using OS X with SCSI drives on beige systems have been well documented online.

However, it shouldn't matter. Most, if not all, beige G3 systems came with an ATA bus and an IDE hard drive installed. There is a vacant internal connector for the minitower's vestigial SCSI bus, but apparently few of these computers were manufactured with a drive that used that connector. Although Apple issued firmware patches to fix Jaguar's incompatibility with SCSI, most knowledgeable beige upgraders will avoid the temptation to improve storage by adding a drive to the SCSI bus. Instead, they will simply replace the original 4GB or 6GB drive on the ATA bus.

Another caveat is the fact that Jaguar does not recognize the RS-232 serial ports and the devices connected to them. Upgraders must migrate to USB and FireWire peripherals. There really are no other options for people who want to use external dial-up modems, standalone printers, external CD-RW drives, scanners, and Jaguar. Upgrading a beige box does require a little research, but it pays off. While upgraders certainly won't get state-of-the-art OS X performance in upgrading a computer with a 66MHz system bus, they will definitely get acceptable performance if they upgrade properly.

HyperCard Lives

PAUL KERVIN

I was disappointed with Andy Ihnatko's comments in "Stages of Grief" (March 2003). Just as people were talking about the demise of Apple a few years ago, now Andy is talking about the demise of HyperCard. When does Andy write these articles? OS X–compatible SuperCard 4 was released back in October 2002. In addition, AppleScript serves a very different purpose. The power coder will want both AppleScript and SuperCard.

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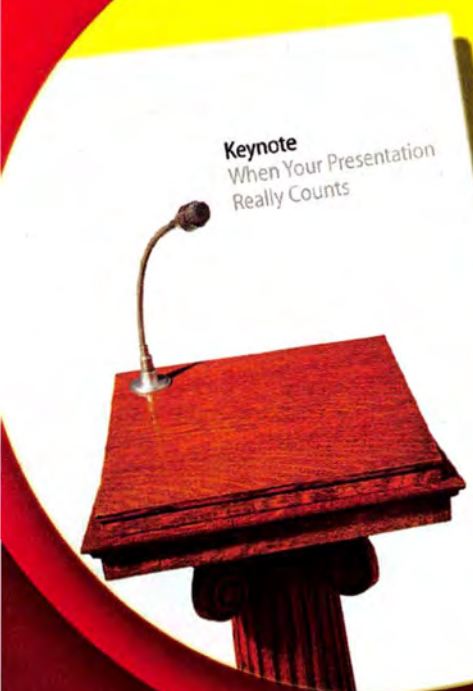

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AFTER MANY YEARS, IT'S THE BEGINNING OF THE END OF THE OS X TRANSITION

Evolution Endgame

A little more than two years ago, Steve Jobs stood before a group of reporters at Apple's Cupertino headquarters to show off the finalized version of Mac OS X, predicting it would be the Mac's operating system for the next 15 years. Two days later, OS X hit retail shelves, marking the release of a next-generation operating system that had been in the works, in one form or another, for more than a decade.

But while the March 2001 release of OS X may have been the long-awaited end of Apple's effort to find and develop a successor to its original Mac OS, the transition to the new OS was only beginning.

Two major OS updates, hundreds of software releases, and a little less than two years later, Jobs found himself standing before a different group—a crowd of adoring Mac fans at January's Macworld Expo in San Francisco. Missing key functionality including DVD playback and CD burning when it first shipped, OS X had evolved into a stable and feature-rich operating system, thanks in large part to the 10.1 and 10.2 updates. OS X was not only the default operating system on newly released Macs; the new machines wouldn't even boot into anything but the new OS. So on this occasion, Jobs had the completion of a different milestone to announce.

"The OS X migration," Jobs declared, "is basically over."

X by the Numbers

Jobs's statement was typically bold, but Apple believes that it has the numbers to back its CEO up. In January, the company reported it had 5 million active OS X users, up from 1.2 million in January 2002. It hopes to see the number of users double to 10 million by year's end.

The number of native applications has climbed dramatically, too. At the time Steve Jobs was walking reporters through the finer points of OS X in March 2001, Apple claimed that 356 programs ran natively on the new OS; these days, the figure tops 5,000. Quark's long-awaited OS X–native version of XPress is expected to join the party soon (see "Quark Enters the Land of OS X," page 62).

User-adoption rates for OS X came under fire last summer from some developers—most notably Microsoft, which criticized Apple's promotional efforts for the new OS. Tim McDonough, director of marketing and business development for Microsoft's Mac Business Unit, says that these days the software giant is pleased with adoption rates for OS X. "As more and more Mac users upgrade to OS X, the number of requests for OS 9 products has decreased," McDonough says.

Other developers see the OS X business picking up as well. FileMaker, an Apple subsidiary that released an OS X–native version of its flagship database program shortly after OS X's initial release, reports that between 35 and 40 percent of its Mac users were

WHAT'S NEXT

San Jose in May? Try San Francisco in June. That's the new place and time for Apple's rescheduled Worldwide Developers Conference, kicking off June 23.

X Times Apple's search for a modern OS stretches back for more than a decade—from Pink to Copland to Rhapsody and

1991

April 1991 Apple demonstrates Pink, an object-oriented OS, to IBM.

May 1991 System 7 ships.

October 1991 Apple and IBM form a joint venture, Taligent, to complete Pink.

1994

June 1994 System 7.5 ships.

March 1994 Apple publicly announces its next-generation operating system, codenamed Copland, which is set to ship in 1995; it will be followed by Gershwin in 1996.

1995

November 1995 Copland beta goes out to key developers; final version delayed to 1997.

1996

August 1996 Apple ends development of Copland and Gershwin.

December 1996 Apple buys Next and its OS, NextStep.

1997

January 1997 Apple unveils plans for another OS, which will incorporate NextStep; it's codenamed Rhapsody.

August 1997 Mac OS 8 ships.

1998

October 1997 Developers get a copy of Rhapsody.

May 1998 Apple unveils a revised OS strategy, changing the name to OS X; the OS will ship in the fall of 1999.

1999

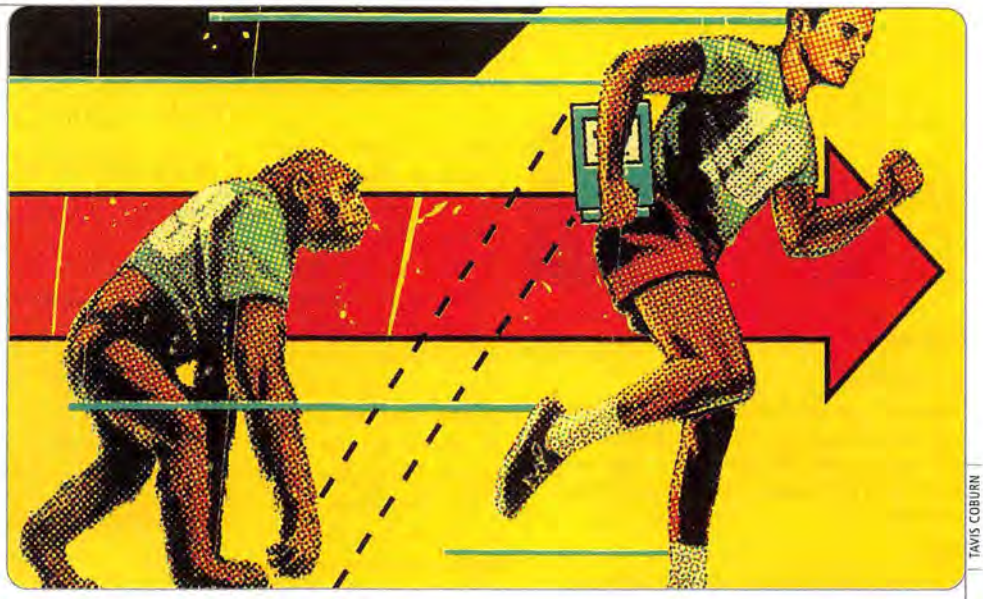
October 1999 OS 9 ships; OS X's debut is delayed to early 2000.

2000

January 2000 Steve Jobs delivers a public preview of OS X, unveiling the Aqua interface; launch is delayed until the summer.

using the OS X version of FileMaker as of last summer. "It's probably increased significantly since then," says Dominic Goupil, FileMaker's president.

"We're really happy with where [the OS X transition] is at today," adds Dave Burkett, Adobe's director of product management for collections and illustration products. "The last couple of quarters after Jaguar's [August 2002] release, things have picked up."



TAVIS COBURN

Why Switch?

Last year's Jaguar update to OS X certainly spurred some users to give the new operating system a try. User Andy Highberger had fought off any impulse he had to switch before early 2003. "I was one of those saying that OS X was a disaster until I tried it and found out what I can do with it," says Highberger, who now works exclusively on OS X, with the exception of a monthly checkup using Alsoft's DiskWarrior in OS 9.

Still, for some segments of the Mac market, the transition to OS X hasn't even begun. Educators with tight budgets are loath to spend the money on the hardware and software upgrades an OS X switch would require (hence Apple's decision to continue offering OS 9–booting Macs for its education customers). Print and design professionals are largely taking a wait-and-see attitude as well—at least until QuarkXPress 6.0 arrives. "As a designer who uses Quark for major print designing, there is no reason to use OS X," Mac user Steve Sand says.

But even some Mac users who initially balked at OS X have found the new OS to their liking. When it first came out, Glenn Blaylock installed OS X on his blue-and-white Power Mac G3. Sluggish performance and a lack of native applications forced him to go back to using OS 9. The 2001 release of OS X 10.1 changed things considerably. "The speed boost in this version was sufficient to allow me to start using OS X full-time," Blaylock says.

Transition Tales

How smoothly did the transition from OS 9 to OS X go? The answer depends on which users you talk to. For some, it was a practically seamless migration. For others, it took time and effort to figure out the new OS's way of doing things. But if there's one thing that has commonly bedeviled Mac users moving to OS X, it's getting old hardware to work with the new OS.

For printing in OS X, users and developers had to get past the concept of the classic Mac OS's Chooser, says Mark Radogna, senior product manager at Epson America. Printer drivers in OS 9 had been based on QuickDraw, "which had been around for so long, and people loved it," he adds. "It gave printer manufacturers license to [do] what they wanted." OS X, on the other hand, is optimized for PostScript printers. It's a "superior operating system," Radogna says, with "a lot more power for printer manufacturers to use for creating drivers." But the guidelines are also stricter. "With OS X 10.2.4, we can develop a driver that's high quality, that our users are used to seeing," he adds.

Even after producing OS X–native drivers, hardware makers faced another challenge, notes Rick Spillers, Hewlett-Packard Mac-Connect product manager: getting their product cycles to match up with Apple's release of OS updates.

For software developers, creating programs that ran natively in a new OS presented a new set of challenges—some were easy to tackle; others, less so. For example, programmers working on QuarkXPress 6.0 found that it was easy to use the new help viewer and to take advantage of window-management

continues

on to OS X. Here are some key dates in the evolution of Apple's OS.

2001

September 2000 OS X public beta is released.

March 2001 OS X is released.

May 2000 Apple plans to release an OS X public beta in the summer; the final version will ship in early 2001.

January 2001 Apple sets a March shipping date for OS X.

May 2001 Apple announces that OS X will be preinstalled on all new Macs; OS X 10.0.2 update adds CD-burning capabilities.

July 2001 Apple previews OS X 10.1, the first major update to the new OS.

September 2001 OS X 10.1 ships.

2002

January 2002 OS X becomes the default operating system for all new Macs.

May 2002 Apple publicly previews OS X 10.2, code-named Jaguar.

March 2002 Apple announces that OS X will add Bluetooth wireless connectivity support.

August 2002 Jaguar is released.

September 2002 Apple announces that all Macs shipping in 2003 will boot only into OS X.

2003

January 2003 Apple introduces a beta of the X11 windowing interface for OS X.

June 2003 Apple plans to unveil the next update to OS X, code-named Panther.

MULTIMEDIA BEAT

Hardware

Input Devices

A multimedia controller from Contour Design (800/462-6678, www.contourdesign.com): The **ShuttleXPress** ($60) is built for audio and video editors. It offers one-hand access to five programmable buttons and a jog-shuttle knob.

Video

A video-capture and -playback card from Digital Voodoo (www.digitalvoodoo.net): The **HD Fury** ($11,995) is an uncompressed 10-bit HD SDI capture and playback card with one HD SDI input, one HD SDI output, eight channels of AES/EBU, and simultaneous SD SDI down-conversion.

An updated hardware-software postproduction system from Pinnacle Systems (650/526-1600, www.pinnaclesys.com): **CinéWave 4** works with Apple's Final Cut Pro 4. It adds support for real-time capture from both SD and HD sources at multiple frame rates. It also supports real-time effects for DV, PhotoJPEG, and 8-, 10-, and 16-bit uncompressed sources in the same timeline while still providing for video output ($3,995; upgrade, $299).

Software

Audio

Digital Performer 4, from Mark of the Unicorn (617/576-2760, www.motu.com): The digital-audio and MIDI-sequencing production system adds OS X compatibility. Other additions include CoreAudio, CoreMIDI, and ReWire 2.0 support ($795; upgrade, $149).

Peak 4, from BIAS (707/782-1866, www.bias-inc.com): The updated stereo-waveform–editing application will run only on OS X. It adds support for Audio Unit plug-ins, Apple's OS X audio plug-in standard ($499; upgrade, $149).

Video

Boris Red 3GL, from Boris FX (888/772-6747, www.borisfx.com): The latest version of the integrated 3-D–compositing, –titling, and –effects application adds support for OpenGL-based–hardware acceleration. The update will ship by the end of June ($1,595; upgrade, $295).

HipFlics 1.2 for Mac OS X, from Totally Hip (604/685-6525, www.totallyhip.com): Updates to the video-enhancement and -compression tool include the ability to create MPEG-4 movies in either MOV or MP4 formats, a faster compression engine, an expanded codec view, and support for QuickTime 6 effects and transitions ($50).

Shake 3, from Apple (800/692-7753, www.apple.com): The updated compositing software remains compatible with Irix and Linux, but the new version will sport features compatible solely with OS X, including unlimited network-rendering and broadcast-monitor support. The OS X version also costs half as much as the Irix and Linux versions (OS X: $4,950; Irix and Linux, $9,900 plus $1,485 annual maintenance).—COMPILED BY PHILIP MICHAELS

What's next for OS X? Apple should provide a pretty definitive answer at June's Worldwide Developers Conference.

features, says Hannes Scheidler, Quark director of research and development. But "one of the most time-consuming changes was in print management, because the OS improvements were significant and the feature is crucial to our customers," Scheidler adds.

For Tom Nash, director of product management at accounting-software maker MYOB, one of the biggest challenges was regression testing—making sure that changes introduced by Apple in OS X updates didn't disable existing features in MYOB's software. Changes introduced with Jaguar, for instance, created a scaling-windows problem in MYOB's AccountEdge; the company was able to fix the problem with a subsequent update.

But Nash is quick to praise the support and tools Apple provided to help MYOB add OS X compatibility. Other developers share this attitude. "The process went especially smooth because Apple worked closely with us to address key development issues," Microsoft's McDonough says. "The responsiveness they showed helped us deliver high-quality products for OS X."

Panther on the Prowl

If, as Steve Jobs contends, the initial migration to OS X is over, then what's next for the Mac platform? Apple should provide a pretty definitive answer to that question at its Worldwide Developers Conference, where it will preview the next major update to OS X, code-named Panther. Apple pushed the conference back a month to June so it could provide developers with a more complete preview release.

"We saw how much of a huge difference Jaguar made," FileMaker's Goupil says. "We're looking forward to seeing what's in Panther and how we can take advantage of it."

As for those who are still using OS 9, it's likely that Apple's hardware strategy will ultimately do what the growth and development of OS X software could not: with all of Apple's new hardware requiring OS X, every OS 9 user who wants to buy a new Mac will be simultaneously making the transition to OS X.—PHILIP MICHAELS

NEW PHOTO, DVD PROGRAMS ARE WINDOWS ONLY, BUT MAC USERS SHOULDN'T WORRY

No Adobe, No Problem?

A few years ago, the news that Adobe was bypassing the Mac platform with two Windows-only programs would have been met by howls of outrage. But the releases of Adobe Photoshop Album and Adobe Encore DVD for Windows have met with very little fretting about the state of Adobe-Apple relations—largely because neither program offers anything that's not already available on the Mac.

The $50 Photoshop Album makes basic corrections to digital photos and lets you store and share them—the same functionality Mac users get from Apple's free iPhoto. Encore DVD is a DVD-authoring application aimed at video-production pros, but with Apple's $499 DVD Studio Pro and free iDVD, Mac users probably won't need Adobe's new app.

Adobe acknowledged as much with its Encore DVD release. Product Manager Giles Baker says that the new program is aimed at Adobe Premiere users, who—thanks to multiple video-editing offerings from Apple and Avid—are primarily Windows users. "Apple has a really strong solution on the Mac with iDVD and DVD Studio Pro," Baker adds. "It didn't make sense [to release a Mac version] with the first version."

Mac users without a SuperDrive-equipped Mac are still looking for a low-cost DVD-authoring program that supports third-party burners (although LaCie recently began offering the $149 CaptyDVD as a stand-alone offering). But Adobe's reluctance to produce Mac versions of Photoshop Album and Encore DVD suggest that it's not always a sign of trouble when a developer eschews a platform—sometimes it's a sign that the platform is doing just fine.—PHILIP MICHAELS

NEW MUSIC SERVICE OFFERS 99-CENT DOWNLOADS FOR MAC USERS

Apple Carries a Tune

Apple hopes to hit a high note where several online services have fallen flat—selling music to computer users who have gotten used to downloading songs for free. But Apple believes that its iTunes Music Store will thrive, thanks to an extensive library of music, superior technology, and the ease of use traditionally associated with Mac products.

Through the iTunes Music Store service, consumers will be able to search an online music library, listen to song previews, and buy music. Users can download individual songs (99 cents each) or entire CDs without having to pay a subscription fee.

Apple's efforts are backed by the five major commercial music publishers. That gives the company immediate access to more than 200,000 songs, with more to be added regularly. Designed to work with iTunes 4, Apple's music service will initially be available only to Mac users; a Windows version will follow later in 2003.

Inside the Store

The name of Apple's service includes the word *iTunes* for a reason—you access the entire Music Store from within Apple's OS X–only music-player application. A new item, Music Store, resides with your Library and Playlists in the left pane of iTunes 4. When you click on it, the right side of the iTunes window turns into a Web-browser–style interface, full of links to artists and albums.

What's in Store The Music Store item in the left pane of iTunes 4 links users to Apple's new online music service.

To search for music, you type the name of a song in the iTunes Search box. The Music Store will return a list of available tracks in a standard iTunes track list. Click on the Browse button, and you'll be able to browse for tracks by artist, album, and genre, through an interface only slightly different from the standard iTunes browser. Double-click on any track in a Music Store list, and you'll hear a 30-second preview streamed over the Internet. You buy music via the same Apple ID system used for Apple's online store: once a purchase is completed, iTunes 4 downloads your tracks, placing them in a Purchased Music playlist within iTunes.

While the name *MP3* has become synonymous with digital music, the iTunes Music Store doesn't use the MP3 file format. Rather, it uses AAC (Advanced Audio Codec), a compression format developed by Dolby Labs that creates smaller, better-sounding files than MP3 does.

Apple isn't just using AAC as a way to improve audio quality. The AAC files you buy from the iTunes Music Store are marked as belonging to you, and they come with some limitations on distribution, as a means of fighting piracy. While you can burn purchased tracks to audio CD, those tracks can reside on only three Macs at a time and, among external music players, are currently compatible only with the iPod. You can use purchased tracks as soundtracks for other iLife programs, such as iPhoto and iMovie.

Joining the Chorus

Unlike the iTunes Music Store, most online music services use a subscription model—you pay a monthly fee that lets you own songs only as long as you are a member. But the meaning of "ownership" varies by company.

The service closest to Apple's offerings comes from EMusic, which charges a $9.95-per-month fee with a one-year commitment. EMusic has no restrictions on downloading or burning tracks. Listen.com's Rhapsody costs $9.95 per month; burnable versions of many tracks are available for an additional fee.

Although Apple's isn't the only service to offer tracks from the five major record labels—BMG Entertainment, EMI Recorded Music, Sony Music Entertainment, Universal Music Group, and Warner Music Group—it has exclusive bonus content from artists such as U2, Eminem, Sting, Bob Dylan, and Sheryl Crow. Apple is also the only company to offer AAC audio; other services use MP3 or Windows Media.—JONATHAN SEFF AND JASON SNELL

The iPod Puts Its Best Face Forward

As Apple attempts to put a new face on online music delivery, the company has also altered the look of its top-selling MP3 player. The redesigned, slimmer iPod sports a new solid-state navigation wheel on its front and can store even more music.

Apple added four buttons just above the iPod's scroll wheel: rewind, menu, play/pause, and fast-forward. As with the iPod models introduced last summer, the scroll wheel and new buttons are touch-sensitive and have no moving parts—for durability and ease of use.

Apple has boosted the iPod's storage size, making the music player available in 10GB, 15GB, and 30GB capacities (see "Playing a Different Tune"). While the new models are taller than the previous iPod, they're also thinner and lighter. These new iPods don't use a standard six-pin FireWire port; instead, they have a special thin connector. Each model comes with an adapter cable; the 15GB and 30GB models also come with a connection dock.—PHILIP MICHAELS

Playing a Different Tune

Apple has revised its iPod offerings, with new devices featuring larger capacities.

CAPACITY	SIZE	WEIGHT	ACCESSORIES	PRICE
10GB	4.1 by 2.4 by 0.62 inches	5.6 ounces	headphones, AC adapter, FireWire cable, 4-to-6-pin FireWire adapter	$299
15GB	4.1 by 2.4 by 0.62 inches	5.6 ounces	dock, remote, carrying case, headphones, AC adapter, 4-to-6-pin FireWire adapter	$399
30GB	4.1 by 2.4 by 0.73 inches	6.2 ounces	dock, remote, carrying case, headphones, AC adapter, 4-to-6-pin FireWire adapter	$499

APPLE ADDS NEW CAPABILITIES IN FINAL CUT, DVD STUDIO PRO UPDATES

Video Double Features

The professional video-editing market has become a vital part of Apple's business, as important to its future as desktop publishing was to the Mac's early days. So it wasn't surprising that Apple chose the biggest event for video pros—the annual National Association of Broadcasters trade show in Las Vegas—to showcase the latest versions of its two most important pro video tools, Final Cut Pro and DVD Studio Pro.

Real Time Goes Extreme

Final Cut Pro 4 ($999; upgrade, $399) includes more than 300 new features—with a major addition in the form of RT Extreme. The highly requested feature replaces Final Cut Pro 3's real-time architecture. Final Cut Pro no longer puts limits on the number of real-time effects users can preview at one time; the new version includes hundreds of real-time effects—a significant jump from the number introduced in version 3—and can display as many as your Mac's processor can handle. For better editing precision, you can now output to a broadcast monitor over FireWire with the same real-time effects—and it's all done by software, without additional previewing hardware.

To give editors more flexibility, Final Cut Pro 4 sports a completely customizable interface, with access to more than 600 tools and commands. Final Cut Pro's keyboard-layout controller lets you remap your keyboard by creating custom buttons and window layouts.

Available in June, Final Cut Pro 4 also includes several new applications: LiveType, Soundtrack, and Compressor. LiveType is an enhanced titling tool with more than 150 effects and templates. Soundtrack allows you to create royalty-free music to accompany your projects. The loop-based program with real-time arranging and mixing matches tempo and keys on-the-fly. Compressor is a video transcoder that supports batch processing and all QuickTime codecs. It compresses from your source material, so there's no need to save a copy to disk first and then encode.

New Price, New Look

The change many users will first notice about DVD Studio Pro 2 is the DVD-authoring software's new price—it's now $499, half the previous price. Existing users can upgrade for $199. Anyone who purchases DVD Studio Pro 1.5 before version 2's August release can upgrade for $30 through Apple's up-to-date program.

More important than a new price is DVD Studio Pro 2's completely new interface, which combines some of iDVD's cleverness with DVD Studio Pro's high-end authoring capabilities. Version 2 includes timesaving, customizable templates and content-aware drop zones that anticipate what you want to do with media. You now create buttons and menus from within the application rather than using a graphics program such as Adobe Photoshop. Final Cut users will feel at home with new NLE-inspired timelines for working with clips, video, and additional assets. And new timeline-editing tools let you trim clips and control chapter markers from within DVD Studio Pro.

DVD Studio Pro includes the same compressor application as Final Cut Pro, and it comes with a new MPEG-2 encoder. And DVD Studio Pro now accepts all QuickTime files (instead of just MPEG-2) and can encode with 1- and 2-pass variable bit rate (VBR) in the background.—JONATHAN SEFF

PRO FILE | Q&A WITH RICH SIEGEL

TEXT SUPPORT

Try telling Rich Siegel that TextWrangler—the general-purpose and programming text editor recently released by Bare Bones Software—is just a repackaged version of BBEdit Lite with a new name and a $49 price. The founder, president, and CEO of Bare Bones will be happy to tell you that you're wrong—there are a few stark differences between TextWrangler and the freeware text editor. Siegel recently spoke with *Macworld* to spell out those differences and explain his company's decision to drop BBEdit Lite from its product line.—PHILIP MICHAELS

AT A GLANCE

RICH SIEGEL Founder, President, and CEO, Bare Bones Software
MAC: Dual-1GHz Power Mac G4
SOFTWARE: NetNewsWire Lite 1.0, SpamSieve

Who is the target audience for TextWrangler?

TextWrangler was specifically designed for anyone who is no longer a novice Mac user, who routinely works with plain text. Of course, TextWrangler also appeals to power users, by virtue of including several features that take advantage of the powerful foundation underneath OS X. However, the interface and core capabilities are intended for any non-novice user.

Would it be correct to call this a BBEdit Lite replacement?

I'd have to definitely say "incorrect." BBEdit Lite is replaced by the free programs available for OS X, either included with the OS installation or available from third parties. Regardless of whether or not you think those offerings are of high quality, it is such software that replaces BBEdit Lite.

So there's more to TextWrangler than there was to BBEdit?

Absolutely. TextWrangler is a considerably more modern, refined, and capable product, and there is a lot more to TextWrangler than would ever have been in BBEdit Lite. There are too many discrete improvements to list them all here, but they include PCRE pattern-matching for grep searches, integration with OS X Services, Unicode support, syntax coloring for supported languages, and authenticated saves.

Why did you discontinue BBEdit Lite?

With the increasing age of BBEdit Lite, and the fact that no further updates were planned, we believe that it was not representative of the state of the art of our product line. The BBEdit Lite code base hasn't been touched in more than two years, while the rest of our technology has continued to evolve in the meantime. Second, with the release of OS X, the OS itself comes with a text editor. Consequently, we believe that the need for a freeware text editor for Mac OS is past.

More Info:

www.macworld.com/2003/06/macbeat/siegel
Rich Siegel talks about Bare Bones Software's other offerings, including BBEdit and Mailsmith.

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PRODUCTIVITY BEAT

Software

Fax

Page Sender 3.0, from Smile Software (www.smilesoftware.com): The new version of the OS X fax software adds a folder hierarchy including user-defined archive folders, a printable fax history, and a Sent Faxes tracking feature ($30; upgrade, $10 voluntary fee).

Writing

Final Draft AV v2, from Final Draft (800/231-4055, www.finaldraft.com): The updated script processor is designed specifically for dual-column scriptwriting. It also incorporates new column-alignment features and supports customized headers and footers ($199; upgrade, free).

OmniGraffle 3.0, from The Omni Group (800/315-6664, www.omnigroup.com): The updated diagramming and drawing software features redesigned info panels. The program also features speed improvements, thanks to a new caching architecture ($70; upgrade, $25). The Omni Group also plans a professional version, **OmniGraffle 3.0 Professional**, which features new page-layout features, multipage-document support, advanced editing capabilities, and new export options including multipage-HTML export ($120; upgrades, $50 from version 3.0, $60-$75 from version 2.0).—COMPILED BY PHILIP MICHAELS

CREATIVE BEAT

Software

3-D Animation

Amorphium 3, from Electric Image (800/736-3371, www.electricimage.com): The 3-D–modeling and –animation software now features subdivision-surface modeling tools and support for OS X ($139; upgrade, $89).

Maya 5, from Alias|Wavefront (877/405-6645, www.aliaswavefront.com): The latest version of the 3-D–animation and –rendering software has new rendering options, enhanced animation features, and expanded support for other applications ($1,999; upgrade, $899).

Asset Management

iView Media, from iView (www.iview-multimedia.com): This slimmer version of the popular iView MediaPro helps you organize digital images, videos, and MP3 files ($30).

Illustration

Corel Painter 8, from Corel (800/772-6735, www.corel.com): The program adds Sketch Effect and Digital Water Color tools, as well as other enhancements ($299; upgrade, $149).—COMPILED BY KELLY LUNSFORD AND TERRI STONE

ADOBE TURNS PDF PROGRAM INTO FOUR DISTINCT PRODUCTS

Acrobat Does the Splits

There may be no other product in the Mac universe with a more appropriate name than Acrobat. After all, since Adobe (888/724-4507, www.adobe.com) introduced the program a decade ago, Acrobat's purpose has flipped around so many times, it's enough to make your head spin. First, it was the road to the paperless office . . . then it was an HTML substitute . . . then it was a corporate document container . . . and wait—now it's a print-publishing format.

Acrobat's ever changing raison d'être is the result of more than just marketing whims. Acrobat's user base does turn to the product for a dizzyingly diverse array of needs. So in what Adobe calls an effort to respond to differing demands, the company is splitting Acrobat into four distinct products—Adobe Reader 6.0, Acrobat Elements, Acrobat 6.0 Standard, and Acrobat 6.0 Professional. Of the four products, only Acrobat Elements is shipping now; the rest should arrive in mid-May. But Elements is the least interesting product from a Mac standpoint—it's a Windows-only application that creates PDF files from within Microsoft Office. Mac OS X already sports built-in PDF-creation tools, so Mac users aren't likely to feel left out.

Stamp of Approval In the Acrobat update, it's easy to time- and date-stamp files and add notes.

Adobe Reader 6.0, however, should interest most Mac users: it's a new name for a familiar application—Adobe's Acrobat Reader. Once Reader 6.0 is available (as a free download from Adobe's Web site), you'll be able to use it to view and print files and fill out PDF forms.

The Standard Package

As for the other new versions of Acrobat, Adobe plans to gear Acrobat 6.0 Standard ($299; upgrade, $99) toward users who exchange business documents. You can use Standard, which runs on OS X 10.2.2 and later, to create, mark up, and share PDF files.

While some features will be familiar to Acrobat 5.0 users, others are new. Take Review Tracker, which, when you e-mail a PDF file, notes who received the file and who replied. Those responders can use Standard to format and check the spelling of their comments. To make sure you don't overlook anyone's feedback, you can view all comments in one PDF. Also new is an OS X version of Distiller, which was the lone holdout in the otherwise OS X–native Acrobat 5.0.

Acrobat Goes Pro

Acrobat 6.0 Professional ($449; upgrade, $149) includes everything in Standard, along with tools specifically for print designers, service-bureau professionals, and engineers. A new split view lets users compare two areas of a file at once. A pan-and-zoom window offers quick navigation. And the loupe tool lets users zoom in on one area of a page without changing the rest of the file's magnification level.

The Professional version lets users preview a job's color separations and flattened transparency effects. People who send PDF/X files to print shops for more-reliable output may benefit from Professional's PDF/X validator. The program, which runs on OS X 10.2.2 and later, can also embed preflight information, so vital details about your work aren't relegated to an easily misplaced sheet of paper.

While Acrobat 6.0 Standard costs just $50 more than the $249 version 5.X, Acrobat 6.0 Professional costs $200 more. But Adobe points out that Professional includes new capabilities previously available only in specialized applications from other companies. The company is counting on these features making Acrobat users flip over the newly created program, not over the price increase.—TERRI STONE

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WHAT'S HOT

A Quick Look at the World of Macs

1. **The next major version of OS X is code-named Panther.** *Apple chose that code name over the other finalist, Sleepy Kitty.*

2. **Apple unveils Final Cut Pro 4.** *Confident Apple executives proclaim, "This is the best fourth version of something since* Police Academy IV*!"*

3. **Al Gore is named to Apple's board of directors.** *Confused shareholders in Palm Beach, Florida, dispute the results, claiming they thought they had cast their votes for Ralph Nader.*

4. **Apple will take part in this summer's New York Mac expo after all.** *By agreeing to participate in the conference, Apple executives scrap their original plan to spend the summer following around the Lollapalooza tour.*

Mac OS X Updates

powered by versiontracker.com

Apple QuickTime 6.1.1
Enhancements to multimedia player and authoring solution

Apple Remote Desktop 1.2
Remote control for managing Macs

Basilisk II 12
680X0 Mac emulator

Blizzard Starcraft Brood War 1.1.0
Add-on for the strategy-action game

Complete MySQL 4.0.12
MySQL with full graphical install and setup

Data Recycler X 1.0.4
Bug fix for deleted-file–recovery utility

Deneba Canvas 8.0.6
Vector, bitmap, text-media illustration software

DockExtender 3.0.4
Adds menus to Dock and menu bar

FontDoctor X 5.5
Font-problem–diagnosis and –repair tool

GameRanger 3.3
Online game service

Hubi's iTunes Scripts 1.5
Script collection for iTunes

InVisibles 1.4
Makes invisible files and folders visible and then invisible again

iSwipe 1.3b11
Client for Web, FTP, Hotline, OpenNap, and Gnutella

Master Tracks Pro 6.8.2
MIDI sequencing program

MorphX 2.5.3
Creates morphing transitions between images or movies

MP3 Sushi 1.4.1
Rendezvous network radio broadcast station and jukebox server

Net Monitor 3.0
Tool to graph network-interface throughput

NikonView 6.0
Digital photo software for most CoolPix and D1 cameras

Panopticum Digitizer 1.0
Digital effects for Photoshop

Panopticum Engraver 1.0
Photoshop plug-in simulates engraving

PGPFreeware 8.0.2
Noncommercial limited-use version of PGP encryption

Safari Toolkit 2.1
Improves site compatibility, enables tabbed browsing

Screen Query 1.0
Utility tests screens for dead pixels

Strata 3Dpro 3.8.1
Modeling, rendering, animation application

Taco HTML Edit 1.2.1
HTML editor with tag coloring

Toast Titanium 5.2.1
Updated CD/DVD-burning software

Ventilloo 1.0
Software for cooling a Mac's internal temperature

VSTi Host 3.0
Allows stand-alone use of VST instruments and effects

For these and other current updates, visit:
www.macworld.com/subject/updates
Macworld.com has the latest from VersionTracker.com.

CONTOUR DESIGN OFFERS ERGONOMIC ALTERNATIVE WITH ROLLERMOUSE

Rolling Away from Pain

If you're trying to pinpoint one of the major culprits for repetitive strain injuries, look no further than the awkward way computer users reach for and grip their mice. Those movements can contribute to wrist, forearm, or shoulder pain, so input-device makers are scrambling to come up with pointing-device alternatives. Among the more inventive approaches is the $190 RollerMouse Station, from Contour Design (800/462-6678, www.contourdesign.com). The RollerMouse Station, which looks like a keyboard tray, sits just in front of your keyboard and doubles as a wrist rest—a horizontal roller bar just under your thumbs replaces a mouse. You roll the bar in different directions to move the cursor; applying pressure to the roller bar acts as a mouse click. Four buttons below the roller bar are customizable via a dial and DIP switches.

The RollerMouse Station does have limitations: it's designed for keyboards with a straight ten-key pad and without a built-in wrist-rest area, so curved or special ergonomic keyboards may not be the best companions for it. An ergonomic specialist can help determine whether a device such as the RollerMouse Station is right for you.—JENNIFER BERGER

ICONS: WWW.ANDYMARTIN.UK.COM

HARDWARE BEAT

Displays

A 20-inch LCD monitor from Formac Electronic (877/436-7622, www.formac.com): The **Gallery 2010 Oxygen** ($1,149) has a native resolution of 1,600 by 1,200 pixels and a 600:1 contrast ratio. It features the same industrial design as Formac's Platinum series of displays, but it comes with a one-year warranty instead of the three-year warranty standard for more-expensive Formac models.

A flat-panel display from Planar Systems (866/752-6271, www.planar.com): The **PX191** ($849) is a 19-inch LCD monitor with 1,280-by-1,024-pixel resolution and a 700:1 contrast ratio.

Printers

Two monochrome laser printers from Lexmark (800/539-6275, www.lexmark.com): Both the **Lexmark E321** ($299) and the **Lexmark E323** ($399) print 20 pages per minute. The E323 sports a faster processor (200MHz to 100MHz) and more memory (16MB to 8MB) than the E321; it also offers PostScript level 3 support.

Two new printer series and large-format printers from Hewlett-Packard (800/752-0900, www.hp.com): The **HP LaserJet 1300** series ($399 to $599) prints as many as 20 pages per minute at 1,200-dpi resolution. The series features two models—one intended for direct-connect use and the other with built-in networking capabilities. The **HP LaserJet 2300** series ($549 to $1,299) features six models with speeds of 20 to 25 pages per minute and 1,200-dpi resolution. Both printer series are compatible with Rendezvous, OS X's zero-configuration networking technology. The **Designjet 120** ($1,295) can do both standard printing and large-format work. It has a standard media tray and 24-inch paper path. Features include closed-loop color calibration, 2,400-dpi resolution, and 4-picoliter drop size. A second model, the **Designjet 120nr** ($1,895), provides built-in Ethernet networking support.

Servers

A rack cabinet from Marathon Computer (800/832-6326, www.marathon.com): The **M-Rack** ($1,099) accommodates equipment 30 inches deep and stands 40U tall. Equipped with antitip plates for all four sides, the M-Rack was designed specifically for Apple's Xserve.

System

A USB 2.0–FireWire combo card from Orange Micro (714/779-2772, www.orangemicro.com): The **OrangeCombo Notebook Card** ($119) includes two USB 2.0 ports, one six-pin FireWire port, and one four-pin FireWire port. The laptop expansion card is compatible with PowerBook PC Card slots and comes with OS X drivers.

A FireWire 400 card from Sonnet Technologies (949/587-3500, www.sonnettech.com): The **Allegro FW400 FireWire PCI adapter card** ($40) features three six-pin FireWire 400 ports; it's aimed at older Macs needing a FireWire interface or FireWire-equipped Power Macs in need of more FireWire ports. The card is compatible with OS 9 and later.—COMPILED BY PHILIP MICHAELS

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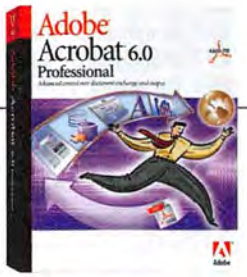

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1GHZ 17-INCH POWERBOOK G4

Big Screen and Big Performance Add Up to Professional-Level Portability

BY RICK LEPAGE

Apple's Year of the Notebook started quite impressively, with the release of the 12-inch PowerBook (★★★★; April 2003), a compact laptop that combined extreme portability with the performance of the G4 processor. Following quickly on that model's heels is the 17-inch PowerBook, the new flagship of Apple's laptop line. Sporting a huge 17-inch screen, a 1GHz processor with ample Level 3 (L3) cache, extensive connectivity options, and several innovative new features, this $3,299 machine represents the state of the art for anyone who wants the best portable money can buy—especially if size and weight aren't primary concerns.

Desktop Masquerade

Reading a list of the 17-inch PowerBook's technical specs and capabilities, you could easily mistake this laptop for a desktop Power Mac. In addition to the 1GHz G4 processor and 1MB of speed-boosting L3 cache, this PowerBook offers built-in Gigabit Ethernet and AirPort Extreme, two USB ports, FireWire 400 and 800 ports, a DVI video-out connector, a 56K modem, 512MB of RAM, and a Type II PC Card slot. It's also a storage powerhouse, offering a 60GB hard drive and a slot-loading SuperDrive that burns DVD-R discs at 1×, CD-R discs at 16×, and CD-RW discs at 4×.

You might also mistake this PowerBook's central feature for something you'd find on a desktop: its 17-inch TFT display, a bright and beautiful flat panel with a native resolution of 1,440 by 900 pixels. Even former Titanium PowerBook users will be blown away by this remarkable screen. Whether you're reading spreadsheets, surfing the Web, or watching DVD movies, the 17-inch PowerBook's screen is nothing short of phenomenal. If you use window- or palette-heavy applications such as Apple's Final Cut, Adobe Photoshop, or Macromedia Dreamweaver, this expansive screen lets you work without feeling crowded. And if you need even more space, you can use the DVI connector (and, optionally, the included DVI-to-VGA adapter) to drive a second digital or analog display at a resolution as high as 2,048 by 1,536 pixels in 24-bit color.

Solid Construction

When it comes to fit and finish, this PowerBook is top-notch. It has the same anodized aluminum shell as the 12-inch model, an excellent improvement over the Titanium PowerBook. The lid, which houses the display, glides back effortlessly on counterbalanced hinges. Two small speakers on either side of the keyboard provide the best sound we've heard from an Apple laptop. Audiophiles will still wince at the sound, but it's more than adequate for watching a movie or listening to music on the road.

Unlike with most previous Apple notebooks, you install extra RAM in the 17-inch PowerBook from a door on the underside of the computer, not by removing the keyboard. As a result, the keyboard is very solid, and the keys have an excellent range of motion. In an Apple first, the keyboard is also backlit, letting you find the right key even in a pitch-dark hotel room.

In true Apple tradition, the keyboard light doesn't simply flicker on and off: it dims and brightens gradually. This feature is more than eye candy—it's quite helpful and much more useful than some of the USB-based keyboard lights we've tried. An ambient-light sensor on the PowerBook automatically triggers the backlighting, although you can turn this feature off if you don't like the effect and prefer to adjust the backlighting manually via function keys.

Desktop Performance

Like last fall's 1GHz Titanium PowerBook, the 17-inch PowerBook is a well-balanced computer in terms of speed. The 1GHz processor, coupled with the 1MB of L3 cache, a 167MHz system bus (the fastest yet in any PowerBook), fast

Macworld LAB TEST

	Speedmark 3.2	Adobe Photoshop 7.0.1	iMovie 2.1.2	iTunes 3	Quake III v1.30b5	Cinema 4D XL 7.303
	OVERALL SCORE	SUITE	RENDER	MP3 ENCODE	FRAME RATE	3-D RENDER
17-Inch PowerBook G4/1GHz	142	0:51	0:43	0:44	79.7	7:01
15-Inch Titanium PowerBook G4/1GHz	*140*	*0:53*	*0:44*	*0:42*	*76.8*	*6:59*
12-Inch PowerBook G4/867MHz	*115*	*1:04*	*0:52*	*0:57*	*54.3*	*8:41*
	>Better	<Better	<Better	<Better	>Better	<Better

BEST RESULTS IN **BOLD**. REFERENCE SYSTEMS IN *ITALICS*.

Speedmark 3.2 scores are relative to those of a 700MHz eMac, which is assigned a score of 100. Adobe Photoshop, iMovie, and iTunes scores are in minutes:seconds. Quake scores are in frames per second. We tested each system with Mac OS X 10.2.4. The 15-inch and 17-inch models had 512MB of memory installed. The12-inch PowerBook has 128MB on its motherboard and was upgraded to 640MB of RAM for this testing. We set displays to native resolutions and 24-bit color. The Photoshop Suite is a set of ten scripted tasks using a 50MB file. Photoshop's memory was set to 100 percent and History was set to Minimum. We tested MP3 encoding with an audio-CD track that was 9 minutes and 25 seconds long, converting it from the hard drive using iTunes' Better Quality setting. We tested Quake III at a resolution of 1,024 by 768 pixels with Graphics set to High Quality. For more information on Speedmark 3.2, visit www.macworld.com/speedmark.—MACWORLD LAB TESTING BY JAMES GALBRAITH

PHOTOS COURTESY OF APPLE COMPUTER

32 Laptop computer
Apple 17-Inch PowerBook G4/1GHz
33 Desktop computer
Apple Power Mac G4/Dual-1.42GHz
35 Digital-audio software
Pro Tools LE 6
36 Multimedia-authoring package
Director MX
37 Statistics analysis package
SPSS 11
40 Video-encoding utility
Cleaner 6.0
40 DVD-authoring combination
USB Instant DVD
41 Photoshop plug-in
Photoshop Camera Raw
42 3-D–modeling software
SketchUp 2.2
43 Flight simulator
X-Plane 6.51
44 Professional DJ program
Traktor DJ Studio 2.0
45 Pocket PC synchronization tool
PocketMac Pro 2.0
46 Spelling checker
Spell Catcher X
47 Reviews in Brief
CopyPaste-X 1.5, Page Sender 3.0, QuicKeys X 1.5.4, TimeLiner 5.0
48 Hot Products
The best recently reviewed Mac products
49 Mac Gems
Across Lite, iCurve, PhotoKit, PowerMate, PowerWave, Sony Ericsson Clicker
53 The Game Room
GameRanger, MacMAME, Marble Blast, Momo Racing, Payback, Pocket Tanks
38 This Month in Printers
Brother HL 5070N, Hewlett-Packard LaserJet 4300n, Lexmark T420d, Oki Data B4300, Xerox Phaser 4400N

OUTSTANDING: ●●●●● VERY GOOD: ●●●● GOOD: ●●● FLAWED: ●● UNACCEPTABLE: ●

Plug It In Ports on the left side (pictured, from left to right): security slot, power, modem connector, USB, PC Card slot, audio in, audio out. Ports on the right side (not pictured): DVI connector, S-Video out, Gigabit Ethernet, FireWire 800, FireWire 400, USB.

333MHz Double Data Rate (DDR) RAM, and the Nvidia GeForce4 440 graphics chip, provides the best level of performance yet found in a Mac notebook (see the benchmark chart). In general, it was comparable in many tasks with a single-processor 1GHz desktop and significantly faster than the 1GHz flat-panel iMac. Despite the high-powered silicon inside, this PowerBook never got hot, and even when its fan came on it was remarkably quiet.

The 17-inch PowerBook's AirPort performance was similar to the 12-inch PowerBook's—much better than the Titanium models' and generally as strong as the current iBooks'. The native Bluetooth support is easy to use, robust, and quite addictive once you've collected a few Bluetooth-compatible gadgets to play with. We also found that attaching a LaCie FireWire 800 drive offered a 10 to 20 percent speed improvement over an external FireWire 400 drive when we backed up with Retrospect or copied files between drives, although we didn't use the drive enough to make concrete performance judgments on FireWire 800 in general.

Apple claims that the 17-inch PowerBook has a battery life of approximately 4.5 hours, but Apple's battery-life claims are based on ideal conditions. However, we regularly got more than three hours of battery life with average usage, and we were able to watch feature-length movies on a single charge without having to resort to extreme power-management tasks.

Portability of a Sort

The big screen means that the 17-inch PowerBook is significantly wider (15.4 inches) and longer (10.2 inches) than any previous PowerBook, but Apple has been able to keep the thickness of the PowerBook at exactly 1 inch, similar to the Titanium models. The PowerBook weighs 6.8 pounds, which is more than a pound heavier than the Titanium, and in the range of Apple's older PowerBook G3s.

While the 17-inch PowerBook is big, it isn't outrageously so; its thinness really helps dispel the notion that the 17-inch PowerBook is a bulky behemoth, unlike some of the wide-screen PC notebooks we've seen. However, its size *will* knock it immediately out of consideration by some road warriors: while it will fit on a standard airline tray table, we found it nearly impossible to use when seated in a coach-class seat on a full airplane (this is a problem that we ran into with the Titanium PowerBook, too). It was usable in an exit-row seat, as well as in economy plus, business class, and—should you be so lucky—first class.

RATING: ●●●●
PROS: Desktop-level performance; beautiful large screen; solidly built, backlit keyboard; Bluetooth and FireWire 800 support; good AirPort range.
CONS: Too large for coach travelers; heavier than any current Apple laptop.
PRICE: $3,299
OS COMPATIBILITY: Mac OS X
COMPANY: Apple Computer, 800/692-7753, www.apple.com

Macworld's Buying Advice

For people who do not live entirely on planes or who have fairly light travel requirements, the 17-inch PowerBook will be a fine, if slightly oversized, travel companion. It also serves well as a sleek (if expensive) replacement for a desktop Mac. Given the size and quality of the display, many users won't even feel the need for an external monitor.

With Apple's current notebook line stretching from the $999 iBook to this $3,299 model, there's a portable for everyone. While it will stretch the definition of portability to some, the 17-inch PowerBook represents the best combination of features and performance of any PowerBook. It's an excellent workstation for video professionals, designers, and other users who refuse to make sacrifices in performance but still require a good level of mobility. □

DUAL-1.42GHZ POWER MAC G4

Latest Version of the Fastest Mac Money Can Buy Provides Attractive Extras, Good Value

BY CHRISTOPHER BREEN

A little more than a month after Apple shipped the low-end and midlevel systems in its latest Power Mac line—the 1GHz (●●●●) and dual-1.25GHz (●●●●½), respectively (May 2003)—the company released its new top-of-the-line machine: the dual-1.42GHz Power Mac G4. Like its siblings, this Power Mac is a pleasing mix of performance and economy. The dual-1.42GHz model is significantly faster than the previous best-of-breed desktop machine—the dual-1.25GHz Power Mac G4 (mirrored drive door)—and at $2,699, it costs $600 less than last year's fastest Power Mac. That makes it one powerful machine with a very attractive price.

More Than Speed

Given this Power Mac's specs, you might be tempted to discount it as simply a sprightlier version of last year's fastest Power Mac. And at first blush, it is. The old and new models include 512MB of DDR RAM (with a maximum capacity of 2GB), a 120GB hard drive, and 2MB of L3 cache per processor; they both fill the 4× AGP graphics slot with the ATI Radeon 9000 Pro graphics card, which can drive two displays (a DVI-to-VGA adapter is included); and both Power Macs sport two USB ports, Gigabit Ethernet, a 56K modem, four PCI slots, a headphone jack on the front panel, audio-input and -output ports, and a port for the optional $59 Apple Pro Speakers. And like the mirrored-drive–door models before it, this Power Mac provides space for a second optical drive below the SuperDrive. However, this generation has a FireWire 800 port and supports Bluetooth (regrettably, internal Bluetooth adapters are available only as a $50 build-to-order option) and AirPort Extreme, Apple's version of the proposed 802.11g standard.

The dual-1.42GHz model also includes a new, faster SuperDrive—the Pioneer DVR-105, which Apple claims can write

continues

Macworld LAB TEST

	Speedmark 3.2	Adobe Photoshop 7.0.1	iMovie 2.1.2	iTunes 3	Quake III v1.30b5	Cinema 4D XL 7.303
	OVERALL SCORE	SUITE	RENDER	MP3 ENCODE	FRAME RATE	RENDER
Dual-1.42GHz Power Mac G4 (FW 800)	**194**	**0:30**	**0:28**	**0:24**	**134.1**	**2:41**
Dual-1.25GHz Power Mac G4 (FW 800)	*183*	*0:33*	*0:30*	*0:25*	*129.3*	*3:02*
1GHz Power Mac G4 (FW 800)	*157*	*0:53*	*0:41*	*0:41*	*77.1*	*6:55*
	>Better	<Better	<Better	<Better	>Better	<Better

BEST RESULTS IN **BOLD**. REFERENCE SYSTEMS IN *ITALICS*.

Speedmark 3.2 scores are relative to those of a 700MHz eMac, which is assigned a score of 100. Adobe Photoshop, iMovie, and iTunes scores are in minutes:seconds. Quake scores are in frames per second. We tested each system with Mac OS X 10.2.3 and 512MB of RAM installed. We set displays to native resolutions and 24-bit color. The Photoshop Suite test is a set of ten scripted tasks using a 50MB file. Photoshop's memory was set to 100 percent and History was set to Minimum. We tested MP3 encoding with an audio-CD track that was 9 minutes and 25 seconds long, converting it from the hard drive using iTunes' Better Quality setting. We tested Quake III at a resolution of 1,024 by 768 pixels with Graphics set to Normal. For more information on Speedmark 3.2, visit www.macworld.com/speedmark.—MACWORLD LAB TESTING BY JAMES GALBRAITH

DVD-R discs at 4×, read DVDs at 8×, write CD-Rs at 16×, write CD-RWs at 8×, and read CDs at 32×. (The Pioneer DVR-104, found in the earlier dual-1.25GHz Power Mac, is slower—capable of reading and writing at half these speeds in most cases. See "FireWire DVD-R Drives," *Reviews*, May 2003, for more information.) In addition, the dual-1.42GHz model is the only Power Mac that includes a SuperDrive in its standard configuration. (The 1GHz and current dual-1.25GHz models can be equipped with a SuperDrive for an additional $200.)

Meeting Expectations

We expected the dual-1.42GHz model to modestly outperform the current dual-1.25GHz model, and we weren't disappointed. In our Speedmark test suite, the dual-1.42GHz Power Mac was six percent faster than a dual-1.25GHz model equipped with 512MB of RAM. (The stock configuration of the dual-1.25GHz Power Mac G4 includes 256MB of RAM.)

The extra oomph in the dual-1.42GHz Power Mac also allowed it to best the new dual-1.25GHz machine by a few seconds in our iMovie-rendering, MP3-encoding, and Photoshop tests. More-dramatic results came in the Cinema 4D XL rendering test, where the dual-1.42GHz Power Mac sliced 21 seconds from the time it took the midlevel Mac to complete the job. The faster Mac was also able to churn out nearly five more frames per second in our Quake III frame-rate test.

The $1,200 Difference

These six percent and couple-of-seconds performance improvements over the current dual-1.25GHz Power Mac G4 don't translate into an astonishingly superior computing experience. If you sat in front of the dual-1.25GHz and dual-1.42GHz Power Macs placed side by side, you'd likely find the pricier Power Mac a bit snappier when tackling certain tasks—particularly those that benefit from the extra megabyte of L3 cache per processor—but not so snappy that you'd break into a smile of frank admiration.

For that kind of reaction, you must compare the dual-1.42GHz machine with the $1,499 single-processor 1GHz Power Mac G4. In this case, the dual-1.42GHz Mac's two processors, faster system bus, and quicker graphics card pay off in a big way.

In our Speedmark tests, the dual-1.42GHz Power Mac was an admirable 27 percent faster than the 1GHz model. In similar fashion, it steamrolled the single-processor machine in our iMovie, iTunes, Photoshop, and Cinema 4D XL tests—most dramatically rendering our Cinema 4D XL test project a full 4 minutes and 14 seconds faster than the 1GHz Power Mac. The more powerful ATI graphics card also helped the dual-processor Mac blast out an additional 57 frames per second in our Quake III test. Given these results, we suggest that graphics and video professionals seeking to replace their fleets of Power Macs aim for at least the midlevel model.

Trial by FireWire

In our review of Apple's other new Power Mac models, we observed that the FireWire 800 ports on these new Macs, at least when connected via FireWire Target Disk Mode, failed to deliver the goods—moving data only a few seconds faster than the slower FireWire 400 ports also included on these machines. With the release of FireWire 800–compatible peripherals, we're better able to gauge the usefulness of this port.

FireWire 800 offers the very tangible benefit of allowing you to run cables as long as 100 meters (versus FireWire 400's maximum cable length of 4.5 meters) without a decrease in performance, but its speed benefits remain to be fully realized. We attached a 200GB LaCie d2 USB 2.0 & FireWire 800 hard drive to the dual-1.42GHz Power Mac G4 and found that it took a little more than 25 seconds to transfer a 1GB file from the Power Mac's internal drive to the FireWire drive. A similar transfer via FireWire Target Disk Mode between a 1GHz and dual-1.25GHz Power Mac G4 took 1 minute and 27 seconds.

Yet even when attached to a compatible hard drive, FireWire 800 doesn't have an opportunity to fully strut its stuff. We transferred our 1GB test file to the same LaCie drive using the Power Mac's FireWire 400 port, and that transfer was 32 percent slower.

We expect greater things from FireWire 800 in the future—compatible RAID arrays, for example, that can take greater advantage of its bandwidth. Until such devices appear, don't expect miracles from this port on your new Power Mac.

Macworld's Buying Advice

The dual-1.42GHz Power Mac G4 is not a lot faster than the midlevel model—but for $700 more, it has some nice extras that make it a solid value. That said, if you're on a tight budget and don't need a SuperDrive, the dual-1.25GHz model is a better choice. □

RATING: ♦♦♦♦

PROS: Attractively priced; good performance; supports new Apple technologies; faster SuperDrive.

CONS: Internal Bluetooth module is a build-to-order option only.

PRICE: $2,699

OS COMPATIBILITY: Mac OS X

COMPANY: Apple Computer, 800/692-7753, www.apple.com

PRO TOOLS LE 6

Digital-Audio Software Makes Comfortable Transition to OS X and Adds File-Management Features

BY DAVID LEISHMAN

Digidesign's software upgrades are intentionally conservative because the company's high-end Pro Tools digital-audio workstation (DAW) is the standard environment for professional sound editing. Consequently, songs or sessions have to work seamlessly across a varied mixture of operating systems and Digidesign's proprietary hardware. Time that music pros spend fiddling around with radically updated DAWs costs them money.

Pro Tools LE 6 (PT LE 6) doesn't hold any surprises, but for musicians who work with Digidesign's less expensive hardware systems, it does provide a comfortable and stable transition to working in OS X. Version 6 also introduces a very useful file-management system and progressive changes in its MIDI capabilities.

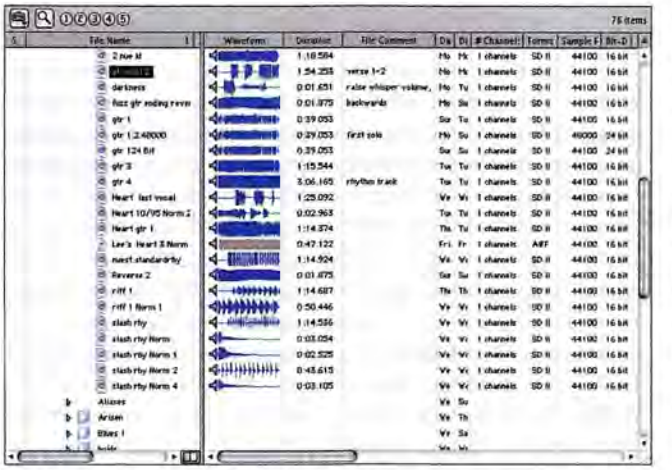
Setting the Stage

Pro Tools LE 6 is intended for use with Digidesign's low- to midrange hardware, including the Audiomedia III, Mbox, and Digi 001 analog-to-digital and digital-to-analog converters. The company promises support "soon" for the Digi 002 converter and mixing controller, which is capable of handling 96kHz files, but PT LE 6 doesn't have it at this time. The program currently supports 16- and 24-bit 44.1kHz and 48kHz files, and a project can have as many as 128 audio tracks, but you're limited to working with 32 mono audio tracks at once. PT LE 6 requires OS X 10.2.3 or later, but you can move files among all of Digidesign's currently shipping hardware, and between Pro Tools versions 6 and 5.2.1 (which runs on OS 9).

The software installation process is straightforward, but you can install a driver for only one piece of Digidesign hardware. You'll need to reinstall the software if you want to switch drivers and hardware. If you use MIDI files with your projects, you'll need to configure your system with Apple's Audio MIDI Setup utility.

What You See

Except for some cosmetic Aquafication, PT LE 6's main Edit and Mix windows are virtually unchanged from version 5.X. Up in the Windows menu, however, lurks substantial new functionality. Digidesign's Digibase file-management utility catalogs your mounted disks and provides three browserlike interfaces for working with your media files. Two of the browsers—Workspace and Project—resemble (and function like) the List view in the Finder but add music-related data, including miniwaveform views, the number of channels used in a given file, time-code info, and sample rate and sample bit-depth levels. In addition to complete file-management tools, you can use the Workspace to audition audio files (rather than first having to import them into a session), then drag the right one into your session at any location in the arrangement's Timeline; this can save you valuable time. The third browser, Task Window, lets you check on background audio-processing duties while you record, mix, or even work in a spreadsheet.



Your Workspace Pro Tools LE 6's new Workspace provides a comprehensive view of the musical details of your sound files and lets you manage and audition them easily.

More MIDI Muscle

Although PT LE 6 doesn't rival the MIDI-handling strengths of Emagic's Logic, Steinberg's Cubase, or MOTU's Digital Performer, it has boosted its MIDI capabilities steadily with each recent release. PT LE 6 supports Apple's Core MIDI Services and MIDI Time Stamping, which allows for precise note placement and playback; doubles the number of MIDI tracks you can use in a session to 256 voices; and adds a Flatten And Response command that acts like an Undo function to let you "lock" changes to a performance or revert to the original. This last feature lets you explore your creativity while maintaining the safety net of a prior take.

PT LE 6 includes support for virtual MIDI inputs, which let you receive data from some third-party applications, and you can use the excellent MIDI Patchbay freeware (available at http://pete.yandell.com/software) to link Pro Tools with other MIDI apps. Both methods are useful, if a little cumbersome; you'll need to specify your send and receive intentions within the preferences of the appropriate apps. Fortunately, Digidesign and Propellerhead (maker of Reason 2.0; ★★★★½; November 2002) have announced they're working to integrate ReWire 2 support into Pro Tools later this year, which should ease interapplication communication.

Where's That Plug?

Plug-ins for modifying tracks and mixes are an essential element of a digital studio, and the availability of OS X–based versions has been a concern for musicians. PT LE 6 ships with a healthy complement of proprietary RTAS plug-ins, including a serviceable Reverb and a long-awaited Click that acts as a metronome. Also available are third-party OS X plug-ins, including Bomb Factory, DUY, McDSP, and Waves. Of particular note is Antares's Auto-Tune 3 ($49 to $149; 831/461-7800, www.antarestech.com); its pitch correction works great and will facilitate users' moves to PT LE 6.

Digidesign is also selling additional plug-ins, but it (and some other vendors) requires you to use the new USB-based iLok copy-protection key—which costs an extra $40—to authorize the software. Emagic employs a similar method for protecting Logic, but it's exasperating that Digidesign, which has already sold you one piece of audio hardware, wants you to buy another.

Macworld's Buying Advice

"Comfortable and stable" may seem like faint praise, but it means that owners of supported Digidesign hardware can easily move up to Pro Tools LE 6. The new file-management browser tools and the extension of Pro Tools' MIDI capabilities are excellent additions and will let you spend more session time making music. □

RATING: ★★★★½

PROS: Provides seamless transition to OS X for Pro Tools users; excellent new file-management tools; modest upgrade to MIDI capabilities.

CONS: Copy-protection device required for some third-party plug-ins; lacks support for Digidesign's Digi 002 controller.

PRICE: $75

OS COMPATIBILITY: Mac OS X

COMPANY: Digidesign, 800/333-2137, www.digidesign.com

DIRECTOR MX

Multimedia-Authoring Package Combines Flexibility and Accessibility for Users with Disabilities

BY NEIL JONES

Almost a year after Macromedia relaunched and rebranded many of its main products as the MX line, its multimedia-authoring application, Director, has joined the fold. But with most of the MX flock already so well integrated, will Director MX be the black sheep of the family?

Well, probably not. Macromedia's Dreamweaver, Fireworks, ColdFusion, and Flash do offer a stunning set of tools for the design and deployment of Web content and applications. And they constitute a unified suite, given the high degree of integration among them. But Director MX does something else: it gives designers tools for creating multimedia content that can be deployed across a wide range of media: CDs, DVDs, kiosks, downloadable applications, and the Web. Think of it as an all-in-one multimedia tool. If you're building content that may include text, hypertext, audio, high-resolution still images, digital video, animation, 3-D modeling, and Flash content, this is the application to use.

New Features and New Looks

Director MX is an upgrade from Director 8.5 Shockwave Studio, which was one of Director's most important upgrades: through the introduction of Shockwave 3D, Director 8.5 added new interactive capabilities for the design and deployment of streaming 3-D content on the Web. The Director MX upgrade is not as groundbreaking, but it does contain some important new features and enhancements.

First and most significant is that Director finally works with OS X for both authoring and playback. Users should note that Director MX will not run in older versions of Mac OS for authoring, but it can still create applications that will run in OS 8 or later. Before switching to MX, developers should make sure any third-party Xtras they use to add functionality to their Director applications are also OS X compatible.

Users should welcome Director's new interface: Macromedia has redesigned it to match the rest of the MX line as closely as possible. This means you have more control over the deluge of windows the program presents. No more floating Score, Cast, Script, and Text windows—now you can dock them together and collapse them. You can do the same with the Property Inspector, the Text Inspector, and the new Object Inspector. Even with the elimination of clutter, you may still want either two displays or an Apple Cinema Display to leave room for the Stage, where Director shows presentations.

Speaking the Same Lingo

Macromedia has also brought changes to Lingo, the scripting language at the heart of Director that allows you to add interactivity and functionality to movies. As Lingo has become more powerful, Director has evolved from an animation tool into a full-fledged multimedia-authoring application. The Message window now has two panes: you use one to type Lingo code directly into the movie; the other receives the output from Lingo scripts. The Watcher is gone, replaced by the Object Inspector, through which you can see sprite properties at a glance and track variables while a movie is playing. One welcome addition is an advanced Debugging window, where you can edit Lingo scripts directly. The new line numbering and color highlighting of recently changed code makes script editing even easier.

Launch and Edit in a Flash

Like Director, Macromedia Flash started life as a Web-animation tool. Now, due to the capabilities afforded by its programming language, ActionScript, Flash is used ubiquitously for creating Web applications and interactive Web content. While some developers think Director and Flash present an either/or choice, there's a lot of crossover between the two, and using both, you can have the best of both worlds. You can now import Flash MX files into Director MX applications. You can also launch Flash MX files from within Director and directly control Flash MX objects with Lingo. While ActionScript and Lingo have different nuances, they now communicate much more easily and powerfully.

Talk to Me New drag-and-drop behaviors, such as speech narration of on-screen elements, let you create content that's accessible to users with various disabilities.

More Access for More Users

Director MX's tools enable you to build content for a wide range of media, thus helping you reach a wide range of users with varying physical abilities. The software now includes a set of accessibility elements, which make it easier for developers to create content that meets accessibility guidelines. Speech synthesis can read aloud multimedia displays for people with visual impairments, keyboard-based navigation provides access to those with mobility impairments, and captioning offers access to those with hearing impairments. One Xtra, for example, allows you to define text elements to be spoken via the excellent built-in Mac Text-to-Speech synthesis. With other behaviors, you can specify elements such as graphics or text so that users can navigate to them with the tab key, access captioning, or hear a description. Built-in accessibility is now a legal requirement for many multimedia applications in the United States (under Section 508), but it's also simply a good policy for any developer.

Macworld's Buying Advice

While this is not a revolutionary release in terms of new features, it's an excellent upgrade for existing Director users. Given that Flash is the current rage, however, Director MX is unlikely to attract many new users. That's too bad, because the combined power of the two puts Director MX firmly in the top spot for multimedia authoring across a wider range of media than Flash alone can address. □

RATING: ♦♦♦♦

PROS: Very good integration with Flash MX; new options for creating accessible content; advanced debugging.

CONS: Best suited for use on dual monitors or a Cinema Display.

PRICE: $1,199; upgrade from version 8, $399

OS COMPATIBILITY: Mac OS X

COMPANY: Macromedia, 800/457-1774, www.macromedia.com

SPSS 11

Dazzling Mac Version of Statistics-Industry Standard

BY CHARLES SEITER

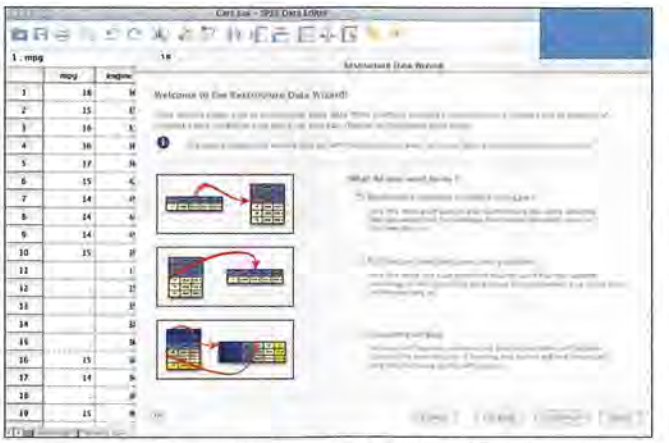
In 2001, SPSS brought its eponymous statistical-analysis software package back to the Mac after a five-year absence, with SPSS 10 (★★★★½; March 2001). Fortunately, we didn't have to wait another five years for the follow-up: SPSS 11 is a truly impressive OS X version, and it has been redesigned right down to an attractive new set of icons. This represents a level of commitment to the Mac well beyond that of other statistics-package developers. Though SPSS 11 requires Microsoft Internet Explorer, instead of Safari, as the default browser to run its tutorial, this one tiny incompatibility doesn't alter the fact that SPSS is a model OS X application in look, feel, and performance.

Piece by Piece

Despite its hypermodern Aqua look, SPSS has been with us since the days of punch-card computing, and this is reflected in its traditional product structure. There's a $1,145 Base program and then a series of add-on modules sold separately—Advanced Models ($699), and Tables, Trends, Regression, Categories, Conjoint, and Missing Values Analysis ($599 each). If you're a social scientist dealing with field surveys, you might buy the Base program, Tables, and Missing Values Analysis (there are always plenty of nonrespondents to surveys). If you're an investor trying to predict what the price of soybeans will be next March, Base and Trends could be all you need. The add-on modules integrate seamlessly into the main application, appearing as new commands under the Analyze menu when you enter the module authorization code. It's wise to carefully consider which modules you need, since the whole all-modules package costs upward of $5,500. This makes it the most expensive statistics system available for the Mac.

The Big Picture

Although SPSS's Mac user base leans toward academics, this product is also a business-statistics powerhouse that can manipulate and analyze large, complex files. The first step in any business analysis is getting the data into usable form, so SPSS reads Microsoft Excel and other spreadsheet files directly, and other data files (MySQL, Microsoft Access, and so forth) through the ODBC (Open Database Connectivity) drivers provided on the SPSS installation CD. The data appears in SPSS's spreadsheetlike Data Editor. But far superior to hand-coding with commands is the new Restructure Data Wizard, which can take a data table of arbitrary size and recode it so some data fields represent cases and some represent variables (see "Automation"). If you're analyzing several data sets for comparative trends—sales data from different stores, different counties, and different states on a variety of products, for example, or affirmative-action results in a database of colleges from several regions—this facility is just what you need. The Restructure Data Wizard is unique to SPSS, and it could dictate many users' buying decisions.



Automation SPSS 11 provides a Restructure Data Wizard that assists you with the onerous chore of recoding variables as cases, and vice versa.

A helpful feature of SPSS, the Statistics Coach illustrates by example what analyses you might actually want to perform. Since many users may have forgotten which test does what, it's a nice concession to reality.

Heavy-Duty Data Crunching

You can use the Restructure Data Wizard to take advantage of a new feature in the Advanced Models module: mixed-level models, which allow optimal forecasting for nested models—a tedious chore without wizard help. Other new features include a percentage-change display in online analytical processing (OLAP) "cube" graphics, so you can instantly see time-by-time or region-by-region changes in data, as well as enhancements to logistic regression (new types of probabilities saved in multinomial logistic regression) and categorical regression. These new features put SPSS 11 for the Mac on a level footing with SPSS 11 for Windows, a feature leader for PCs. But lurking in the background beneath the new tests and enhancements is a strength of SPSS that dates back to the 1970s: syntax files.

When you issue the commands to input, transform, and then analyze data, these commands are recorded in a syntax file. When you use the SPSS-automated Production Facility (included on the SPSS CD as part of the Base), you have a way to process files in the background, generating output files and reports with no active user intervention. This is helpful for long, time-consuming data crunches, or for the generation of output files with thousands of graphs, but it's practically essential if you must create weekly reports on data from the same sources. SPSS will do it automatically, week after week.

Missing Pieces

Be warned that SPSS 11 is geared exclusively toward social-science statistics with little connection to the physical sciences. Although SPSS does have several basic types of interactive graphs, nothing is comparable to the statistics-processing disciplines that chemical engineering requires. There's no serious provision for modern bootstrap or resampling statistics, aside from a new random-sampling command in the SPSS Database Wizard. And if your main concern is quality-control statistics, you may as well resign yourself to firing up Virtual PC and trying to run Minitab 13.

Macworld's Buying Advice

If you have mountains of social-sciences or business data to analyze, SPSS is uniquely designed to help you. It's adept at handling and restructuring databases from most sources, and it offers very good advice on selecting appropriate statistical tests. Base-unit upgrades from version 10 to version 11 are a mere $99, and module upgrades are typically $39—a great deal. For large-scale statistical problems, SPSS 11 is the best choice available on the Mac. □

RATING: ★★★★½

PROS: The Restructure Data Wizard's great data handling makes SPSS ideal for complex business analyses; excellent Statistics Coach.

CONS: Modular structure makes full system expensive.

PRICE: $1,145 (modules, $599 to $699); academic, $599 (modules, $399 to $499); upgrade from SPSS 10, $99

OS COMPATIBILITY: Mac OS X

COMPANY: SPSS, 800/543-2185, www.spss.com

THIS MONTH IN PRINTERS

Model	Brother HL 5070N	HP LaserJet 4300n	Lexmark T420d	Oki Data B4300	Xerox Phaser 4400N
Rating	♦♦♦♦	♦♦♦♦	♦♦♦½	♦♦♦½	♦♦♦♦
Type	monochrome laser printer, networked	monochrome laser printer, networked	monochrome laser printer, USB	monochrome digital LED printer, networked	monochrome laser printer, networked
Price	$499	$1,879	$689	$528	$1,400
Hardware Resolution	600 × 600	1,200 × 1,200	600 × 600	1,200 × 600	1,200 × 1,200
Manufacturer-Rated PPM[A]	17	45	22	19	26
Toner Life	3,300 pages	18,000 pages	5,000 pages	2,500 pages	10,000 pages
Cost to Replace Toner Cartridge	$66[B]	$206	$99[C]	$40[D]	$160[E]
Monthly Duty Cycle	20,000 pages	200,000 pages	50,000 pages	15,000 pages	150,000 pages
Dimensions (width × depth × height, in inches)	15.0 × 15.8 × 9.9	16.4 × 16.9 × 14.4	16.0 × 16.7 × 10.0	14.0 × 15.6 × 7.9	16.6 × 17.3 × 16.3
Weight (in pounds)	25.4	46.0	30.3	22.0	55.1
Input Tray Capacity	250 pages	500 pages	250 pages	250 pages	550 pages
Standard Memory	16MB	80MB	16MB	8MB	64MB
Max Memory	144MB	416MB	272MB	32MB	256MB
Warranty	one year limited	one year limited	one year limited	one year limited	one year limited
Special Features	Rendezvous enabled; options include additional paper tray.	Rendezvous enabled; options include internal hard drive, additional paper trays, and duplexing unit.	Built-in duplexer; options include Ethernet and additional paper tray.	Options include additional paper tray.	Options include internal hard drive, additional paper trays, and duplexing unit.
Image Quality					
Text	Excellent.	Excellent.	Very good.	Excellent.	Excellent.
Graphics and Images	Good.	Very good.	Good.	Fair.	Very good.
Print Speed[F]					
1-Page Word Document	0:17	0:13	0:13	0:19	0:12
20-Page Word Document	1:31	0:37	1:05	1:34	0:55
4-Page PDF File	1:48	0:26	0:35	1:42	0:24
Pros	Rendezvous enabled; least expensive.	Rendezvous enabled; fast.	Built-in duplexer.	Small and lightweight.	Best gradients.
Cons	Slight banding in gradients.	Most expensive; loud; fine lines a little heavy.	Most banding in graphics.	Most posterization in graphics images.	Slimmer feature set than HP LaserJet 4300n.
Contact	800/284-4357, www.brother.com	800/752-0900, www.hp.com	888/539-6275, www.lexmark.com	800/654-3282, www.okidata.com	800/835-6100, www.xerox.com

[A] PPM = pages per minute. [B] High-yield (6,500 pages) cartridge available for $90. [C] High-yield (10,000 pages) cartridge available for $193. [D] High-yield (6,500 pages) cartridge available for $65. [E] High-yield (15,000) cartridge available for $182. [F] In minutes:seconds.

BY JAMES GALBRAITH

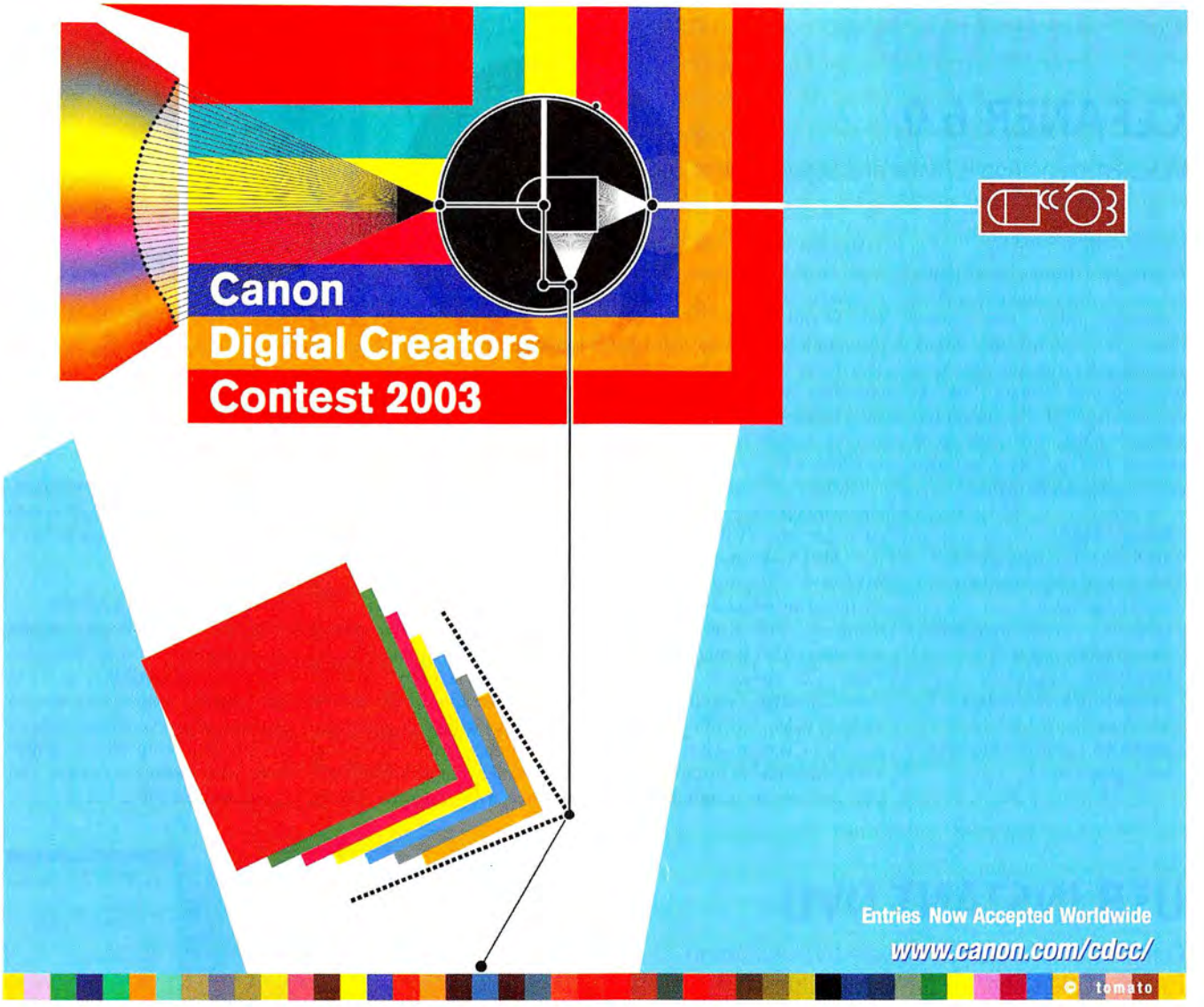
This month we cover a wide range of monochrome laser printers—from personal or small-office desktop printers to blazingly fast workgroup printers, including the first two printers we've received that support Apple's new zero-configuration networking standard, Rendezvous.

Mac users who have Jaguar and an Ethernet connection between a printer and a Mac can stop worrying about IP numbers and subnet masks: both the Brother HL 5070N and the Hewlett-Packard LaserJet 4300n pop right up in Jaguar's Rendezvous Printers list. You can also access the printers from Apple's Safari browser once you set your Bookmarks preference to Include Rendezvous. Both printers work with Apple's default laser-printer driver, so it's a snap to share these devices with anyone on your network who has a Rendezvous-capable Mac. For access to all the functions of one of these printers, you should install the manufacturer's driver.

At the lower end of the networked lasers, the HL 5070N and the Oki Data B4300 were neck and neck in terms of print speeds and text quality. But the HL 5070N's lower price, better graphics output, and Rendezvous capabilities pushed it to the top. The Oki Data B4300 required an optional PostScript-emulation upgrade to work over a network with a Mac. The $528 price listed in the chart includes the cost of this essential $109 upgrade, which is sold separately.

In the workgroup category, the LaserJet 4300n is more expensive than the Xerox Phaser 4400N, but it ships with more standard RAM and a higher duty cycle (in other words, the maximum number of pages you can print in a month). The Phaser 4400N came in just behind the LaserJet 4300n in most categories, but it matched the LaserJet 4300n in terms of output quality. The extra $400 that the LaserJet 4300n sets you back does buy you the ease of Rendezvous printing and could save you a lot of time if you frequently print long documents.

The Lexmark T420d was a bit of a lone wolf in this roundup. It's a snappy USB printer with built-in duplexing. Its print speeds were more in line with this roundup's costlier workgroup printers than with the printers at the lower end. However, the T420d produced some banding in its graphics, and we had to squint to read its small text output. □



Take On the World! Create A New Digital Imaging World!

The Canon Digital Creators Contest challenges artists to push the boundaries of visual expression through digital imaging. Entries creatively communicate originality, novelty and expressiveness. In its fourth consecutive year hosted by Canon, the contest will showcase the artwork of the world's top digital creators.

Entry Categories

Gold Award: **US$20,000**

Digital Photo(Print) Division—Photograph(s) captured with a digital camera; direct-print (unmodified) printout of a digitized photo(s); or printout of a digital camera image(s) that has been digitally modified.

Digital Movie Division—Modified and/or edited live-action digital movies shot with a digital video camcorder; or computer-graphics animated movies.

Digital Graphics/ Illustration (Print) Division—Printouts of computer-generated graphics, illustrations, etc.

Web Division—Web-based graphics or other images (interactive or noninteractive) viewable over the Internet using Internet Explorer 5.0 (or later versions) or Netscape Navigator 4.7 (or later versions).

Entry Period

Monday, March 24-Thursday, September 4, 2003
All entries must be received by 5:00 pm local time on September 4, 2003

For official contest rules, please visit www.canon.com/cdcc/

Judges

tomato (Creative Unit, UK), Kate Gibb (Printmaker), Katsura Moshino (Illustrator/Art Director), Hiroyuki Nakano (Director, Peacedelic Affilidation), Scott Ross (CEO, President, and Co-founder of Digital Domain, Inc.), Joshua Davis (Artist/Technologist)

Contest Supervisor: Hiroshi Kashiwagi (Professor, Musashino Art University, Art and Design Critic)

Organized by: Canon Inc.

Sponsored by: Adobe Systems Inc. / Adobe Systems Co., Ltd., Benetton Group S.p.A. / Benetton Japan Co., Ltd., Macromedia Inc. / Macromedia Japan K.K., Canon Sales Co., Inc. / Canon U.S.A., Inc. / Canon Europa N.V. / Canon Europe Ltd. / Canon (China) Co., Ltd. / Canon Singapore Pte. Ltd. / Canon Hongkong Co., Ltd. / Canon Australia Pty. Ltd.

Support from: Computer Graphic Arts Society, Digital Content Association of Japan

For inquries, contact:

Canon Digital Creators Contest New York Secretariat
E-mail: info-us@c-dcc.com **Tel: 1-800-959-3631**
Fax: 631-454-1814 **URL: www.canon.com/cdcc/**

Canon

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CLEANER 6.0

Video-Encoding App Is Faster and Supports New Codecs

BY CHRISTOPHER BREEN

Discreet's Cleaner is a staple for people who require a video-encoding utility that allows them to extensively tweak encoding settings and save files in a variety of formats. The latest iteration of the program, Cleaner 6.0.1, not only runs natively in OS X 10.2 but also offers better performance.

RATING: ★★★★

PROS: Faster than previous versions; supports more codecs; convenient Watch Folder feature.

CONS: MPEG-2 encoding extremely slow; no more Settings Wizard.

PRICE: $599; upgrade, $179

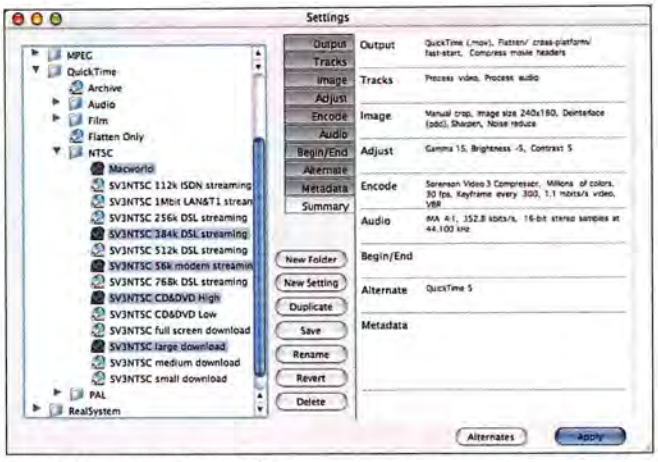
OS COMPATIBILITY: Mac OS 9, Mac OS X

COMPANY: Discreet, 800/869-3504, www.discreet.com

Version 6 encodes video faster than earlier versions of Cleaner, thanks to improved optimization for G4 and dual-G4 Macs. The program's bundled settings have also been changed to improve encoding speed. Depending on the setting you select, encoding can be nearly twice as fast as in Cleaner 5.

Cleaner 6 introduces new encoding options—two-pass variable bit rate (VBR) encoding for MPEG-1 and MPEG-2, MPEG-4 video and AAC audio encoding introduced with QuickTime 6, and Kinoma video encoding (the format used by Palm OS devices). Although these encoders produce fine-looking video, MPEG-2 encoding with Cleaner—even without VBR, which adds more time to the process—is painfully slow compared with Apple's MPEG-2 encoder. On our 933MHz Power Mac G4, it took Cleaner 12 minutes and 33 seconds to encode a 1-minute QuickTime DV clip. Apple's encoder completed the job in 1 minute and 16 seconds.

People who rely on Cleaner 5's Settings Wizard to help them easily choose appropriate encoding settings will be disappointed by its absence from this version. But Cleaner 6 introduces a convenience of its own—Watch Folder, a feature that automatically encodes files dropped into folders on the desktop or on a network server.



One to Many With Cleaner 6.0.1, you're able to produce multiple versions of a file, and each one can feature a different encoding setting.

Macworld's Buying Advice

Cleaner 6.0.1's improvements in performance and in codec and OS compatibility make it an essential upgrade for people with previous versions—as well as a strong temptation for anyone who desires a flexible and powerful encoding utility. □

USB INSTANT DVD

Combination Hardware-Software DVD-Authoring Package Offers Speed Edge to Mac Users

BY ANTON LINECKER

For DVD enthusiasts who can't use Apple's iDVD because they don't have an internal SuperDrive, and who don't want to shell out $999 for Apple's DVD Studio Pro, there's now a hardware-and-software DVD-authoring package for the Mac: USB Instant DVD, from ADS Technologies. But while Instant DVD's hardware MPEG encoder delivers encoding quality and speed, its software components feel like betas.

RATING: ★★★½

PROS: Good MPEG-encoding quality; real-time encoding; fast authoring.

CONS: PixeDV is unstable and buggy; many CaptyDVD templates are ugly; CaptyDVD interface is buggy.

PRICE: $229

OS COMPATIBILITY: Mac OS X

COMPANY: ADS Technologies, 800/888-5244, www.adstechnologies.com

Instant DVD's USB-powered MPEG encoder captures and compresses video in one step, which is a huge speed enhancer (FireWire may be the speed standard in DV, but USB has more than enough bandwidth to handle an MPEG-2 capture). For example, it took us a total of 1 hour and 45 minutes to encode, author, and burn a 60-minute Instant DVD project on an 867MHz Power Mac G4. On the other hand, the same project took 3 hours and 50 minutes when we used Apple's Final Cut Pro to capture the video and iDVD 3 to create the DVD on the same machine. And although the minimum system requirement for encoding with Instant DVD is a 400MHz G4, we also had success with our 800MHz iBook G3.

An added benefit of capturing MPEG-2 material rather than DV is that you can store more of it—this is particularly useful if you have a portable Mac and storage space is at a premium. The hardware encoder gives a quality boost, too, especially at low bit rates. When we compared 4Mbit MPEG-2 streams, DVD Studio Pro's QuickTime encoder had significantly more artifacts and video noise than Instant DVD's. Because of this quality difference, some users may even choose to purchase USB Instant DVD as a hardware MPEG encoder for DVD Studio Pro.

You control the hardware encoder with Pixela's included PixeDV software. In our testing, PixeDV sometimes spontaneously quit during captures

continues on page 46

As You Like It Pixela's CaptyDVD authoring software lets you completely customize your menu pages—from buttons to backgrounds—or pick from sample themes.

PHOTOSHOP CAMERA RAW

Plug-in Adds Support for Raw Digital-Camera Image Data to Adobe Photoshop 7.0

BY BRUCE FRASER

Adobe's new Photoshop Camera Raw plug-in is an ambitious effort on Adobe's part to add support for raw image data captured by a number of popular pro-level digital cameras to Photoshop 7.0. The plug-in's advantage over other formats is its ability to reinterpret white balance and default tone curves, and to override the in-camera settings for sharpening, smoothing, and artifact removal. However, while Photoshop Camera Raw offers much faster conversions than a camera's native software, its batch processing is limited to applying the same settings to every image.

This product provides a simple but powerful user interface for massaging a raw image, and it then delivers the image in either 8- or 16-bit-per-channel form, converted into any of the standard Photoshop work spaces. The plug-in also offers a new resizing algorithm that delivers noticeably better results than Photoshop's Bicubic interpolation.

Photoshop Camera Raw's color conversions have already been debated heatedly online. For each supported camera, the plug-in uses two generic profiles, one for D65 illumination and the other for tungsten—the white-balance slider interpolates between the two. On the cameras we used, a Canon EOS-1Ds and a Kodak DCS 460, we obtained better results from Photoshop Camera Raw than from custom profiles, but owners of other cameras, notably the Nikon D1X, have reported less-satisfactory results.

RATING: ▮▮▮▯

PROS: Simple but powerful user interface, speedy conversions; improved resizing.

CONS: Limited batch-processing capabilities.

PRICE: $99

OS COMPATIBILITY: Mac OS 9, Mac OS X

COMPANY: Adobe Systems, 800/833-6687, www.adobe.com

More than Meets the Eye Photoshop Camera Raw offers an intuitive user interface for massaging your raw images from within Photoshop 7.0.

Macworld's Buying Advice

If your workflow requires that you edit individual images, or that you batch-process images with identical settings, Photoshop Camera Raw may be for you. It offers an elegant way to bring the images into Photoshop. However, this plug-in isn't a substitute for an industrial-strength converter, such as the considerably more expensive CaptureOne, from PhaseOne. □

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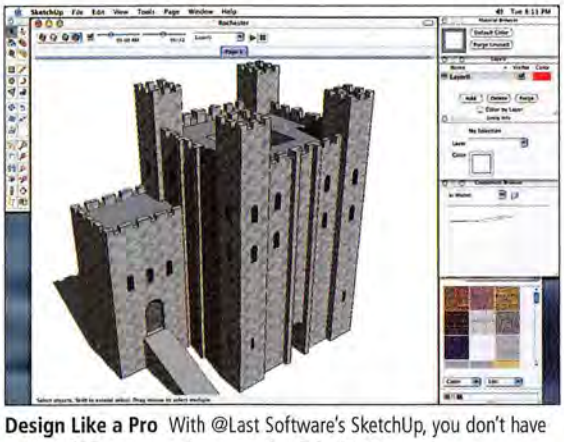
SKETCHUP 2.2

Fun, Inspiring Program Makes 3-D Available to the Rest of Us

BY GREG MILLER

Typically, 3-D modeling has been a tool for architects and engineers with access to expensive CAD programs and many hours of training. However, SketchUp 2.2, from @Last Software, puts 3-D modeling into the hands of the masses. As its name implies, SketchUp is primarily a tool for making a sketch of any kind—from a design for backyard furniture to a representation of your fantasy house. It allows you to express concepts quickly in 3-D, even if you barely know what CAD is.



Design Like a Pro With @Last Software's SketchUp, you don't have to be a CAD expert to draw complex 3-D sketches.

Couldn't Be Easier

To start using SketchUp, you draw lines and objects with the pencil, rectangle, circle, or curve tools. Then you adjust these shapes and add textures to bring the 3-D model of your kids' new tree house or of your remodeled living room to life. Because @Last Software has kept it simple with just a few intuitive tools, you can master this program in a couple of hours. Our favorite is the Push/Pull tool: when you use this tool to grab one face of an object and move it, adjacent surfaces are automatically adjusted. You can also grab any edge or point and adjust its position, and the model updates automatically. But it's a little irksome that you can control transparency only on a sketchwide basis.

Along with intuitive tools, good screen hints are a tremendous help, as is other feedback in the form of cursor-shape and color changes that tell you which axis or object you're drawing parallel to, when you're touching a surface, when objects are lining up with one another, and so on. SketchUp also includes a small but expandable component library for adding elements such as windows, landscaping, and furniture. However, it lacks a way to add text or dimensions to the finished product.

Once you have your sketch, SketchUp gives you various ways to view it, ranging from a simple 3-D hidden-line drawing to animated views from the inside or outside of the model (called *walkthroughs* and *flybys*, respectively), which can include textures and shadows. Unfortunately, there's no way to export those animations.

SketchUp comes with a large number of video tutorials that play from the installation CD and are the best we've ever seen. They're broken down into logical, useful subjects, such as "Common Mistakes to Watch Out For" and "Using Pictures for Context," and they average several minutes each. The video tutorials are so good, there's actually no need to read a manual—they'll have even 3-D novices working comfortably in a short time.

Pros Sketch, Too

SketchUp is intended to create models that are conceptual rather than technical, but the program can still draw dimensionally accurate objects. It's a great tool for architects and engineers to use when starting the design process, allowing them to move a sketch to a higher-end CAD program once they've fleshed out the concept. SketchUp can import and export to CAD programs using DXF and DWG formats, common in most CAD packages.

Macworld's Buying Advice

SketchUp 2.2 is definitely 3-D for the rest of us. In fact, the program brings back the magic feeling we had when we first used MacPaint way back when the Macintosh was introduced. While SketchUp's price is steep for nonprofessionals who may not need to use it very often (but who will find more reasons once they try it), we recommend SketchUp to anyone who has a need or a desire to visualize in 3-D but neither the patience nor the time to deal with complicated CAD programs. □

RATING: ★★★★½
PROS: Intuitive, fun, and easy to use.
CONS: No text or dimensioning tools; doesn't provide enough control over transparency; no way to export animations.
PRICE: $495
OS COMPATIBILITY: Mac OS X
COMPANY: @Last Software, 303/245-0086, www.sketchup.com

X-PLANE 6.5

Simulator Lets You Fly—Courtesy of Your Desktop

BY PETER COHEN

Flight simulators are few and far between on the Mac, but that doesn't mean flight simulation is a dead genre—Laminar Research's X-Plane is a veritable industry unto itself, and while it may be a bit unconventional for some gamers, it's definitely something that virtual pilots should look for if they're interested in thrilling, detailed flight simulations.

X-Plane is a very carefully detailed OpenGL-rendered 3-D flight simulator for OS 9 and OS X. The basic version includes plenty of scenery, different airports, and assorted aircraft models ranging from run-of-the-mill single-engine prop models, to myriad military aircraft and rotorcraft, all the way to the Boeing 747-400. With additional scenery CD packs, which cost an extra $10 each if you buy them with X-Plane or $20 each if you buy them separately, it allows you to fly anywhere in the world (or over the surface of Mars).

Fly the Friendly Skies X-Plane simulates real-world aircraft, scenery, and weather conditions.

What's more, you can download new models that X-Plane enthusiasts make, and you can use the included tools to experiment with your own aircraft and scenery designs. But X-Plane's scenery- and aircraft-building tools are enormously complex; using them isn't a task for the casual user.

The scenery- and aircraft-building software isn't the only intensive aspect of the program: X-Plane has a difficult learning curve, and it's laden with complex control panels and its own user interface. This is something of a necessity, given the complexity of the simulation, but it takes some getting used to and plenty of help-manual study before you can take off for the first time. X-Plane's documentation is electronic and readable; however, it's very dense.

X-Plane supports joysticks and controllers. We tested version 6.51, which doesn't support force feedback, a relatively new technology for Mac users that's supported in OS X 10.2.3 or later. However, X-Plane does feature networking support so you can go flying with a friend. Although X-Plane isn't a game, the developer might want to consider supporting a game-tracking service, such as GameRanger, to make networking support easier.

Macworld's Buying Advice

Complex though it may be, X-Plane is unquestionably the king of the hill in Mac flight simulators. Again, X-Plane isn't a game, so expect to spend a few hours learning the basics and getting to know the interface. The payoff is worth the effort (and the price) if you're serious about flying without leaving the ground. □

RATING: ♦♦♦♦

PROS: Flexible and powerful; tools for designing aircraft and scenery.

CONS: Difficult learning curve; no force-feedback support.

PRICE: $60; with extra scenery, $80 to $100

OS COMPATIBILITY: Mac OS 9, Mac OS X

COMPANY: Laminar Research, 803/738-0910, www.x-plane.com

Choose 95 at www.macworld.com/getinfo

TRAKTOR DJ STUDIO 2.0

Pro DJ Software Comes to the Mac, Mixes Great Sound

BY GIL KAUPP

If you want to DJ your next party using just your portable Mac, check out Native Instruments' Traktor DJ Studio 2.03. Designed with professional DJs in mind, the program has now made its way to the Mac; it provides you with an entire DJ environment on one screen so you can mix, speed up or slow down, and apply cool filter effects to your songs—all in real time.

RATING: ♦♦♦♦

PROS: Great sound quality; easy to use.

CONS: Archos Jukebox USB hard drives do not appear in the browser.

PRICE: $199; bundled with GigaPort AG, $349

OS COMPATIBILITY: Mac OS 9, Mac OS X

COMPANY: Native Instruments, 866/556-6487, www.native instruments.com

The On-Screen DJ

Working with Traktor is easy—all the equipment is organized in modules, including two playback decks, a mixer, filters and equalizers for sound manipulation, and a file browser for selecting music. (Unfortunately, the browser did not recognize our Archos Jukebox external USB hard drive.) You can organize music files into a playlist, and each playback deck displays a waveform of the current song, showing its beats.

You can use the tools in the Mixer window to create smooth transitions between tracks. Also located in the Mixer window are equalizers, which let you adjust the balance of the track's frequencies. (To monitor the cued track separately from the one playing, you'll need Traktor and the USB audio interface GigaPort AG.)

Command and Control With one well-organized screen, Traktor DJ Studio 2.03 puts you in control of your DJ equipment.

Matching tempos of different songs is something every DJ must do, and this is where Traktor shines. Simply define the song that's playing as the master, and Traktor will calculate the beats per minute and adjust the cued track to the calculated tempo. Usually, changes in tempo and EQ degrade sound quality. Not so with Traktor—the edited material sounds great.

Macworld's Buying Advice

Traktor DJ Studio 2.03 is easy and fun to use. The fact that you can leave your DJ hardware at home and just bring your laptop to your next party makes this program well worth considering. □

THE CONQUEST

DiskWarrior is Now OS X Native

It's the indispensable utility that repairs problems such as disks that won't mount, files you can't trash, and folders that have disappeared. MacUser magazine said, "It's the fastest and safest data recovery utility you can buy."

Macworld magazine said, "DiskWarrior is by far the best disk utility available for the Mac; it can repair virtually any disk problem you may encounter...and it is likely to become the only tool you'll want to keep with you at all times."

David Coursey, ZDNet AnchorDesk, agrees in an article comparing disk utilities. He used it to fix a disk that no other utility could. "DiskWarrior is a great product, not just because it fixed a pretty serious screw-up, but because it showed me what it planned to do in minute detail before doing it."

But disk damage isn't the only threat to your data. As hard drives get older, the drive mechanisms

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POCKETMAC PRO 2.0

Software Opens PocketPCs to Mac Market

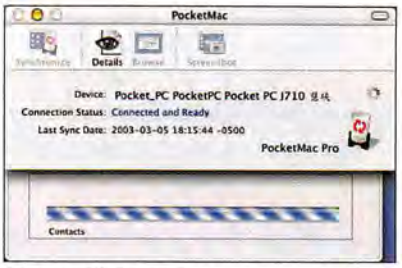
BY ANDY IHNATKO

The biggest disadvantage of being a Mac person with a PocketPC is all the static you get from some of your Mac kin. But catcalls of "Quisling! Apostate! Traitor!" are quickly silenced by a quick demo of the hardware and software. Palm OS–based handhelds are for people who want to carry something more powerful than a personal organizer; PDAs running Microsoft's PocketPC OS are for folks who want something smaller than a laptop—they're the next-best thing to a Newton, right down to the built-in handwriting recognition.

What's the second-biggest disadvantage? Well, Microsoft has no plans to release a Mac edition of its desktop software. There are ways around that—many PocketPC PDAs will work with VirtualPC—but simple, one-button syncing just wasn't possible until Information Appliance Associates' PocketMac Pro 2.0 came along.

Given that PocketMac is the only such solution—for now, anyway—how well it works might be secondary to the fact that it works at all. With this software, you can sync contacts and appointments between the PocketPC and either Entourage or your Mac's built-in iCal and Address Book apps. You can move files (such as Word documents, MP3s, and photos) back and forth. You can install third-party apps on your PocketPC to expand its capabilities beyond its built-in Office suite, browser, and e-mail client.

The only important feature that PocketMac omits is the ability to synchronize your PocketPC's mailbox and Internet Explorer bookmarks with their counterparts on your Mac. All Palm OS power users know how neat it is to be able to leave the house with a PDA full of unread e-mail, compose replies on the subway, and send them automatically by placing the device in its cradle; they'll miss that if they're using PocketMac on their PocketPC. And while Pocket Explorer is a tremendously powerful PDA browser, entering URLs manually is tremendously clumsy.



With the Click of a Button Syncing a PocketPC to a Mac is quick and easy with PocketMac.

Installing PocketMac can be a serious trial. We tried it with three different Macs (an 800MHz dual-processor G4 tower, an 867MHz Titanium PowerBook, and a fresh-from-the-carton 12-inch 867MHz PowerBook) and three different PocketPCs (a Toshiba e740, a Hewlett-Packard Jornada 565, and a Siemens SX56 PDA phone). Getting the 12-inch PowerBook to work with the Jornada was straightforward, but the other installations were epic passion plays. For example, PocketMac couldn't "see" one PDA, even though it was sitting contentedly in its cradle and plugged into the Mac's USB port. Or the application could see the con-

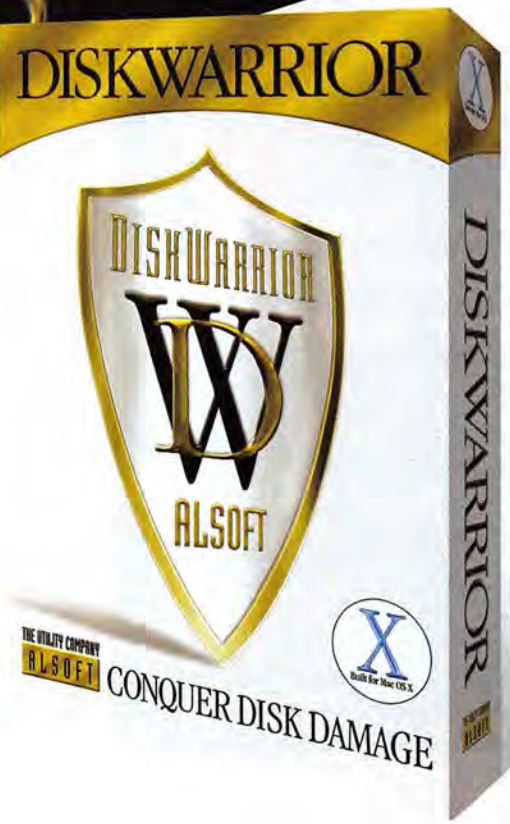
continues on page 46

RATING: ⚡⚡½
PROS: One-button syncing.
CONS: Tricky installation; somewhat unpolished operation; can't sync all PocketPC data.
PRICE: $70
OS COMPATIBILITY: Mac OS X
COMPANY: Information Appliance Associates, 866/762-5622, www.pocketmac.net

CONTINUES

begin to malfunction. Eventually, the malfunctions become so severe that the drive simply stops working. DiskWarrior can automatically test for hardware malfunctions, giving you the chance to back up your data before it's too late.

Be prepared. Don't wait until after you have a disk disaster to buy your copy of DiskWarrior. Bob LeVitus, aka Dr. Mac, said, "I feel naked without DiskWarrior." You can believe MacHome magazine when they said, "DiskWarrior is a quick, one-click solution to faster, more stable hard drives."



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REVIEWS

USB Instant DVD

continued from page 40

longer than 20 minutes. It also had an annoying tendency to lose its menu-bar controls whenever we switched between programs, making it necessary to force-quit. On the bright side, though the program is limited—you won't be able to reorder your clips or add transitions, for example—it does include a helpful trim-only MPEG editor for cutting unwanted sections of video.

Instant DVD also includes Pixela's CaptyDVD authoring software, which lets you customize backgrounds, text, and buttons. This is fortunate since many of the included templates are shockingly ugly. And while CaptyDVD is a solid performer, there are minor interface bugs, such as poor translation from Japanese and capitalization errors. (ADS is aware of the bugs in both programs and says that new versions should be available from Pixela by the time you read this.)

Macworld's Buying Advice

USB Instant DVD is a good option for Mac users who have the DVD itch but don't have iDVD or DVD Studio Pro. The quality of the hardware encoder is a definite plus, and with some software improvements, this package will be a real winner. □

PocketMac Pro 2.0

continued from page 45

nected PDA and get it to start a sync, but then PocketMac would get hung up midway, requiring a force-quit. Once, placing the Siemens in its cradle caused an immediate system crash. PocketMac's documentation trivializes the installation process, and the app itself neither keeps the user informed of trouble nor offers a gracious way to abort when things go wacky.

Even when PocketMac has been installed properly, rough edges show. Several times over the course of testing, the program "lost" the e740 on the USB port and could find it again only after a system restart.

Despite the exasperating installation and less-than-exhaustive documentation, Information Appliance Associates' tech support is adequate, if not superlative. And PocketMac is indeed a functioning commercial application.

Macworld's Buying Advice

PocketMac may be a flawed app, but for now, it's the only game in town. If you're in love with the huge power of PocketPC hardware and software, it's worth the hassle. If not, you're better off with a Mac-compatible Palm—or waiting for another company to step up with a PocketPC-to-Mac utility. □

SPELL CATCHER X

Flexible Spelling Checker for Busy Writers Comes to Mac OS X

BY CHARLES PURDY

Casady & Greene's Spell Catcher is a respected writing tool beloved by many writers—and now it's available for Mac OS X. If you often type too fast for your own good, or if you use OS X programs that don't have spelling checkers, this program will be useful. But while its new face is lovely to look at, this isn't a very exciting update—aside from OS X compatibility, not much is new.

Spell Catcher X is undeniably good at what it does, and it caused no noticeable slowdowns in other applications while it ran in the background. (We used a 600MHz iMac G3 for our evaluation.) It either checks spelling as you type or inspects selected text; it works in almost any text-entry environment, from word processors to instant-messaging programs; and it offers dictionaries, thesauruses, and reference guides for English and several other languages. Its best features are its extensively customizable Shorthand Glossary and Learned Words dictionaries: if you work in a field that involves nonstandard words—medicine or technology, for example—and use several programs, Spell Catcher X can certainly make your life easier. And you can import your dictionaries from previous versions to this version.

We found a few shocking grammatical errors in the help documentation—surprising in a program that promised to help us write better—and the help was somewhat hard to follow for such a simple application. Also, Spell Catcher still has no grammar checker.

Macworld's Buying Advice

Checking your written work for spelling errors is *always* a good idea. Although Spell Catcher X is no replacement for a sharp eye, a good dictionary, and plenty of time to carefully reread your text, most writers have very little of that last item. They should consider this sturdy tool. □

RATING: ♦♦♦½
PROS: Customizable dictionaries and shorthand feature; low impact on system speed.
CONS: No grammar checker; substandard documentation.
PRICE: $40; upgrade from version 8, $30
OS COMPATIBILITY: Mac OS X
COMPANY: Casady & Greene, 800/359-4920, www.casadyg.com

PAGE SENDER 3.0 X

★★★½; Smile Software, info@smilesoftware.com, www.smilesoftware.com; $30

There wasn't much this top-notch fax application lacked when we looked at it last (★★★★; May 2003), but we did want confirmation pages, fax history logs, and a better way to organize sent and received faxes. Version 3.0 scratches all these items off our wish list, but it also calls to mind a few more features we'd like to see in the future.

Page Sender's new confirmation pages can be set to automatically print every time you send a fax and to display the time and date your fax was sent, as well as the fax number to which it was sent. They also include an image of the first page of the faxed document. The program also provides a fax history log—a printable list that can be filtered by date and that displays every document you've sent or received during the selected period. Unfortunately, this list can't be sorted and you can't display just a list of the faxes that failed or transmitted—both limitations in an otherwise excellent feature.

The program now allows you to create folders for organizing documents you've sent or received, but Page Sender currently lacks the ability to automatically drop a document in a specific folder when it's received. While it's simple enough to move the documents manually, this is definitely something we'd like to see in a future release.—JEFFERY BATTERSBY

QUICKEYS X 1.5.4 X

★★★½; CE Software, 800/523-7638, www.cesoft.com; $80; upgrade from QuicKeys X 1.0, $16

QuicKeys X 1.0 brought OS X compatibility to the popular macro utility at the expense of a leaner feature set (★★★½; February 2002). Version 1.5.4—which requires Jaguar and costs more than version 1.0—edges QuicKeys closer to the power of QuicKeys 5 by giving you more control over the Mac interface.

Two helpful new shortcuts, Menu Selection and Menu Clicks, let you activate menus in OS X applications, which required a cumbersome workaround in version 1.0. (The manual claims that the Menu Clicks user actions also function in Classic, but we found that unreliable. QuicKeys 5 remains the best choice for Classic applications.) QuicKeys' new Windows shortcut lets you close, collapse, or zoom windows or toggle their toolbars; you can specify which window to control by position or name.

Other welcome additions include shortcuts to start or stop Classic and to activate the Mac's screen saver. An enhanced Servers shortcut makes it easier to mount remote AppleShare servers, and a revamped Clicks shortcut lets you adjust the location and duration of simulated mouse clicks, releases, and drags.

Although we still miss power features such as conditional branching, QuicKeys X offers you the fastest route to Mac automation without having to learn AppleScript.—FRANKLIN N. TESSLER

TIMELINER 5.0 9X

★★★★; Tom Snyder Productions, 800/342-0236, www.timeliner.com; single-user license, $80; site license, $900

Memorizing a series of events is often an ineffective way for kids to learn and almost ensures that information will be forgotten over time. TimeLiner 5.0 provides teachers with an effective tool for teaching across the curriculum, putting any chronological or numerical information on screen for students to see. Students can also use the program to diagram projects and make their own timelines. TimeLiner comes with 400 historical photographs and clip-art images and the ability to import images from the Web, add movies and sounds, and convert timelines to slide shows. Five worksheets are included in the three-ring–binder teacher's manual, along with 25 timeline ideas, from using the program to chart a student's daily activities to tracking the growth of seeds to plants as a science project. Both students and teachers will find the interface easy to use.

For teachers who move from grade to grade, this software package is mobile and useful for any grade level and almost any subject. You can also choose to use it in English or Spanish.—ADRIENNE ROBILLARD

COPYPASTE-X 1.5 X

★★★½; Script Software, julian@scriptsoftware.com, www.copypaste-x.com; $20

CopyPaste-X is a multi-Clipboard utility but goes well beyond the basics of just providing multiple Clipboard items. Within the program itself, you can perform actions on selected clippings, such as extracting e-mail addresses or URLs from a long block of text or scaling a copied image. There's also a basic word processor with support for fonts, colors, and text styles, and the ability to create an infinite number of clip sets for permanent use. If you need a full-featured Clipboard manager, give CopyPaste-X a try.—ROB GRIFFITHS

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HOT PRODUCTS

Macworld's TOP 5

1 ★★★★ **867MHz PowerBook G4, 12-inch ($1,799)**, from Apple Computer (www.apple.com): Speedier than the iBook but smaller than the Titanium PowerBook, this portable will answer the prayers of mobile professionals who need a small, light laptop that doesn't sacrifice too much power (April 2003).

2 ★★★★★ **SliMP3 ($249)**, from Slim Devices (www.slimdevices.com): This nifty device lives in your stereo cabinet, letting you stream MP3s seamlessly over your home network from any Mac running OS X. Featuring a remarkably easy setup and a friendly interface, it's the ideal bridge between the home electronics world and your Mac (April 2003).

3 ★★★★ **Final Cut Express 1.0 ($300)**, from Apple Computer (www.apple.com): Apple's DV-only version of Final Cut Pro brings professional video-editing features to users looking to move up from iMovie (May 2003).

4 ★★★★½ **Color LaserJet 2500L ($1,000)**, from Hewlett-Packard (www.hp.com): This color laser printer's crisp, clean laser output and truly reasonable price mean that small workgroups with big printing needs can benefit from color laser technology without putting too large a dent in their budgets (March 2003).

5 ★★★★½ **Inspiration 7 ($69)**, from Inspiration Software (www.inspiration.com): If you've ever lost a great idea in a brainstorming session's tsunami, this easy-to-use chart-drawing program will blow you away (March 2003).

MINIFINDERS More Hot Products Recently Reviewed

★★★★★ **1GHz iMac G4, 17-inch ($1,799)**, from Apple Computer (www.apple.com): The speed and power of this new iMac are remarkable, especially given its big LCD monitor and price. It provides support for AirPort Extreme and Bluetooth, too (May 2003).

★★★★ **1GHz Power Mac G4 ($1,499)**, from Apple Computer (www.apple.com): This Power Mac supports new Apple technologies, namely FireWire 800 and AirPort Extreme. It provides good performance at an attractive price, and it's reasonably quiet (May 2003).

★★★★½ **ArchiCAD 8 ($3,950)**, from Graphisoft (www.graphisoft.com): It's got a high price, but ArchiCAD is the most sophisticated top-of-the-line CAD program available for the Mac. Professionals who need it won't be disappointed (April 2003).

★★★★½ **BBEdit 7.0 ($179)**, from Bare Bones Software (www.barebones.com): This text editor continues to be remarkably powerful for a wide range of uses. Most loyal BBEdit users will want this upgrade for its improved text-handling and Web-design capabilities. Those who have never used it and need serious text-manipulation power should give it a try (March 2003).

★★★★ **ChronoSync 1.1 ($20)**, from Econ Technologies (www.econtechnologies.com): ChronoSync is one of the most flexible backup programs; it offers numerous options to give you complete control over your backups (May 2003).

★★★★ **Clié PEG-NX70V ($599)**, from Sony (www.sonystyle.com): The Clié is no simple PDA; it's a PDA, an MP3 player, and a digital camera. It has a large screen but is a little heavy and expensive (May 2003).

★★★★½ **d2 FireWire DVD-Rewritable Drive ($379)**, from LaCie (www.lacie.com): This fast, solidly built DVD-R drive has a slim, stackable case design and includes Mac-compatible DVD-authoring software (May 2003).

★★★★½ **Devideon ($399)**, from Formac (www.formac.com): Formac's Devideon FireWire DVD-R drive includes Mac authoring software but no blank media (May 2003).

★★★★½ **Dual-1.25GHz Power Mac G4 (FW 800) ($1,999)**, from Apple Computer (www.apple.com): The dual-1.25GHz Power Mac G4 supports new Apple technologies, namely FireWire 800 and AirPort Extreme. It's an excellent value and performs very well. Also, it's reasonably quiet (May 2003).

★★★★ **ExecutiveSync 1.2 ($20)**, from Jason Weber (www.executivesync.com): ExecutiveSync uses Time And State synchronization to detect any changes in a file, so it provides you with the most accurate backup. But be warned: ExecutiveSync is slow, and it doesn't have a scheduling feature (May 2003).

★★★★½ **FontAgent Pro ($100)**, from Insider Software (www.insidersoftware.com): This font-management software's new activation and preview features put it squarely in competition with the established font heavyweights (March 2003).

★★★★ **Formac Studio DV/TV ($399)**, from Formac (www.formac.com): Formac's Studio DV/TV is unique in offering both analog-to-DV conversion and TV viewing and scheduled recording in DV format. If you want to watch TV in large format or record it for DVD, this device is a good choice (April 2003).

★★★★½ **The Graph Club 2.0 ($80)**, from Tom Snyder Productions (www.tomsnyder.com): Designed for teachers, The Graph Club makes learning about and using graphs interesting. For ages 5 through 10 (May 2003).

★★★★½ **iDVD 3 ($49)**, from Apple Computer (www.apple.com): iDVD 3 is a marvel—it lets you create stylish, professional-looking DVDs easily and quickly, and it's well worth its price (April 2003).

★★★★ **InterMapper X 4.0 ($495)**, from Dartware (www.dartware.com): No matter what the size of your network, this mature and scalable network-management suite will give you quick visual cues to network issues (April 2003).

★★★★ **iPhoto 2 (free)**, from Apple Computer (www.apple.com): If you're already an iPhoto user, you'll appreciate iPhoto 2's new editing features and enhanced integration, which make this update a shoo-in (April 2003).

★★★★½ **Keyboard Maestro 1.2 ($20)**, from Michael F. Kamprath (www.keyboardmaestro.com): Keyboard Maestro provides a great keyboard-based application switcher and gives you the ability to automate, via keystrokes, almost anything you can do on your computer (May 2003).

★★★★½ **Labels X 1.1 ($10)**, from Unsanity (www.unsanity.com): Labels X brings back about 95 percent of OS 9's labeling functionality. Labels X will show (and sort by) the label values in column-view Finder windows, giving you the ability to sort your Projects folder by priority, for example (May 2003).

★★★★½ **PGP Personal 8.0 ($50)**, from PGP Corporation (www.pgp.com): PGP Personal 8.0 is an excellent and inexpensive solution for those who need to send and receive secure documents (April 2003).

★★★★½ **Reunion 8 ($99)**, from Leister Productions (www.leisterpro.com): Even if you're a novice, you'll be able to learn this genealogy program in a matter of minutes. For current users, OS X compatibility and first-class charting features make it a compelling upgrade (March 2003).

★★★★ **Six Degrees 1.5 ($99)**, from Creo (www.creo.com): Six Degrees lets you pinpoint e-mail messages, contact information, and files anywhere on your Mac—even if you don't remember where you put them, who sent them to you, or their file names. This version takes care of our previous concerns regarding speed and makes some nifty interface improvements. However, it's compatible with just one e-mail client (Entourage X), and that keeps it from greatness (March 2003).

★★★★ **SpamSieve 1.2.2 ($20)**, from Michael Tsai (http://c-command.com/spamsieve): SpamSieve works as an add-on to Entourage, MailSmith, PowerMail, and Eudora to cut down on unwanted e-mail, and does it accurately (April 2003).

★★★★ **Super Collapse II ($25)**, from GameHouse (www.gamehouse.com): Super Collapse II is a great diversion—think Tetris—especially if you're looking for something to keep you occupied at lunch or between flights. But it's a little expensive for a puzzle game (May 2003).

★★★★ **Ten for X 1.0.2 ($50)**, from Aladdin Systems (www.aladdinsys.com): While you probably won't use all 12 of the utilities for OS X in this set, you'll find at least three or four must-haves if you use OS X for more than an hour a day. Some of the programs provide features that disappeared in OS X (WindowShade X, for example), others make it easier to work under OS X's hood (April 2003).

★★★★½ **Tom Clancy's Ghost Recon ($50)**, from Aspyr Media (www.aspyr.com): If you enjoy 3-D–action games such as Quake III but find that the nonstop action leaves you wanting more, then Tom Clancy's Ghost Recon—a squad-based tactical action and strategy game that puts you in control of a team of elite reconnaissance specialists—is an excellent choice (March 2003).

★★★★½ **Tungsten T ($399)**, from Palm Computing (www.palm.com): The Tungsten T is designed for people who want entertainment, expandability, and flexibility in a PDA. If you want a PDA that can easily speak with the other peripherals in your digital hub, you'll find that the Tungsten T can reach out in many ways (May 2003).

★★★★ **Virtual PC 6 ($219)**, from Microsoft (www.microsoft.com): This release doesn't make Windows emulation on the Mac much faster, just a little better. Integration with the OS X Dock and desktop mounting of disk images are nice additions (April 2003).

★★★★½ **World Book 2003 Jaguar Edition ($68)**, from World Book (www.worldbook.com): This new version of World Book's stellar multimedia reference software takes advantage of OS X 10.2 and capitalizes on the Mac's graphics prowess (May 2003).

★★★★½ **XPert Tools Pro ($180)**, from A Lowly Apprentice Production (www.alap.com): This collection of 11 QuarkXPress XTensions is a must-have upgrade for users of XPress 5. XPress 4 users will appreciate five new XTensions, and all users will find this product an excellent way to increase productivity and avoid tedious formatting (March 2003).

- PowerWave
- PowerMate
- iCurve
- Sony Ericsson Clicker
- PhotoKit
- Across Lite

Griffin Strikes Again

MOST OF THE LOW-COST MAC STUFF I SEE IS SOFTWARE, but there are plenty of companies that sell great hardware products for $100 or less. One of the most innovative companies is Griffin Technology, which has been producing neat Mac gadgets since 1992. I first met Paul Griffin, the company's president, back in the mid-1990s. Paul is the classic inventor type—with a mind full of cool products, crazy ideas, and sleek designs—and every time I run into him, he's got some new gizmo to show me or a wild idea to discuss. The biggest knock against the company has been its problems delivering Paul's vision to the public on his timetable, but it's become much better recently about shipping products, and the product pipeline shows no sign of slowing down.

At last January's Macworld Expo in San Francisco, Griffin was showing the iTrip, a stylish $35 FM transmitter for the iPod. The iTrip allows you to listen to your MP3 songs on a home or car stereo—unfortunately, it didn't have shipping units for me to test before this month's column went to print, but I have been playing with a few other Griffin products you should know about.

Griffin has been shipping the $35 iMic, a small USB audio-input device, for more than two years. The iMic is a great product, especially if you're looking to capture simple two-track audio out in the field or on the cheap (or if you don't have an audio-in port on your Mac), but some people want a bit more fidelity and flexibility. To that end, Griffin is now shipping the **PowerWave** (★★★★), a $100 USB-based audio-input and -output device.

The PowerWave is full of features that separate it from some of the other USB audio devices on the market. To start with, it includes a 20-watt-per-channel amplifier and comes with Griffin's $25 ProSpeaker Breakout Cable, so you can connect standard stereo speakers—not the cheap powered kind hooked up to so many Macs—directly to the unit and get great sound. You can also connect Apple's Pro Speakers to the PowerWave, since Griffin uses the same connector on the PowerWave that Apple uses on select iMacs and desktop Macs. (And since the PowerWave is self-powered, any audio device hooked to it—such as an iPod—will play through the speakers, even if your Mac is shut down.)

For sound input and output, the PowerWave has stereo RCA jacks and minijack ports and includes the cables necessary to connect the unit to your stereo or iPod. It doesn't require drivers—any OS 9 or OS X application that supports the Mac's standard audio functions will work with the PowerWave, and Griffin has a free application, Final Vinyl, that lets you record and edit audio quickly and easily. The PowerWave even has a switch through which it can provide zero-latency sound recording. This lets you overdub multitrack recordings while you're playing them back, a powerful feature not found in other low-cost sound devices. All in all, if you're looking for a way to get a little more audio into *and* out of your Mac, the PowerWave is a great way to go.

Another cool tool from Griffin that often gets overlooked is the **PowerMate** (★★★½), a $35 USB controller knob that can be used for lots of different tasks. With its brushed-metal look, hefty feel, and pulsing blue base, the PowerMate looks like a mad scientist's panic button or a fancy knob that was pulled off of a high-priced stereo. Out of the box, it really is nothing more than a volume knob for apps such as iTunes, but its power lies in its programmability. You can program the controller for use with just about any application—iMovie, iTunes, Final Cut Pro, various audio applications—to scrub audio, scroll through documents or movie timelines, and more. And it looks pretty cool, too.

The last Griffin item I'll talk about this month is the **iCurve** (★★★★½). It's a bit of a departure for the company—it doesn't hook up to your Mac, but it's quite nice nonetheless, especially if you're a PowerBook or iBook user and have a desktop setup with a keyboard, mouse, external display, or other peripherals.

The $40 iCurve is a sleek, transparent Lucite stand with small rubber feet that keep it from sliding around your desktop. It holds your PowerBook above your desk surface at a slight angle—giving you a clear view of the screen and giving your notebook plenty of ventilation. It supports the 12- and 17-inch PowerBooks without any trouble. It might not seem like an essential piece of equipment at first glance, but, as with many of Griffin's products, I find myself missing it when I'm working in a remote office or on the road. To me, that's the sign of a winner.

continues

Innovation Stations
The PowerWave (top) adds high-quality audio input and output—as well as speaker power—to your USB Mac. The PowerMate (middle) can be programmed for scrolling, scrubbing, and more. The iCurve (bottom) gives your PowerBook or iBook a boost off the desktop.

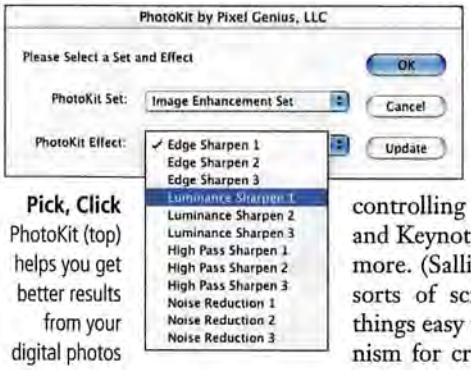
The Treasure Chest

COMPANY	PRODUCT	RATING	PRICE	OS COMPATIBILITY	CONTACT
Griffin Technology	iCurve	★★★★½	$40	N/A*	615/399-7000, www.griffintechnology.com
Griffin Technology	PowerMate	★★★½	$35	9X	615/399-7000, www.griffintechnology.com
Griffin Technology	PowerWave	★★★★	$100	9X	615/399-7000, www.griffintechnology.com
Literate Software Systems	Across Lite 1.2	★★★	free**	9X	www.litsoft.com
Pixel Genius	PhotoKit 1.1	★★★★	$50	9X***	info@pixelgenius.com, www.pixelgenius.com
Salling Software	Sony Ericsson Clicker 1.5	★★★★★	$10	X	support@salling.com, www.salling.com

*N/A = not applicable. **OS X version currently available only through the New York Times Crosswords service (www.nytimes.com). ***Requires Adobe Photoshop 6 or 7.

A Simple Click of the Phone?

Bluetooth is here. I resisted it for a long time, but thanks to the built-in Bluetooth support in the 12-inch PowerBook, I'm finally starting to see the technology's potential. I'm using two Bluetooth devices, Palm's excellent Tungsten T (★★★★½; May 2003) and the Sony Ericsson T68i, in conjunction with my Mac. That combination generally works fine, but what really blew me away was Salling Software's **Sony Ericsson Clicker** (★★★★★), a $10 preference pane for OS X that works with five of Sony Ericsson's Bluetooth phones: the T39m, R520m, T68, T68I, and T6810.



Pick, Click PhotoKit (top) helps you get better results from your digital photos in Photoshop. Sony Ericsson Clicker (bottom) turns your Bluetooth cell phone into a powerful remote control for your Mac.

Sony Ericsson Clicker lets you use your phone to control your Mac remotely via AppleScript. Any scriptable application can receive commands from your phone, and Clicker ships with scripts for controlling Apple's iTunes, DVD Player, and Keynote; Microsoft PowerPoint; and more. (Salling's Web site has links to all sorts of scripts for Clicker.) To make things easy for you, Clicker has a mechanism for creating simple scripts, so you don't really have to get down and dirty with AppleScript if you don't want to.

Clicker also has a proximity feature that can trigger scripts or actions based on your phone's (and, assuming the phone is in your pocket, your) location. At its simplest, you could have iTunes pause the current track every time your phone goes out of Bluetooth range, and start it back up whenever it comes back into range.

All in all, Clicker is one of those wondrous little utilities that demonstrate the power of interconnected technologies. If you have one of the supported phones, buy it—you'll have a blast.

From Analog to PhotoKit

If you're a digital photographer, chances are you spend a lot of time in Adobe Photoshop—I know I do. I freely admit that I use only about 60 percent of Photoshop's power and rarely take the time to deal with masking, layers, and other lengthy methods for color-correcting, toning, or sharpening my images. My pictures are looking a bit better these days, thanks to **PhotoKit** (★★★★), a $50 Photoshop plug-in from Pixel Genius.

PhotoKit can perform a range of different operations on your images, including color correction, selective sharpening, dodging and burning, and transformations from color to black-and-white and sepia-, selenium-, and platinum-style tones. Many of the effects are the digital equivalent of the things film photographers have been doing in the field or the darkroom for years, such as placing color filters on a lens to highlight a specific color range on film. And since it does all of its magic in a new layer, you never lose your original image (which makes it great for comparing effects on a single file).

Unlike many other Photoshop plug-ins, PhotoKit doesn't have a lot of flash—there are no effect previews, for example—but I regularly find an effect or combination that works beautifully, especially on older images that I had discarded for various reasons having more to do with color than composition.

In the interest of full disclosure, I should note that I know a couple of the brains behind PhotoKit—one of the principals is *Macworld* contributing editor Bruce Fraser—but I wouldn't write about the product if I didn't like it, and I know these guys developed PhotoKit because *they* wanted to be able to do these types of operations quickly and efficiently. If you spend any appreciable amount of time working on images in Photoshop, download the demo and take a look at what these geniuses have been able to do.

Crosswords Redux (Mea Culpa)

In my last column, I wrote about MacXword, the puzzle client from Advenio Software (★★★★; April 2003), claiming that it was the only stand-alone OS X app for solving *New York Times* crossword puzzles. Wouldn't you know it? Shortly after I wrote those words, an OS X 10.2 version of the original puzzle client from Literate Software Systems, the free **Across Lite** (★★★), was posted on the *Times* Web site.

Although I was unable to reach anyone from Literate to discuss Across Lite for OS X, at some point I should have noticed the link posted on the *Times* site—I am downloading the Sunday puzzle, after all. I played around with it, and I can say this: the Across Lite update works fine. I still prefer MacXword; with its Cocoa interface and direct link to the OneAcross hint site, it's worth the $15 fee—but free is free. □

RICK LEPAGE is *Macworld*'s editor in chief. Is there a utility or gadget you couldn't get along without? Send your thoughts on this column, or on things you'd like to see in future columns, to macgems@macworld.com.

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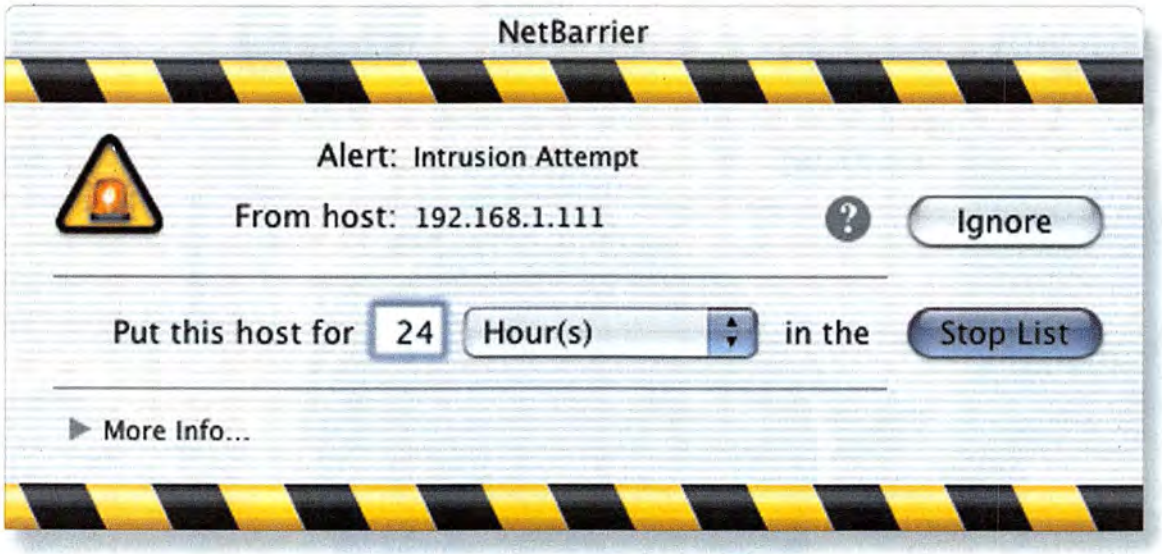

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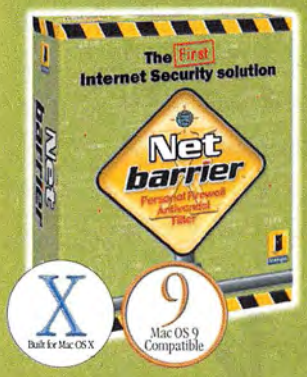

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- Marble Blast
- MacMAME
- Payback
- Momo Racing
- Pocket Tanks
- GameRanger

Simple Pleasures

SOMETIMES WHEN I PLAY A GAME, I WANT A CHALLENGE—a game that takes time to master, that kills me off repeatedly before I finally build up the skills required to take my rightful place as a champion player.

But the fact is, lots of times I'm happy just to while away a few minutes with a fast, easy-to-play game that's simply fun. Fortunately, there are plenty of those games to choose from—and this month's *Game Room* has a bunch of them.

Straight Shooter In Marble Blast, you get to experience a pinball game from the ball's point of view.

Behind the Eight Ball

Garage Games' first Mac game is called Marble Blast, and its basic mechanics could not be any simpler: you have to roll a marble through a maze. It's the maze itself, and the pitfalls and power-ups it contains, that adds the challenge and excitement.

Rendered in a 3-D, third-person perspective, Marble Blast puts you behind the ball as it rolls. If you've ever wondered what it would be like to be the pinball in a pinball machine—or if you've played Super Monkey Ball on a Nintendo GameCube—you'll get the basic idea. Each level features a start point, an end point, and a timer.

Negotiating levels is a matter of moving your ball—sometimes depending on brute force, other times using tricky matters of momentum—to get to the end point. You have to maneuver carefully across obstacle courses and around sharp corners, steep inclines, and pitfalls. Moving platforms, pounding pistons, spinning fans, and other hazards will get in your way. If you find yourself in a sticky predicament, a new perspective may help; Marble Blast lets you reconfigure your camera settings so you can get a better idea of what's around you.

The power-ups you find along the way also help you through some levels: SuperSpeed makes your marble zoom quickly, SuperBounce makes the ball bounce, Gyrocopter temporarily adds a propeller to your marble so it can traverse otherwise inaccessible areas by air, and there are plenty of others.

The Bottom Line Let's hope that Marble Blast is the first of many Mac games from Garage Games. It's a refreshing bit of arcade fun suitable for kids and grownups alike.

MARBLE BLAST
RATING: ♦♦♦♦
PROS: Lots of challenging levels; simple controls.
CONS: Too difficult for some young players.
PRICE: $15
OS COMPATIBILITY: Mac OS X
COMPANY: Garage Games, www.garagegames.com

Auntie MAME

I've mentioned MacMAME in this column numerous times, and with good reason: this clever piece of software emulates thousands of the coin-operated arcade games from the good old days when Michael Jackson still had most of his original nose.

MacMAME is the Mac version of a cross-platform, open-source collaboration called Multiple Arcade Machine Emulator. The project's roots date back to the mid-1990s, when MAME creator Nicola Salmoria thought it would be interesting to figure out how old coin-op arcade games worked. More and more of these machines are destroyed, scrapped, and recycled every year, and they represent an important chapter in the history of computerized entertainment, so he started MAME for posterity's sake.

> The best games are often ones that won't strain the brain.

MacMAME emulates the technology underlying arcade games, thereby enabling you to play them, but it doesn't include the games themselves. Those old games work when you install read-only memory (ROM) image files based on the chips in the original games. Some test ROM image files can be downloaded from the MacMAME Web site and other locations. But the fact is, the original game ROMs are all copyrighted by their developers (or whatever company has bought the rights in the intervening years). So while it's perfectly legal to download and use MacMAME, it can't be distributed with the copyrighted ROM images. And you're not really supposed to use

continues

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TEEN T CONTENT RATED BY ESRB

BLOOD AND GORE VIOLENCE

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Totally Awesome Today's game developers could learn a lot from 1980s arcade classics—for example, Donkey Kong.

those images unless you own the actual chips (for example, if you bought a classic video game or its parts on eBay, from a dealer, or from a junkyard). That doesn't stop some underground Web sites and file servers from offering ROMs for download, but using them is piracy.

If you're willing to pay the price to keep your nose clean, the reward is terrific. MAME is an invaluable tool for keeping these elderly arcade games alive and, what's more, understanding how they work. MacMAME has been improved extensively over the years, and it's a solid Mac application with native support for Mac OS X, support for game controllers, a plug-in architecture developed to handle different graphics-rendering methods, and much more.

MacMAME is supremely easy to use, well documented, and improving with each release. And when you look at those classic games, you recognize just how sublimely simple their game play and design were. MAME stands as a vital lesson to today's game programmers about what makes a game fun to play.

The Bottom Line If you're an arcade-game maven, MacMAME should be the centerpiece of your collection—along with a drawer full of ROM chips, of course.

MACMAME 0.60A

RATING: ★★★★

PROS: Almost perfectly emulates old arcade games.

CONS: Isn't updated as often as its PC counterpart.

PRICE: free

OS COMPATIBILITY: Mac OS 9, Mac OS X

COMPANY: The MAME Project, www.macmame.org

Public Enemy Number One

Freeverse Software's Payback is clearly inspired by the infamous Grand Theft Auto series for Sony PlayStation. In Payback, you're a criminal on a spree—and you have to rack up points to stay in the game while avoiding incarceration or death. You gather those points by committing crimes. Carjack a taxicab, and you'll gather points. Shoot someone dead in the street, and get some more. Big points come when you participate in elaborate crimes handed down to you from bosses who call you on public telephones. The more crimes you commit, the more likely it is that the police will catch you, so you always have to stay one step ahead.

Like the original Grand Theft Auto, Payback is rendered from an overhead perspective. Payback's simple controls and nonlinear game play make it a cinch to pick up and learn—with the exception of driving. Since Payback was developed in the United Kingdom, characters drive on the left side of the street and enter their cars from the right-side doors. It takes a bit of adjustment.

Adults Only Payback's story line is not for the squeamish, and its graphics are amateurish.

The game also offers a multiplayer mode that lets four users gather around the same computer—with multiple game controllers, of course—for a quick round of fun.

I won't moralize about Payback's subject matter or its soundtrack's profanity-riddled gangster-rap lyrics. It's safe to say that this game is not for kids or for the squeamish. But Payback's graphics look cheap and amateurish. What's more, some of the game's levels are downright bad, due to poor level design.

continues

THE TOURNAMENT RETURNS TO MACINTOSH THIS SPRING

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MATURE M CONTENT RATED BY ESRB — BLOOD AND GORE VIOLENCE

EPIC GAMES

DIGITAL EXTREMES

ATARI

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PAYBACK
RATING: 3½
PROS: Easy to pick up and learn; fun for a while.
CONS: Weak graphics and bad level design.
PRICE: $30
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: Freeverse Software, 800/373-3837, www.freeverse.com

The Bottom Line Some things are better left in the past. Grand Theft Auto was innovative in its day, but that was years ago. Even $30 is too much to ask for this sort of game.

Tanks for the Memories

If the words *Scorched Earth* bring back memories of a classic artillery video game, you'll be happy to know that there's now a modern equivalent for OS X. And if you haven't been exposed to this addictive, easy-to-learn game genre, you'll find that Cornerstone TSP Games' Pocket Tanks can provide a surprising amount of fun.

Pocket Tanks is a 2-D strategy game. You operate a tank positioned on one side of a battlefield, and it's your job to lob shells at the opponent—controlled by either a computer or a human—stationed on the other side. Each side takes turns moving and firing, and you have to determine the appropriate velocity and angle to strike your opponent dead-on.

To that end, your tank is equipped with a variety of wild and wacky weapons. As each round starts, you and your opponent get to choose from an arsenal of unique munitions—everything from conventional single or multishot warheads to weapons that harness the very power of nature, burying your foe under piles of dirt or raining down meteor strikes from outer space.

continues

Shake, Rattle, and Roll

Mac OS X 10.2.3's release in January has brought gamers an important feature we've wanted for years: support for force-feedback game controllers built around Immersion's TouchSense technology. TouchSense controllers are widespread on the PC, and they now work on the Mac, in games that support them. I recently put such a device—Logitech's $100 Momo Racing wheel, a steering wheel designed for driving games—through some tests on the Mac.

Two of the first Mac games to support Immersion's force-feedback technology are driving games: Feral Interactive's F1 Championship Season 2000 (3½; April 2003) and Aspyr Media's NASCAR Racing 2002 Season (4½; May 2003). (A patch is available from Feral's Web site at www.feral.co.uk in case you don't already have it installed.) Both games recognized and worked with the wheel straight away—although NASCAR took some delicate calibration and reconfiguration before I got everything set up as I wanted it.

The Logitech Momo Racing wheel is a hefty piece of kit, and it's broken into two major components—a steering wheel and shifter that bolts to your desk or another flat surface, and a pedal system that includes a brake and an accelerator. The device attaches to your Mac via USB, and because of the force-feedback motor, you'll need to make some room on your outlet strip too—the wheel needs its own power supply. Although the Momo includes Windows software, you don't need any software to get the wheel to work on the Mac—it's all built in, as long as you're using OS X 10.2.3 or later and a compatible game.

The wheel itself sports 240 degrees of rotation, as well as a rubber grip around the entire surface to keep your hands from slipping. Two paddle shifters lie within easy reach of your fingers on the column underneath the wheel, and for those who prefer more-conventional shifting, there's also a manual shift knob. You can program six buttons located on the wheel's center, for various game controls, including view shifts and pit-crew calls.

The force-feedback effect is uncanny, especially depending on the complexity of the application using the technology. It can simulate weight, collisions, different road surfaces, and more.

The Bottom Line It may be an expensive toy, but the Logitech Momo Racing wheel is worth its price if you're a Mac racing-game enthusiast who wants to get the most out of the experience. Look for more new racing games that support this technology to come out this year.

LOGITECH MOMO RACING
RATING: 4½
PROS: Adds realistic effects to force-feedback–compatible racing games—all two of them.
CONS: Limited utility; expensive.
PRICE: $100
OS COMPATIBILITY: Mac OS X
COMPANY: Logitech, 800/231-7717, www.logitech.com

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Violence

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POCKET TANKS DELUXE

RATING: ★★★½
PROS: Easy to learn; simple and approachable.
CONS: No Internet-based multiplayer mode; no progressive levels of difficulty.
PRICE: $16
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: Cornerstone TSP Games, www.ctspgames.com

The secret to Pocket Tanks lies in its stark simplicity—the graphics are spartan, and the controls are easy enough to figure out after a minute or two of play. What's missing is Internet multiplayer capability—the two-player mode requires that another person be in the room with you, in front of the same computer. I'd love to see some sort of level system or other method for managing a progressive level of difficulty, and the game's preferences should definitely include basic settings such as a player's name. But what's here is pure gold.

Ready, Aim . . . Pocket Tanks may seem like a simple game, but it's also a load of fun.

The Bottom Line While there's room for some improvement, Pocket Tanks is just a phenomenally fun little game to play—and the Deluxe version is well worth the modest fee.

Shall We Play or Talk?

GameRanger is a Mac-only online chat service that offers gaming capabilities. Players can log on, exchange messages privately or publicly, and then join or host online games as the mood arises. It's an easy, user-friendly way to find and play Mac games online—and it's free.

As the longest-running Mac-only online game service, GameRanger has more than 100,000 registered users and works with more than 100 games.

GameRanger features a series of publicly accessible chat rooms that have no particular order or organization. In the more popular locations, chat often turns into vitriolic exchanges stimulated by political and social issues. Fortunately, you can limit displays of profanity via an option in GameRanger's Preferences.

Wandering into a heated argument is hardly the best way for a new user to first encounter GameRanger or online gaming in general—and it's definitely not a family-friendly introduction. Genre-based organization of chat rooms and more-rigid policing of chats by administrators could resolve this difficulty.

Although GameRanger is free, a new Premium Membership tier gives users access to exclusive features for $50 a year. Most of the premium features are superficial—appearance changes, better personalization, prioritization in user lists—but there are a few meaty new options. As a Premium Member, you can create your own chat rooms. You can also set "I'm away" autoreplies and see time stamps on messages from your friends.

The price tag of GameRanger Premium Membership gives me some pause, what with the makeup of the new features. But GameRanger's developer still deserves the backing of the people who use the service, and buying a Premium Membership is an important way to demonstrate that support.

The Bottom Line GameRanger is an indispensable resource for Mac gamers looking to play with others online, even if public chat can get unruly. GameRanger's premium service is a bit overpriced, but it's one way for regular users to support this invaluable part of the online Mac gaming experience. □

GAMERANGER

RATING: ★★★½
PROS: Easy to use; supports many games and has many users.
CONS: Disorganized and badly managed public chat rooms often contain coarse language; overpriced Premium Membership.
PRICE: free; Premium Membership, $50 per year
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: GameRanger Technologies, www.gameranger.com

MacCentral.com Senior Editor PETER COHEN enjoys the simple pleasures in life. Especially naps.

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Game Experience May Change During Online Play

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BY DAVID BLATNER

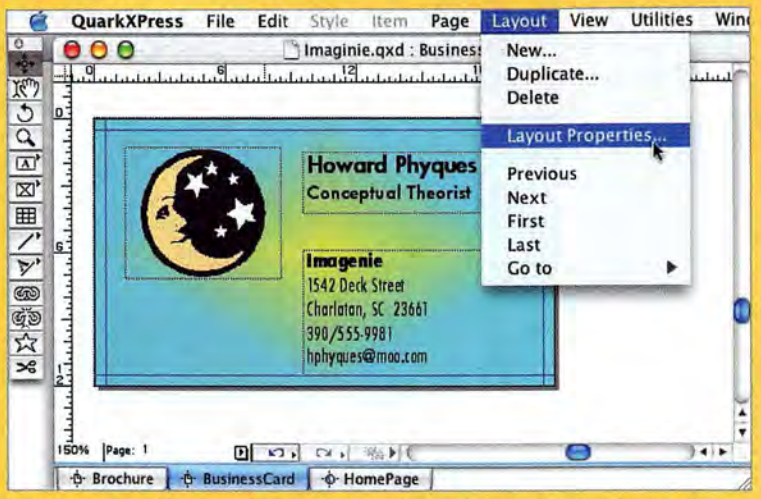
Quark ENTERS THE LAND OF OS X

GET AN EARLY LOOK AT THE NEW FEATURES IN QUARKXPRESS 6.0

QUARK HAS MOVED CAUTIOUSLY DOWN THE ROAD TO OS X, but its journey will be over when QuarkXPress 6.0 debuts (800/676-4575, www.quark.com). The company won't comment on a release date, but I expect that you'll be able to buy the new version of XPress within six months.

I explored a prerelease version of QuarkXPress 6.0. Though it's not appropriate to evaluate a beta version's reliability or speed, I can give you an in-depth look at XPress's new features, from the most striking (such as its OS X code) to the least (such as its As Is printing feature). This version of the publishing mainstay is clearly a significant and innovative upgrade: layers and Aqua and syncing? Oh my! >>

ILLUSTRATION BY RYAN ETTER



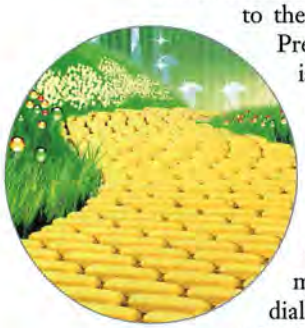
New Layouts Taking a cue from Excel, XPress lists each project's various layouts along the bottom of the document window. You can mix and match Web and print layouts in a single project, and you can make each layout any size.

We're Not in OS 9 Anymore

It seems as if everyone, from production interns to Steve Jobs, has griped about Quark's slow journey toward OS X. Now Quark is committed to OS X in a big way—on the Mac, XPress 6.0 runs *only* on OS X 10.2 or later.

It's Aqua, Man Longtime XPress users should have no trouble with the transition; Quark has maintained the program's general look-and-feel while making it fit OS X's Aqua interface standard. Few dialog boxes and palettes have changed beyond donning a blue and gray, rounded-corner skin.

But all is not the same. To comply with Apple's user-interface guidelines, Quark added two new drop-down menus to the main menu bar: XPress and Window. Go to the XPress menu for commands such as Preferences and Quit. The Window menu is the new home for many common commands that once resided in the View menu, including Bring All To Front and Show Style Sheets. Also new is a Layout menu (more on that later).



Quark's efforts to comply with Aqua standards have resulted in a Measurements palette that's 30 percent larger and dialog boxes that take up even more screen real estate than those in earlier versions.

Core Technologies XPress 6.0 doesn't take advantage of OS X's Quartz graphics-rendering technology, which could allow transparency and other special effects. However, it does use protected memory, and you no longer have to worry about allocating RAM.

Upgrading XTensions One side effect of the OS X migration is that all XTensions must be rewritten. While some third-party developers, such as A Lowly Apprentice Production, expect to release software upgrades soon after XPress 6.0 ships, other developers, such as Extensis, are still deciding whether, or when, to convert software. If you rely on an XTension to get your work done, be sure to ask the developer whether there will be an upgrade.

Manage with Multiple Layouts

OS X support would be enough to convince many XPress users to upgrade, but getting more features for your software dollars is nice, too. (Quark hasn't yet announced how much it will charge for version 6.0, but it has said that special promotions will be available for recent purchasers of version 5.)

When you launch XPress 6.0, the first new feature you'll encounter is also the most important one: Layout Spaces, a handy way to keep track of multiple related documents.

Putting It Together Managing related files has always been difficult. Say you're creating a corporate identity package, with a business card, an envelope, stationery, and a Web site. In earlier versions, each piece of the package would have to be a separate file, but Layout Spaces lets you combine them in one file, called a *project*—even though the pieces may have different dimensions, orientations, and output methods.

Projects make managing the pieces much easier. Of course, using the Layout Spaces feature also brings some risk: if a project becomes corrupted, you lose all the documents in it.

Making Space Every file you create in XPress 6.0 has at least one layout space. The New Document dialog box is now called New Project, and it allows you to name the first layout space and choose whether it will be a Web layout or a print layout.

You can add a layout space at any time by selecting Layout: New, and you can make a copy of a layout space by choosing Layout: Duplicate. To convert a print document into a Web document, just choose Layout: Layout Properties (see "New Layouts").

Switching from one layout space to the next is like choosing a workspace in Microsoft Excel: each layout space has a labeled tab at the bottom of the document window. Click on a tab to jump to that layout or choose Next, Last, or Go To from the Layout menu.

Converting Files Opening a document created in an earlier version of XPress converts it into a layout space within a new project. To combine multiple XPress 4 or 5 documents in one XPress 6.0 project, create a new layout space for each document, switch all the documents to View: Thumbnails mode, and drag the pages from one document into another.

Text Synchronicity

Multiple layout spaces are an obvious change in your XPress experience, but they can also affect your work in subtler ways. Perhaps you have a project in which one layout space is a business card and the next is an envelope. Both contain the company's mailing address. The logical next step is to relate the text so that changing it in one layout changes it in the other—freeing you from having to update each instance manually. That's exactly what XPress's new Synchronize Text palette lets you do.

To create this link between two or more text boxes, place the cursor in one text box, click on the first but-

ton in the Synchronize Text palette, and give the text story a name. Then drag the story's name from the palette into as many other text boxes as you want.

Although text is linked, attributes such as font, size, and leading are not. Because the synchronized text boxes can be on any page in any layout of the project, you can apply text formatting appropriate for print in one place and formatting for the Web in another. You can break a text box's link to the Synchronize palette whenever necessary.

You can't synchronize graphics, text that has anchored objects, text on a master page, or even portions of a text story—it's either all the text in a text box or nothing. And while you can synchronize text across multiple layout spaces, you can't synchronize text across separate files.

Change Your Mind Again—and Again

How many times have you made a few changes to a design and then decided that you liked it better before? XPress 5 had only one undo level, which didn't affect many actions, such as importing a picture. In version 6.0 you can undo as many as 30 changes. (Each undo takes extra memory, so you can reduce the number XPress remembers via the Preferences dialog box.)

Two pop-up menus at the bottom of the document window display your most recent actions; one shows actions you can undo, and the other shows actions you can redo. This isn't as elegant or powerful as Photoshop's History palette, and menus aren't descriptive of each action (they may display "Picture Box Change" ten times in a row). Nevertheless, this feature is useful when you need to undo a number of consecutive steps. XPress can undo even if you save a document (though it clears its memory when you close the project).

You can choose from three redo keyboard shortcuts: ⌘-shift-Z (as in Photoshop), ⌘-Y (as in Microsoft Word), and ⌘-Z (which allows only one redo action).

You can now undo more actions, including text and picture import, text linking, and edits to your style sheet. However, you still can't undo many others, such as adding and moving guides, and changes that you make to a master page after returning to a document page.

High-Quality PDF Files

Creating PDF files has become a crucial aspect of an efficient publishing workflow, whether you're circulating a low-resolution PDF proof among a workgroup or sending a high-resolution PDF to an output provider for final printing. However, making PDF files from XPress has always required Adobe Acrobat Distiller.

Of course, in OS X any program can write PDFs, but because you can't control image compression and font subsetting, these files are unfit for most professional work.

Instead of relying on OS X or Distiller, Quark licensed Global Graphics' Jaws technology for creating high-resolution PDFs. When you export a PDF file (File: Export: Document As PDF), XPress writes PostScript and then converts it to a PDF file. You can add automatic bookmarks, retain hyperlinks created with XPress's Hyperlinks palette, and control image compression at export. You can neither save PDF styles (groups of settings) as you can in Distiller nor ensure the quality of the PDF by exporting in PDF/X format.

Full-Resolution Preview Spares Your Eyes

XPress users have long known that they couldn't trust the quality of images viewed on screen or printed on inkjet printers without PostScript support. Vector EPS artwork (such as that from Adobe Illustrator or Macromedia FreeHand) was jaggy; Photoshop images, pixelated. No more: XPress 6.0 has a Full Resolution preview.

ANOTHER SMALL STEP FOR XML

If professional publishing journals such as *The Seybold Report* are right, someday almost everyone who produces a magazine, newspaper, or book will be dealing with XML, which lets you separate content (the words and pictures) from form (how the content looks) so the content can take on many forms (print, Web, PDA, and so on).

Quark's implementation of XML in XPress 5 (called avenue.quark) required that users specify valid DTDs (documents that describe how the data in an XML file is structured), which only XML geeks have on hand. XPress 5 also severely limited an imported XML file's size and how that data was formatted on import. The result was that almost every XPress user who needed XML turned to a third-party XTension.

XML in XPress 6.0 is less complicated, though I still wouldn't call it easy. First, Quark scrapped its proprietary XML parser for the industry-standard open-source Xerces parser, licensed from the Apache Software Foundation. (The parser is what reads and understands the XML codes.) The new parser can read huge XML files and provide useful error notifications when there's something wrong with the DTD.

And while you still need a DTD to assign XML tags to your XPress content and export an XML file, you can now import XML without one. The trick here is that XPress 6.0 can read an XML file and infer a DTD for you. This is a great step forward if you're just beginning to work with XML.

Lastly, XPress 6.0 gives you much more flexibility when you're formatting the placeholders that tell the program where to put the XML content and how to style it. For example, you can now insert text such as "Name:" before a Name XML placeholder, and you can place carriage returns between placeholders to force the content onto different lines.

If you're not already working with XML, it's unlikely that these enhancements will encourage you to jump in now. But given the importance of XML in publishing, it's a good sign that Quark is working on improvements.

Synchronized Swimming You can synchronize the text in two or more text boxes—even if they're on different layouts, and even if the text formatting is different in each box. When you edit the text in one box, XPress updates all the others.

THE WORLD ACCORDING TO QUARK

BY PAMELA PFIFFNER

With the release of QuarkXPress 6.0, the wait for an OS X–native version of the world's leading page-layout application is over. Publishers who delayed upgrading to OS X until their mainstay software went native have no more excuses. And XPress users flirting with the idea of moving to Adobe InDesign can now compare the two products on a level playing field.

The question on the minds of many creative professionals is "What took so long?" *Macworld* sat down with Quark's Jürgen Kurz and Susie Friedman to talk about Apple, Adobe, and Quark's product strategy.

"I don't think OS X was mature enough for the print market until later last year, with Jaguar," says Kurz, Quark's vice president of product management, adding that OS X became available as Quark was finishing XPress 5 and the company chose not to break its stride for the new OS. "Now I think we are at the right time to deliver a Mac OS X product, even though we've been criticized for waiting." The result is that Quark will deliver a product with "no compromises," he says. "QuarkXPress 6.0 is OS X. Full stop. We don't take the baggage of previous operating systems with us."

XPress 6.0 is not just the OS X equivalent of XPress 5—which shipped only 18 months ago. It has new features, too. "We could have done a simple OS X port, but there's no value associated with that for our customers," Kurz says. Version 6.0's success is not contingent on OS X alone, he asserts. "We're a commercial software developer. We have many customer requirements to satisfy—one of which is OS X. We're not in this to make Apple successful."

The Apple of Quark's Eye

For the time being, however, Quark's success is tethered to Apple's. With 50 percent of its U.S. QuarkXPress sales on the Mac platform, Quark has a vested interest in keeping the market healthy. But the two companies have had a tempestuous relationship in the past, and Quark's late embrace of OS X only fueled speculation that they were again at odds. Kurz downplays a rift. "Our relationship with Apple is very close from a product and R-and-D perspective. I don't think it's been any better than it has been in the last six to twelve months."

Recent anti-Apple outbursts by Quark's voluble CEO Fred Ebrahimi may have actually paved the way for better relations. At one November 2002 meeting of Quark customers, attendees said that Ebrahimi made disparaging comments about the size of the Mac market; this led observers to question Quark's allegiance to Apple and its customer base.

Kurz says that Ebrahimi's comments were taken out of context. Ebrahimi was expressing concern that, given current economic conditions, Apple was doing its customers, its development partners, and the industry overall a disservice by forcing its users to upgrade to a new platform at a time when budgets were tight, especially in the publishing sector.

But Ebrahimi's outburst hit home. "The outcome was that Steve Jobs called, and there was an extension of OS 9 for our customer base," Kurz says, referring to Apple's December decision to continue shipping OS 9–capable Mac models through the summer of 2003, despite an earlier pronouncement that Apple would stop selling OS 9–capable Macs in 2002. "It was a misinterpretation, but the end result was good for our customers."

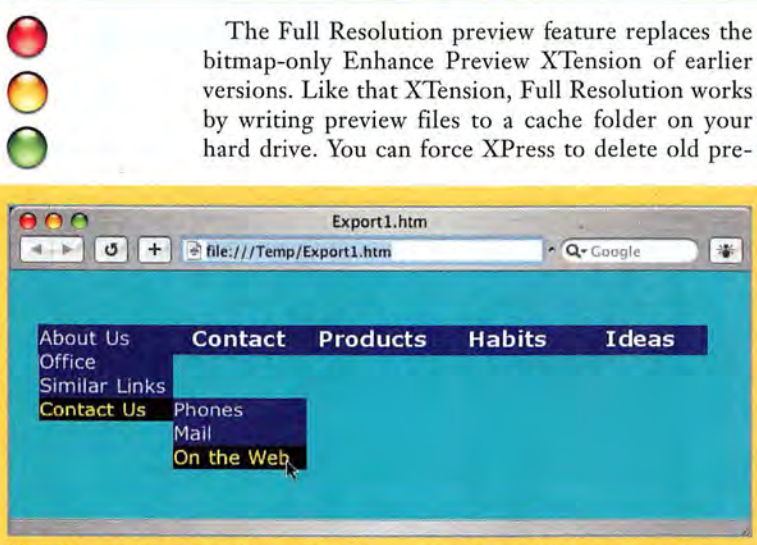
Despite its contentious partnership with Apple, Quark says that it has no intention of abandoning the Mac. "We have a total commitment to the Mac market. We are committed to our customers and giving them what they want," says Susie Friedman, vice president of corporate development. "As long as people keep using Macs, we'll keep supporting them."

The Adobe Rivalry

While Quark has shored up its relations with Apple, it has been fending off attacks on its flanks from archrival Adobe. After poorly received initial releases, InDesign 2.X is attracting new customers, partly due to its 18-month head start as an OS X–native application. According to Adobe, customers who defect from QuarkXPress cite additional factors, such as InDesign's integration with other Adobe applications and Adobe's reputation for customer service. Adobe declined to comment on exact sales figures.

But according to Quark, recent sales figures suggest that XPress maintains a healthy lead. "If you look at our retail-channel data [from a Merrill Lynch report], our market share has risen in the past six months. Of individual units sold, it's been 91 percent QuarkXPress, 9 percent InDesign," Kurz says. "The perception is that InDesign is outselling us when the reality is that people continue to buy QuarkXPress."

That perception persists within the publishing community, but Quark says that it refuses to get into a public-relations battle with Adobe. When asked



More Menus One eye-catching new Web feature is that XPress 6.0 lets you create interactive cascading menus that appear and disappear when they're moused over. Unfortunately, you can see them only after exporting HTML and opening the page in a Web browser.

The Full Resolution preview feature replaces the bitmap-only Enhance Preview XTension of earlier versions. Like that XTension, Full Resolution works by writing preview files to a cache folder on your hard drive. You can force XPress to delete old preview images after the cache reaches a certain size—for example, 200MB.

This preview feature has some limitations. There's no way to turn it on for an entire document (though that could be a precaution, because each additional image slows down XPress). Also, vectors can be rasterized only as high as 800 ppi.

Working the Web

The folks at Quark had a great idea: Give designers a way to parlay their knowledge of XPress into the ability to design simple Web sites. However, XPress 5 didn't offer enough Web tools to attract many users. XPress 6.0 adds a few new Web features and improves XML handling (see "Another Small Step for XML").

Cascading Menus The flashiest addition is the ability to create cascading menus that pop up or down as you mouse over them (see "More Menus"). You can specify color, size, behavior (such as a target URL), and even submenu entries. But to see the cascading menus, you have to export HTML and view the page in a browser.

how Quark plans to prevent users from defecting to its rival, Friedman says simply, "We'll just continue to put out the best product."

Quark regards its single-minded focus on the business of publishing as a key difference between itself and Adobe, especially as the latter ventures into the government-forms and corporate-documentation arenas. QuarkXPress is a well-entrenched and time-proven cog in the publishing workflow, where factors such as efficiency, reliability, and productivity are key. "It's not about individual features, although we think our feature set is better for a production environment than InDesign's," Kurz says, "but the question at the end of the day is 'Can you print your pages quickly and reliably?'" Given some print-service providers' reluctance to accept InDesign files, Quark believes those factors will continue to set QuarkXPress apart.

Beyond the Desktop

Quark feels that the QuarkXPress-versus-InDesign battle should not overshadow the more important bigger picture. "People see us as a one-product company," admits Friedman, "but we have a lot going on for the publishing industry." Since 1990, Quark has developed database-driven, server-based (Oracle and SQL) publishing systems for deploying information across media and platforms.

The company's products serve four environments: QuarkXPress is for individuals who produce creative work on a single desktop computer. Quark Publishing System, or QPS, is an editorial production system, based on QuarkXPress, for workgroups of as many as 100 people. Quark Digital Media System, or QuarkDMS, is a content-management system that includes modules for activities such as copyfitting and contract management; it's for organizations with many departments and locations connected via the Internet. And Quark Dynamic Document Server, or QuarkDDS, which Quark calls "rich format personalization," is described as "QuarkXPress on a server" because it contains core QuarkXPress technologies that have been ported to a server environment.

Dynamic Documents QuarkDDS—introduced in early 2003—liberates QuarkXPress from the desktop. It lets developers make custom QuarkXPress-type applications that are accessible via a Web browser. For example, a media company with international sites could create custom content-entry templates that allow an Australian licensee to post text and graphics according to predefined rules. Or a clothing company might use Quark DDS to make a catalog application that lets its Malaysian manufacturer update styles and prices remotely. "QuarkDDS gives you remote access to QuarkXPress and all its capabilities through the Internet," Kurz explains. "It allows you to enter and manage content from anywhere in the world."

Quark's Jürgen Kurz

Killer Convergence The Web factors heavily in Quark's plans for its flagship desktop product as well. "The next battleground for a killer app will be the one that provides tools for media convergence," Kurz says, noting that QuarkXPress 6.0's layout spaces let you manage Web and print projects within XPress. With its XML capabilities and support for PDF and Flash (planned for an unnamed future version), he hopes XPress will become a one-stop solution for publishing to any media from within a single application.

Kurz sees a difference between Quark's convergence efforts and Adobe's; he says that rather than develop all its products around one technology such as PDF, Quark will support whatever technologies its customers want.

"Adobe is interested in preserving a proprietary format. Our goal is not to win with the format but to provide the multiple formats that our customers need to deliver their content into," he says.

No Time Like the Present

While Quark's future may include media convergence, it's the present that may prove more challenging. For the first time in many years, Quark has to deal with a viable contender to its seat at the top of the page-layout heap. Pressure from Adobe will only increase, and Quark will need to respond. By introducing QuarkXPress 6.0 less than two years after version 5, Quark has already shown a willingness to step up the pace of its upgrade cycles. It will need to do more.

Ever since QuarkXPress overtook Aldus PageMaker as the page-layout program preferred by professional publishers, Quark has been the company publishers love to hate, and QuarkXPress has been the product they hate to love. "People are very emotional about us," Kurz says. "Sometimes it's positive and sometimes negative, but it's better than apathy."

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New Rollovers XPress 5 had features that helped you create basic rollovers (images that change when you hold the cursor over them). Version 6.0 lets you create two-position rollovers, where holding over one item affects an image elsewhere on the page. For example, when you pause over a list of product names on the left side of a page, a picture of each product can appear in an area on the right side. To see the two-position rollover, you must export the HTML and open the page in a browser.

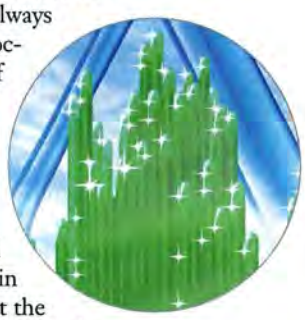
Font Families XPress now lets you specify a list of alternate font preferences, so if the people viewing your Web page don't have your preferred font, you still have some say over what font they do see.

What's Missing XPress 6.0 has no real site-management tools (though it does now let you specify more than one folder for your images). You can't import the HTML code that you exported. There's no method for creating automatic next/previous page links, such as Gluon's WebXPress XTension provides (though there is now a shortcut for creating hyperlinks to a specific page in your document).

You may find that XPress 6.0 offers enough features for you to build an entire—albeit basic—site. However, you'll likely want to open those pages in another HTML editor for final tweaking.

Set Better Tables

While the Table tool in XPress 5 let you create basic tables, its implementation was half-baked at best. For example, table cells and grid lines were always an opaque color—even tables in Web documents couldn't have a background of None. XPress 6.0 addresses some of these concerns and offers two new tabular bells and whistles.



You can now convert table cells into a group of individual boxes placed anywhere on a page. This might be useful when you need to save your document in the XPress 5 format (if you first convert the table into boxes, you won't lose XPress 6.0–only features). You can also link from one text cell to another,

Better Display QuarkXPress 6.0's Full Resolution mode lets you see EPS, TIFF, and JPEG images at full resolution (bottom), as long as you haven't scaled up the images.

even when the cells are in different tables—helpful when you have more text than can fit in a single cell.

XPress 6.0 won't let you set up automatic alternating tints for rows and columns, or import tables from Microsoft Word documents (InDesign does both). Plus, XPress 6.0's ability to link table cells is no substitute for InDesign's ability to flow a table across multiple pages.

Incremental Improvements

Quark has also made a number of small improvements to XPress. If you create complex pages with lots of design elements, you may appreciate layers that truly lock. Previously, locking a layer would turn on the Lock feature for each item on that layer, and you could change or delete those items. Now you can't even select items on a locked layer. (Note that the Lock feature itself has not changed; individually locked items are still unprotected.)

The Layers palette also lets you quickly select all the items on that layer through a context-sensitive menu—handy when you need to make a global change to objects on a particular layer. The Print dialog box offers a new Layers tab, which lets you determine which layers will print (hiding layers in the Layers palette accomplishes the same thing).

Unless you've been trying to print color XPress files to a PostScript RIP as composite color (rather than letting XPress create the separations), you'll probably miss one other small but important improvement: XPress 6.0 lets you print or export pages to PDF or EPS with As Is or DeviceN color. As Is simply lets you leave colors in their original space. DeviceN includes both composite color and separation data for In-RIP separations (separations produced by the printer's PostScript interpreter).

Activate Now

Quark has long tried to reduce software piracy. After years of complaints, Quark finally stopped requiring a hardware dongle for versions of XPress 5 sold outside of the United States. With XPress 6.0, the company introduces a new protection system. After you install the software, you have five days to activate it via a telephone call or the Web; if you don't, it turns into a demo version that doesn't save documents and prints pages with a watermark.

Activation is not registration, and activating the software does not send any personal or identifiable information about you or your computer to Quark. However, it does associate your software's serial number to a unique code based on your particular hardware configuration. If you change your hardware (install RAM or buy a new computer), you have to reactivate the software.

Wish List

It takes time and resources to add features, and no software company can include all the features they want in every release. Although the shipping version of XPress 6.0 may be different than the beta I explored, it seems likely that some items on my wish list will remain there. For example, the beta doesn't support automatic fractions and true small-cap styles in OpenType fonts. I'd also like a way to make drop shadows from within XPress (other than buying an XTension), to embed fonts in EPS graphics, and to put guides on layers (or even position them precisely).

The Last Word

QuarkXPress 6.0 is a major upgrade, complete with significant features such as Layout Spaces, multiple undos, and the Synchronize Text palette. Yes, we wanted an OS X version of XPress sooner, but it's impressive that Quark has made such progress only 18 months after XPress 5 shipped.

However, if the beta is any indication of how the shipping version will work, we should be prepared for an inelegant interface—one that looks as if it had been shoehorned into OS X. Quark's age also shows through its clunky Starburst tool and a hyphenation and justification system that hasn't produced better type since 1990.

Nevertheless, XPress users may breathe a sigh of relief and enjoy the fact that they can ditch Classic mode at last and enjoy the benefits of OS X. □

DAVID BLATNER is the author of *Real World QuarkXPress 5* (Peachpit Press, 2002), as well as a coauthor of *InDesign for QuarkXPress Users* (Peachpit Press, 2003). You can find him at www.moo.com.

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iMovie

BY JEFF CARLSON

Graduate to FINAL CUT EXPRESS

We Help You Take the Next Step in Your Video-Editing Career

You've put in your time and mastered iMovie. You're finally ready to graduate to the next level. But instead of going directly to Apple's Ivy League video editor, Final Cut Pro, you can now get a professional video-editing program—Final Cut Express—for a third of Final Cut Pro's price. With the same interface and many of the same features as the revered video-editing institution, the $299 Final Cut Express (★★★★; May 2003) offers the higher education you've worked so hard to prepare for. If you've just advanced from iMovie to Final Cut Express, or if you're considering that course, take this opportunity to see how the iMovie tasks you're already familiar with are accomplished in Final Cut Express—and see the cool new features you'll gain.

Interface

If you're used to iMovie, you may feel disoriented—and somewhat intimidated—by Final Cut Express's interface. Unlike iMovie, which provides one tidy window, Final Cut Express starts up with four windows, a Tools palette, and an Audio Meters palette (see "Editing Suites"). But once you're acquainted with all the parts, you'll see that the two interfaces aren't that different after all. (And like iMovie 3, Final Cut Express runs only in OS X.)

Timeline As in iMovie, the timeline is where you assemble your clips in the order in which they will play back.

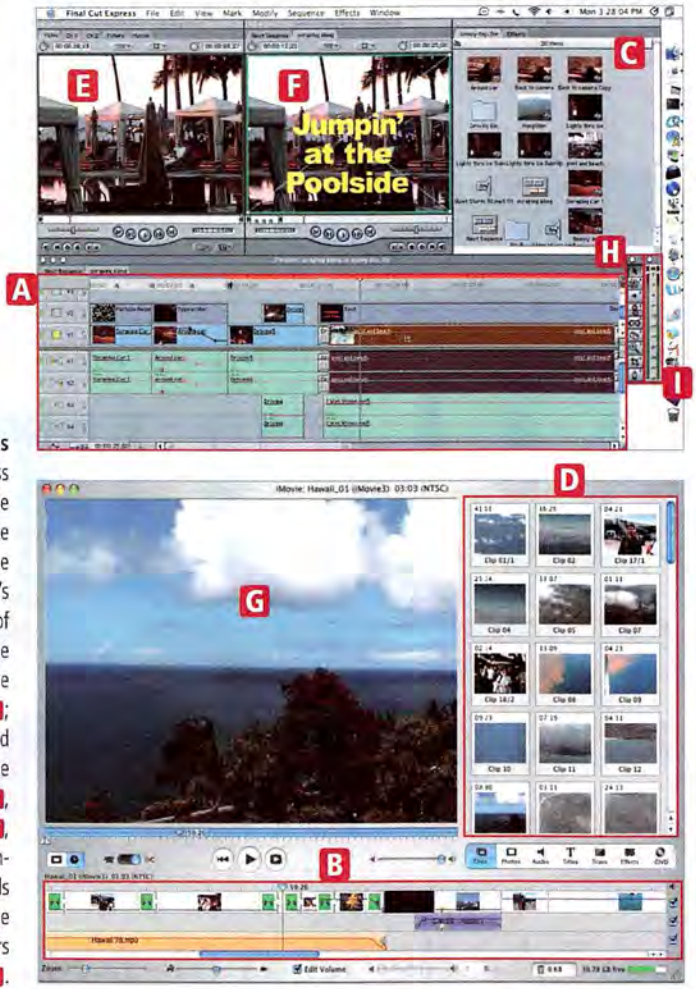
Browser Like iMovie's shelf, Final Cut Express's browser is the storage center for all your clips and media files. The browser can also include *bins*, folders that can contain other media, and *sequences*, the collections of clips you assemble in the timeline (see "Why Upgrade to Final Cut Express?" for more on sequences). The browser is also one place to access Final Cut Express's built-in effects, just as iMovie's effects are displayed on its shelf.

Viewer and Canvas Final Cut Express displays your footage in two windows: the Viewer window is where you edit individual clips, transitions, and text titles; the Canvas window is where you play back the sequence you've built in the timeline, and where you edit motion effects. These two windows do the same thing as iMovie's one monitor, but don't let that flummox you—many professional editors look at iMovie and wonder who stole the second monitor.

Capturing Footage

Before you use either program to edit video, you need to transfer raw footage from your camcorder. While iMovie offers one method, Final Cut Express has two: Capture

ILLUSTRATION BY BEN SHANNON



Editing Suites Final Cut Express (top) and iMovie (bottom) are quite similar, despite appearances. Here's an overview of components: the timeline A and the Liquid Timeline B; the browser C and the shelf D; the Viewer window E, Canvas window F, and monitor window G; the Tools palette H; and the Audio Meters palette I.

Now grabs an unbroken stream of video, and Capture Clip grabs one clip at a time. To begin capturing footage, open the Capture window by selecting File: Capture or pressing ⌘-8.

Capture Now Like iMovie's Import feature, Capture Now records footage from your camcorder onto your hard drive until you manually stop the capture operation—for most people, this is the simplest and best choice. Using the transport controls in the lower left corner of the Capture window, locate the beginning of the footage you want to capture. Click on the play button to start the camcorder's playback (or press the play button on the camcorder itself), and then click on the Now button at the bottom right corner of the window, in the Capture area, to start recording footage (see "Capture This"). When you're finished, press the escape key to stop capturing; this also stops camcorder playback.

Unlike capturing footage with iMovie, this approach stores all your captured footage in one big lump in the browser—individual clips aren't automatically created at each scene break. But after you capture a clip, you can simply select it and choose DV Start/Stop Detection from the Mark menu. The program will scan the footage for scene breaks and create a placeholder, called a *marker*, for each. To view the resulting segments, control-click in the browser and choose View As List from the contextual menu that appears—in general, a list view is a better, more functional choice.

Markers don't actually split your footage into multiple clips; as far as Final Cut Express is concerned, you've captured one long clip. To work with the separate scenes as individual clips (as in iMovie), select each marker in the browser and choose Modify: Make Subclip. You can then drag individual subclips to the timeline to assemble your movie.

Capture Clip Slightly more complicated, Capture Clip illustrates a fundamental difference in the ways iMovie and Final Cut Express approach video editing. Instead of blindly capturing all the footage on your camcorder's tape, Final Cut Express lets you specify a range of frames to capture as a clip—you do this by setting an *in-point* (the clip's start) and an *out-point* (the clip's end).

This approach has several benefits. You get one clip that can be added to your sequence (as in iMovie), and you're not filling your hard drive with footage you won't use. And if you need to recapture that clip from the original source tape (for example, if you lose the clip's media file), Final Cut Express can locate and grab the exact frames you specified—tomorrow or a year from now. The downside is that Capture Clip's implementation in Final Cut Express is somewhat tedious.

Use the transport controls to review your footage, find the beginning of a clip you want to capture, and then click on the Mark In button (or press the I key) to set the clip's in-point. When you reach the end of your clip, click on the Mark Out button (or press the O key) to set an out-point. With the in- and out-points defined, click on the Clip button (located at the bottom right corner of the window, in the Capture area). In the Log Clip dialog box that appears, give your clip a distinctive name (and enter a note if you want). Final Cut Express rewinds the camcorder to the first frame and records the clip to your hard drive. Repeat these steps for each clip you want to capture. To minimize repetition, consider using Capture Clip to grab a long section of footage and then employing DV Start/Stop Detection to create subclips.

Editing Clips

You'll always end up with more footage than you need for your final movie—Francis Ford Coppola shot 230 hours for the 3-hour film *Apocalypse Now*. Although you probably won't be stacking DV tapes to the ceiling, you will need to pare down your footage, and that's one area where Final Cut Express excels—even if the process seems cumbersome at first.

In iMovie, you select a clip and then whittle it down to what you want to use by splitting or cropping it—

Why Upgrade to Final Cut Express?

iMovie is a complete video-editing package—you can easily use it to put together home movies, training videos, and more. So why spend money to upgrade to Final Cut Express? Here are a few considerations.

Multiple Video and Audio Tracks iMovie is limited to one video and two audio tracks (technically, there are three audio tracks if you include the video track's audio portion). Final Cut Express can have as many as 99 video and audio tracks, so you can layer clips or even work out rough ideas without disrupting your existing sequence.

Nested Sequences In iMovie, you can have only one sequence, the movie that you build in the timeline. Final Cut Express treats sequences as separate containers, so you can build a sequence and then place it on a new layer in an existing sequence. This is especially useful when you're working on long projects.

Support for Layered Photoshop Files Photoshop is the tool of choice for designers creating static graphics. In Final Cut Express, a Photoshop file with multiple layers imports as a sequence, with each layer on a separate video track. This makes it easy to use layers as alpha-channel masks (for example, to make footage from one video layer play within a custom shape or block of letters on another layer).

Advanced Trimming Features In iMovie, trimming clips is a matter of systematically slicing away frames until you're left with only the best footage. In Final Cut Express, editing clips by setting in- and out-points is just the beginning. You can then fine-tune a sequence using a variety of trimming edits with names that sound like something from a classic con movie: slip, swap, slide, ripple, and roll edits have all been honed over years of editing.

Motion Controls and Keyframing A clip doesn't need to remain a flat static rectangle. Using motion controls and keyframes, you can resize a clip and have it slide onto the screen, or you can create a picture-in-picture effect.

Recapture Media from Tape Final Cut Express keeps track of the source media's time code, the numerical location of any given clip on your camcorder's DV tape. This enables the program to recapture the exact frames used in a clip if that clip is lost, thrown away, or damaged.

G4 Real-Time Effects With many Macs, Final Cut Express can render many transitions and effects in real time; otherwise, those clips don't play back until you've rendered them. You need a Power Mac G4 with at least a 500MHz processor or two 450MHz processors, or a PowerBook G4 with at least a 450MHz processor.

like carving a figure out of a bar of soap. If you realize later that you need 2 more seconds at the end of your clip, you can either find the portion that you trimmed away (unless you cut it out entirely) or resuscitate the original, uncut version (by choosing Advanced: Restore Clip and starting over again).

Final Cut Express will make you wonder how you lived with such a limitation. As you can tell from the Capture Clip feature, Final Cut Express encourages you to abandon the idea of slicing up clips and to embrace the concept of using in- and out-points to define a clip's usable portions.

Visual Editing Suppose you've captured a clip of your family vacation in Vermont, and you want to use just the portion of your family at the roadside. First locate the clip in the browser and double-click on it to display it in the Viewer window. Then position the playhead at the point where your family turns to the camera, and press the I key to set the in-point. Move the playhead to where you want the clip to stop, and press the O key to set the out-point (see "Ins and Outs"). To add the clip to your movie, click in the Viewer window's image area and drag to the timeline—only the frames between the in- and out-points will appear. Note that the entire clip remains intact. If you need to fine-tune your edit, you can easily adjust the in- and out-points by moving them along the scrubber bar or by repositioning the playhead and setting new points.

Time-Code Editing Say you have a 12-second clip that you want to use just 6 seconds of. If the first frame you want to use begins at the 3-second mark, position the playhead at the point where the time-code indicator (the field in the upper right corner of the Viewer window) reads 00:00:03:00 to set the in-point. You want a 6-second clip, so move the playhead to the 9-second mark (00:00:09:00)—or type +600 while your cursor is in the Viewer window—and set the out-point. You've specified the middle 6 seconds as the clip's duration.

If you want to edit your clip but maintain its length, hold down the shift key while dragging one of the points to move them both, a process known as *slipping*. When you do this, the Viewer window shows the first

Capture This Final Cut Express offers two methods of recording your footage: Capture Now grabs footage from your camcorder (the same way iMovie does), and Capture Clip grabs individual sections.

Ins and Outs To edit a clip in Final Cut Express, position the playhead on the scrubber bar A and then set an in-point B and an out-point C.

frame and the Canvas window shows the last frame—one benefit of having two monitor windows.

Nondestructive Editing Final Cut Express has another advantage when you're editing clips—true nondestructive editing. In iMovie, you're always working with one clip entity (unless you copy and paste to create a duplicate). The clip you split or crop is the same one you drag to the timeline to add to your movie. Final Cut Express, however, always works with copies of clips—the clip you just dragged from the Viewer window to the timeline is now separate from the clip you first double-clicked on in the browser (and both clips still point to one media file on your hard drive).

This means that you can reedit the clip in the timeline without disrupting the clip in the browser (and vice versa), and you can create an unlimited number of clip copies to experiment with. To avoid editing the wrong clip, always display the clip you want to edit by double-clicking on it in the Viewer. In the preceding example, you'd double-click on the clip you'd moved to the timeline, not the clip in the browser, to reedit.

So why is this an advantage instead of an annoyance? When you have an entire source clip available for editing, it's easy to tweak the clip to suit your needs. For example, if that 6-second clip in the timeline needs to be 8 seconds long instead, just double-click on the clip in the timeline; then, in the Viewer window, move the out-point 2 seconds to the right—the clip's duration will change in the timeline.

Transitions

Applying transitions in Final Cut Express is similar to that process in iMovie—you choose a transition from a list and drag it to the timeline. But Final Cut Express arranges its transitions a little differently from iMovie, categorizing them by type and storing them in folders under the Effects tab in the browser. To apply a transition, click on the Effects tab and then click on a folder's expansion triangle—for example, the Video Transitions folder's. Choose a transition, such as Cross Dissolve, located in the Dissolve subfolder, and then drag it to the space between two clips in the timeline.

In Final Cut Express, you also use in- and out-points when applying transitions. In the case of dissolves, the frames outside the in- and out-points are blended with frames from adjoining clips. This ensures that the portion of the clip you defined using in- and out-points is fully visible when the transition finishes (it also means that you need enough extra frames in the adjoining clips to accommodate the transition). By comparison, iMovie overlaps portions of adjoining clips—this means, for example, that if you want to transition between a clip of your family and a clip of your baby's first steps, applying a Cross Dissolve transition between them could obscure those important steps in the blended section. As a result, adding a Cross Dissolve in Final Cut Express does not reduce the length of your movie, as it does in iMovie.

Easier Cross Dissolves Since Cross Dissolve is probably the most frequently used transition, Final Cut Express also offers an easier way to apply it. Position the playhead at the point where you want the transition to appear, and then drag a clip from the Viewer window to the Canvas window, instead of the timeline. When you do this, an overlay appears in the Canvas with options for applying the clip; drop the clip onto Insert With Transition, and Final Cut Express adds a Cross Dissolve transition with your clip.

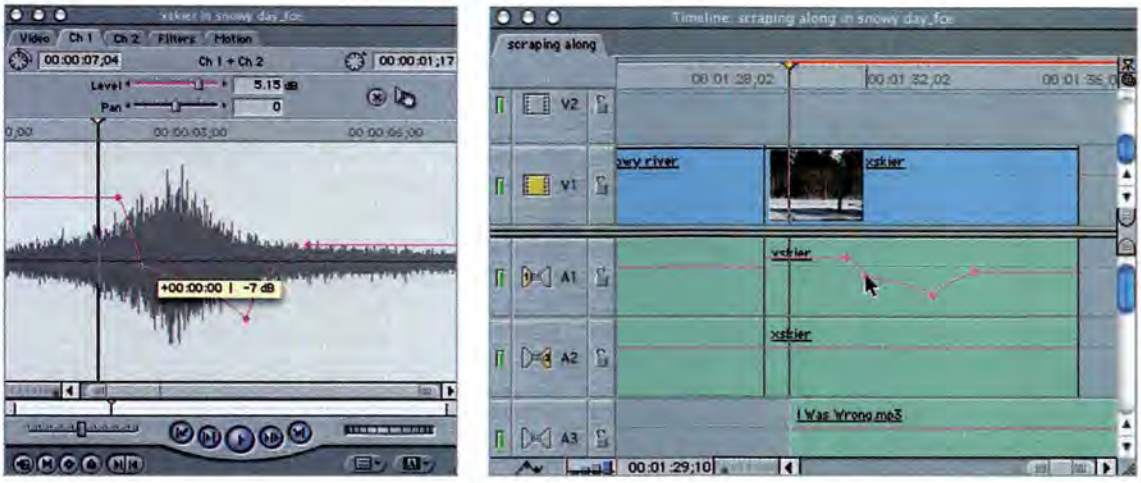
Editing Transitions As you might expect, you have more control over editing transitions in Final Cut Express. In the case of Cross Dissolve, iMovie lets you change only the effect's duration (by selecting the transition and then adjusting the Speed slider in the Trans pane).

In Final Cut Express, double-click on the transition in the timeline to edit its attributes in the Viewer window. The transition appears sandwiched between the preceding clip (above it) and the following clip (below it). To change its duration, click and drag its left or right edge. You can also choose the point where the transition will occur between the adjoining clips by clicking on one of the three buttons marked with triangles: Start On Edit obscures more of the preceding clip, Center On Edit balances the clips equally, and End On Edit obscures more of the following clip. Other transitions contain more controls—for example, the Iris options include attributes such as color, border size, and placement of the transition's center point.

Adjusting Audio Levels

In iMovie 3, clicking on the Edit Volume button displays audio line levels that can be dragged up or down to change volume—a big improvement on previous versions. Final Cut Express uses similar line levels as the main method of changing clip volume.

Changing the Volume Click on the Clip Overlays button in the lower left corner of the timeline to reveal controls similar to iMovie's. To change the volume of an entire clip, click and drag the line. If you want to change



Audio Lineup Use the Pen tool to make variable changes to a clip's volume, either in the Viewer window (left) or in the timeline (right).

the volume at different points within the clip, select the Pen tool from the Tools palette (or press P), click on the line twice to create two new audio keyframes, and then drag one of the points to adjust its volume (you need at least two points to make this type of adjustment; otherwise, you'll change the entire clip's volume).

For more control, double-click on the clip to display it in the Viewer window, click on the Audio tab, and then pick the channel (left or right) you wish to edit. Use the Pen tool on the line levels to adjust volume (see "Audio Lineup"). To make a clip completely silent, drag the line to the bottom of the channel's window.

Creating Titles

A picture may be worth a thousand words, but sometimes you need the words themselves—and that's where titles come in. In Final Cut Express, you create titles with *text generators*, which offer more controls than the title effects in iMovie's Titles pane. To access the text generators, go to the browser's Effects tab, open the Video Generators folder, and then open the Text subfolder. There you'll find a handful of title effects such as Crawl and Scrolling Text.

Generate Double-click on a text generator to open it in the Viewer window, enter your title in the Text field, and use the settings to define the title's appearance. Titles generally use two Viewer tabs: Video previews the title and Controls contains all the sliders and pop-up menus you'll need. If you want to see how the title looks as you change its settings, without having to switch back and forth between the tabs, drag the Video tab out of the Viewer to display it in a new window.

Apply Drag the title from the Effects window to an empty video track on the timeline (this is usually just above the active video track); you could also insert the title in your main video track, but putting it on its own track gives you more flexibility and lets you preview the title with the video footage in the Canvas window. To edit it later, double-click on the clip in the timeline and make adjustments in the Controls tab of the Viewer window.

Beware The outer regions of your screen aren't television friendly—choose View: Title Safe to display an overlay in the Canvas window showing the outer edges of where you can safely place text. Also, even though there appear to be far fewer title styles available in Final Cut Express than in iMovie, remember that you can use Final Cut Express's motion controls to animate and distort text with a high degree of variation.

Exporting to Tape and DVD

Once you've finished editing your movie, you'll want to share it with others, typically by exporting it to a DV tape in your camcorder or to DVD.

Save to Tape Saving your movie to a DV tape gives you a high-quality print that doesn't occupy dozens of gigabytes on your hard drive; if you're planning to get film prints made or to have an external service create a DVD for you, some companies will use the tape as the master copy. In iMovie, saving to tape is a simple matter of exporting the movie and choosing To Camera from the Export dialog box. Final Cut Express has two methods.

Wash-In Transition

Although dozens of transitions are supplied with Final Cut Express, some simple ones we used in iMovie aren't. To replicate a combination of iMovie's Wash-Out and Wash-In transitions (where the screen dissolves to white and then dissolves back into the next clip), do the following:

Go to the Dissolve Folder in the Video Transitions folder and drag the Dip To Color Dissolve transition to a spot between two clips in the timeline. Double-click on the transition to display it in the Viewer window; then click on the black swatch in the Color bar. Choose white in the Colors dialog box and click on OK.

Creating a Wash-In transition at the beginning of your sequence is a bit trickier. Back in the Effects tab of the Browser, open the Matte folder in the Video Generators folder, double-click on the Color generator, and then switch to the Controls tab of the Viewer window. Use the Color control to set the color to white, and then set the clip's length using the Timecode Duration field in the upper left corner; now you've created a clip that contains just the color white. Switch to the Viewer's Video tab and drag the clip to the timeline to place it in your sequence. Apply a Cross Dissolve transition after it.

Optimize Your Editing Suite

As you get serious about video editing, here are some things to keep in mind.

Go Fast, Go Strong Digital video will gobble up all the resources you throw at it, so throw as much as you can. If you're looking for a new Mac, buy the fastest one you can afford, and outfit it with as much RAM as your credit card balance will handle.

The same goes for storage—internal hard drives with capacities of 160GB or more are now in the $200 to $300 range, and external FireWire drives don't cost much more than that.

Separate Scratch Disks Since storing and retrieving digital video requires a lot of disk access, you should store media and scratch files on separate, fast hard disks. In Final Cut Express's Preferences dialog box, click on the Scratch Disks tab and choose a separate disk for storing the capture and render files that will be generated. If you dedicate a disk to your media and scratch files, the drive head won't also have to jump around trying to perform system-level tasks.

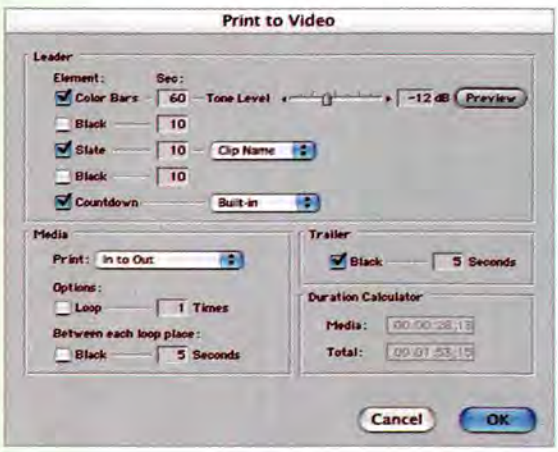
Use an External Monitor and Speakers You may do all your editing on a beautiful 23-inch Cinema Display, but that's not always an accurate reflection of how your audience will view your work. Connect an external NTSC or PAL monitor to review your footage as you work with it. Similarly, connect external speakers (or headphones) to your system to accurately review your project's audio quality.

Back Up Your Project Files Editing video is time-consuming work. Make sure you're backing up your project files in case something bad happens. It's not always necessary to back up your files if you have the original DV tapes, since Final Cut Express can recapture footage that's been lost, but it's not a bad idea.

For either one, make sure your camera is in VCR, VTR, or Play mode, not Camera mode (the mode name depends on the camera).

The standard route is to choose File: Print To Video. This option has the benefit of letting you add extra material to the movie stream—color bars, clip information, a countdown, and black frames before and after the movie (see "Tale of the Tape"). The more efficient route is to set your camcorder to record and then start playing the movie in the Canvas window. This option is handy when you need to dump footage to tape for testing purposes.

But for some camcorder owners, Final Cut Express doesn't automatically enable the camcorder's record feature (something that iMovie does easily). The solution is to start recording on the camcorder manually and then to use one of the two methods mentioned previously. Alas, there's another problem: many cameras don't have an obvious record option in VCR mode. But that does not mean it's not there. Look for a button marked Rec-Pause (Line-In), and press it; the camera will go into pause mode. Then press the camcorder's Play button to enable its record mode. You may need to do this using the remote control that came with your camera.



Tale of the Tape iMovie's benefit when writing back to tape is its ability to control the camcorder directly. Final Cut Express, however, includes several options for displaying data before and after the movie, even though it can't control the camcorder directly.

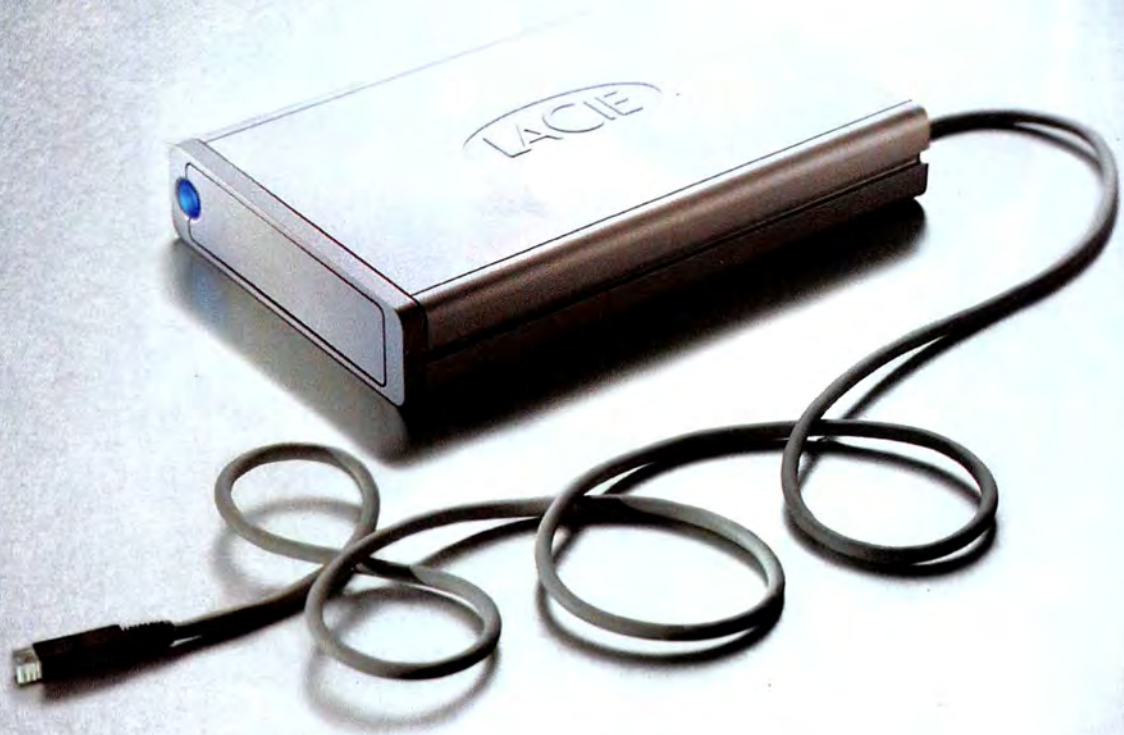
Burn to DVD Getting your movie onto DVD is an easier prospect in Final Cut Express, but not as simple as iMovie 3's direct link to iDVD 3. Choose File: Export: Final Cut Movie. From the Include pop-up menu, choose audio, video, or both. If the Make Movie Self-Contained option is selected, Final Cut Express will create a fresh copy, including all the media files, on your drive; otherwise, it will create a much smaller movie that references the original media. (If you're burning the DVD on another machine, make the movie self-contained; if your Mac will do the burning, deselect this option.) Click on Save to export the movie; then import it into iDVD 3.

Final Cut Express also has a DVD-chapters feature much like iMovie 3's iDVD Chapter Markers. To define a chapter, position the playhead and choose Mark: Markers: Add, or press the M key. A new marker is created (of the same variety that Final Cut Express makes when running the DV Start/Stop Detection feature mentioned earlier). Press the M key again to display the Edit Marker dialog box, give the marker a name, and then click on the Add Chapter Marker button. When you export your sequence as a Final Cut Movie, select Chapter Markers from the Markers pop-up menu. Once imported into iDVD 3, your markers will appear as DVD chapters. Note that chapter markers will also work with DVD Studio Pro, although the encoding is done directly from Final Cut Express using Apple's MPEG-2 encoder.

The Last Word

Even after you've mastered iMovie's simple interface, Final Cut Express can seem a bit frightening. But once you understand that Final Cut Express offers you a more professional and precise editing environment than iMovie, you'll see that time spent learning how to use Final Cut Express is an important investment in your moviemaking future. □

JEFF CARLSON is the author of *iMovie 3 for Mac OS X: Visual QuickStart Guide* (Peachpit Press, 2003).



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AirPort Extreme

Extreme Revolution

What Does Apple's New Wireless Technology Mean for the Future of Networking?

BY GLENN FLEISHMAN

WITH A NAME LIKE AIRPORT EXTREME, Apple's new networking technology might seem to be aimed at the X Games crowd, not business professionals. Nevertheless, the company's latest foray into the wireless world promises to change the way some small businesses, schools, and even home users connect to the Internet and their local networks.

What's so extreme about AirPort Extreme? For starters, it's faster—as much as five times faster than earlier AirPort technology. It also features a number of improvements that help reduce interference, boost range, and may even make your networks more secure in the future.

Is AirPort Extreme the answer to your wireless needs? To find out, we took a look at how the technology works and who's likely to benefit from it. Then we tested five AirPort Extreme–compatible base stations to see which one offered the best Mac performance.

Understanding AirPort

Looking at the original version of AirPort, which appeared with the original iBook in 1999, is helpful in understanding how AirPort Extreme improves wireless networking.

The Wireless Boom AirPort was Apple's version of IEEE 802.11b, a standard for sending and receiving data wirelessly at a rate as high as 11 Mbps, which is roughly the same speed 10BaseT Ethernet networks offer. (Of course, once you've factored in networking overhead and real-world conditions such as interference and multiple users, this speed actually translates into about 5 Mbps.)

Apple's AirPort was the first truly affordable implementation of 802.11b, making the Mac a wireless leader. Eventually, hundreds of other companies jumped on the bandwagon. Now, 802.11b networking not only is found in homes and offices, but also powers fee-based *hot spots*, or public wireless networks, at more than 2,200 Starbucks cafés, a couple dozen airports, and hundreds of hotels, not to mention free community networks in many cities worldwide.

Over the years, however, the original 802.11b technology has worn a bit thin. As the demand for more-robust wireless networking grew, Apple began looking to a new wireless standard, 802.11g, which, with its usual flourish, it dubbed AirPort Extreme.

Unlike 802.11b, which is limited to 11 Mbps, AirPort Extreme allows raw speeds as high as 54 Mbps, or roughly half the speed of a 100BaseT network. (As with the original AirPort, this number is extremely optimistic. But even the more realistic expectation, 25 Mbps, is a big improvement over previous AirPort speeds.) Apple is one of several companies currently selling 802.11g gear, and even more products are scheduled to hit the market by summer.

How It Works Both AirPort and AirPort Extreme transfer data by first breaking it up into extremely short pulses that vary in frequency and duration. These pulses are then sent out over radio waves in the same 2.4GHz band that many cordless phones use. So there would be room for everyone, the available radio spectrum was divided up into 14 channels, 11 of which are available in the United States. But unlike cordless-phone or even Bluetooth signals, which can hop from one channel to the next, a base station is set to work on just one channel all the time.

If you picture the 2.4GHz band as a highway, a base station is a giant semitrailer that never veers from its one broad lane, no matter how many miles it travels or how much traffic lies in the road ahead of it. This means that the more people who are trying to send their data through a single base station—and therefore a single channel—the more clogged this lane becomes.

The Extreme Difference AirPort Extreme relieves some of this congestion by raising the speed limit to 54 Mbps. This boost in speed means not only that single users can transfer data more quickly, but also that more users can work on a network at one time. Whereas busy offices might have needed more than one AirPort base station to provide adequate speed to all its employees, AirPort Extreme, with its larger pool of bandwidth, can serve many users from a single base station, thus cutting down on equipment costs. (For advice on setting up AirPort Extreme with large or

ILLUSTRATION BY GEOFF SPEAR

heavily populated networks, see "Going the Distance with AirPort Extreme.")

AirPort Extreme also solves some of the problems of coverage and signal quality found with 802.11b. Even though 2.4GHz radio waves can mostly penetrate solid objects, there's always some reflection, especially off the metal in walls. As a result, the same signal arrives at a receiver at slightly different times. The 802.11b standard wasn't good at differentiating a reflected signal from the original. So the farther you got from a base station (and the more surfaces you encountered), the worse 802.11b performed.

AirPort Extreme can better synchronize these reflections, so it can interpret signals from a greater distance or through more obstacles at higher speeds. (For more on AirPort Extreme's range in the real world, see "On the Range with Apple's New Laptops and Airport Extreme.")

For even better coverage, you can attach an external antenna to your base station—if it offers a connector (of Apple's line, only the $249 Modem Edition supports external antennas). Dr. Bott (877/611-2688, www.drbott.com), for example, offers two such antennas: the $100 ExtendAir Omni, which claims to extend your range as much as 250 feet in every direction, and the $150 ExtendAir Direct, which claims a range as far as 500 feet in any one direction. [Editor's note: our initial tests with the Dr. Bott extenders didn't show any marked improvement. We are continuing testing and will follow up in a future issue.]

Security Woes One flaw with 802.11b that AirPort Extreme won't immediately solve, however, is security. 802.11b uses a security standard called WEP (Wired Equivalent Privacy), which scrambles data as it passes over your wireless network. But a number of flaws make it easy for crackers to write software that allows anyone to break into that encrypted traffic. While home users aren't often at risk from crackers, this flaw has made WEP almost useless for businesses or other security-conscious users; smart businesses use their own encryption overlay.

The IEEE group, which sets the standards for wireless networking, has been working to fix WEP via a new standard called 802.11i, which promises government-grade encryption. However, it won't be finalized until the end of 2003. In the meantime, the Wi-Fi Alliance, an industry group that certifies 802.11b devices, came up with a stopgap measure called Wi-Fi Protected Access (WPA). WPA contains some of the security advancements proposed in 802.11i, is backward-compatible (802.11i will likely not be), and extends AirPort-like simplicity to non-AirPort users.

Starting in May, WPA should be available in the form of upgrades to all existing equipment from non-Apple companies. Unfortunately, Apple hasn't agreed to support either updated security system yet, which could make Macs less secure in networks that use the newer standard. (With WPA, some computers can use WEP, but it forces the whole network into a less secure mode.)

But there is promising news. The chips that Apple uses for AirPort Extreme are already designed to take advantage of the most advanced features of 802.11i, should Apple decide to follow the industry.

Going to Extremes

Is AirPort Extreme right for you? Well, it depends on how you use it. Having all the bandwidth in the world won't make a difference if you don't actually need it. If you use AirPort only to surf the Net from home, for example, you can almost certainly keep your old AirPort gear—cable-modem, DSL, and dial-up connections are much slower than the maximum speed of even 802.11b (at least for the foreseeable future). But if you often move lots of

Take Old Macs to Extreme

For Mac owners with older machines, upgrading to the zippy speeds of AirPort Extreme won't be as simple as just popping a new card into your AirPort slot. That's because the original AirPort card is based on a slow version of the PC Card format and can't handle the speeds of AirPort Extreme. So Apple designed a new slot and card for AirPort Extreme, mimicking the mini-PCI format used in many Intel PCs and laptops. As a result, only Macs introduced or revised since January 2003 can use Apple's new AirPort Extreme card.

But that doesn't mean older Macs are necessarily out of luck: most modern Macs have either a PC Card slot, PCI card slot, or 10/100-Mbps Ethernet port and can handle 802.11g's speed—as long as they're connected with the right equipment. And for that, you'll have to look somewhere other than Apple.

PC Card PC Card slots (sometimes called PCMCIA slots) can be found in PowerBooks dating back several years, although pre-PowerBook G3 models generally don't have the processor speed and network capacity to work with 802.11b. At press time, there were no Mac-compatible 802.11g PC Cards. But this will likely change as development gears up. Belkin (800/223-5546, www.belkin.com) has announced that it's working on an 802.11g PC Card with drivers that will work under Mac OS 8.6 through 9.2 and OS X, but has pushed back its delivery date. Macsense says it expects to release an 802.11g update to its AeroNet Universal Driver, a Mac driver that currently supports an array of inexpensive 802.11b PC Cards, by late April.

Enterprising individuals are also contributing to the cause with a few lines of homegrown code. Nick Sayer, for example, knew that Apple and Linksys used chips from Broadcom and created a patch for OS X 10.2.3 that allows a PowerBook to use the Linksys 802.11g WPC54G card (www.osxhax.com/archives/cat_airport_extreme_hacks.html).

PCI Card A PCI slot is found in all Power Mac G3 and G4 computers. However, the only wireless PCI cards currently on the market lack OS X support, and none of the companies offering Mac drivers have specifically said they will offer PCI support. Nick Sayer's hack (mentioned previously) has been found to work on some Power Macs running OS X. But other users report not being able to boot up with the Linksys card installed and the hack enabled.

Ethernet For machines that don't offer PC or PCI cards, such as the eMac, the iMac (all 10/100-Mbps Ethernet models), the Cube, and all iBooks, there is an interesting alternative: an Ethernet-to-wireless bridge that can convert an Ethernet network connection into wireless data. Although just connecting an Ethernet wire might seem to make more sense, bridging Ethernet traffic to a wireless network lets you extend your networks where you can't extend wire, such as across a street, or to the other end of a house.

Linksys offers the $100 WET11 bridge (800/546-5797, www.linksys.com), which can plug into a network of as many as 30 Ethernet-connected devices and bridge all their traffic to any wireless station, including Apple's. Linksys says it plans to upgrade the WET11 to 802.11g speeds and sell it as the WET54G, although no official release date has been announced.

On the Range with Apple's New Laptops and AirPort Extreme

When Apple announced its new 12- and 17-inch PowerBooks with AirPort Extreme, it promised that the laptops would offer improved wireless range. That's good news, since the range on the earlier-generation Titanium PowerBook G4 was far inferior to Apple's iBooks (see "The Way to Wireless," March 2003). To determine just how much improvement PowerBook owners would see in the real world, we repeated our tests, pitting the new laptops against a white iBook and a Titanium PowerBook G4. We performed the tests first with the 802.11b AirPort Base Station (results in blue) and then the newer AirPort Extreme Base Station (results in red). In each case, we used MacStumbler 0.6b in OS X and measured signal strength on a scale of 0 to 100. Scores were averaged over a 60-second period (anything below 40 is considered a weak signal).

The 12- and 17-inch PowerBooks proved they could indeed live up to the iBook's range, outreaching the earlier PowerBook every step of the way. The iBook's range, however, decreased slightly on the AirPort Extreme network.—MACWORLD LAB TESTING BY BECKY WARING AND JAMES GALBRAITH

TERRY PACZKO

Macworld LAB TEST	IN CUBE		INSIDE FIRST DOOR		INSIDE SECOND DOOR		IN HALL OPPOSITE ELEVATOR		INSIDE THIRD DOOR AT END OF HALL	
12-Inch PowerBook G4/867MHz	69	69	55	55	45	45	23	23	20	20
17-Inch PowerBook G4/1GHz	**71**	**71**	**56**	**56**	44	44	24	24	20	20
iBook 600MHz (white)	70	60	53	48	**51**	43	**31**	25	18	12
Titanium PowerBook G4/550MHz	57	57	40	35	35	27	0	13	0	0
BEST RESULTS IN **BOLD.**	>Better		>Better		>Better		>Better		>Better	

= AirPort Base Station results. = AirPort Extreme Base Station results.

data around a local network, AirPort Extreme may be the answer you've been looking for.

Speed Matters To see AirPort Extreme at its best, take the example of a design shop where 25MB Adobe Photoshop files are routinely sent from designer to designer, or where large projects are moved on and off network file servers. In this scenario, AirPort's 11 Mbps would feel glacial—as well as burn up nonbillable hours.

When setting up this work environment in the past, companies often turned to Ethernet for the answer. But adding 100BaseT Ethernet requires hiring special installers who drill holes, run cable, and charge what amounts to a few hundred dollars per network outlet.

On the other hand, adding AirPort Extreme costs just $50 to $100 per machine and $100 to $250 per base station. So creating a pod of 10 to 25 users sharing one base station could cost the same as wiring that installation.

But what happens when your business grows or changes location? Ethernet offers less flexibility in moving machines around and expanding your network. Adding another AirPort Extreme user, even temporarily, is a tiny cost compared with bringing in another jack. And wireless users can coexist on the same network as Ethernet-connected users.

Future Needs While most consumers aren't yet moving huge amounts of data, this may change as bigger Internet pipes begin offering speeds higher than 11 Mbps, and home electronics begin routinely streaming video and audio to each other.

In fact, this future may not be that far off. Several companies are already demonstrating home networking devices, such as Macsense's $199 HomePod (650/869-4828, www.macsense.com), which lets you use 802.11b to stream music from your iTunes library to your stereo for playback.

Still, existing AirPort owners should look long and hard at whether they currently need the extra speed before buying a new AirPort Extreme base station. The upgrade would require new Macs in some cases (see "Take Old Macs to Extreme"), and the benefits might not be clear until we do live in that streaming-media future.

Compatibility

There's good news for existing AirPort owners who decide to go Extreme. AirPort Extreme is completely compatible with the earlier AirPort standard. This means that if you've got an 802.11b card in your PowerBook, it can connect seamlessly to an 802.11g network—and vice versa. But keep in mind that you'll be connecting at the slower 802.11b speed.

For full-speed connections, you'll need an AirPort Extreme card in your Mac and an 802.11g-compatible base station. But even then you may run into some compatibility glitches. Our tests show that just having an 802.11b machine on your AirPort Extreme network can slow down the traffic for everyone. Companies say that this will likely be fixed over time. AirPort Extreme Base Stations can be set to work only at the faster speed—and thus shun any 802.11b equipment—but most people setting up a network probably wouldn't choose such a restrictive option.

Work in Progress There is one wrinkle in making the move to AirPort Extreme, at least anytime soon: 802.11g isn't fully cooked yet. When Apple, Linksys, Belkin, and other companies started shipping 802.11g hardware in late 2002 and early 2003, the standard hadn't been

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802.11g BASE STATIONS

SECOND-GENERATION WIRELESS DEVICES AREN'T PERFECT, BUT THEY'RE SPEEDY

Apple's AirPort Extreme Base Station was one of the first wireless products to take advantage of 802.11g's speed boost. But it's certainly not your only option. We tested five of the newest generation of 802.11g base stations (also commonly referred to as wireless routers) to see whether their real-world speed and features live up to their "extreme" billing: Apple's AirPort Extreme Base Station Broadband Edition, Belkin's 54g Wireless DSL/Cable Gateway Router, Buffalo Technology's AirStation G54 Wireless Broadband Router, D-Link's AirPlusXtreme G, and Linksys's Wireless-G Broadband Router. Although all of these base stations proved to be generally reliable and fast, we found that excellent Mac support and a worthy selection of management features made the Belkin stand out from the rest.

The Setup

All of these base stations make getting up and running relatively easy. Each is backward-compatible with earlier 802.11b equipment, and we had no trouble creating and maintaining a network consisting of both 802.11g and 802.11b equipment using both Macs and PCs. (Each base station includes the option to restrict your network to just 802.11g devices. But while this gives the base stations a slight speed boost, the feature isn't a part of the standards specification and therefore risks incompatibility with other 802.11g equipment.)

The basic setup process was very straightforward for all the base stations, although some offered a more Mac-centric approach than others. Apple and Belkin, for example, include handy OS X applications that practically automate the setup process. On the downside, because Apple doesn't offer a Web interface, you won't be able to manage its base station from a PC. Belkin is more flexible, allowing you to set it up from OS X, Windows, or the Web.

Buffalo, D-Link, and Linksys all rely on a browser interface. While Buffalo can't set up the Macs on your network for you, its documentation does at least address both OS X and OS 9 client configuration, something that Linksys and D-Link don't do.

The only glitch we experienced was with the D-Link. When we set up encryption within its setup wizard, repeated attempts generated "404" errors. We solved the problem by leaving the Encryption option disabled and then returning to the feature later within the main management interface.

The Belkin 54g Wireless DSL/Cable Gateway Router

Speed and Range

With a maximum throughput of 54 Mbps, 802.11g promises a fivefold improvement over 802.11b's top speed of 11 Mbps. To see what these speeds translate to in the real world, we timed the transfer of a 117MB TIFF file to a 12-inch PowerBook from an Ethernet-equipped Power Mac G4 using OS X file sharing and FTP. Because throughput varied when the same test was repeated, we averaged the scores. We then compared their performance with Netgear's 802.11b MR-314 Cable/DSL Wireless Router, the winner in our previous roundup (♦♦♦♦; July 2002).

All the 802.11g base stations significantly outperformed the Netgear 802.11b base station, which took from three to six times longer in every case to transfer the same file. Of the 802.11g routers, the Belkin proved to be the fastest across the board. It finished the OS X transfer in 46 seconds and the FTP transfer in 1 minute and 9 seconds. The other base stations followed closely behind. The Apple, which was slowest in our file-transfer test and second slowest in our FTP test, proved to be the least consistent in performance; its throughput varied wildly from test to test.

Since throughput degrades significantly as you move away from the base station, we performed our tests with the Power-

Five 802.11g Base Stations Compared

COMPANY	PRODUCT	MOUSE RATING	PRICE	CONTACT	LAN PORTS	ANTENNA CONNECTOR	POINT-TO-MULTIPOINT BRIDGING	FULL APPLETALK SUPPORT	PROS	CONS
Apple Computer	AirPort Extreme Base Station Broadband Edition	♦♦♦	$199	800/692-7753, www.apple.com	1	○[A]	●	●	Simple setup; transmission-power control; bridging support; multiple-station management; AOL dial-up support (Modem Edition); USB print server.	Expensive; slow and inconsistent performance; no content filtering.
Belkin	54g Wireless DSL/Cable Gateway Router	♦♦♦♦	$136	800/223-5546, www.belkin.com	4	○	○	●	Smart interface for enabling virtual servers and shared applications; good performance; content filtering.	Firmware-upgrade glitches.
Buffalo Technology	AirStation G54 Wireless Broadband Router	♦♦♦	$115	800/456-9799, www.buffalotech.com	4	●	●	●	Grouped options let you choose a level of security without requiring detailed configuration; bridging support.	Confusing management interface; signal strength somewhat weak.
D-Link	AirPlusXtreme G	♦♦♦½	$115	800/326-1688, www.dlink.com	4	●[B]	○	○	Excellent content filtering and other firewall features; easy firmware upgrade.	Repeated errors occurred while setting encryption options; slow.
Linksys	Wireless-G Broadband Router	♦♦♦½	$118	800/546-5797, www.linksys.com	4	●[B]	○	○	Complete suite of firewall and performance-management features; contextual help.	No Mac documentation.

● = yes; ○ = no. [A] Included in $249 Modem Edition. [B] Accessible when built-in antenna is removed.

Book positioned first 7 feet and then 30 feet away from the base station (with two inside walls between it and the PowerBook). At 30 feet, throughput for all base stations decreased significantly—although not consistently. The Buffalo, the speediest base station at 30 feet, lost just over half its top speed in earlier tests. By contrast, the Apple's performance was cut fourfold. Throughput for the Belkin, D-Link, and Linksys fell close behind that of the Buffalo.

When it comes to signal range, our tests, with readings taken at 12 feet, 30 feet, and 50 feet, indicate that no particular antenna configuration works best. (Apple and Buffalo enclose their antennas within the case, while Belkin, D-Link, and Linksys each provide a pair of external antennas.) If you need to cover a large area, or if your home or office contains sources of interference, you should choose a base station with a connector for an external antenna, which can extend a range by hundreds of feet. The Buffalo, D-Link, and Linksys—as well as the $249 Modem Edition of Apple's AirPort Extreme Base Station—all offer support for an external antenna, although you'll have to remove the D-Link's and the Linksys's built-in antenna to access it. The Buffalo and Apple (both editions) also offer the ability to bridge base stations, allowing multiple wired networks to communicate wirelessly.

Managing Your Network

For users who want to customize network access and security settings, a good management tool is essential. The Apple and Linksys excel here, with well-organized tabbed screens. The Linksys even offers contextual help when you need it. The Apple offers the unique ability to manage multiple AirPort Base Stations and even apply firmware updates to multiple stations simultaneously from your OS X machine.

Belkin's screens are attractive and well organized, but the unit's online help offers only a glossary of terms, with no reference to the base station's commands or features. While the Buffalo's interface shows marked improvement over previous products, it still suffers from poor organization and obtuse labeling. On the plus side, each label is accompanied by a link to a help window.

All the base stations we tested provide a NAT (Network Address Translation) firewall to keep unwanted Internet traffic off the local network. The Belkin's virtual server and applications server features are particularly well implemented, giving gamers and users of other shared applications a quick list of ports that must be opened to the outside world for these shared applications to work.

Schools and businesses can also regulate access to the outside world on all of the base stations by blocking Internet connections from specific local machines. The Belkin, D-Link, and Linksys even let you set a schedule for when those ports can be used. Belkin includes a sophisticated subscription-based parental-control service, while the D-Link can block access to specific URLs and domains.

AOL users who want to share a dial-up AOL account across a network will need to purchase the more expensive Modem Edition of Apple's AirPort Extreme, which is currently the only base station on the market that does this.

If you need to give wireless Macs access to an AppleTalk printer, you'll have to look to the Apple, Belkin, or Buffalo, each of which can bridge the AppleTalk protocol between the wired and wireless segments of the network. Apple goes even further with its easy-to-set-up, USB-based print server. While several 802.11b base stations offer a print server, AirPort Extreme is currently the only 802.11g product to come equipped with one. However, the print server relies on Rendezvous, so you can print only via OS X 10.2.

Macworld LAB TEST	OS X File Transfer Throughput (Mbps)	FTP Throughput (Mbps)
Apple AirPort Extreme Base Station Broadband Edition	17.1	13.4
Belkin 54g Wireless DSL/Cable Gateway Router	**20.4**	**14.6**
Buffalo Technology AirStation G54 Wireless Broadband Router	18.0	14.0
D-Link AirPlusXtreme G	17.7	12.5
Linksys Wireless-G Broadband Router	18.4	14.3
Netgear MR-314 Cable/DSL Wireless Router	*3.4*	*4.2*
	>Better	>Better

BEST RESULTS IN **BOLD**. REFERENCE SYSTEM IN *ITALICS*.

We tested each base station by transferring a 117MB TIFF file from a Power Mac G4, connected to the base station via Ethernet, to a 12-inch PowerBook containing an Apple AirPort Extreme wireless card and positioned 7 feet away from the base station. We selected 128-bit WEP encryption. The PowerBook initiated the file transfers.—MACWORLD LAB TESTING BY SHELLY BRISBIN

Homeland Security

All the base stations support 64-bit and 128-bit WEP, the flawed encryption technology specified in the 802.11b standard, as well as filters that prevent computers with unknown MAC (Media Access Control) addresses from associating with the base station. The Apple also offers access to RADIUS (Remote Authentication Dial-In User Service), a server-based security scheme used by many large companies, and a unique slider that allows you to turn down its transmission power. This lets you keep more of the Base Station's signal within your building, preventing passersby from seeing and joining your network, and avoiding access-point conflicts. The Buffalo also stands out by letting you choose from one of three security levels—low, medium, and high. You can adjust those individual settings later.

Stand Firm

We updated all these base stations during the course of this review. Though firmware upgrade files are largely platform independent, we did run into some browser-related glitches. Belkin's update couldn't be applied from Internet Explorer 5.2 under OS X, although Belkin says the upgrade should work with the OS X version of Netscape Navigator. D-Link's Web site doesn't provide a link to a Mac OS update, but we were able to use a file listed under "Other" on the site.

Macworld's Buying Advice

None of these base stations are perfect. For speed, overall ease of use, Mac compatibility, and useful parental-control features, we recommend the $136 Belkin 54g Wireless DSL/Cable Gateway Router, though the difficulties we had with firmware updating concern us. If you want to share an AOL connection, need to use a RADIUS server for authentication, or like the idea of a wireless print server, the AirPort Extreme Base Station will be worth its higher cost ($199, or $249 with a modem and an antenna connector).—SHELLY BRISBIN

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finalized. And that's potentially dangerous. A wireless specification contains so much minutiae that even tiny changes could render equipment based on earlier versions incompatible.

But here's the good news: The Wi-Fi Alliance recently announced it should be ready to test and certify 802.11g equipment soon after the standard is finalized by the IEEE, which is expected to happen in June or July. In the meantime, Apple and other companies will likely continue to offer software upgrades to bring AirPort Extreme in line with the latest draft of the specification.

The Last Word

AirPort Extreme is a promising step in making wireless networks a real alternative to stringing wire and drilling holes. For existing AirPort users who don't move huge files over a network, or who aren't suffering from coverage problems, there's no compelling reason to upgrade right now.

But AirPort Extreme's new speed and the Base Station's bridging option make it a natural choice for businesses or schools looking to expand their networks in a more flexible and potentially less costly way than adding more Ethernet. It's also a good investment for users who want to turn their homes into wireless wonderlands with access in every room, on every floor—not to mention that backyard office. □

GLENN FLEISHMAN writes the *Practical Mac* column for the *Seattle Times* and is a coauthor of *The Wireless Networking Starter Kit* (Peachpit Press, 2002; www.wireless-starter-kit.com).

Going the Distance with AirPort Extreme

A few users, or a few dozen users, all within a short distance can share a single base station. But trouble occurs when you want to span larger spaces—such as wide houses, places with thick walls, and offices that occupy more than about 500 to 1,000 square feet—or support a larger number of simultaneous users.

Apple's AirPort Extreme Base Station helps with these scenarios. It not only supports more users per Base Station than the original AirPort, but also offers a new bridging feature that lets you avoid adding wires to connect physically separated pods of wired and wireless users.

Working over Large Areas

With earlier versions of AirPort, if you wanted a wireless network with more coverage than a single Base Station could provide, you had to connect all the Base Stations together via Ethernet. In cases where there was no existing wiring or where a physical impediment or gap—for example, an office located across the street—intervened, this was inconvenient or impossible.

The AirPort Extreme Base Station offers a unique way out: bridging Base Stations together wirelessly. With this option, previously found only in expensive corporate wireless access points, as many as four satellite Base Stations can be linked wirelessly to a central Base Station, which is in turn connected to the Internet. Each of the bridged Base Stations then acts as a wireless gateway, extending the range of the original. (And, yes, all bridged Base Stations *must be AirPort Extreme models*; original graphite and snow models won't work.)

When bridging multiple AirPort Extreme Base Stations, one Base Station serves as the master; the other stations (satellites) bridge only to it (see "Bridging Basics"). This means that each Base Station has to have a clear signal to the master and be set to the same channel. (You can't string them out as relays.) This kind of bridging is generally referred to as point-to-multipoint, although Apple's version is called the Wireless Distribution System (WDS), an industry proposal that has not yet been adopted by others. Each Base Station can operate at up to its full raw 54-Mbps speed when exchanging data with the master.

It's important to find a good location for each of your bridged Base Stations. You'll need to test to make sure each satellite can receive a clear signal from the master Base Station. Use a laptop with an AirPort Extreme card and test the optimum location. Remember to keep track of the height at which the laptop rests above the floor: wireless signals don't travel in a flat plane but in three dimensions, and sometimes the distance from the floor or even the rotation in any direction of a Base Station or card can affect reception. You can get detailed instructions on setting up bridging via AirPort's Admin Utility from Apple's Web site (http://docs.info.apple.com/article.html?artnum=107454).

Supporting Multiple Users

Although home users won't find themselves with hundreds of people trying to connect to a single Base Station, businesses, especially those that offer some public access, can encounter this situation regularly. The more users you have on a wireless network, the thinner the slice of bandwidth each user gets and the harder a Base Station has to work.

When you install an AirPort network, you need to determine how many users will simultaneously be connected to make sure you have the right number of Base Stations. If one won't cut it, you can have three or four Base Stations in the same area, each set to a different channel.

So how many Base Stations do you need? Some wireless gateways advertise that they support 253 users. But this number is really just a measure of addresses, not of how well the gateway performs. Apple says that as many as 50 users can share a single Base Station at a time, but that's slicing the bandwidth pie awfully thin. Consider limiting yourself to 10 to 30 users per Base Station to provide the right balance of cost, coverage area, and bandwidth.

TERRY PACZKO

Bridging Basics One AirPort Extreme Base Station is the master (left) and relays the network to the satellite Base Stations (right), which are configured to listen on the same channel. This lets users transfer information and share an Internet connection between multiple networks that are spread over large distances.

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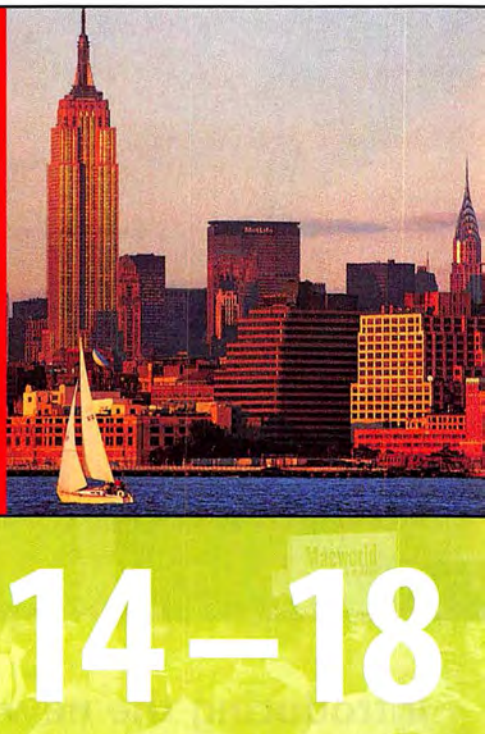

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- Secrets of Desktop Publishing
- Final Cut Express
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L1 Level 1 Conference

- Prosumer Video
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- Photography
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LAB Half Day Labs

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- Flash ActionScript for Designers
- Mac OS X for Administrators

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Dates & Times:

Feature Presentations*

Wednesday, July 16	9:30	am	–	10:30 am
	3:00	pm	–	4:00 pm
Thursday, July 17	10:45	am	–	11:45 am
	3:00	pm	–	4:00 pm

2-Day Tutorials

Monday, July 14	10:00	am	–	5:00 pm
Tuesday, July 15	10:00	am	–	5:00 pm

1-Day Tutorials

Tuesday, July 15	10:00	am	–	5:00 pm

Level 1 Conference

Wednesday, July 16	10:45	am	–	5:30 pm
Thursday, July 17	9:00	am	–	5:30 pm
Friday, July 18	9:00	am	–	12:00 pm

Level 2 Conference

Wednesday, July 16	10:45	am	–	5:30 pm
Thursday, July 17	9:00	am	–	5:30 pm
Friday, July 18	9:00	am	–	12:00 pm

Half-Day Labs

Friday, July 18	9:00	am	–	1:00 pm

Birds-of-a-Feather Meetings

Wednesday, July 16	6:00	pm	–	7:30 pm

Exhibit Hall

Wednesday, July 16	10:00	am	–	6:00 pm
Thursday, July 17	10:00	am	–	6:00 pm
Friday, July 18	10:00	am	–	4:00 pm

Registration Hours

Monday, July 14	8:00	am	–	6:00 pm
Tuesday, July 15	8:00	am	–	6:00 pm
Wednesday, July 16	8:00	am	–	6:00 pm
Thursday, July 17	8:00	am	–	6:00 pm
Friday, July 18	8:00	am	–	3:00 pm

**Feature Presentations are open to all registered attendees. Seating is limited and access is based on a first-come, first-serve basis except for Platinum Pass attendees who have access to preferred seating.*

2T 2-Day Tutorials

Monday, July 14 – Tuesday, July 15 10:00 am – 5:00 pm

Attend our 2-Day Tutorials for intensive training on you favorite application or tool, while interacting one-on-one with your peers, and tapping the minds of industry experts.

TA Dreamweaver

Designed specifically for intermediate Dreamweaver users, this 2-Day Tutorial will explore advanced Web design concepts and show you how to exploit Dreamweaver's sophisticated (and long) list of features. Cross the technical divide and **build Web sites that not only look good, but work well.** Work faster and smarter — in the process, **learning the joys of visual Web design.**

TB DVD Studio Pro

DVD Studio Pro is one of the most exciting new software applications on the Macintosh, helping to drive the DV Revolution. On the Macintosh, **DVD authoring takes on a simplicity and ease-of-use that is rapidly gaining favor and winning converts from other platforms.** Come and learn this exciting application, DVD Studio Pro, with a panel of respected DVD experts.

TC Final Cut Pro

Whether you create corporate training videos, feature films, educational videos, marketing CD-ROMs, documentaries or Web video shorts — the world's top gurus will empower you to navigate Final Cut Pro's treacherous learning curve with clarity and ease. Final Cut Pro is software that delivers on the promise of the DV Revolution — at a down-to-earth price point.

TD How to Produce, Create & Deliver Interactive Solutions

Learn how **to get started in building interactive solutions.** Gain valuable knowledge to produce an interactive project, and learn how authoring applications are used. We'll address **developing digital solutions for delivery — via the Web, CD and DVD — as well as recent technological breakthroughs.** Whether you are creating solutions for marketing, education, presentations — don't miss this comprehensive 2-Day Tutorial.

TE Mac OS X: Advanced Concepts & Administration

Mac OS X represents a shift in how Macs are managed. **Understanding the core concepts behind OS X** will enable administrators and managers to achieve greater flexibility when deploying Macs within their environment. Attendees will learn how to **support OS X from a variety of levels: the User, the Support Staff, and the System Administrator.** Skill level aside, everyone will walk away from this 2-Day Tutorial better acquainted with OS X.

TF Professional Photoshop

Photoshop has changed the lives of thousands of graphics and creative professionals. We are pleased to present a faculty of experts who will **unlock the secrets of this amazing tool — while inspiring you to take your projects in new directions.** Attend this advanced 2-Day Tutorial to broaden your skills, deepen your digital imaging bag of tricks, and open new horizons as you spend two intensive days with Photoshop masters.

TG QuarkXPress

Now that QuarkXPress 6 for Mac OS X is ready to be released, it's clear Quark will be with us for a long time. You will learn the How-To's of font management, tips for long documents, graphics, and efficiency. You will also learn about XTensions that let you **leverage Quark in totally new ways.** We'll also explain the **pros and cons of using InDesign vs. QuarkXPress, and show what's new in QuarkXPress 6.**

1-Day Tutorials 1T

Tuesday, July 15 10:00 am – 5:00 pm

Our intensive, 1-Day Tutorials provide you with in-depth training in a lecture format on key Mac products and technologies. Join our expert instructors for a full day of exciting learning opportunities!

TH Mac 911

Learn techniques for troubleshooting and repairing the misbehaving Mac. During this 1-Day Tutorial see an overview of today's diagnostic and repair utilities, and ways to **upgrade and streamline your Mac for peak performance.**

TI Mac OS X Disaster Relief

Mac OS X is certainly more stable than the old "Classic" Mac OS. But it is far from perfect. Potential trouble ranges from application crashes and freezes, to kernel panics and startup problems, to permissions errors, network failures, printers that don't print, installation hassles, files that disappear or won't delete, and much more. This full day tutorial, based on the best-selling book *Mac OS X Disaster Relief*, shows you **how to try to prevent these problems — and how to fix them if they happen anyway.**

TJ Mastering Digital Photography

This 1-Day Tutorial will help you take great images, better than anything you've ever shot before — then it will show you the tricks to organizing, archiving, retrieving, and sharing your pictures with the world. **Great data in creates beautiful pictures out!**

TK Secrets of Desktop Publishing: From OS 9 to OS X

What separates the desktop publishing Power Users from the rest of the pack? It's the **tricks of the trade that let them use the software fluently — in ways even the engineers didn't think possible.** This 1-Day Tutorial will show you how to improve your skills using QuarkXPress, Adobe Photoshop and Illustrator. Discover simple steps in Microsoft Word that can save you hundreds of hours of formatting and composition time.

TL The Ins and Outs of Final Cut Express

This 1-Day Tutorial will focus on using Final Cut Express' **powerful editing and compositing tools in the context of creating three different video programs.** Apple has clearly targeted the legions of digital camcorder users around the world who want a powerful yet cost effective way to edit their videos. Express is the perfect application for those who want to move up from iMovie, as well as those who want professional tools but are intimidated by Final Cut Pro's learning curve.

1 & 2-Day Tutorials will be held before the Level 1 & 2 Conferences and Half-Day Labs. To achieve the most comprehensive educational experience, we urge you to combine these programs and enjoy a full week of dynamic training on the Mac.

Please see www.macworldexpo.com for full descriptions and details on who should attend.

Conference Overview

Wednesday, July 16 – Friday, July 18

The Level 1 & Level 2 Conferences are designed for Mac users in the creative arts, including design and publishing, video and audio. Both Conferences offer in-depth training for artists of all disciplines, providing two different levels of education and attendee services.

L1 Level 1 Conference

Are you a **Mac user** who seeks smarts in design and publishing, photography and imaging, video and audio? Then the Level 1 Conference is for you!

- Get direct access to instructors who are using the latest technology solutions for creative innovation.
- Choose from more than 60 sessions on digital music creation and recording, design and publishing, digital photography, prosumer video, Mac maintenance and Web design.
- Be your own mixmaster! Develop your ideal track by mixing and matching sessions.

L2 Level 2 Conference

Are you a pro? Can you hack technical talk? Then the Level 2 Conference offers a detailed technical agenda designed for you — the **professional Macintosh creative artist.**

- Get cozy with cutting-edge solutions offered by the industry's most popular tools and applications.
- Choose from more than 40 sessions on professional publishing design and implementation, color management, professional digital video and filmmaking, and digital design techniques.
- Get good eats, really useful conference materials and a place to relax while at the show.

L1 Level 1 Track Descriptions

Music This track is a must-attend for musicians and music producers of all skill levels. Get the inside scoop on your favorite sequencers and home recording studio setups, learn about best practices in music education and discover how to utilize the Mac as a guitarist, keyboardist or DJ.

Photography The Mac is the premier platform for capturing, storing and manipulating digital photographs. Whether you are a novice or a professional, these sessions will show you how to get the most from your digital photography gear.

Web Design Learn about page design, animation, Web video and more during these dynamic sessions taught by respected experts in the latest Web design techniques.

Design & Publishing From concept to completion, you'll discover the tools and techniques used by top Mac designers in these informative sessions.

Prosumer Video Improve your filmmaking skills and learn about the latest techniques in shooting and editing. Let the experts show you how to put iMovie and Final Cut Express to work and how to take your digital projects to DVD.

Mac Skills These sessions will provide tips for maintaining your Macintosh and working in mixed-platform environments. Whether you are making the transition to OS X or want to enhance your troubleshooting skills, this track will give you the knowledge you need.

Please see www.macworldexpo.com for full schedules and session descriptions.

L2 Level 2 Track Descriptions

Professional Video These sessions will feature in depth, technical presentations for the digital video professional. Immerse yourself in Final Cut Pro, Final Cut Express and other DV tools, and learn techniques for authoring and delivering projects that utilize several video technologies.

Design & Publishing These sessions will show design and publishing professionals how to maximize their investments and optimize workflows. You'll explore the technologies that are platform differentiators for Apple – color, PDF deployment, content management and much more.

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Our expert instructors come to you from the front lines of Mac geekdom. We're pleased to bring you the authors of books on Photoshop, Desktop Publishing, Dreamweaver, QuickTime, iLife and Mac OS X Troubleshooting, just to name a few! **Learn from the most respected authors and columnists who help us use our Macs!** Don't miss top-level instructors as they share their expertise on the operating system, graphics, publishing, video and music. This is your opportunity to learn from the best.

LAB Half-Day Labs

Friday, July 18 9:00 am – 1:00 pm

Half-Day Labs provide **hands-on computer training for specific applications.** To reserve a space, attendees are required to identify which topic they will focus on and must bring a laptop with the appropriate software pre-loaded. Class size is LIMITED to ensure that each student receives the instructor's full attention — so register early! You MUST register separately for a Half-Day Lab, in addition to other conference packages you register for.

LA Acrobat in the Trenches: Combat Training for PDF Production

Level: Intermediate

While many of us still have trouble creating and printing PDF files, some companies are winning the graphic communications war with this powerful yet complex format. This hands-on course offers a **two-stage approach to improving your PDF skills.** First, you will learn how to configure Adobe Acrobat to quickly create perfect PDF files for Web and print distribution; then, we'll explore print production-oriented plug-ins (such as EnFocus PitStop, Quite Imposing and Lantana Crackerjack) and other techniques for editing and **correcting PDF problems to achieve successful prepress output.** It's four hours of concentrated learning from an instructor with an international reputation for effective classroom training — and when the smoke clears, you'll understand Acrobat like never before!

LB Final Cut Pro Hands-on — The Director's Cut

Level: Intermediate and aspiring filmmakers

If you're interested in using Final Cut Pro to edit a video or motion picture project, there is no better option than this unique half-day course. This fast-paced hands-on class will show you **what you need to know when cutting a project "the right way" is the difference between success and failure.** You'll edit three projects, learn about compositing, titling, continuity, pace, and handling the requests of clients in the editing process. We'll also discuss sweetening and layback to tape or DVD. Most importantly, you'll learn from an experienced award-winning video director and editor and a support team of video and film professionals.

LC Flash ActionScript for Designers

Level: Beginner

The next step for designers and beginner scripters alike, this lab presents an introduction to Flash's scripting language. ActionScript makes it possible to **manipulate Flash objects without the constraints imposed by a timeline.** It also provides a variety of additional features not available using traditional animation techniques. This means designers can enhance Flash sites with improved user interactivity, on-the-fly customization, and compelling graphic experiences. Basic skills learned in this hands-on lab will even lay the groundwork for moving on to more advanced Flash programming techniques such as parsing external data, client-server communication, and more. Make your Flash sites more exciting, more useful, and more reusable with ActionScript.

LD Hands-on Mac OS X for Administrators

Level: Intermediate

Mac OS X is making inroads into many schools and businesses, so that support professionals in IT departments must learn how to manage this new operating system. This lab is designed to give support professionals and administrators the information necessary to **maintain and support Macintosh computers running Mac OS X.** Attention will be paid to running applications within the Classic environment, basic UNIX troubleshooting, networking, file and folder permissions, the domain structure of Mac OS X, and must-have third party solutions.

Attendees must bring a laptop with the appropriate software pre-loaded.

Lab details, prerequisites, and hardware/software specifications for each lab can be found at www.macworldexpo.com.

Birds-of-a-Feather Meetings

Wednesday, July 16
6:00 pm – 7:30 pm

Open to all registered attendees.

Birds-of-a-Feather Meetings (BOFs) are casual, informal discussions in which you can meet like-minded Mac users. They are a great way to network with other attendees, discuss resources for doing your job and get answers to tough questions. To ensure topics are top of mind, a complete guide to the discussion topics will be available prior to the show at www.macworldexpo.com.

Internet Café

The Internet Café is one of many resource areas Macworld CreativePro Conference & Expo provides to help you make the most of your event experience. Located in the exhibit hall and available to all registered attendees, the Internet Café offers a comfortable setting to check your email, access the Internet, grab a snack or cup of coffee, chat with your friends and colleagues, or just relax.

Apple Consultants Network — Free Technical Advice!

One of the most popular resource areas in the Internet Café is the Apple Consultants Network counter. Members of the Apple Consultants Network are independent consultants, trainers, and resellers specializing in Apple products and solutions who offer free technical support to Macworld CreativePro Conference & Expo attendees! Take advantage of this opportunity to get help directly from an expert.

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The *Macworld* Best of Show Awards represent an honor highly coveted within the Macintosh industry. *Macworld* magazine's editors choose winners from products that are making a public debut at Macworld CreativePro Conference & Expo, or have recently been introduced. Check out these exciting and innovative products in exhibit hall by looking for the Best of Show logo hanging in selected exhibitor booths.

2003 Digital Art Contest & Gallery

Showcasing for its sixth year, the Macworld Conference & Expo Digital Art Gallery will again promote art via the Mac. Using faster Macs and increasingly innovative graphics software, artists are able to produce masterpieces that are getting the attention of the art world and Macworld CreativePro Conference & Expo attendees.

The 2003 Digital Art contest is judged by some of the digital art community's most respected leaders who choose 30 digital masterpieces. Winning artwork will be displayed in a gallery setting in the Exhibit Hall at Macworld CreativePro Conference & Expo. The Gallery will then travel across the country to galleries and other venues, including Macworld Conference & Expo/San Francisco 2004.

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Magic Word

There's no need to trudge through the same steps in Microsoft Word again and again. Macros can automate a wide range of tasks, from inserting and formatting text to changing program preferences. You may have dabbled with simple macros, but creating smarter ones controlled by dialog boxes can make your Mac do even more of your work for you.

For example, a macro-generated dialog box can offer two choices, and the macro can then change multiple Word settings when an option is chosen. Here you'll write a macro that lets you choose either Web or print formatting for a document. When you choose one of the options, the macro will alter Word's quotation-mark and hyperlink settings appropriately.

You'll learn to create a dialog box, add buttons to it, and set up those buttons to do as you ask. Once you've completed this project, you can use the same technique to create other dialog boxes that change Word settings. (Never made a Word macro? Get up-to-speed with "Teach Word New Tricks," April 2002.)

ILLUSTRATION BY NEIL LESLIE

First Steps

If you've written Word documents for print and for the Web, you know they require different formatting. In print, curly quotation marks (or smart quotes: " ") look more professional than straight ones (' '), and e-mail addresses and URLs don't need to be active hyperlinks. (It's not much use trying to click on the printed page!) In Web pages, hyperlinks come in handy, but straight quotes are the standard. This is the perfect opportunity to create a macro that simplifies your everyday work.

Not Your Average Macro Since this macro includes a dialog box, you can't simply record steps with Word's Record New Macro tool. You must also design the dialog box, buttons and all. Then you'll write the code that makes each button do something, as well as a small piece of code that displays the dialog box when you need it.

To do all this, you'll use Word's Visual Basic Editor, the same programming language used in other Office applications—such as Excel and PowerPoint—to automate tasks. When you record a macro, Word writes the Visual Basic code for you behind the scenes.

Code Hunt Before you make your dialog box, you need to find the code that turns smart quotes and hyperlinks on and off. (Save this code to use when you set up your dialog-box buttons.) You could look in Visual Basic's Help (in Microsoft Word, choose Tools: Macro: Visual Basic Editor, and then choose Help). However, the simpler route is to get Word to tell you what the code is.

To do this, record a macro. Choose Tools: Macro: Record New Macro. A dialog box will appear. Enter a name—for example, Test—in the Macro Name field, and click on OK to start recording. Word watches your every move and records the code necessary to repeat your steps. To turn on smart quotes, choose Tools: AutoCorrect. Click on the AutoFormat As You Type tab, and select the "Straight Quotes" With "Smart Quotes" option. While you have the AutoCorrect dialog box open, turn off hyperlinks by deselecting the Internet Paths With Hyperlinks option.

When you're done, click on OK to close the AutoCorrect dialog box. Then click on the Stop Recording button (on the toolbar that appears when you're recording a macro). Choose Tools: Macro: Macros, and select your macro—in this example, Test—from the list. Click on Edit to see all the code that Word recorded; Visual Basic Editor will open.

You must sift through many lines of instructions to find the code that relates to the smart quotes and hyperlinks settings:

```
With Options
    ...
    .AutoFormatAsYouTypeReplaceQuotes = True
    ...
    .AutoFormatAsYouTypeReplaceHyperlinks = False
    ...
End With
```

From these Visual Basic statements, it's clear that to turn the settings on you set them to True, and to turn them off you set them to False. The With statement is Visual Basic shorthand, eliminating the need to refer to the Options object in each statement. (It also speeds up the commands when they run.) You could also write the lines of code like this, and they'd work the same way:

```
Options.AutoFormatAsYouTypeReplaceQuotes = True
Options.AutoFormatAsYouTypeReplaceHyperlinks = False
```

Now you know how to tell Word to turn these options on and off. Take note of the code.

Design the Dialog Box

The next step is to create the macro's dialog box. First, you design the box itself.

Dialog Fun Open Visual Basic Editor (Tools: Macro: Visual Basic Editor). You'll need to use the Properties window to adjust some of the default properties for your buttons. If it isn't visible (its name appears in its title bar), choose View: Properties Window. In the Projects window, find the Normal entry, and click on it to select it. This ensures that the macro will be saved in the Normal template, so it will be available to all new Word documents.

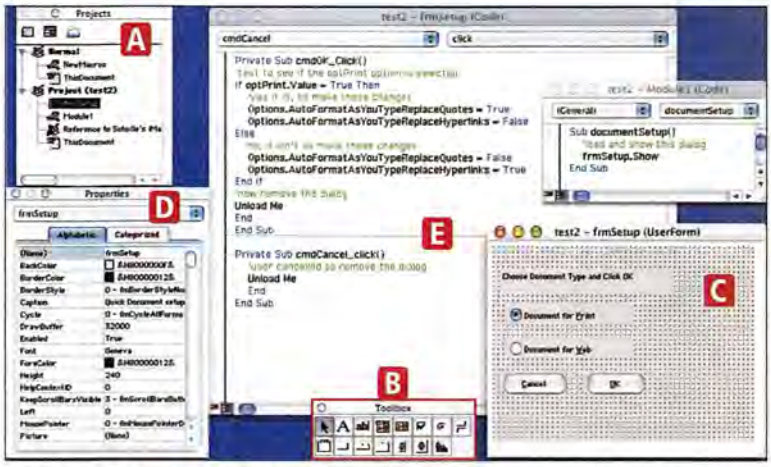
From the Application menu, choose Insert: UserForm. (Visual Basic calls dialog boxes *forms*.) A small gray grid will appear in a new window. This is the dialog box's starting point. Now it's just a plain blank box, ready for customization. You should also see a Toolbox toolbar; if it isn't there, choose View: Toolbox. You'll need this to add elements to your dialog box.

Locate the OptionButton, CommandButton, and Label controls in the Toolbox toolbar. If you're unsure which is which, hold your mouse over each control and read its yellow screen tip. You'll need one Label control at the top of the dialog box (this will tell you what the dialog box can do), two OptionButton controls under it (these will offer two choices—to set up either a Web or a print document), and finally two CommandButtons side by side across the bottom (these will become your OK and Cancel buttons).

Click on each control and drag to place it on the gray box. Don't worry too much about getting the size and position exactly right the first time—it's easy to resize and move the controls later.

The Proper Properties Now you can customize these buttons. Each one has a number of settings (called *properties*), which determine its name, how it looks, and what it can do.

To begin, click on an empty area of the dialog box to select it. Note that the Properties window says UserForm1 (or UserForm2, and so forth, if you already have another dialog-box–based macro). You'll want to change its title so that the title bar gives some indication as to its purpose. To do this, look for the Caption property in this Properties window and type Quick Document Setup in place of the words in the field next to it. Next, you'll want to change the dialog box's name so you can refer to it in your code later. To do this, set the Name property to read frmSetup.



Check the Code Visual Basic Editor is only a few menu options away. Here you can use the Projects window A to place your macro in the Normal template, so it's always available. Drag options from the Toolbox palette B to customize your dialog box, complete with labels and buttons C. Set the buttons' properties in the Properties window D. Finally, enter the code that makes it all come together E. Here you see the bulk of the code that our macro requires.

Now it's time to set up the option buttons so they are more descriptive and have names you can refer to in your code. Click on the top option button and type optPrint in the field next to Name and Document for print in the field next to Caption. Type P in the field next to Accelerator. Set the Value property to True.

To set up the second option button, click on it to select it. Change its Name property to optWeb, its Caption property to Document for Web, and its Accelerator property to W.

The Name property is the name you'll use in your code to refer to the option button. The Caption property is the text that appears in the dialog box, to the right of the option button. Setting the first option button's Value property to True ensures that it is selected by default when the dialog box is displayed. The Accelerator settings let you select these options from the keyboard by pressing ⌘-P or ⌘-W. If only part of the caption text shows, the control box is too small. Widen it to show all the text.

Now you can set up the OK and Cancel buttons. Click on the left CommandButton, which will be the Cancel button, and type cmdCancel in the field next to Name and Cancel in the field next to Caption. Type C in the field next to Accelerator. Finally, select True from the pop-up menu next to Cancel to ensure that you can choose Cancel not only by pressing this button but also by pressing the escape key on your keyboard. Click on the right CommandButton, which will be the OK button, and set its Name property to cmdOK, its Caption property to OK, and its Accelerator property to O.

Now you'll set up the label, which displays instructions for using the dialog box. Click on the Label

continues

Success! If your code works, this dialog box will appear when the macro runs. From here, you can choose Web or print formatting.

button to select it. In the Property window next to Caption, type Choose document type and click on OK. If necessary, resize the label to show all the text. (For a tour of Visual Basic Editor's interface—and to see the code in its final form—see "Check the Code.")

Write the Macro Code

This dialog box can't actually do anything—yet. Next you must write the code that tells Word what to do when someone clicks on the buttons. Now you'll make use of the code you found earlier.

When you click on OK, the macro needs to find out which option—Document For Print or Document For Web—you've selected and then change the smart-quote and hyperlink settings appropriately. After that, the dialog box should disappear. If you click on Cancel, the macro shouldn't change any settings; the dialog box should disappear.

Easy Options The option buttons don't need any additional code—the settings you typed in Visual Basic Editor are enough. When you click on an option button, its Value property changes to True and the other option button's Value property automatically changes to False. In fact, in the code you'll add next, you'll use this behavior to see which option (Web or Print) has been selected.

The Critical Code To make the rest of the buttons trigger actions, you'll write some code. Don't worry—it isn't case sensitive. To ease reading, you may indent some of the code by pressing the tab key. Double-click on the OK button you created to open Visual Basic's Code window. You'll see these lines on screen:

```
Private Sub cmdOK_Click()
End Sub
```

Type this text between the first and last lines:

```
'test to see if the optPrint option is selected
If optPrint.Value = True Then
   'yes it is, so make these changes
   Options.AutoFormatAsYouTypeReplaceQuotes =
True
   Options.AutoFormatAsYouTypeReplaceHyperlinks
= False
Else
   'no, it isn't so make these changes
   Options.AutoFormatAsYouTypeReplaceQuotes =
False
   Options.AutoFormatAsYouTypeReplaceHyperlinks
= True
End If
'now remove the dialog
Unload Me
End
```

This code checks to see whether the Value property of the button we named optPrint is set to True. If it is, the Print option is selected and the next lines of code turn smart quotes on and disable hyperlinks. You can select only one of the two options at a time, so if the optPrint button isn't selected—setting the value to False—then the optWeb button must be. In that case, the next lines of code turn off the smart quotes and turn on the hyperlink options.

The only thing left to do is write the code for the Cancel button. Type this code immediately after the End Sub line in the previous code:

```
Private Sub cmdCancel_click()
   'user cancelled so remove the dialog
   Unload Me
   End
End Sub
```

Now the dialog box will go away if you click on Cancel. However, you still need a small piece of code that makes the dialog appear when you start the macro. Choose Insert: Module and type this in the Code window that appears:

```
Sub documentSetup()
   'load and show this dialog
   frmSetup.Show
End Sub
```

To save your work, click on the Save button and choose Word: Close And Return To Microsoft Word.

Test and Troubleshoot Test the macro by choosing Tools: Macro: Macros. Select DocumentSetup from the list and click on Run. If you encounter problems, an error message will appear. Click on Debug, and Visual Basic Editor will open, highlighting the statement that's probably to blame. Check your spelling!

If all goes well, your dialog box should appear (see "Success!"). You can test the buttons and the two shortcuts, ⌘-O (OK) and ⌘-C (Cancel). See if the smart-quote and hyperlink settings work correctly by opening a new document and choosing either Web or print formatting from the dialog box that appears. Type a set of quotation marks and a Web address.

Toolbar Tricks Once your macro works as planned, you can add it to Word's toolbar so it will always be available. Choose View: Toolbars: Customize, and choose the Commands tab. In the Categories list, choose Macros. From the commands list, drag Normal.Module1,documentSetup onto the toolbar. That's not very eloquent, so you may want to change it. Control-click on the button, choose Properties, and type something shorter. Click on OK twice.

The Last Word

Now that you've seen how easy it is to create your own working dialog boxes, you can use this method to change other Word preferences. With a little bit of effort, you can create macros that save you a whole lot of time. □

HELEN BRADLEY (www.helenbradley.com) writes for a number of publications in the United States, Australia, the United Kingdom, and Canada.

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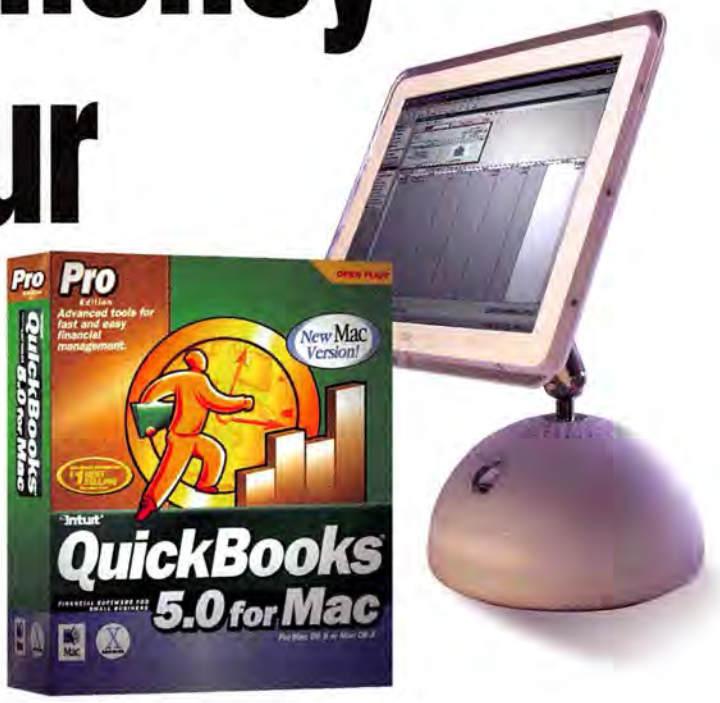

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Share Well with Others

Mac OS X 10.2 lets you share files—over a local network or the Internet—with Windows computers. But customizing OS X's Windows File Sharing (Samba) server to share specific directories, or to restrict access to read-only, requires that you manually edit some fairly complex configuration files. However, the newest version of the Personal File Sharing utility SharePoints—now with support for a number of Windows File Sharing options—makes working with Samba a whole lot easier. We'll tell you how.

Simple Samba Setup

You can use OS X's built-in Samba server, which serves files via the SMB/CIFS (Server Message Block/Common Internet File System) standard used by Windows and many Unix computers, to share files with Windows computers—for example, in a multi-OS environment or when you need to access your Mac from a remote location.

ILLUSTRATION BY CELIA JOHNSON

Setup is a two-step process. First, enable Windows File Sharing, under the Services tab of the Sharing pane of System Preferences; this starts the Samba server and, if you've enabled OS X's firewall (via the Firewall tab of the Sharing pane), opens port 139 so Samba traffic is allowed. Second, for *each* person who needs access, open the Accounts pane of System Preferences, select a user account, and click on Edit User. In the resulting dialog box, select Allow User To Log In From Windows. (You're actually allowing the user to connect via SMB/CIFS, so that person can connect from Unix and other OS X computers as well.) You'll be asked to change the user's password; make sure you tell the user what the new password is (it can be changed later).

Opening the Window(s)

Once your computer is ready to share, people with accounts on your Mac can access their Home folders from Windows computers. Since users are limited to their own Home folders, sharing *your* files with a remote Windows user requires that you place files inside each person's Public folder or Drop Box.

Connecting Locally To connect, Windows users on a local network should open Network Neighborhood (or My Network Places, in Windows XP); as long as your WorkGroup name is the same as theirs, *shares* (shared directories or volumes) on your Mac will show up. Otherwise, Windows users should first open Entire Network to find your WorkGroup. To access a share, they'll need to provide their user names and passwords.

Connecting Globally Windows users connecting over the Internet should open My Computer and choose Tools: Map Network Drive (Windows XP); choose Tools: Map Network Drive and then the Web folder or FTP site (Windows 2000); or click on the Web Folders icon and then double-click on Add Web Folder (Windows 98). They should then enter, in the resulting dialog box, *\\serveraddress\sharename*, where *serveraddress* is your Mac's IP address or domain name, and *sharename* is the name of the directory or volume they want to access (in the case of a Home folder, the share name would be the short user name).

Now that the basic setup is complete, you can use SharePoints to access more options, such as sharing additional folders, restricting file access, and customizing server settings.

Samba Specialization

Unless you use a third-party utility (or OS X Server), configuring OS X's Samba server—beyond turning it on or off—requires manual editing of the /etc/smb.conf file. A few utilities have sprung up to make this process easier, and one of the best is SharePoints 3.0 (★★★★½; "More Mac Software Bargains," May 2003). By default, users can access only their own Home folders via Windows File

Sharing. However, you can also provide access to the Users: Shared folder and make files in that folder available to all remote users. SharePoints' "Normal" Shares tab lets you do so by creating additional Windows shares (see "Cha Cha Cha").

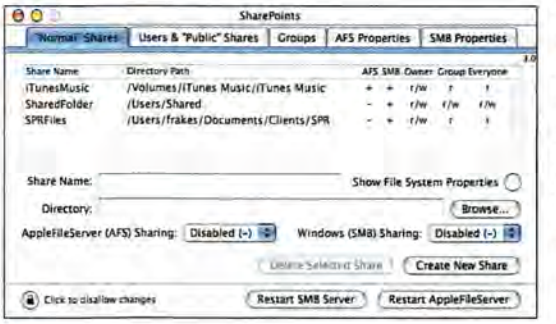
First, click on the padlock icon and provide your admin user name and password so you can make changes. In the Share Name field, enter the name of the new share. Click on the Browse button to select a folder to be shared. (Once you've selected a folder, the path to it will appear in the Directory field.) Next, select Shared (+) from the Windows (SMB) Sharing pop-up menu, and then click on Create New Share; the newly shared folder will show up in the list of shares at the top of the window. (If you've used SharePoints in the past to set up additional Personal File Sharing shares, you can simply click on an existing share, enable Windows Sharing for it, and then click on Update Share.)

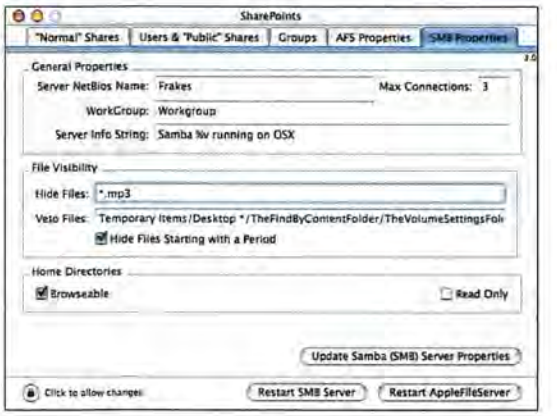
If you want to view or change the privileges of the new share, select it from the list of shares and then click on the Show File System Properties button; a drawer that lets you edit the owner, group, and permissions will appear. Click on Update Share to save your changes.

Once you've created and edited the share, click on Restart SMB Server to restart Windows File Sharing using the new share.

Valuable Properties SharePoints also allows you to change several Samba server properties, via the SMB Properties tab. Under General Properties, you can change your Mac's NetBios name (the name Windows computers will identify your computer by) and the server info string (information about your Samba server that Windows users will see in My Computer after connecting). You can also change your WorkGroup name—it's generally easier for others to connect if your WorkGroup name is the same as theirs. In fact, if you're on a Windows NT network, your WorkGroup name *must* be the NT WorkGroup name. You can limit the number of users connected via Windows File Sharing by entering a number in the Max Connections box.

The File Visibility section lets you hide certain files or prevent them from being accessed altogether—for example, you might want to hide MP3 files from connected users (see "Cha Cha Cha"). The Hide Files Starting With A Period option does just that (these files are usually invisible in OS X). If you want to hide additional files, enter their names in the Hide Files field (separate multiple file names with a slash [/]). A savvy user, or one who's chosen to view hidden files, can view and access these so-called hidden files. To prevent a file from being accessed at all, include it in the Veto Files field—by default, Samba is set up to veto a few common files. (When you select files to hide or veto, you can use an asterisk [*] as a wild-card character. For example, entering *.mpg in the Veto Files field would prevent connected users from viewing or accessing any file ending in *.mpg*.)





Cha Cha Cha SharePoints gives you more control over your Samba server—with no Unix editing necessary. You can easily share folders other than a user folder (top), as well as hide files you don't want to share (bottom).

Home Security You can designate Home directories as browseable and/or read-only. If you deselect the Browseable option, Windows users will not be able to see Home-directory shares in My Network Places or Network Neighborhood; they'll need to connect directly to their own Home directories (using the short user name as the share name). If the Read Only option is selected, each user will be able to connect to his or her Home directory and copy files from it, but not save files to it or edit files in it.

Tip of the Iceberg

Although SharePoints doesn't give you access to all Samba server settings—Samba is a true industrial-strength file server with hundreds of options and features—it does provide access to much of what you'll need. For more functionality, check out the open-source Samba Sharing Package (http://xamba.sourceforge.net/ssp/index.shtml). And if you want to learn more about advanced Samba configuration, the entire first edition of *Using Samba* (O'Reilly, 1999) is available free online at www.oreilly.com/catalog/samba/chapter/book/index.html (HTML format) or at ftp://ftp.ora.com/examples/misc/samba (PDF format). How deep you want to get into Samba configuration is up to you; however, the power is there if you want it. □

DAN FRAKES is the author of *Mac OS X Power Tools* (Sybex, 2003), is working on an update to his InformINIT database, and can be tracked down at www.danfrakes.com.

Print Hints

Until the Apple Computer of the twenty-second century devises a way to cram our craniums with data via tiny AirPort implants, we must continue to rely on the printed word. Given the importance of text and the devices designed to edit and print it, this month's *Mac 911* examines ways to edit PDF files, find usefulness in older printers, create virtual PostScript printers, and print in a cross-platform network. I also offer advice for merging iPhoto libraries and ensuring your domestics' tranquility.

Editing PDF

I'd like to extract text from a PDF file and edit it. Can I?

Neil Barker, *Altadena, California*

ILLUSTRATION BY LEO ESPINOSA

You have a number of options. The least-expensive (meaning *free*) way is to open the PDF file in Adobe Acrobat Reader (www.adobe.com/products/acrobat/readstep.html), choose the Text tool, select the text you want to change, and copy and paste it into a text editor for editing. The disadvantages of this method are that you can copy only text (no graphics) and that you'll lose most of the text's formatting when you paste it into the text editor. Of course, you can't use this method at all on files that have been secured to prevent copying.

If you own the full version of Acrobat and the document hasn't been security protected, you can export text by choosing the Save As command from Acrobat's File menu and selecting Rich Text Format from the Format pop-up menu. The resulting RTF file will retain more of its formatting than a file created with the copy-and-paste method, and it will open in applications such as Mac OS X's TextEdit and Microsoft Word.

Another way to save unsecured PDF files in RTF is Metaobject's $20 TextLightning (www.metaobject.com). As with Acrobat, you can save PDF files as RTF files and retain much of the original document's formatting but not its graphics.

Finally, optical character recognition (OCR) apps such as ScanSoft's $500 OmniPage Pro X (♦♦♦½; June 2002; 800/654-1187, www.scansoft.com) can import PDF files (even if they've been security protected), recognize the text and graphics they contain, and export those files as editable RTF files. OCR requires that you do a fair bit of fiddling before it correctly recognizes text in complex documents, but it has the advantage of allowing you to save graphics and text.

Legacy LaserWriter

Is it possible to connect an Apple Personal LaserWriter 320 to a new iMac or Power Mac G4?

G. Brooks Morris, *Slidell, Louisiana*

It is, with the help of a bridging device such as Asanté's $129 AsantéTalk Ethernet to LocalTalk Adapter (800/303-9121, www.asante.com). These devices enable you to link LocalTalk-compatible printers—which include many older laser printers from Apple and Hewlett-Packard—to Macs that lack a printer port.

To make the physical connection, string a standard Ethernet cable from your Mac to the adapter, and a LocalTalk (serial) cable from the adapter to your LaserWriter. Now launch Print Center, click on the Add button, and select AppleTalk from the first pop-up menu that appears in the resulting pane. If it's not already selected, choose Local AppleTalk Zone from the second pop-up menu in this pane. Your printer should appear in the list of available printers. Select it, and click on the Add button to make that printer available to you.

Pretend Printer

Is there a way to create a PostScript file printer with Print Center?

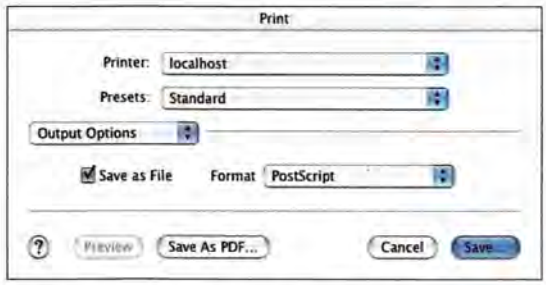
Jon Taie, *Virginia Beach, Virginia*

Before I reveal the trick to doing this, let's discuss why you'd want to do such a thing.

Saving a document as a PostScript file lets you print that file on any computer with an attached PostScript printer—a high-end printer at a printing service bureau, for example. Unless your Mac is connected to a PostScript printer (or, as you'll discover, something very much like a PostScript printer), you can't save a document as a PostScript file. If you don't have such a printer, you must create a virtual one.

To create a virtual PostScript printer, launch Print Center and click on the Add button in the Printer List window. Select IP Printing from the first pop-up menu in the resulting sheet. In the Printer's Address field, type localhost. From the Printer Model pop-up menu, select Generic and click on the Add button.

When you want to save a file as a PostScript document, select Print in the application you're working with—say, Microsoft Word—and then select the localhost printer from the Printer pop-up menu. Choose Output Options from the Copies & Pages pop-up menu, enable the Save As File option, and select PostScript from the Format pop-up menu (see "And Here's Your Localhost!"). Click on Save and, in the resulting Save To File dialog box, name the file and click on Save again.



And Here's Your Localhost! Thanks to a virtual printer, you can create a PostScript file from within an application's Print dialog box.

Picture to Picture

I have iPhoto 2 installed on both my iMac G4 and my PowerBook G4. I'd like to move the pictures from iPhoto on my PowerBook to iPhoto on my iMac and maintain the photo album structure I have on both Macs. Is this possible?

Ron Madaras, *San Leandro, California*

Yes, but I've yet to find a terribly intuitive way to go about it. That said, you can try this as-intuitive-as-I-can-make-it method:

Launch iPhoto 2 on the iMac, and click on the Photo Library entry in iPhoto's browser column. If it's not already selected, click on the Organize button at the bottom of the iPhoto window. Click on the Burn button at the bottom of the iPhoto window, and insert a blank CD-R. Click on the Burn button in the resulting Burn Disc dialog box. iPhoto will burn your Photo Library to the disc.

Once you've burned the disc, place it in your PowerBook. Unless you've changed the way OS X handles discs created by iPhoto, your PowerBook's iPhoto will automatically launch. Click on the triangle that appears next to the CD icon in iPhoto's browser column. You'll see the albums of photos from your iMac.

To create a new album, click on the Photo Library entry in the browser column and then on the Plus button below the browser column. Give that album the same name as the first album on the CD you created ("My Vacation," for example). Then select the "My Vacation" album on the CD, click on iPhoto's main window (where the pictures are displayed), and press ⌘-A to select all the pictures in the album. Drag these pictures to the "My Vacation" album you just created. Your pictures will be copied from the CD to your PowerBook's hard drive.

Repeat this procedure for each album on the CD. Now select Provide iPhoto Feedback from the iPhoto menu and, in your feedback message to Apple, politely request that someone devise an easier way to incorporate the albums in two iPhoto libraries.

RAM-arkable Memory

In OS 9 I kept my Web browser and its cache files in a RAM disk to improve performance. OS X doesn't seem to offer a RAM-disk option. Is there a way to create such a thing in OS X?

Carlton Doerner, *Du Quoin, Illinois*

There is. Point your browser to www.clarkwoodsoftware.com, and download a copy of Clarkwood Software's $25 ramBunctious 2.0—a utility that allows you to create a RAM disk in OS X.

Now that you know you *can* create a RAM disk, let's discuss whether you *should*.

If your Mac is RAM starved, don't expect it to be much zippier with a RAM disk—the RAM disk and OS X will squabble over memory allocation, and this will likely negate any performance gains. If, on the other hand, you have RAM to burn, a RAM disk may help. The operating system will have plenty of RAM to work with, and you can

continues

TIP OF THE MONTH

With the release of iMovie 3, we were all introduced to the Ken Burns effect, in which you pan and zoom across a still picture. I enjoy the effect, but I don't want to apply it to every still I insert (as iMovie 3 does by default). If you'd like to stop the automatic imposition of this effect, follow these steps:

Using TextEdit, open the com.apple.iMovie3.plist file, found by following this path: ~/Library/Preferences/com.apple.iMovie3.plist.

Find the autoApplyPanZoomToImportedStills entry.

Two lines below this entry (and one line above <key>Option autoSceneDetect: %d) you'll see true. Change this to false.

Save and close the file.

Open iMovie 3 and discover that Ken now comes to call only when you want him to—when you click on the Apply button.

Karl H. Hehr, *Ames, Iowa*

UNSOLICITED ADVICE

Every so often I'm approached by readers who, with a hint of embarrassment, admit that a Windows PC—complete with connected printer—makes up a portion of their home network. In the course of conversation, they invariably ask: "Is there a way for me to print to that printer from one of my Macs running OS X?"

"Why, yes," I respond. "It's like this. . . ."

As a writer for *Macworld*, I feel that it falls outside my purview to explain how you'd share a printer under Windows. But suffice it to say that such a printer must be shared in order for this scheme to work.

Once you've configured Windows to share the printer, open Print Center and, while holding down the option key, click on the Add button in the Printer List window. In the resulting sheet, select Advanced from the pop-up menu. In the Device pop-up menu, select Windows Printer Via Samba. In the Device Name field, enter any name you please—My PC Printer, for example. In the Device URL field, enter smb://*shortnameonyourMac*:*Macpassword*@*workgroup*/*server*/*sharename*, where *shortnameonyourMac* is the short name you use to log on to OS X, *Macpassword* is the administrator's password you use to log on to your Mac, *workgroup* is the name of the Windows workgroup (Workgroup or MShome, for example), *server* is the name of your PC (Bag_o'_Bolts, for example), and *sharename* is the share name for the printer you've chosen under Windows (HPLaserJ, for example). Now select your printer from the Printer Model pop-up menu at the bottom of the sheet.

When this printer is selected as the default in Print Center and your network is up and running, any documents you print from your Mac will be printed on the printer tethered to your PC.

devote unused RAM to tasks of your choosing—running a specific application and its documents, for instance.

But you can realize benefits other than raw performance gains from a RAM disk in OS X. For example, shoving an application and its working files into a RAM disk could cause your PowerBook to access its drive less often—thus extending the time you can use your laptop under battery power. And those users who run Macs with noisy hard drives will hear less of this incessant mechanical caterwauling because a RAM disk allows the hard drive to spin down more often.

What's in .DS_Store?

Could you explain what the invisible files named .DS_Store are within OS X? It's a nuisance when they show up in a disc made in OS X and used on other platforms or in OS 9.

Tom Unger, *New York, New York*

These files contain view settings—window size and placement and icon position, for example—for the folders that contain them. As you hint, Tom, although .DS_Store files are invisible to those running OS X, the hidden is revealed when folders containing these files are viewed under OS 9 or by a computer running a different operating system (such as a Windows PC networked to your Mac via Samba).

You can remove these files without ill effect. Command-line commandos can do this via Terminal, by typing sudo find */pathtodirectory/* -name ".DS_Store" -exec rm {} \;, where *pathtodirectory* is the full path to the folder from which you'd like to remove the .DS_Store file. So if I wanted to remove the .DS_Store file from the Projects folder on my Mac's Desktop, I'd enter sudo find /Users/chris/Desktop/Projects/ -name ".DS_Store" -exec rm {} \;.

If you're uncomfortable with Terminal, you can download a copy of Extraneous Software's free De_DDS (www.extraneous.us/download/De_DDS.tgz). This simple utility will strip .DS_Store files from any folder dropped atop the De_DDS icon.

Networking Nanny

My children's nanny uses her iBook to do her homework when the kids have gone down for their nap. I let her use our AirPort network, but it's configured to use a proxy. The nanny doesn't understand my instructions for turning the proxy off and on in the Network system preference, and she can't connect to other wireless networks because of our proxy settings. How can I make this simple for her?

Ande Root, *Capitola, California*

As any real-estate mogul will tell you, the secret to success is *location, location, location*. Such is also the case with your conundrum. Use the Location settings available within OS X's Network system preference, and moving from one network setup to another will be a breeze.

Launch the Network system preference and select New Location from the Location pop-up menu. In the resulting pane, give the location an intuitive name, such as The Root's AirPort, and click on OK. Now configure the network settings—including proxy settings—for your AirPort network and click on Apply Now.

Create an additional location that includes settings for the nanny's ISP and other wireless networks. Give it a unique name as well.

Now show your nanny that to change settings, she just has to click on the Apple menu within any application, select the Location menu, and then choose The Root's AirPort from the resulting submenu. To return to her original network settings, she can select Automatic from the same submenu. □

Contributing Editor CHRISTOPHER BREEN is the author of *Secrets of the iPod*, second edition (Peachpit Press, 2003), and the soon-to-be-released-unless-Apple-springs-something-really-amazing-on-us-that-forces-me-to-rewrite-half-the-damned-thing *Mac 911*, second edition (Peachpit Press, 2003).

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ANDY IHNATKO

A User-Interface Revolution? Users Beware.

Spring Backward

STEADY, ANDY, STEADY. YOU'LL WORK YOUR WAY OUT OF this. Remember your Boy Scout training (at least the bits you learned before the camping trips became too long to avoid having to do your business in a ditch behind a tree, at which point you dropped out): No thrashing movements. Remain limp and still until you find yourself floating to the surface; then gently roll until you find yourself on firm ground again.

Whew. Man, that was a close one. I almost got permanently sucked under by a user-interface metaphor. And to think a *friend* suggested that I try out UserCreations' $22 Spring (www.usercreations.com/spring), a new visual desktop that tries to reduce everything in your digital life to a big, bouncy, draggable icon.

I downloaded Spring right away, but I was quickly confused. Nine windows popped up with big pictures of products from Amazon.com. There were big pictures of Kansas City restaurants. There was a big picture representing a collection of online resources about *The Royal Tenenbaums*. And there were big pictures of people I didn't know, along with, oddest of all, a news feed reduced to a big picture that told me neither diddly nor squat.

Fortunately, all of these pictures were draggable. If I wanted to instant-message a file to a friend, I could drag it on top of his photo, which . . . no, that didn't do anything. Well, if I wanted to add a collection of movie links, it would take just a click . . . and a . . . hmm.

OK. I have to confess that at this stage I still didn't have the foggiest about what Spring was supposed to do. Here's what UserCreations' Web site has to offer on the subject: "Imagine that booking a flight or train is as simple as opening a canvas with a map and dragging between the two cities. Imagine inviting someone to a favorite place is as simple as . . . dragging a line between the person and place."

I quickly realized that this software expected me to expend more calories through the act of "Imagining Concepts" than I had during the previous 17 months of my gym membership. I turned to my friend for answers. "Resources are graphical. Dragging creates links," he said gently, as though he were a Zen master and I were a young student.

Choose Evolution

Well, I'm willing to acknowledge that there is That Which Is Right, That Which Is Wrong, and That Which Andy Just Doesn't Get. Lord knows I've spent enough time bellyaching about how graphical user interfaces have stagnated. But it wasn't until I spent a day with Spring that I started to rethink my whole conception of what a fresh idea would look like. I had *imagined* it'd be like something out of *Minority Report*, a movie in which the simple act of finding a phone number looked like a Klingon love poem translated into sign language. But maybe we should put more stock in evolution than in revolution.

Take Konfabulator (www.konfabulator.com), for instance. This $25 utility runs simple, single-purpose, and highly graphical "widgets." A Weather widget displays the temperature and an iconic forecast. News-feed widgets display recent stories.

Ten minutes after I'd downloaded Konfabulator, I was annoying anyone who'd listen. "This is *fantastic!*" I'd say to the guy at the window before he could hand me my change and my Big Mac Extra Value Meal.

Now imagine Konfabulator living in its own transparent layer on top of the rest of the screen. And imagine that, like a screen saver, that layer would become more opaque and thereby easier to see when you stopped interacting with the Mac. Like, don't distract me with a stock ticker when I'm trying to work—but if I've been on the phone for 15 minutes and am unaware that my 401(k) is sliding into the dumpster, then yes, now's the time to grab my attention! The Mac could clearly benefit from an Idle-Time Trivia Layer.

> Maybe we should put more stock in evolution than in revolution.

Take Rendezvous as another example. It isn't even a user-interface element—it's a networking standard. But it's still a powerful yet subtle improvement in how we use our computers, since it can eliminate the hassle of browsing for other devices on your local network. After all, any good user interface should increase the level of abstraction between what you want to do and the protracted bits of intense negotiations that cause it to happen.

The problem with the ideas found in programs like Spring is that they simply exchange an old-fashioned and complicated set of concepts and procedures for a brand-new, equally complicated set of concepts and procedures. Different isn't better. *Better* is better. □

ANDY IHNATKO (www.andyi.com) also writes about technology for the *Chicago Sun-Times*.

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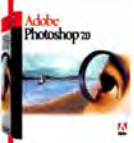

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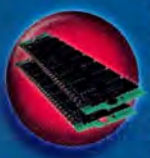

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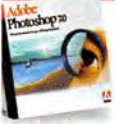

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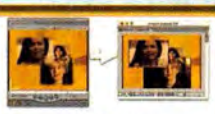

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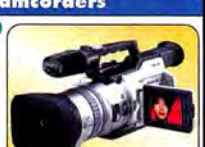

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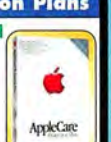

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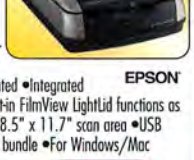

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Low Profile 256MB will install in lower memory slot of all listed models allowing a new max memory of up to 512MBs!

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Have a PowerMac with an available PCI slot? Any of these will let you fully utilize IDE / ATA drives! All products listed support up to 4 IDE/ATA drives, made just for Mac, and are fully compatible/bootaable with Apple OS 8.x, 9.x, and OS X 10.x

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PC2700 DDR 333MHz for Apple Power Mac G4 'Mirrored Door' 1GHz, Dual 867MHz / 1GHz / 1.25GHz / 1.42GHz; Xserve 1GHz / 1.33GHz, Dual 1GHz / 1.33GHz models
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iMac G4/1GHz, PowerBook G4 12/17"

PC2100 DDR 266MHz SO-DIMM for PowerBook G4 12', iMac G4/1GHz models
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ATA/133, 8MB Buffer, w/ 3yr

Note: Above ATA Drives are fully compatible with all versions of vanilla ATA/IDE, ATA/33, ATA/66, ATA/100, ATA/133, EIDE, UDMA, Etc. Drives may be used with any Mac that has built in IDE/ATA or an added ATA/IDE controller (such as by SIIG, Acard, VST, or Sonnet).

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512MB PC133 CL3 / PC100 CL2 SDRAM $79.99

iBooks, PowerBook G3/G4, iMac G4

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MyMac.com review 5 out of 5

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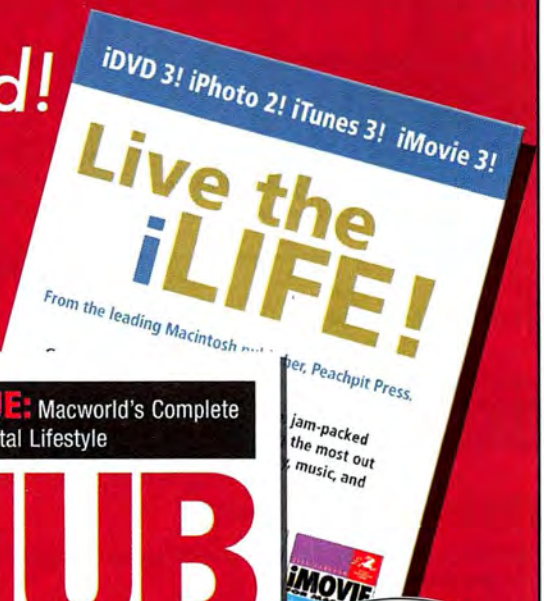

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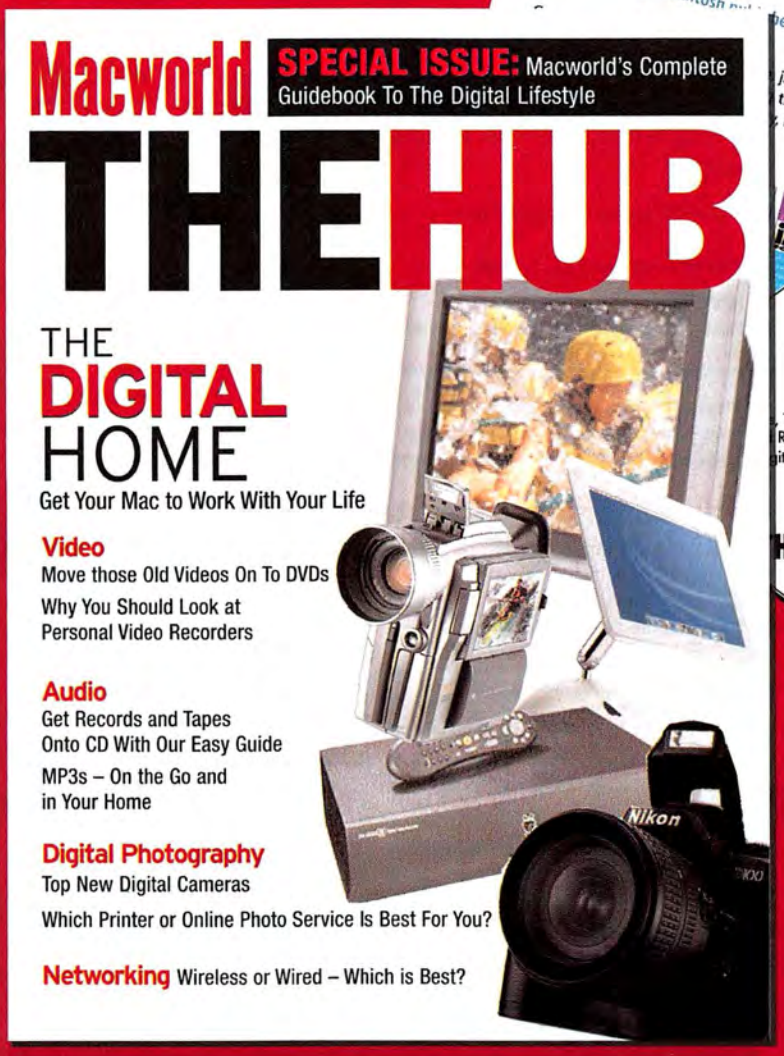

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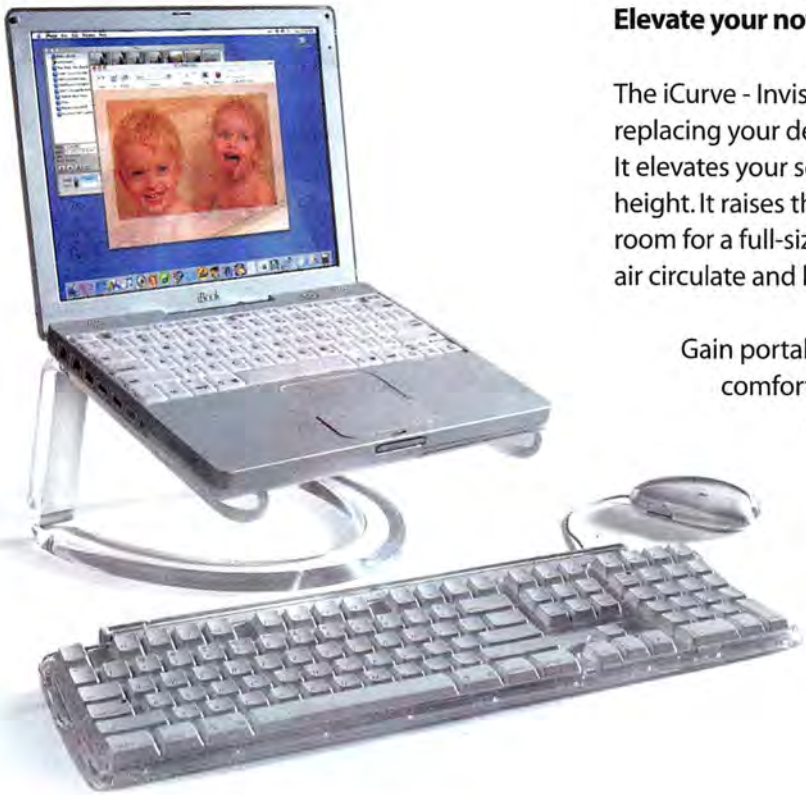

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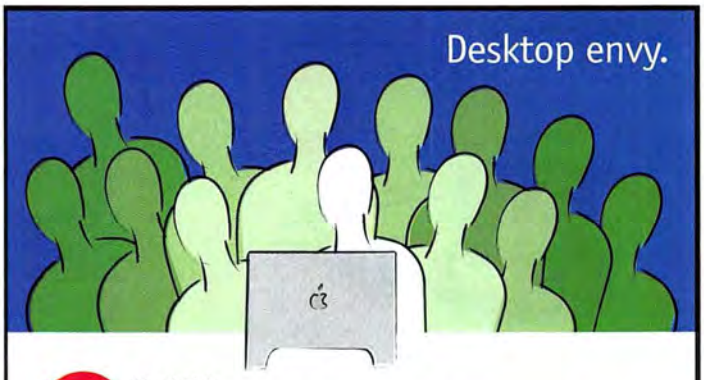

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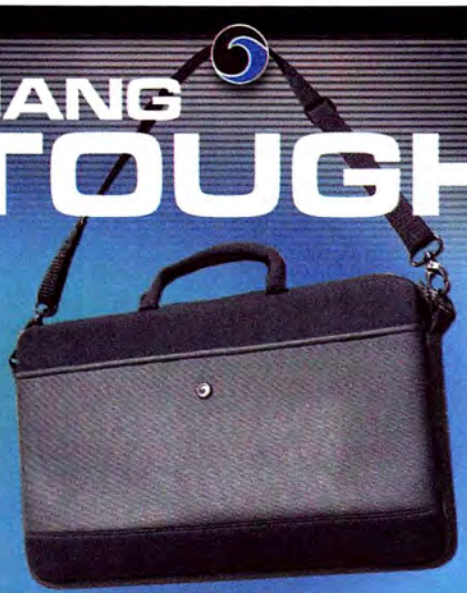

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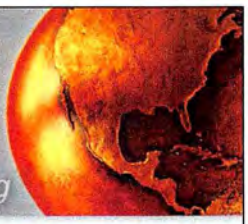

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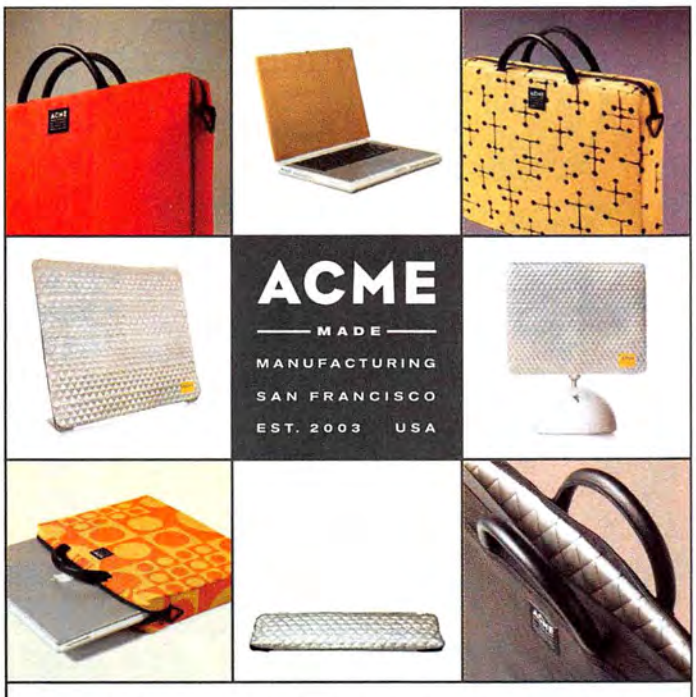

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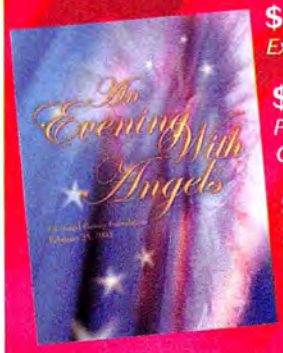

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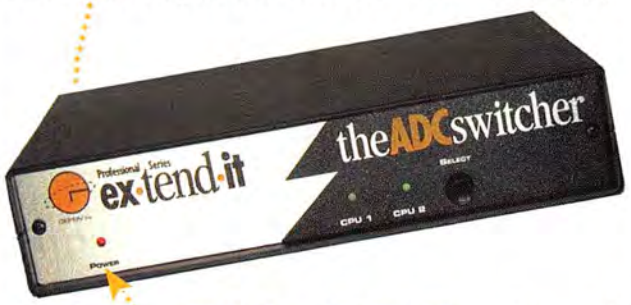

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monochrome interface options, and a completely inflexible Dock without hierarchical folder displays.

Those features were left out because the Next folks didn't like the Macintosh way. Instead, they followed their arrogant philosophy: despite massive marketplace rejection, the Next operating system was really the superior product and would have dominated if only more people had seen it in action. What better way to prove this than forcing Mac owners to use that operating system? After all, if users had the freedom to choose an icon view or pop-up windows or a configurable Apple menu, they wouldn't see the genius of the Columns view, minimized windows, or the Dock.

In other cases, where the Macintosh way is obviously superior (for example, HFS Plus disks full of metadata about both the content of a file *and* the program that should open it), Apple has imposed guidelines to kneecap Macintosh advantages to the limits of the Next-preferred Unix file systems. Apple claims it's all about interoperability with Windows, but it insists on this philosophy even for programs that will never run on Windows—iDVD, for example, which happily generates files ending in *.dvdproject*.

> To speed the OS X transition, Apple has to abandon its elitism.

Boondoggles invented at Next, such as prebinding updates to make up for an inherently slow binary file format, are revered in OS X. Features invented at Apple before 1996 are scorned, not because of quality but because of provenance.

Is Apple Listening?

Despite oodles of complaints over the past three years, Apple still ignores requests to drop the attitude and make OS X more like the Mac. In response, people who are very productive in OS 9 are ignoring OS X—and that means they're not buying new software or new Macs, which is a problem for a company that's flirted with red ink for the past several quarters.

Apple will soon show the next major version of OS X, named Panther, and if it wants to accelerate the OS X transition to an appropriate rate, it will abandon the Next elitism. There is no technical reason OS X can't restore any of the disfavored features. They're not present now because Apple management doesn't want you to have options that threaten Next's place in history.

But a forced choice is no endorsement. Millions more people could benefit from OS X if Apple would focus on serving them. But if the transition to OS X is really complete, politics has triumphed over productivity—and all Mac users have lost. □

MATT DEATHERAGE is the publisher of MDJ and MWJ, Macintosh newsletters available through www.macjournals.com. He refuses to use programs that don't properly implement file-type and -creator codes.

BY MATT DEATHERAGE

If the OS X Revolution Is Really Over, Then Everyone Has Lost

Transition Anxiety

I'M NO THEOLOGIAN, BUT I BELIEVE THAT THERE MUST BE a special level of hell reserved for Apple executives who think the only thing the Next operating system needed to succeed was a larger group of people forced to use it. So far, the Mac market seems to agree: Mac OS X's adoption rate is far below what it should be, and while there's plenty of blame to pass around, Apple deserves a large share.

Numerology

The numbers tell a sordid tale. OS X 10.0 debuted on March 24, 2001, and by January 2003 had five million users. That seems quite good—until you realize that Windows XP reached a fifth of all worldwide Internet users in a little more than 11 months. OS X took twice as long to reach that percentage of Mac users—five million people—and that's after Apple included it free with about five million machines sold since May 2001. Oops.

Apple has responded to these lackluster results by counting the number of people currently using OS X, redefining that number as the amount required for a successful transition, and declaring victory. Try defining your income tax bill as "the amount I already paid," and see how much sympathy you get from the IRS.

This is the transition Steve Jobs has pronounced "basically over." If he truly believed that, he should have followed up his statement by weeping uncontrollably.

Why Don't They Upgrade?

OS X users typically don't understand why so many OS 9 users resist the new operating system. After all, OS X is a kick-ass operating system: it rarely forces users to reboot; it supports multiple processors as well as any operating system on the planet; and its Unix-based preemptive multitasking means that it doesn't bog down if you're downloading the bimonthly OS update, ripping CDs in iTunes, filtering the wrinkles out of your self-portraits in Photoshop, and updating your Weblog—all at the same time. Anyone who's lost the use of an OS 9 machine for a few hours while it works on a single task would never look back after switching to OS X.

Some more-controversial changes to the OS are completely justified, too. Apple was right to adopt Aqua, the first new look since 1995 ushered in the Platinum Age. And after last year, when two of my family members separately and accidentally threw away their entire OS 9 System Folders without realizing it, I've become a big fan of permissions even for average users. You *should* have to know what you're doing to delete certain files. That's software evolution.

So why hasn't OS X conquered the world?

The Holdouts

Apple's official line is that a slow technology economy has discouraged people from buying expensive Power Macs, and that those who can afford the new boxes aren't willing to spend the money and switch to OS X unless all the programs they want are available natively. It's the I'll-switch-when-I-upgrade-but-I'm-not-upgrading-until-everything's-in-place-for-me-to-switch paradox.

But I don't buy the theory that most of the remaining OS 9 users have just been waiting for QuarkXPress. After all, before laying the blame on XPress, Apple first said they were waiting for Microsoft Office and then pointed the finger at Adobe Photoshop.

Once you account for Quark anticipation, and after you dismiss the cranky people who'll never switch for irrational reasons such as the lack of a rainbow-colored Apple menu, you're left with people who are capable of running OS X, and probably even own a copy, but choose not to use it. Apple desperately wants us to believe that this group is small, but the numbers say otherwise.

> Why hasn't Mac OS X conquered the world?

The problem for these holdouts is that OS X is full of disruptive changes that don't provide any benefits. Graphics professionals, for example, are used to working in one program that has to work as fast as possible. Preemptive multitasking actually makes most programs, though more responsive, a little slower.

Pop-up Finder windows, the old Application menu, the customizable Apple menu, and plenty more features went away for no particular reason. In return, we got the Dock, the static Apple menu, a View As Columns option in the Finder, an enforced disk hierarchy, and "prebinding."

And that's just on the surface. The originally demonstrated OS X Finder had *only* the Columns view, just like the Next Browser. Apple's Next-oriented management team thought it could replace AppleScript with a scripting language of its own until several large publishing customers took them to school. As late as the alpha stage, OS X had no Apple menu of any kind, no

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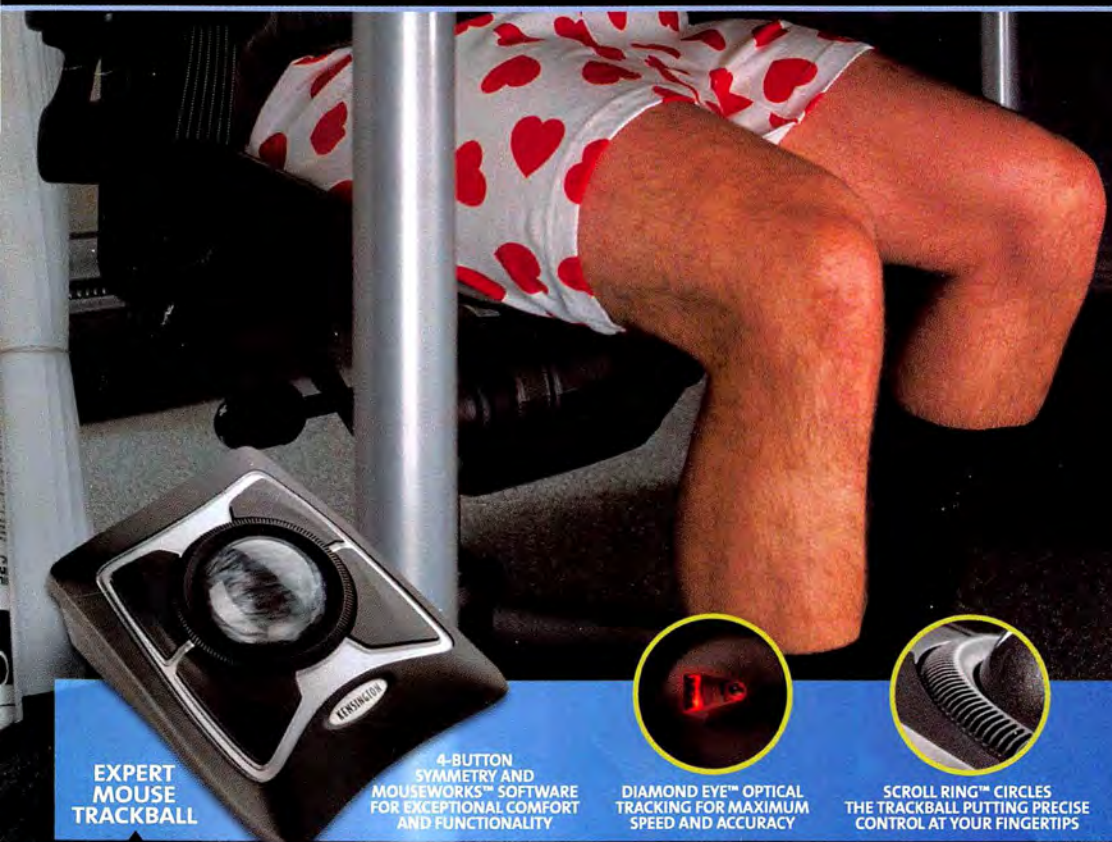

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