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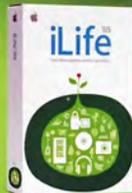
The Mac Product Experts

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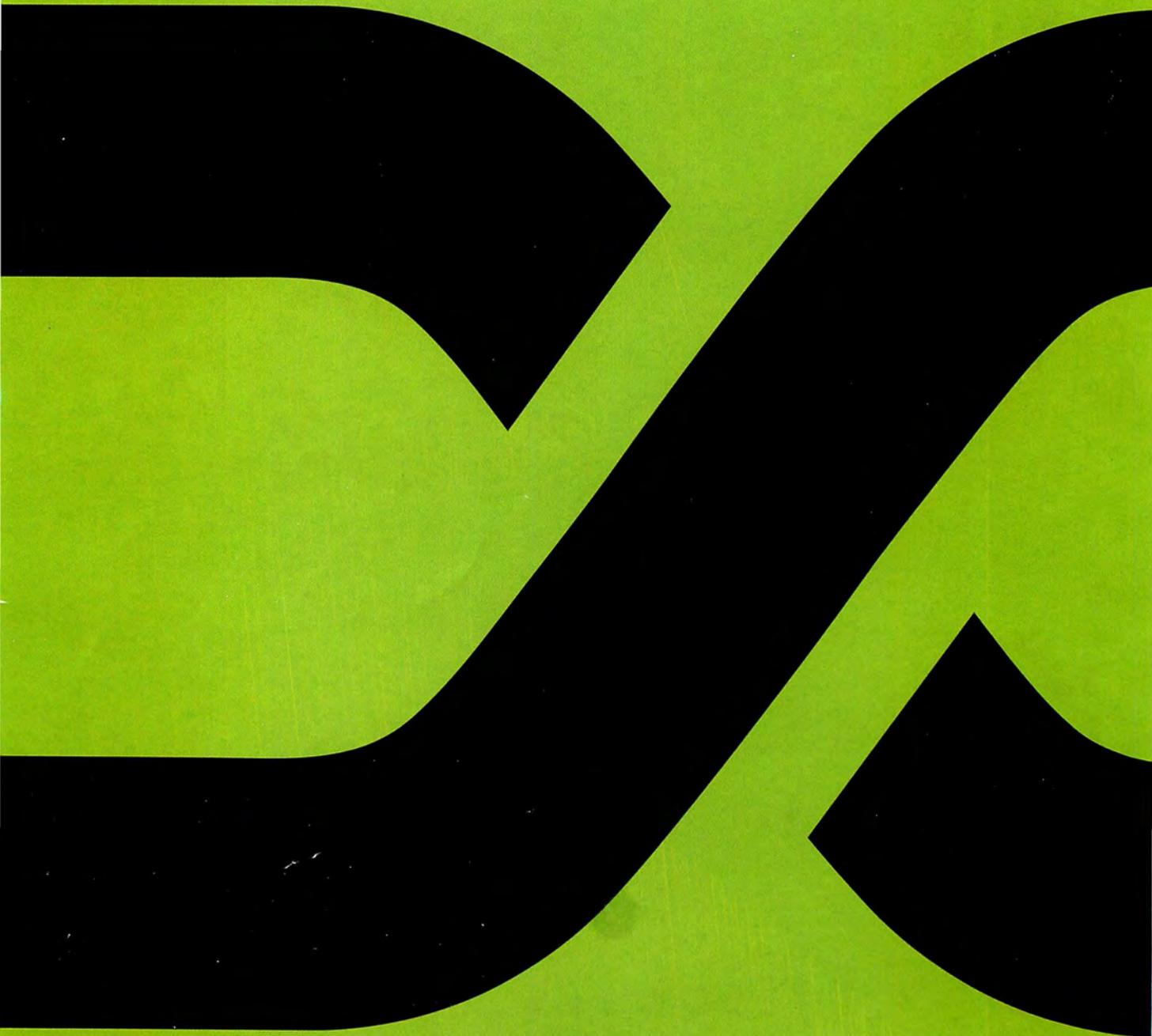
**Best in Show**  
Top Products from  
Macworld Expo



**Latest Software**  
iLife '05 and iWork '05



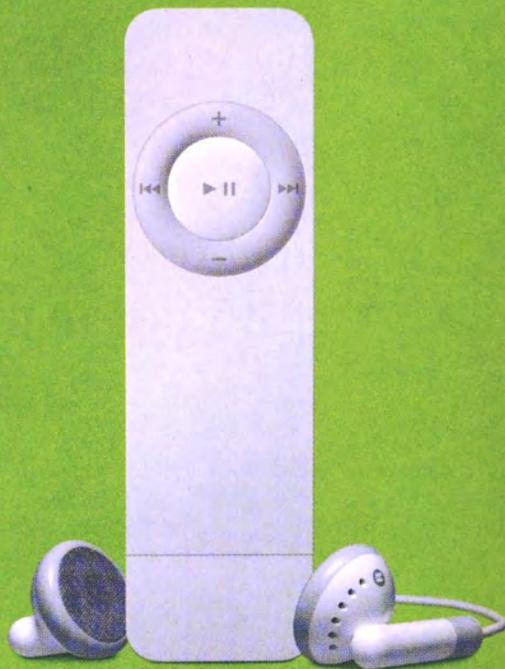
**HOW SAFE IS YOUR MAC?**



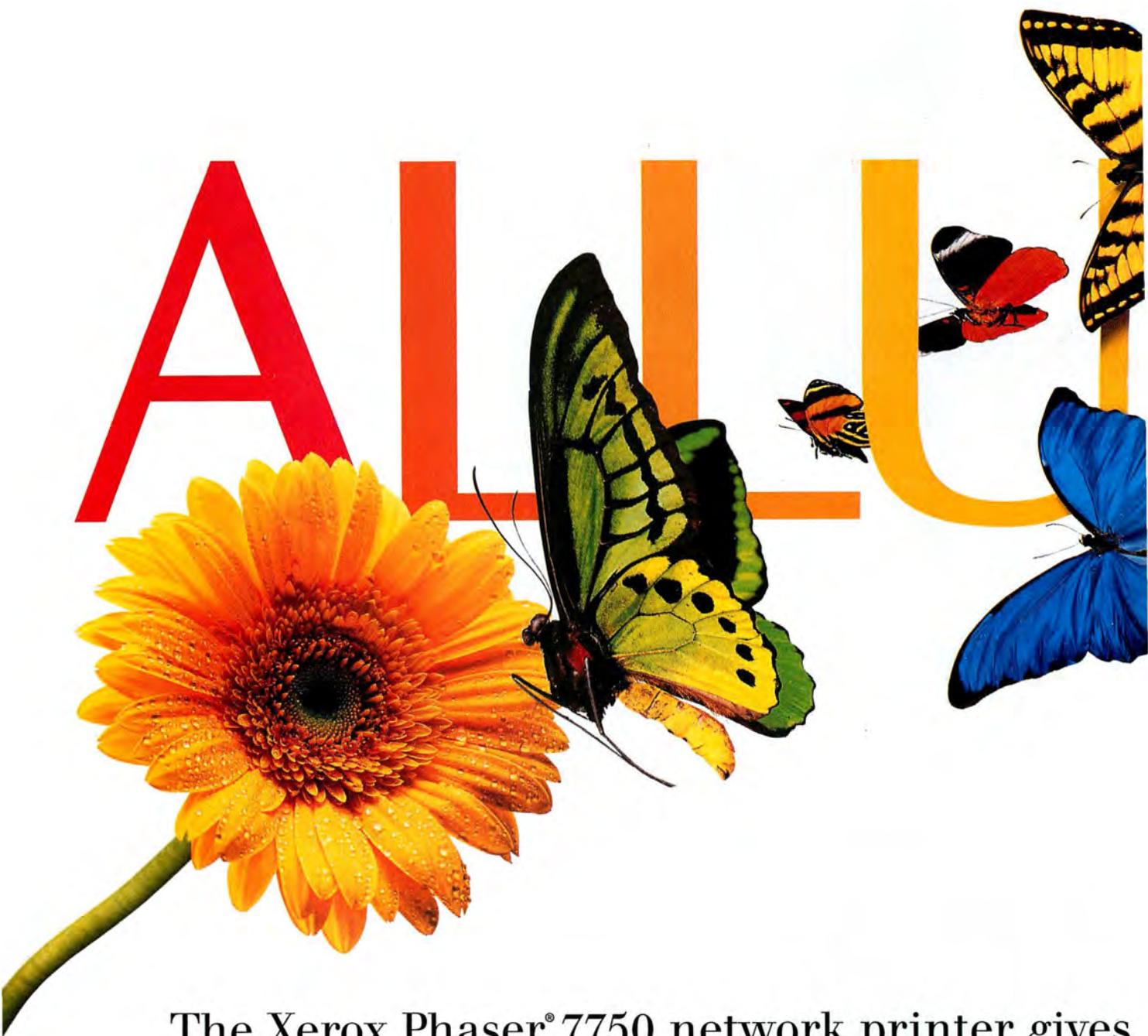
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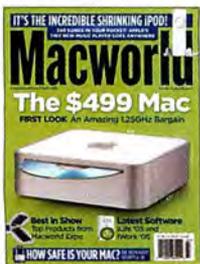
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On the Cover  
 Photography by  
 Peter Belanger



### The Virtual CD

All readers now have free access to the contents of the CD-ROM that comes with some copies of *Macworld*. To view the contents of the CD, go to the following URL (broadband Internet recommended):  
<http://cd.macworld.com/2005/03/paper-gopher>

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KIRK MCELHEARN

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ROB GRIFFITHS

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CHRISTOPHER BREEN

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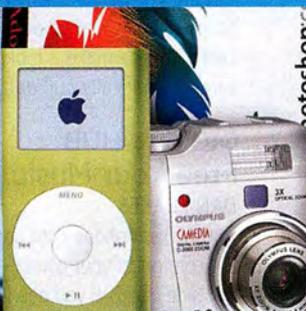
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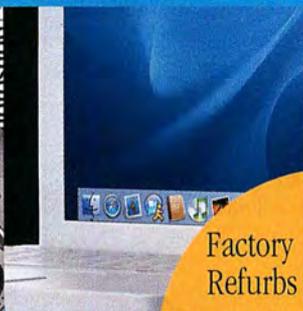
What do you get when you buy from Small Dog?



Service

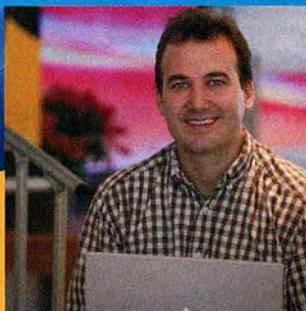


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## Small Is Beautiful

As Steve Jobs introduces the new \$499 Mac mini and the \$99 iPod shuffle in his keynote at Macworld Conference & Expo in San Francisco, I half expect a used-car commercial to break out onstage: *Our prices are insane!* But in reality, these prices make tremendous sense. As Jobs puts it, now people who have delayed switching to Apple products because they think those products are too expensive “have no more excuses.”

### Tiny Mac

Yet the Mac mini's \$499 price—the lowest ever for a Mac—is only the second most startling thing about the new machine. The most startling thing is its size: 6.5 inches square and just 2 inches high. Its looks recall the ill-fated G4 Cube, but the Cube was nearly five times taller, not to mention nearly four times more expensive. Having already tested their ability to cram a remarkable amount of stuff into a tiny space with the iMac G5, engineers at Apple have outdone themselves.

In the mini's 85 cubic inches, Apple fit a G4 processor (1.25GHz or 1.42GHz), an optical drive (Combo or SuperDrive), a 40GB or 80GB hard drive, the standard ports, and room for the optional AirPort Extreme and Bluetooth. It's not a crippled Mac by any means; but if you start adding keyboards, mice, wireless cards, and the like, you'll spend far more than \$499.

Will the Mac mini help Apple make inroads on Windows' market share? There's no way to know. But the iPod has introduced a whole new audience to Apple's skill at creating excellent products—the Mac mini's low price may get those same folks through the door of an Apple Store again.

The Mac mini should also be of interest to those of us who are already in the Mac camp. For a few years, I've had an old Power Mac, which I use as a Web and music server, in my office closet. Now I could replace that server with an unobtrusive (and much more powerful) Mac mini. It would also make a great second machine—in the den or the kids' room, for example.

### Tinier iPod

In any other context, the Mac mini would be the belle of the ball. But at Macworld Expo, it was upstaged by the tiny iPod shuffle, which costs as little as \$99 and weighs less than an ounce.

I wouldn't be surprised if there's a backlash against the iPod shuffle from the usual chorus of second-guessers (the same folks who thought the iPod mini was doomed to fail). After all, the iPod shuffle has no display and holds only a few hundred songs.

But consider this: If you want a pretty interface and a big collection of music, Apple has a few other products you may have heard of—the iPod photo, the

iPod, and the iPod mini. The iPod shuffle is a different beast, designed for people who want to have an ultrasmall, ultra-inexpensive player that lets them take along a respectable slice of their music collection.

Realistically, how many songs do you play in an average iPod session? For me, using Apple's assumption of four minutes per song (no prog-rock epics for Steve Jobs), the number is 15, because I usually listen to my iPod for about an hour at a time. The only time I've listened to more than 100 songs in one sitting was during a *very* long car trip.

The large iPod lets you take your entire collection along for the ride and select your tunes to suit your fancy. But are there times when 300 songs would be enough to get me through a bus ride or a walk to the grocery store? Absolutely. And that's what the iPod shuffle is for.

I doubt the iPod shuffle will ever be as popular as the other members of the iPod family. But, like the Mac mini, it fills some important niches. It'll be great for people who've been resisting the iPod because of its price. And it could also be attractive to confirmed iPod lovers who want an inexpensive, tiny, and sturdy complement to their existing player. I think the iPod shuffle will be a hit in both camps.



**Back in Black** Steve Jobs announces the Mac mini, the iPod shuffle, and other products at January's Macworld Conference & Expo in San Francisco.

### The Best of Expo

In this month's issue, we've got plenty of Macworld Expo news—the big Apple announcements *and* major news from the rest of the Mac community. *Mac Beat* (page 14) has details on a bunch of product announcements—including Apple's two new software suites, iLife '05 and iWork '05. It also has our list of Best of Show winners—the hottest products at Expo. And in our cover story, we've got in-depth first looks at the Mac mini and the iPod shuffle (page 48).

And be sure to check out our snapshots of all things Expo, at [find.macworld.com/0273](http://find.macworld.com/0273). □

What do you think about Apple's latest announcements? Let me know at [jason\\_snell@macworld.com](mailto:jason_snell@macworld.com) or at [www.macworld.com/forums](http://www.macworld.com/forums).

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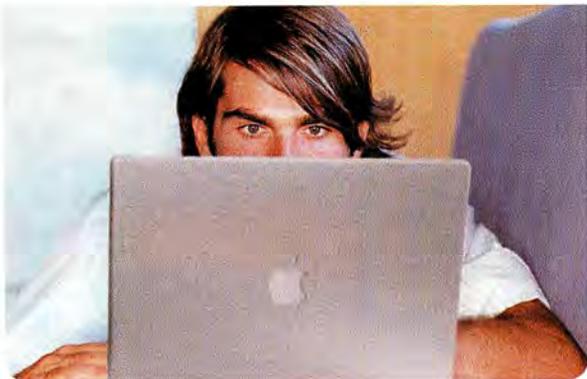
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*Jonathan Seff, Senior Associate Editor, Macworld Magazine  
(December 2004).*



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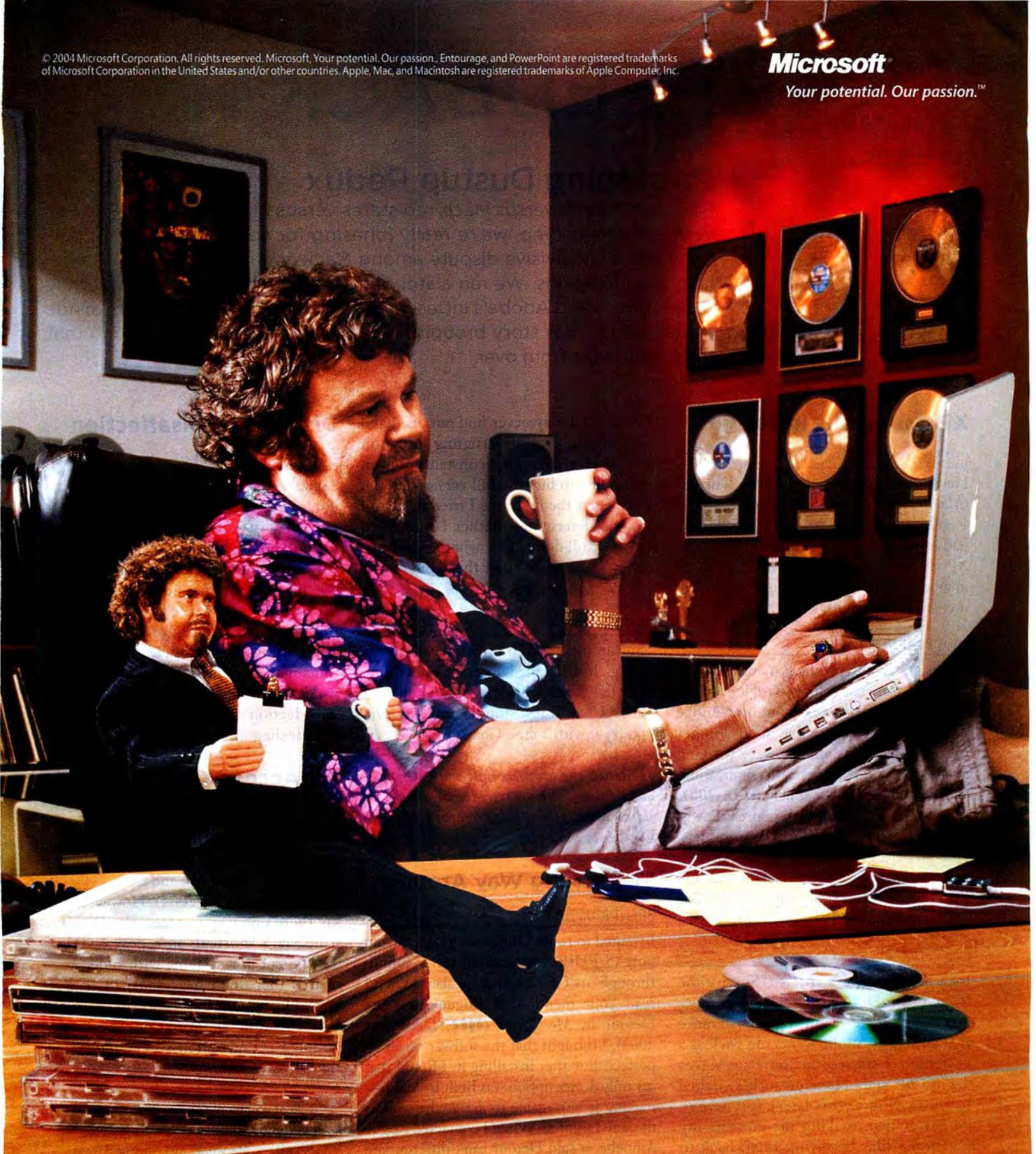
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# FEEDBACK

## Publishing Dustup Redux

Forget Windows versus Macs, red states versus blue states, and Red Sox versus Yankees (yep, we're really jonesing for spring training). Apparently, the *truly* divisive dispute among *Macworld* readers is about page-layout applications. We ran a story in December's *Mac Beat* about how QuarkXPress and Adobe's InDesign are battling for the hearts and minds of designers. That story brought in a blizzard of letters—indicating that the battle is far from over. □

## XPress versus InDesign

CHARLES FINLAY

I just finished reading "Publishing Dustup" (*Mac Beat*, December 2004). I've been using PageMaker since Aldus owned it. But if I had it to do all over again, I'd buy QuarkXPress. By raising the price on PageMaker upgrades, Adobe is pushing PageMaker users to switch to InDesign.

PAUL FINDON

InDesign group product manager Will Easley needs to take a long, hard look in the mirror before he boasts about how Adobe values its customers. I've used FrameMaker on the Mac almost every working day since 1991. It's a fantastic application, and nothing else can touch it. In 2001, Adobe said it planned to support OS X in future releases of its flagship products. Fast-forward to 2004. Adobe says there'll be no version of FrameMaker for Mac OS X. What does Adobe suggest we do? Switch to Windows!

BOB THOMAS

Jonathan Woolson's article ("Survive the Switch to InDesign," *Create*, December 2004) gave me few if any reasons to make that switch. If Adobe wants me back as a customer (I started out on PageMaker 1.2 in 1985 and only reluctantly switched to QuarkXPress years later), it'll have to do better than making me convert my Quark 6.5 files by saving them back to 4.11 format (in two steps) or spending \$199 for yet another program. That kind of grief I don't need.

## A Tangled Web

LARRY GROSSMAN

Saft may be everything Dori Smith says it is ("Untangle the Web," December

2004), but I may never find out: its demo is the single most irritating program I've ever tried. The constant pop-up reminders to buy the full version led me to delete it the first time I tried it, before I could determine whether I wanted to buy it. I still don't know whether the rave reviews will get me past the demo on my second (and last) try.

JIM SKINNER

Your article on Web browsers was interesting, but it failed to note one thing: Mozilla's Firefox doesn't work at all with Yahoo Chat. It just stops completely. Did you try it with Yahoo Chat?

*We tested the browsers only with iChat. A quick online check uncovered many competing claims about Yahoo Chat's compatibility with OS X browsers.—Ed.*

## The Wrong Way Around

BRENT MUSCUTT

I wanted to route iTunes to my digital-out port (S/PDIF) but send all other sounds through my G5's internal speaker. When I read your mention of Rogue Amoeba's Detour in *Mac Gems* (December 2004), I thought that the software seemed perfect. But after installing it, I found that my only device option was Built In Audio—making it impossible to *detour* the sounds the way I wanted. When I contacted Rogue Amoeba, it said Detour can't differentiate between the internal speaker system and the digital out. So I just wasted \$12.

*You're right: this is a limitation. We encourage readers to take advantage of free evaluation periods with all software. You can use Detour free for 30 days before you have to buy it—plenty of time to find out about such problems.—Ed.*

## Displays of Disaffection

DAVID DECRISTOFORO

Apple's new 23-inch Cinema Displays don't measure up. The backlighting is uneven, discoloration around the edges makes the screen seem dirty, and they have a strong magenta overtone. I'm not the only one who has noticed these flaws: the Internet and Apple's own forums are full of reports from buyers who see the same things. Nevertheless, Apple has remained frustratingly silent on these issues. That silence—for months since the introduction of these displays—has many of us feeling unusually frustrated.

## All-Access Keyboards

JEREMY M. COOK

Excellent tip on accessing the Displays and Sound preference panes using option-F1, option-F3, and so on (*Mac OS X Hints*, December 2004). However, you say there's no way to access the Displays pane via a shortcut on a desktop Mac. That's true for systems with older keyboards that don't have the F13 to F15 keys. On newer ones, however, F14 and F15 function as brightness keys; the option-F14 and option-F15 combos open the Displays pane.

Post comments on our forums ([www.macworld.com](http://www.macworld.com)); send them by mail to

Letters, *Macworld*, 501 Second Street, 5th Floor, San Francisco, CA 94107; or send them by e-mail to [letters@macworld.com](mailto:letters@macworld.com).

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## Held Back by the Mac

JOSEPH M. COATES

Recently, I was reading on the MTV Web site about U2's visit to New York (find [.macworld.com/0236](http://.macworld.com/0236)). About halfway down the page, I saw links to video of the visit. But when I clicked on them, all I got was an error message: "WINDOWS MEDIA TEST Sorry, video is not supported for Macintosh computers at this time." Isn't U2 an Apple partner? Can't Mr. Jobs cut a deal with MTV to use QuickTime?

VERNON J. MCMILLAN

I think AOL should add a disclaimer stating that it wants to satisfy only its Windows PC customers. For example, the company says it provides free antivirus software. But when I tried to download it, all I got was this message: "We're sorry, but we are unable to download McAfee VirusScan Online brought to you by AOL at this time, because you are using a Macintosh/Apple computer. Currently, this software is offered to Windows/PC users only." I'm sure that Mac users pay the same monthly

fee as Windows PC users, but the Mac version of AOL apparently has fewer features.

## Does Steve Believe?

JEREMY KRALL

Question 17 in your Mac trivia quiz ("Hands on Buzzers," *Mac Beat*, December 2004) was particularly informative. (Question: Who said, "If I were running Apple, I would milk the Macintosh for all it's worth—and get busy on the next great thing. The PC wars are over. Done. Microsoft won a long time ago"? Answer: Steve Jobs in 1996.) It seems that Steve has been true to his word—he's milking OS X and pushing the iPod as far as he can. I think my next computer will be a Windows machine.

## Eye to the Future

DAVID WEISMAN

Why am I reading the December issue in September? Am I looking at future news and innovations? I understand that post-dating a publication increases its shelf life and marketability. But it also insults my

intelligence. We could solve this misleading magazine-dating system by looking to the egg carton. Why not simply print "Best if used by December 1, 2004" on the cover?

*If you read the December issue in September, you did see into the future: we printed that issue in mid-October. But your point is valid—readers have always disliked postdated magazines. There are many good business reasons for the practice, so publishers must live with the complaints. (But thanks for the suggested fix.)—Ed.*

## CORRECTIONS

On page 66 of our January 2005 issue ("Picture Your Perfect Camera"), there is a picture of the Nikon F6 where a picture of the Nikon D70 should appear.

In the "Half a Dozen 'Pods" comparison table (*Mac Beat*, January 2005), an incorrect price for the iPod U2 Special Edition was given. That iPod costs \$349.

In our review of Motion 1.0 (♦♦♦♦), January 2005), we misreported the program's color support. Motion supports 8- and 10-bit color.

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IOGEAR's 1.8" Hi-Speed USB 2.0 ION Drive is small enough to fit in your hip pocket, big enough to hold a flash drive-dwarfing 40GB of data at a much better cost per megabyte. Store as many reports, notes, assignments, presentations, MP3s, videos, and other high-volume media files as you like. With unparalleled impact-resistance construction, it's designed for hallway bumps, airport bangs and boardroom bruises. And it's compatible with both PCs and Macs.

To keep pace with your fast-lane lifestyle, the ION Drive boasts USB 2.0 and USB 1.1 compatibility, transferring data at a hyper-fast 480Mb/sec.

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# macbeat

WHAT'S NEW

WHAT'S IN THE PIPELINE

WHAT'S HOT

APPLE INTRODUCES ILIFE '05 AND IWORK '05

## Sweet Software Suites

The biggest news to come out of January's Macworld Conference & Expo in San Francisco may have been Apple's foray into smaller, lower-priced hardware—namely, the Mac mini and the iPod shuffle (see “Small Miracles,” page 48). But Steve Jobs didn't neglect software during his keynote.

The announcements of iLife '05 and the new iWork (see “Get to Work”) were welcome news to Mac users. The new version of iLife—Apple's suite of digital media applications—contains updated versions of iPhoto, iMovie, iDVD, and GarageBand (as well as the 4.7.1 version of iTunes, the only app in the suite that's still available as a free download). iLife '05 is available now for \$79 (iLife '04 cost \$49), and it comes loaded on every new Mac. Here are some of the suite's biggest new features.



**Stretched Out** iMovie HD supports the HDV format, as well as standard 16:9 wide-screen video.

### iMovie HD

During his keynote address, Steve Jobs proclaimed 2005 “The Year of High-Definition Video.” Apple's commitment to HD became apparent as he introduced iMovie HD, which offers native importing and editing support for the 720p and 1080i HDV formats (Apple also announced an upgrade to its \$299 midlevel video editor, Final Cut Express HD, with similar HDV support). HDV is a highly compressed format that uses standard DV tapes to record a wide-screen, high-definition signal using an HDV camcorder, the least-expensive of which costs \$3,500 today.

iMovie HD can also import and edit MPEG-4 movies—whether from digital cameras or the iSight video camera—without having to convert them first to DV. You can now also work with standard-definition video in the 16:9 aspect ratio.

For when you need to make a movie fast, a new feature called Magic

iMovie lets iMovie HD quickly create a movie for you. At the push of a button, the app captures all the video from your camcorder's tape; places clips in the timeline; and creates a movie with transitions, a soundtrack, and custom titles. It can even insert chapter markers and send the finished movie to iDVD.

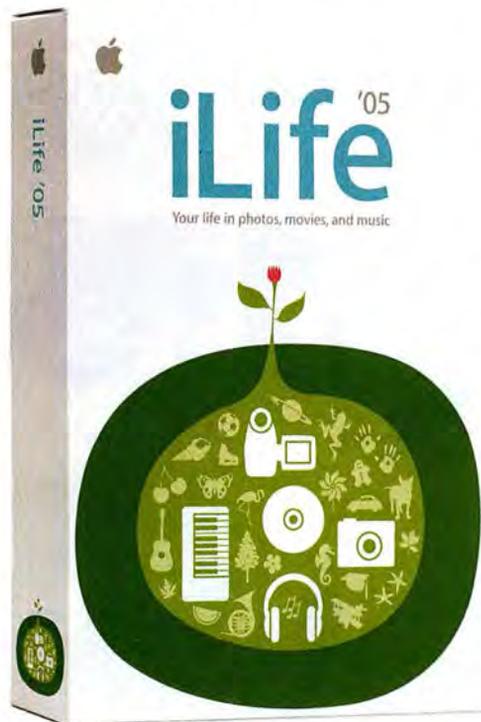
iMovie HD also

offers improved performance, non-destructive editing, and editing from within its timeline.

### iPhoto 5

Thanks to digital cameras, most of us have thousands of images to import, catalog, edit, and print—iPhoto 5 aims to make those tasks easier and faster. Organizing gets a big boost with hierarchical folders, a calendar view, and a search box. iPhoto can also now import Raw files, and the program prompts you to enter a title and a description for each “roll” as you import images from your camera or media card.

In editing enhancements, iPhoto 5 changes the editing view to include thumbnails across the top, improves red-eye reduction, and adds an Advanced Editing dashboard that offers quick access to brightness, contrast, exposure, saturation, sharpness, straightening, temperature, and tint controls.



## Get to Work

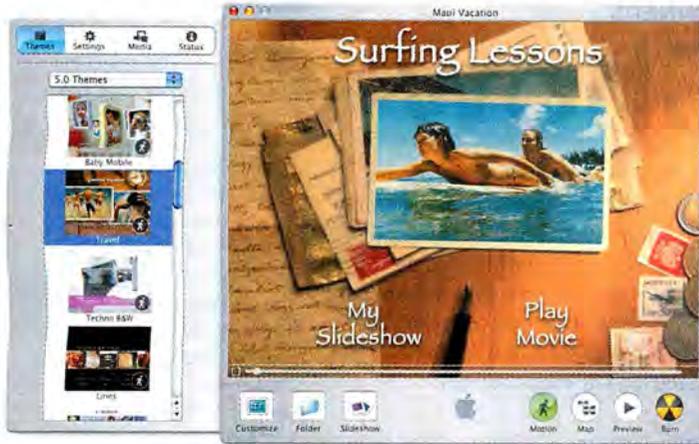
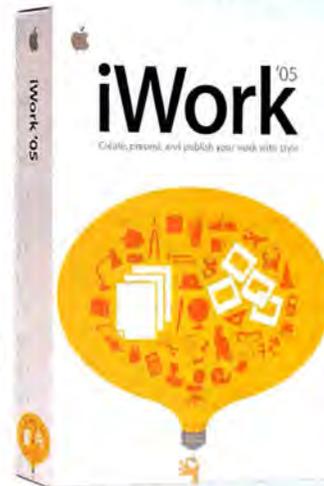
Steve Jobs also introduced the world to iWork '05, the heir apparent to Apple's languishing word processing, page-layout, database, spreadsheet, and presentation software, AppleWorks. The \$79 iWork is made up of two applications: an updated version of the Keynote presentation program, and a brand-new word processing and page-layout program called Pages.

Keynote 2, which Jobs used throughout his keynote presentation, includes new themes, as well as an expanded set of transitions, text animations, and slide-auto- mation controls. You can create self-running, interactive slide shows, and even export presentations in Flash format. And a new Presenter display shows you the next slide, notes, and a timer.

Pages includes 40 templates for creating

everything from brochures to resumes to newsletters, with alignment guides and support for dynamic text wrapping. The word processor features multicolumn layouts and other free-form arrangements of text, images, and tables, as well as the ability to set styles and build tables of contents and footnotes. A media browser integrates Pages and Keynote 2 with the iLife suite, and both apps can import AppleWorks files, as well as import and export Microsoft Word and PowerPoint files. Pages also supports PDF, Adobe Photoshop, TIFF, JPG, and QuickTime formats, and it can save out to HTML for the Web.—BRAD COOK

A Movie Star iDVD 5's new templates will turn your movies into professional-looking DVD productions.



Slide shows now support different transitions between each photo, can be saved (and edited) separately from albums, and let you pan and zoom using iMovie's Ken Burns Effect tool.

iPhoto 5 also greatly expands the ability to print books, with new themes, improved layout tools, double-sided printing, hardcover and softcover binding, and several different size options.

### iDVD 5

iDVD has become a great way to create DVDs with a lot of flair. Although iDVD 5 doesn't quite give you the Hollywood-quality results that Jobs touts, it does add to the program's legacy with 15 new themes that include motion menus and dynamic drop zones, where you can place video clips or photos and have them move across your DVD menus.

Although iDVD 5 can't burn a high-definition DVD (no Mac includes hardware for that yet), it can import 16:9 wide-screen video edited in iMovie HD and burn anamorphic DVDs—when played on a wide-screen TV, the video fills up the entire screen, with no black bars on the top and bottom. (HD movies are downsampled to SD resolution for burning.) And iDVD now offers OneStep DVD, which is similar to iMovie HD's Magic iMovie feature: it captures video from a camcorder and burns a DVD of the contents.

In addition to allowing you to burn your movies to DVD-R, DVD-RW, DVD+R, and DVD+RW media types, iDVD 5 lets you save your finished DVDs as disc images—ideal for backing up your movies. This also means (since you can use iDVD on a Mac without a

SuperDrive) that you can create a DVD in iDVD 5, save it as a disc image, and then use Disc Utility or Toast to burn the image to any DVD burner, internal or external, supported by your burning software.

### GarageBand 2

The newest member of the iLife family, GarageBand, also celebrates its first birthday with a major update. The biggest new feature in GarageBand 2 is multitrack recording. Instead of having your layer live instruments on top of each other one track at a time, GarageBand 2 lets you record as many as eight simultaneous audio tracks.

With this new version, you can create your own loops using either a real or a software instrument. And speaking of loops, GarageBand 2 also adds support for the popular Acid loops format. (To accompany the release of iLife '05, Apple came out with its latest collection of loops and software instruments, the \$99 Jam Pack 4: Symphony Orchestra.)

GarageBand 2 also includes automatic music notation and the ability to fix and enhance live recordings. Also noteworthy: you can use the program's new Music Typing window to turn your Mac's keyboard into a mock musical keyboard—so you can start experimenting with software instruments even if you don't have a MIDI keyboard.—JONATHAN SEFF



Easy Does It Pages makes quick work of creating vibrant layouts.

## MAC MINI, IPOD SHUFFLE TOP LIST OF WINNERS

# Best of Show

Twice a year, the editors of *Macworld* magazine and Macworld.com select the top recently released products, or products making their public debut, at Macworld Conference & Expo. Here are the Best of Show winners from January 2005's Expo.

> **iPod shuffle**, from Apple: This incredibly small music player has a very different interface: there's no display, so the device shuffles through a collection of your music that can be randomly placed on your iPod via iTunes' new Autofill feature. The iPod shuffle fills out Apple's music-player offerings, with a low-cost alternative to the popular iPod and iPod mini (512MB, \$99; 1GB, \$149; [www.apple.com](http://www.apple.com)).



> **TextWrangler 2.0**, from Bare Bones Software: This consumer-level text editor does many of the things that BBEdit does. And Bare Bones is giving the program away (free; [www.barebones.com](http://www.barebones.com)).

> **Mac mini**, from Apple: The most affordable Mac ever, this tiny silver desktop (2 inches tall and 6.5 inches square) can plug right into your existing monitor, keyboard, and mouse (1.25GHz, \$499; 1.42GHz, \$599; [www.apple.com](http://www.apple.com)).

> **Radeon X800 XT Mac Edition**, from ATI Technologies: ATI now offers a graphics card that can keep up with the Power Mac G5 (see this month's *Game Room*, page 44, for more information). The X800 can drive a 30-inch Cinema HD Display and a 23-inch Cinema HD Display together, thanks to both ADC and dual-link DVI connectors (\$499; [www.ati.com](http://www.ati.com)).



> **Transmit 3**, from Panic: One of the best FTP apps around just got better. Transmit now has tabs, spring-loaded folders, and improved synchronization (\$25; [www.panic.com](http://www.panic.com)).

> **naviPlay**, from Ten Technology: iPod users finally get a truly portable, wireless headphone device: the Bluetooth-powered naviPlay. With its 30-foot range, your iPod sounds great from across the room or deep in your backpack (\$199; [www.tenotechnology.com](http://www.tenotechnology.com)).

> **Solio**, from Better Energy Systems: This solar-powered battery charger fires up small electronic



products—such as iPods, cell phones, and PDAs—that connect to the unit via interchangeable adapters. To charge it, simply expose the three solar panels to the sun's rays. If no sun is available, you can always charge it via a wall socket (\$100 to \$120; [www.solio.com](http://www.solio.com)).

> **Elektron**, from Corriente Networks: This security product protects your small business's wireless network with RADIUS/802.1X authentication. To ensure that your network is free from snoopers and unauthorized users, Elektron requires that each user have a unique name and password for access. To keep network traffic private, the product generates a separate encryption key for each user (\$300; [www.corriente.net](http://www.corriente.net)).

> **SmartDeck**, from Griffin Technology: The SmartDeck's sensing technology lets you use your car stereo's controls to play, pause, skip backwards and forwards, and stop tracks on your iPod. It gives you much of the functionality of expensive adapters at a fraction of the price, as well as automatic volume control (\$25; [www.griffintech.com](http://www.griffintech.com)).



> **Popcorn**, from Roxio: Popcorn puts a friendly face on backing up unencrypted DVDs, using Roxio's proven Toast engine and an intuitive visual interface. Select which video, audio, and language tracks to back up, and Popcorn will compress the video of an entire dual-layer DVD to fit on a standard 4.7GB DVD while maintaining high quality and full audio fidelity (\$50; [www.roxio.com](http://www.roxio.com)).

> **Close Combat: First to Fight**, from MacSoft: This forthcoming squad-based tactical action shooter lets gamers experience what it's like to be a marine working in close-quarters urban combat, using the same tactics and techniques real marines use. The game will be released simultaneously for Mac, PC, and Xbox (pricing not yet announced; [www.macsoftgames.com](http://www.macsoftgames.com)).

> **Phaser EX7750**, from Xerox: The printer manufacturer has teamed up with EFI to introduce this color laser printer aimed at graphics professionals who need to produce color-accurate documents (\$17,899; [www.xerox.com](http://www.xerox.com)).

PRODUCTIVITY  
BEAT



**Grammatica 6.0**, from Ultralingua ([www.ultralingua.com](http://www.ultralingua.com)): Grammar- and spell-checking application features an overhauled interface, support for multiple languages in a single application, and the ability to check grammar and spelling in other editable applications (\$30 per language module).

**MacJournal 3.0**, from Mariner Software ([www.marinersoftware.com](http://www.marinersoftware.com)): Updated journaling application features nested journals, manual sorting of entries, Wiki links, and new text cleanup options (\$30; contact Mariner for upgrade pricing).

**NoteBook 2.0**, from Circus Ponies Software ([www.circusponies.com](http://www.circusponies.com)): Outlining and organizing software now integrates directly with Address Book, iChat, Mail, iCal, iTunes, and Safari and allows outline downloads directly to iPods (\$50; upgrade from version 1.2, free).

**OmniOutliner 3.0**, from The Omni Group ([www.omnigroup.com](http://www.omnigroup.com)): Outlining program features new styling and editing options and the ability to attach images, sounds, movies, and other files (Standard: \$40; upgrade from version 2, \$20; Professional: \$70; upgrade from version 2, \$50).

CREATIVE  
BEAT



**Optix 7**, from Mindwrap ([www.mindwrap.com](http://www.mindwrap.com)): Document-management and workflow application features improved metadata handling, server-logging enhancements, and reduced reliance on Java on the client side (contact Mindwrap for pricing).

**PDFpen 2.0**, from SmileOnMyMac ([www.smileonmymac.com](http://www.smileonmymac.com)): PDF-editing software can now search, select, and copy full text of PDFs and add highlighting markups to text (\$50; upgrade, free).

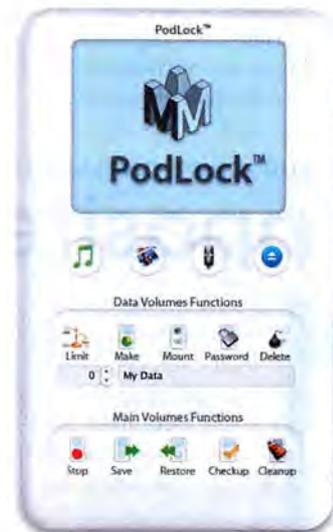
**PDFpenPro**, from SmileOnMyMac ([www.smileonmymac.com](http://www.smileonmymac.com)): Professional version of PDFpen adds the ability to create PDF forms (\$100; upgrade from PDFpen, \$45).

# Wanted: Control Freaks!



**DiskStudio™** allows you to create and remove disk partitions on the fly! Want to create a new partition for games or photos? No problem. Want to get rid of that old OS 9 partition without backing up and reformatting your drive? It's easy.

**PodLock™** is a new utility that lets you do cool new stuff with your iPod. Optimize the data on your iPod so it works faster. You can also create a secret drive within your iPod that allows you to keep sensitive data away from prying eyes. And much more!



Micromat is dedicated to bringing you cool and useful utilities for your Macintosh and iPod. Our flagship product, TechTool® Pro, has helped thousands of Macintosh users keep their Macs running at their absolute best. TechTool Pro can even recover lost data and resurrect faulty disk drives. Learn more about Micromat products by visiting our website.

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## THE APPLE-REALNETWORKS BATTLE RAGES ON

# Are They for Real?

Real  
Networks

When RealNetworks announced that its new Harmony technology would enable protected music downloaded from its store to play on an iPod, Apple was anything but thrilled (see "Music Battle Gets Real," *Mac Beat*, November 2004). In fact, Apple responded by accusing Real of using "the tactics and ethics of a hacker to break into the iPod," and said it would investigate possible legal action against RealNetworks.

The RealNetworks Music Store competes directly with Apple's iTunes Music Store, but Real has a disadvantage: it doesn't have its own music player, as Apple does with the market-dominating iPod. The only protected format the iPod works with is that of the music sold through the iTunes Music Store.

Recently, Apple has updated the software for some of its iPod music players so that songs bought from Real won't play on them. Real says that it isn't sure why this happened, but that it's working on a fix. Apple suggests that this is

what to expect if you use music that isn't officially supported on the iPod.

"As we stated in July, we strongly caution Real and their customers that when we update our iPod software from time to time, it is highly likely that Real's Harmony technology will cease to work with current and future iPods," an Apple spokeswoman says.

RealNetworks offers its own explanation.

"Apple has made some changes to FairPlay," says RealNetworks spokesman Matt Graves. FairPlay is the digital rights management (DRM) technology Apple uses to protect music sold through the iTunes Music Store. It's the iPod's support of FairPlay that enables it to play iTunes Music Store songs.

Graves adds that his company is working on a change to Harmony that should restore compatibility with affected iPods, but a target release date hasn't been set.—PETER COHEN

*(Jarvis Evers contributed to this story.)*

## WILL SUBSCRIPTION-BASED SERVICES WIN OUT?

# Opposites Detract



Nearly two years after its debut, the iTunes Music Store continues to best all rivals. According to Apple, the store has a 70 percent share of the market for legal music downloads, and covers 65 percent of the global music market. So how do other stores hope to compete? With subscription-based services.

At December 2004's Music 2.0 digital music conference in Los Angeles, speakers couldn't praise Apple enough for the success enjoyed by the company's iTunes Music Store—that is, when those speakers weren't predicting that the store would soon tumble from its spot at the top of the online-music heap because Apple refuses to, as Steve Jobs says, "rent music."

While Apple's approach to online music sales is an à la carte model—typically 99 cents for a single download or \$9.99 for a complete album—other services, including Napster and RealNetworks' Rhapsody, charge their users a monthly fee. Napster users, for example, pay \$9.95 a month for access to the service's 700,000-song library.

"It's the ultimate jukebox, being able to listen to everything without having to buy," Laura Goldberg, chief operating officer at Napster, told Music 2.0 attendees.

It's clear how music sellers benefit from a subscription-based model—those monthly fees provide a steady, predictable source of revenue. But what's in it for users? There's the variety—but if you're into specific genres and artists, that's like paying for a package of 80 cable TV channels when you watch only eight. There's also the issue of portability—how do you take that music on the road? Subscription-based services think they may have this problem licked: Microsoft's newest digital rights management software lets users transfer subscription-based content to compatible music players.

But for people familiar with the iTunes Music Store, the biggest concern may be one of ownership: When you stop subscribing, what happens to the music you've been paying to hear?—PHILIP MICHAELS

**Biggest F800 RAID**, from LaCie ([www.lacie.com](http://www.lacie.com)): Four-bay storage system supports RAID levels 0, 0+1, 5, and RAID 5+hot spare (1TB, \$1,499; 1.6TB, \$2,299; 2TB, \$2,699).

**BittyDock**, from Wiebetech ([www.wiebetech.com](http://www.wiebetech.com)): Bus-powered device connects to any USB port and includes connectors for Hitachi and Toshiba 1.8-inch drives as well as an adapter for 1-inch micro drives (\$80).

**silverscreen**, from LaCie ([www.lacie.com](http://www.lacie.com)): Portable USB hard drive can plug into multi-standard TV sets for instant playback of stored movies, music, and photos (40GB, \$249; 80GB, \$329).

**SureVault Pro RAID-50 Rack-mount**, from Kano Technologies ([www.kanotechnologies.com](http://www.kanotechnologies.com)): 4U rack-mount data-storage system features a FireWire 800 interface with capacity of 4.8 terabytes (pricing starts at \$5,799).

**Xserve G5**, from Apple ([www.apple.com](http://www.apple.com)): Rack-mountable file-server system now runs with dual-G5 processors clocked at 2.3GHz in its high-end configuration (2GHz G5 system, \$2,999; dual-2.3GHz G5 system, \$3,999; Cluster Node model, \$2,999).

INPUT-DEVICE  
BEAT

**Harmony 880**, from Logitech ([www.logitech.com](http://www.logitech.com)): Universal remote control features a USB port for connecting to a Mac and downloading device programming information and background images from the Internet (\$250).

**OS X Keyboard**, from Matias ([www.matias.ca](http://www.matias.ca)): Keyboard labels keys required to produce euro, copyright, trademark, and other symbols, and marks the keys that correspond with the symbols used to denote menu shortcuts in many applications (\$40).

**Silver Edition BT500 mini Bluetooth mouse**, from RadTech ([www.radtech.us](http://www.radtech.us)): Three-button mouse features 800-dpi resolution and a power switch for conserving battery life (\$55).

# World's Best iPod accessories!



## iFi

High-end 2.1 speaker system designed specifically for the iPod, featuring two Klipsch Reference Series RSX-3 satellite speakers, a dedicated subwoofer, docking station and RF remote.



## Sportsuit Sleeve for iPod shuffle

Total protection in a stylish neoprene case, featuring Marware's Multidapt clip system.



# Smart solutions for the Mac mini.



## DVIator

Connect an ADC flat panel display to your Mac mini and enjoy all the screen real estate.



## DotMouse

Comfort, performance, and quality in an affordable stylish 2-button mouse with scroll wheel.



## DVI Extension

Put another 10 feet between your Mac mini and your DVI flat panel display.



## Mac OS X Keyboard

A quiet tactile feel with each key clearly labeled with the Option or Shift-Option characters.



## PhoneValet

More than an answering machine. Turn your Mac mini into your personal telephone assistant.



Buy Dr. Bott products at your friendly neighborhood Mac store.  
Find one online at <http://www.drbot.com/local> phone: 800.541.1167

## CONSUMER REPORTS MAGAZINE GIVES APPLE THE NOD

# High Marks

Apple products have graced many a magazine cover over the past few years. But it was a real treat to see the words "Unspectacular results for Intel's new processor. Plus 59,940 reasons to reconsider Macs" on the cover of a recent issue of *Consumer Reports*.

The magazine's December issue looked at the computer industry, rating companies and their products. And Apple topped the charts in repair history and tech support.

*Consumer Reports* notes that satisfaction with tech support in the desktop-computer market is one of the lowest-rated services it measures. Since 2001, consumer satisfaction has continued to

dwindle, but the report singles out Apple as providing its customers with above-average support.

"In this atmosphere of low expectations, Apple Computer has actually raised its support

satisfaction for the desktop computers over the past three years to levels well above all competitors, while offering the most reliable desktop hardware," the report says.

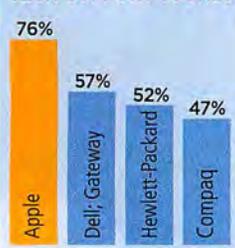
The article concluded that "Apple's superiority in all aspects of support, including waiting on the phone and Web support, suggests that it invests its support resources wisely."

Overall, Apple scored a 76 (out of 100) in tech support. Dell and Gateway tied for second at 57—Hewlett-Packard and Compaq pulled up the rear with scores of 52 and 47, respectively.

For repairs and serious problems reported by consumers, Apple again had the best score, with just over 10 percent of respondents reporting serious issues. Gateway had the worst record, with slightly more than 20 percent.

As for the nearly 60,000 reasons to consider a Mac? That's roughly the number of viruses and spyware that afflict Windows PCs but not Macs.—JIM DALRYMPLE

## TECH-SUPPORT SCORES



## DVD TRAINING VIDEOS OFFER CLASSES FOR EVERYONE

## Get Smart

Learning the ins and outs of a new application can be daunting. Classes aren't available everywhere, books aren't always clear, and attempting to teach yourself can be both time-consuming and ultimately ineffective. These days, however, you can find training courses in a variety of formats—from videotapes and DVDs to interactive CD-ROMs—that help you master the essentials at home, at your own pace. Whether you need to hone your Photoshop skills or just learn some OS X fundamentals, you won't have any trouble finding an expert teacher willing to drop in for a study session.—MATHEW HONAN

COMPANY	CONTACT	PRICE	FORMAT	COURSE TOPICS	DON'T MISS
Avondale Media	<a href="http://www.avondalemedia.com">www.avondalemedia.com</a>	\$15–\$50	DVD	Adobe Photoshop and Photoshop Elements, digital photography, Microsoft Office	Mac Office Bundle: <i>Macworld</i> Contributing Editor Jim Heid and Steve Broback cover Office essentials.
Desktop Media	<a href="http://www.desktopimages.com">www.desktopimages.com</a>	\$50–\$510	DVD, VHS	Adobe Photoshop, Avid Xpress DV and Pro, Boris FX, motion graphics	VideoSynchronies: The Motion Graphics Problem Solver: A four-hour course designed for everyone from beginners to professional video editors.
DV Creators	<a href="http://www.dvcreators.net">www.dvcreators.net</a>	\$25–\$100	CD-ROM, DVD	Digital video production, Final Cut Pro, iMovie, LiveType, Motion	Michael Wohl's Motion PowerStart: Hands-on three-project training course from one of Motion's documentation team members.
Magnet Media	<a href="http://www.digitalmedia.training.com">www.digitalmedia.training.com</a>	\$50–\$300	CD-ROM, DVD	Adobe After Effects, GoLive, Illustrator, and Photoshop; Discreet Cleaner; DVD Studio Pro; Final Cut Express and Pro; Mac OS X; Motion; professional cinematography	Inside Apple's Production Suite Training Bundle: 25 hours on Apple's major production apps: Final Cut Pro HD, DVD Studio Pro 3, and Motion.
Tacky Shirt	<a href="http://www.tackyshirt.com">www.tackyshirt.com</a>	\$40	DVD	Mac OS X	OS X Training: A four-hour course covering the basics of OS X.

HARDWARE  
BEAT

**2X1 DVI-DL Switcher**, from Gefen ([www.gefen.com](http://www.gefen.com)): Switcher connects two dual-link DVI sources to one dual-link DVI display (\$699).

**blue eye pro**, from LaCie ([www.lacie.com](http://www.lacie.com)): Automatic hardware-calibration product is designed specifically to work with LaCie's 321 Monitor (\$349).

**CLP-510**, from Samsung Electronics America ([www.samsung.com](http://www.samsung.com)): Laser-printer series offers built-in automatic duplexing with print speeds of 25 black-and-white or six color pages per minute (CLP-510, \$449; CLP-510N, \$549).

**EyeTV Wonder USB 2.0**, from ATI Technologies ([www.atl.com](http://www.atl.com)) and Elgato Systems ([www.elgato.com](http://www.elgato.com)): Analog TV tuner for Macs combines ATI TV tuner hardware with Elgato's EyeTV software (\$149).

**Pixma iP90**, from Canon ([www.canon.com](http://www.canon.com)): Mobile ink-jet printer features resolution of 4,800 by 1,200 dpi and prints 16 black-and-white or 12 color pages per minute (\$250).

NETWORKING  
BEAT

**FileWave 2.0**, from FileWave ([www.filewave.com](http://www.filewave.com)): Automated system for distributing and managing files on a network adds a patch installer that delivers OS updates (contact FileWave for pricing).

**LANDesk Management Suite 8.5**, from LANDesk Software ([www.landesk.com](http://www.landesk.com)): Enterprise management software improves patch management capabilities, software distribution, and remote-control functions (\$89 per node).

**Mac Boingo**, from Boingo Wireless ([www.boingo.com](http://www.boingo.com)): Software that lets users join one of more than 12,000 Wi-Fi hotspots with a single user name and password adds OS X compatibility (\$22 monthly subscription).

**Timbuktu Pro 8.0**, from Netopia ([www.netopia.com](http://www.netopia.com)): Updated remote-control software for network managers features support for Rendezvous and Secure Shell encryption (pricing not available at press time).



## GET EXACTLY THE RIGHT MEMORY FOR YOUR MAC...

FOR A FRACTION OF WHAT  
YOU'D EXPECT TO PAY!

**Y**ou know that finding just the right memory upgrade plays a big part in getting the performance you want from your Mac (and that upgrading your Mac's RAM can save you a bundle of cash compared to buying a new system). Now that you're ready to get your upgrade installed and start enjoying better performance, how do you figure out who has "the best deal" on Mac memory? You'll see tons of "lowest-price-anywhere!" deals, but really getting the best deal involves more than just price—it's also about things like compatibility, performance, and support. That's where Crucial comes in.

### **Will your memory be COMPATIBLE with my Mac?**

Today's Macs require specific memory designed to exacting standards. Do you really feel comfortable trying to sort through a foreign-looking list of base part numbers to figure out which memory is right for your Mac? Our Crucial® Memory Advisor™ tool has approximately 594 upgrade choices for 250 distinct Mac models. In just three clicks, we'll provide you with a specific, detailed list of compatible upgrades, recommended upgrades, and even the most

popular upgrades. Your FREE memory upgrade advisor report will show you only the parts that we guarantee will work in your Mac, or your money back!

We're able to do this because Crucial is a division of Micron, one of the world's largest memory manufacturers and a supplier to leading notebook and desktop manufacturers (OEMs). Micron collaborates with OEMs to develop memory that will perform compatibly with the rest of the system specifications; in fact, chances are good that you have Micron memory in your Mac right now!

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Whether you use your Mac as a tool for schoolwork or household bills, an entertainment center for music or movies, or as part of your job in image editing and design, a Crucial memory upgrade is a fast and easy way to prepare your Mac to run faster, multi-task between applications, and open large files. Our Memory Advisor tool provides you with information to advise you and explain the various levels of performance gains you can expect when you purchase a certain upgrade.

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[www.crucial.com/macworld](http://www.crucial.com/macworld)

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# REVIEWS

OUTSTANDING:   
 VERY GOOD:   
 GOOD:   
 FLAWED:   
 UNACCEPTABLE: 

Reviews you can trust: Macworld rates only final shipping products, not prototypes. What we review is what you can actually buy.

## 23-Inch LCDs

These Big Displays Give You More Room, Great Performance

BY JAMES GALBRAITH

If you use a small display, you know that switching between multiple applications and documents can turn into a sport that combines juggling with hide-and-seek. You bring your browser window to the front, search for a spreadsheet beneath three layers of Word documents, and keep other windows minimized in the Dock. Panther's Exposé utility is helpful in sifting through your many windows, but there's nothing like a little more room to help you get things done.

Luckily, the prices of large LCDs have come down considerably since Apple introduced its first 23-inch Cinema Display, at a whopping \$3,500, back in March 2002. We put five new large digital LCDs to the test—the Apple 23-inch Cinema HD Display, the BenQ FP231W, the Hewlett-Packard L2335, the Samsung SyncMaster 243T, and the Sony PremierPro 23-inch.

We found that the HP L2335 had the best mix of features, performance, and price. And in some displays, we found color problems that could prompt picky professionals to inquire about their resellers' return policies.

### A Big Display

All but the 24-inch Samsung display have a diagonal measurement of 23 inches, and each of the displays has a native resolution of 1,920

by 1,200 pixels—that's enough to watch wide-screen, high-definition video at full size.

The HP and Samsung displays have the ability to pivot from a standard landscape mode into portrait mode, but you'll need a compatible ATI graphics card, such as the Radeon 9200 or 9800 Pro, if you want to use this feature in OS X. The only displays that let you adjust their height are the HP and the BenQ. It's too bad that more of the displays don't have this feature. It's a shame to place a stylish monitor on top of an ugly riser to have it positioned at a comfortable level.

All the displays use standard digital (DVI) connectors, and all but the Apple also offer an analog (VGA) connector, which lets you easily share the display between two computers and makes the display compatible with older computers. Like Apple's monitors that have the

discontinued, proprietary display connector (ADC), the company's latest displays have just one cable coming out of their backs. However, this cable now branches off into several different cables that connect to the DVI, USB, and FireWire 400 ports on a Mac, as well as to an external power brick. The Apple display itself has two USB 2.0 and two FireWire 400 ports on its back, for connecting drives, cameras, keyboards, and other peripherals. The only other monitor that features a way to connect peripheral devices is the BenQ, which has four USB 2.0 ports, including one on top of the display for connecting a Web cam. Only the BenQ and HP displays include S-Video and composite video ports for connecting DV camcorders, still cameras, DVD players, or video-game consoles directly to the monitors—a nice feature for displays of this size.



**The Winner** The Hewlett-Packard L2335 was our favorite of these LCDs.

### Performance

To test these displays, we connected each one to a Power Mac equipped with an ATI Radeon graphics card. First, we used a GretagMacbeth Eye-One to color-calibrate each monitor to a medium-range color temperature of 6500K (Kelvin) and the Mac's standard gamma of 1.8. Then we looked at a variety of documents on screen to see how well the displays were able to reproduce accurate color and legible text.

Our jury of *Macworld* editors rated each display on several criteria. In many ways, the performance of these displays was similar. A minority of jurors rated the Samsung's text quality as Excellent, possibly because its extra inch of diagonal screen space gives the pixels a little more elbowroom, making text appear a little bit larger. But the jury's consensus was

## 23-INCH LCDS COMPARED

COMPANY	PRODUCT	RATING	PRICE	CONTACT	SIZE <sup>A</sup>	RESOLUTION <sup>B</sup>	CONNECTIONS	PROS	CONS
Apple Computer	23-inch Cinema HD Display		\$1,799	<a href="http://www.apple.com">www.apple.com</a>	23 inches	1,920 × 1,200	DVI	Clutter-free cable design.	Default colors were off on first unit we received; no VGA connection; no S-Video or composite connectors.
BenQ	FP231W		\$1,799	<a href="http://www.benq.com">www.benq.com</a>	23 inches	1,920 × 1,200	DVI, VGA, composite, S-Video	Inexpensive; excellent video-in options; 4-port USB hub; adjustable height.	Default colors were off.
Hewlett-Packard	L2335 ★		\$1,599	<a href="http://www.hp.com">www.hp.com</a>	23 inches	1,920 × 1,200	DVI, VGA, composite, S-Video	Least expensive; excellent video-in options; pivots to portrait mode; adjustable height.	None significant.
Samsung	SyncMaster 243T		\$1,999	<a href="http://www.samsung.com">www.samsung.com</a>	24 inches	1,920 × 1,200	DVI, VGA	Best display for text; extra inch of screen real estate; pivots to portrait mode.	Expensive; slightly washed-out colors; no S-Video or composite connectors.
Sony	PremierPro 23-inch		\$2,000	<a href="http://www.sony.com">www.sony.com</a>	23 inches	1,920 × 1,200	DVI, 2 VGA connections	Solid performance all around.	Expensive; no S-Video or composite connectors.

★ = Editors' Choice. <sup>A</sup>Size of screen, measured diagonally. <sup>B</sup>Display resolution is measured in pixels.

PHOTOGRAPHS BY PETER BELANGER

- 22 23-inch LCD monitors**  
 Apple 23-inch Cinema HD Display  
 BenQ FP231W  
 Hewlett-Packard L2335  
 Samsung SyncMaster 243T  
 Sony PremierPro 23-inch
- 23 30-inch LCD monitor**  
 Apple 30-inch Cinema HD Display
- 24 Word processors**  
 Mellel 1.8.2  
 Nisus Writer Express 2.1.1

- 25 RSS news readers**  
 NewsFan 1.6.0  
 NewsMac 3.1.3  
 PulpFiction 1.1.1  
 Shrook 2.12
- 28 Network-management app**  
 Apple Remote Desktop 2.1
- 30 GPS trip planner**  
 Route USA 2004 3.6
- 30 Compression utility**  
 StuffIt Deluxe 9.0

- 31 Astronomy program**  
 Starry Night Enthusiast 5.0
- 32 Photoshop plug-in filter**  
 Eye Candy 5: Textures
- 32 3-D modeler**  
 modo 102
- 34 Page-layout program**  
 QuarkXPress 6.5
- 36 Virtual piano**  
 Ivory 1.0

- 37 One-handed keyboard**  
 FrogPad Bluetooth iFrog
- 38 Top Products**
- 40 The Game Room**  
 The Incredibles  
 Ford Racing 2  
 Monster Fair  
 Radeon X800 XT Mac Edition

- 46 Mac Gems**  
 Clean up your text, keep an eye on your battery, brush up on your knowledge of the elements, and play some solitaire.

that the text quality of all the displays deserved a rating of Very Good; they fell short of an Excellent rating due to slight fuzziness in fonts at very small point sizes.

We saw color casts in the BenQ and Apple displays when we first set them up (the BenQ's was greenish; the Apple's was pinkish), but once they were calibrated, the jury—using standard *Macworld* test files including color charts, gray-scale photos, and a variety of elements—gave both displays Very Good color ratings. All the displays benefited from calibration, and all but the Samsung earned the same Very Good score. The Samsung display's colors were less saturated than those of the other displays. The colors were also a touch on the blue side and slightly washed out.

The viewing-angle tests were the most interesting of all our tests; results were very

Apple and BenQ displays had a pronounced green cast when we moved to the left or the right of center. The Apple display also showed problems with screen uniformity—even when sitting directly in front of the display, we noticed that the edges showed slightly different colors than the center of the display. At *Macworld*, we own several of these monitors, and we found the same problem on two other 23-inch Cinema HD Displays that had different graphics cards and were connected to different Macs.

After we reported these issues to Apple, the company sent us a second unit that didn't have the original pink color cast, but the colors in the edges of the display were still a bit darker than the colors in the center. If you plan to buy one of these monitors for general use, then you may not be concerned with the problems we



**The Runners-up** We also tested (from left to right) the Apple 23-inch Cinema HD Display, the BenQ FP231W, the Samsung SyncMaster 243T, and the Sony PremierPro 23-inch.

different from those of viewing-angle tests on other LCDs. The jury looked at a screen that showed a variety of test images (solid colors, photographs, and a light-gray background) and rated each LCD based on its ability to display consistent color from different angles. All but the Apple received a score of Very Good, and the HP exhibited the most-consistent color and lost the least amount of contrast when we moved to the left and right while looking at the screen. The grays on the

found. In fact, you may not even notice them: the users of our own Apple displays were surprised when we changed their desktop patterns to a medium gray and showed them what we'd seen. However, if you plan to use an Apple display for color correction, you should be aware of these color-consistency problems.

### Macworld's Buying Advice

The HP L2335 is our Editors' Choice for its very good performance in our tests, as well as for its outstanding value, at \$400 less than the Samsung SyncMaster 243T and the Sony Premier Pro 23-inch. The HP offers both analog and digital connectors, video inputs, and the ability to pivot into portrait mode. Were it not for the BenQ's out-of-the-box color problems, its additional video inputs and low price would've put it higher up on our list. □



## Mammoth Apple Monitor

### 30-Inch Cinema HD Display

Jaws dropped at the 2004 Worldwide Developers Conference when Steve Jobs unveiled the largest of Apple's new line of Cinema Displays. With a native resolution of 2,560 by 1,600 pixels, the 30-inch Cinema HD Display provides plenty of space to view wide-screen, high-definition video while keeping application windows and palettes open.

But it will set you back \$2,999 (\$1,200 more than the 23-inch model), and you'll need a high-powered graphics card with dual-link DVI ports to run it. At press time, three dual-link cards were available: the ATI Radeon X800 XT Mac Edition (\$499), the Nvidia GeForce 6800 Ultra DDL (\$599), and the Nvidia GeForce 6800 GT DDL (\$499); all three work only in the Power Mac G5.

When our panel of *Macworld* editors evaluated this display, they saw none of the color and viewing-angle problems that were present in Apple's 23-inch display. Text was clear and legible even at small point sizes. Color accuracy was very good across the display. And they noticed only normal viewing-angle changes.

### Macworld's Buying Advice

Apple's 30-inch Cinema HD Display backs up its awe-inspiring size and design with good, clear, and consistent performance.

**RATING:** ★★★★★

**PROS:** Provides a huge amount of desktop space; good performance.

**CONS:** Requires graphics-card upgrade and a Power Mac G5; lacks external video connectors.

**PRICE:** \$2,999

**COMPANY:** Apple Computer, [www.apple.com](http://www.apple.com)

Macworld LAB TEST	TEXT	COLOR	VIEWING ANGLE
Apple 23-inch Cinema HD Display	Very Good	Very Good	Good
BenQ FP231W	Very Good	Very Good	Very Good
Hewlett-Packard L2335	Very Good	Very Good	Very Good
Samsung SyncMaster 243T	Very Good	Good	Very Good
Sony PremierPro 23-inch	Very Good	Very Good	Very Good

#### BEST RESULTS IN BOLD.

All displays were connected digitally (via DVI) to a dual-1GHz Power Mac G4 running OS X 10.3.6 and with 512MB of RAM and an ATI Radeon graphics card installed. We assembled a panel of *Macworld* editors to judge each display using a variety of test images in Adobe Photoshop CS and Microsoft Word. The jurors assigned each display a rating of Excellent, Very Good, Good, Flawed, or Unacceptable.—MACWORLD LAB TESTING BY JAMES GALBRAITH

# Mellel 1.8 and Nisus Writer Express 2.1

Two Challengers to Microsoft Word Boast Strong Features and Lean Performance

BY WILLIAM PORTER

Looking for a word processor that has power where you need it but doesn't come with a lot of noisy bells and whistles you never use? Two recently released OS X word processors, Nisus Writer Express 2.1.1 and RedleX's Mellel 1.8.2, offer competitive feature sets at very competitive prices. One may be just right for you.

## Sleek, Flexible, and a Bit Geeky

With the release of version 2, Nisus Writer Express comes of age. It now has solid support for style sheets and tables, footnotes and endnotes, columns, in-line images, section formatting, and hyphenation—the features that distinguish word processors from text editors. There's a lot here for power users. You can assign keyboard shortcuts to almost any command. The program offers nameable, editable clipboards, a three-level find-and-replace function including regular expressions (grep) and search criteria you can save, and noncontiguous selection. You can automate processes in AppleScript, via scripting in Perl (a language designed for manipulating text), and by using the basic but efficient Nisus Macro. But there's nothing intimidating about Nisus Writer Express; in fact, it's so easy to use, and its user interface is so uncluttered, that beginners will take to it like baby ducks to water.



**Less Is More** In its Draft view, Nisus Writer Express hides margins, headers, and footers. You can also hide toolbars and palettes so you can concentrate on the words.

### NISUS WRITER EXPRESS 2.1.1

**RATING:** ★★★★★

**PROS:** Uncluttered user interface; customizable; supports style sheets; powerful find and macro features; support for double-byte languages such as Chinese.

**CONS:** No autonumbering or outlining; no support for right-to-left languages such as Hebrew.

**PRICE:** \$60; five licenses, \$100

**COMPANY:** Nisus Software, [www.nisus.com](http://www.nisus.com)

## Writing by Numbers

Many users won't mind, but Mellel 1.8 lacks macro and AppleScript support, and its find command is limited to searching only for literal text strings. Its idiosyncratic user interface makes sense once you get to know the application, but you may find that figuring out critical features such as styles and autonumbering is impossible without reading the guide.

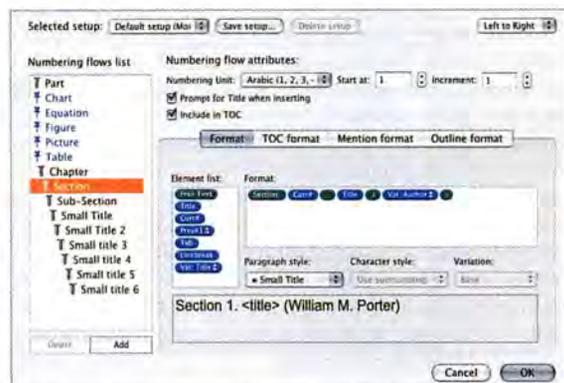
Nonetheless, where Mellel delivers, it really delivers. The program's distinctive excellence is its extraordinarily powerful and flexible autonumbering system. You can autonumber document parts (or objects such as tables and pictures) on several levels; each level can have its own format, including literal text strings, numbers, and variables. You can also view numbered levels reflecting document structure as an outline in a separate pane. In addition, Mellel 1.8 offers unequalled footnote and endnote options, a bibliographic database, and table-of-contents generation—features scholars will welcome. And with Mellel's support for user-definable document variables, it's clear that the program is up to the task of creating complex structured documents without a hint of feature bloat.

## Head-to-Head

Using styles to format the parts of a word processing document is more efficient than using ad hoc formats. Styles also help you achieve consistency in your formatting and allow you to reformat documents later by simply redefining styles. Unfortunately, Mellel's implementation of styles is the program's biggest weakness. Only global (application-wide) styles are editable, so defining and editing a common style—Body Text, for example—differently in various documents is not an option.

In Nisus Writer Express, changes made to styles in a given document affect only that document; this makes it possible to define and save a variety of differently styled document templates for different purposes. And while Nisus Writer Express has a conventional section feature, Mellel currently does not. It's far too difficult in Mellel to get a different header to appear reliably in the different parts of a document.

By default, Nisus Writer Express saves documents in RTE, a standard for word processing documents. Mellel offers RTF as an export option, but for editable documents, it uses its own MELL file format. Both Nisus Writer Express and Mellel can read Microsoft Word .doc files.



**By Number** Mellel's autonumbering options are breathtakingly rich and underlie many of the program's strengths, including its outline view.

Both programs tout their support for non-Latin alphabets, and in my tests both Nisus Writer Express and Mellel did a great job of handling Simplified Chinese. Nisus Writer Express 2 does not support right-to-left languages such as Hebrew, but Mellel does—not surprising, as Mellel's developers are Israeli (*mellel* means “text” in Hebrew).

## Macworld's Buying Advice

Neither program will appeal to users whose primary requirement in a word processor is that it be Microsoft Word. But if you are free to consider alternatives, Nisus Writer Express 2.1.1 or Mellel 1.8.2 might be right for you. If you are an outlining addict or an academic who needs great note options, and if Mellel's quirky styles don't bother you, then Mellel is a great deal. And although Nisus Writer Express doesn't include outlining, that program's customization options, powerful text-processing tools, and uncluttered look will appeal to a wide variety of users. □

### MELLEL 1.8.2

**RATING:** ★★★

**PROS:** Outstanding autonumbering and notes features; good outlining; superb support for Chinese and Hebrew.

**CONS:** Idiosyncratic user interface; doesn't support different editable style sheets in different documents; no support for document sections.

**PRICE:** \$39; five licenses, \$59

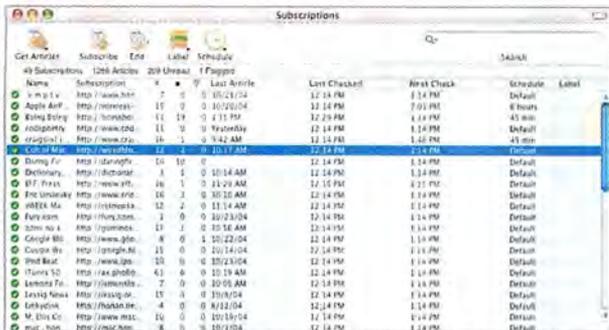
**COMPANY:** RedleX, [www.redlers.com](http://www.redlers.com)

# RSS- and Atom-Feed Readers

Reader Software Automatically Downloads the Web to Your Desktop

BY MATHEW HONAN

The popularity of news-reader applications has grown exponentially over the past year. These programs (also known as news aggregators), which download XML-based content from online publishers to your desktop, have rapidly proliferated, and a once barren product category on the Mac platform has become a field full of exciting contenders.



**New Settings** PulpFiction's subscription manager makes customizing refresh rates a snap.

We examined four popular desktop news readers: Freshly Squeezed Software's PulpFiction 1.1.1, Graham Parks's Shrook 2.12, Maki Enterprise's NewsFan 1.6.0, and ThinkMac Software's NewsMac 3.1.3. (We did not include two other popular news readers—Ranchero Software's NetNewsWire 2 [version 1.0.1, \*\*\*\*; "Put Weblogs to Work," July 2003] and David Watanabe's NewsFire—in this review, as both are still beta releases. However, they're worth a look; NetNewsWire 2 looks particularly promising.)

## Importing Feeds

There are two formats that sites typically use to publish feeds: RSS (which stands for Really Simple Syndication or Rich Site Summary) and the newer Atom. RSS is controlled by a single developer, who has locked the code to prevent the addition of new features and to keep RSS simple. Atom

was created as a more richly featured alternative. Although RSS remains the most common format, more and more sites are publishing Atom feeds, especially since Blogger and Movable Type now support it.

A good news reader should handle both types of feeds equally well, and almost all the products we looked at do just that. But NewsFan had some trouble displaying Atom feeds, noting in error messages that they were not in RSS or Atom 0.3 format (see "Atom-ic Bomb").

We began by importing a list of 50 feeds into each reader from a file in OPML (Outline Processor Markup Language), a format used to exchange subscription lists that read RSS and Atom files. This was easily accomplished in each reader. We wanted to see if each feed loaded properly, and here we ran into some problems. NewsFan was the only reader that consistently failed to display certain feeds.

## Managing Feeds

When you're working with a large number of feeds, it helps to be able to set different rules and groupings for each. In some cases, you might want a certain feed to refresh more frequently than others; for example, you might want your Slashdot feed to update every half hour, while you want a friend's Weblog to refresh only once a day. It's also helpful to be able to group feeds into categories so you can check them based on subject matter, such as job listings or news stories, without having to sort through all your subscriptions.

PulpFiction's feed-management features are by far the easiest to use. The program's separate window for subscription management lets you easily set different refresh rates for each feed. PulpFiction also uses

filters to sort feeds into various folders based on rule actions similar to the ones in Apple Mail. Shrook was a close competitor, thanks to its ability to create both static folders for organizing feeds and dynamic Smart Groups—similar to iTunes' Smart Playlists—that automatically sort feeds by a variety of user-determined factors, such as subject matter, category, and date updated.

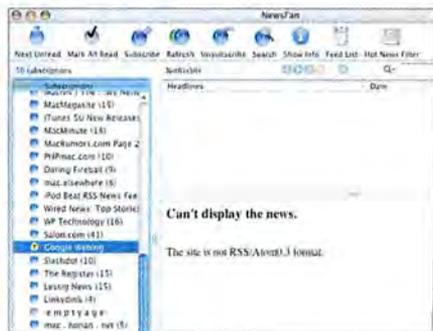
Although it offers support for various groups and categories, NewsMac was a weak performer in this area. Organizing feeds into groups was difficult, and removing the app's preset channels was complicated. Presets can be removed via preferences, but NewsMac doesn't let you add new ones.

## Interface

News readers are all about delivering content in a highly accessible form. The readers we looked at vary greatly in interface, ranging from simple two- and three-panel views to NewsMac's six-panel view, which felt like overkill.

Shrook has a four-column default view that can be customized in all sorts of interesting ways, or easily converted into a two-column view with just headlines and articles. We liked this layout immensely, particularly the way the program displays complete Web pages in one pane if you so desire. Like NewsFan, Shrook will display feeds in the Dock: control-clicking on the icon displays a list of feeds that shows which have been updated.

NewsFan uses a three-panel display: one pane lists feeds, another lists headlines, and continues on page 27



**Atom-ic Bomb** NewsFan displays an error message with certain news feeds.

## RSS- AND ATOM-FEED READERS COMPARED

COMPANY	PRODUCT	RATING	PRICE	CONTACT	PROS	CONS
Freshly Squeezed Software	PulpFiction 1.1.1	★★★★	\$25	<a href="http://www.freshlysqueezedsoftware.com">www.freshlysqueezedsoftware.com</a>	Best interface; excellent grouping and filtering; nice subscription-management features; supports archiving of old articles.	No iPod or Palm OS syncing.
Graham Parks	Shrook 2.12	★★★★	\$25	<a href="http://www.fondantfancies.com">www.fondantfancies.com</a>	Excellent, highly customizable interface; Smart Groups feature allows for easy sorting; supports iPod syncing.	None significant.
Maki Enterprise	NewsFan 1.6.0	★★★	free	<a href="http://www.makienterprise.com">www.makienterprise.com</a>	Nice three-panel display with support for groups; supports iPod syncing; can use the Mac OS speech utility to read articles and play them back in MP3 format; free.	Poor Atom-feed handling.
ThinkMac Software	NewsMac 3.1.3	★★★	free	<a href="http://www.thinkmac.co.uk">www.thinkmac.co.uk</a>	Supports iPod and Palm OS syncing; free.	Hard to customize.

# THE BOOMBOX IS BACK!

## iBoom

BOOMBOX WITH FM RADIO FOR IPOD

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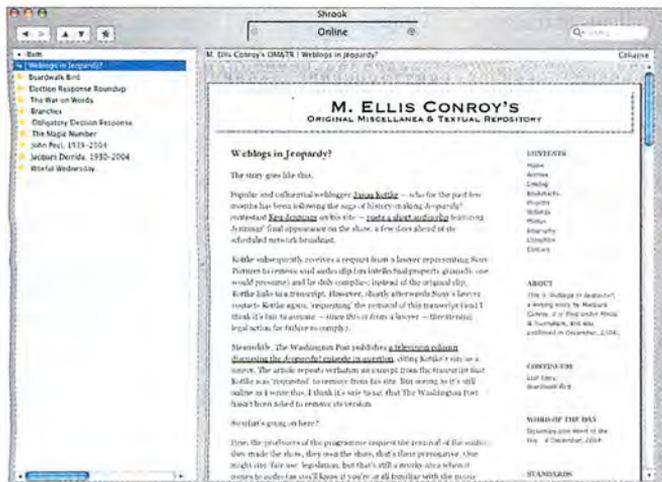
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The DLO BoomBag for iBoom lets you take your new iPod boombox with you wherever you go. The BoomBag features a shoulder strap and a handle as well as multiple pockets for storing iPods, earbuds and other stuff. The cool, form-fitting design is made from top-quality neoprene and nylon. The protective front padding unzips and allows you to enjoy iBoom and iPod at a party, on the beach or wherever you want to share your music. Don't miss out on the perfect accessory for the only boombox created specifically for iPod and iPod mini, the DLO iBoom.

ONLY \$44.99



Nice View Shrook can display feeds with the author's formatting intact.

**RSS- and Atom-Feed Readers**  
continued from page 25

the third displays articles. We found this style to be very accessible, with everything laid out in a logical manner. One aspect of NewsFan we didn't like was its default news ticker, which flashes headlines across the bottom of your desktop—this feature is distracting and of little value. Fortunately, you can turn it off via the Preferences menu.

Like NewsFan, PulpFiction has a three-panel display. But it also lets you collapse the pane showing the list of feeds, so you can stick to a two-panel view with the top window dedicated to headlines and the bottom displaying articles. In addition, PulpFiction lets you store articles indefinitely, until they're moved to the Trash—a nice way to hang on to older stories.

NewsMac uses a complex, six-panel layout; it features a collapsible pane that displays a list of feeds in various channels or cate-

gories. This interface is cluttered and unintuitive. Clicking on a feed in the channel pane, for example, does not result in a display of the article or headlines in the main viewer windows—the view doesn't change.

Each reader allows for some customization of how feeds are displayed. Most let you set at least fonts and type sizes. PulpFiction incorporates style sheets that let you easily set feeds to display in various eye-pleasing ways.

**iPod Syncing**

An exciting new feature several readers have added is the ability to download news to your iPod. Shrook, NewsFan, and NewsMac can automatically sync news to an iPod (NewsMac can also sync to Palm OS devices), storing articles in the Notes folder so they can be read offline later. NewsFan can even convert items to audible news, using the Mac OS speech utility to read articles and play them back on an iPod in MP3 format. While none of the readers we tested support *podcasting*—automatically downloading embedded MP3 files to an iPod or iTunes—we look forward to seeing this function in future versions.

**Macworld's Buying Advice**

We were excited to see so many high-quality Mac news readers. PulpFiction 1.1.1 is our favorite, thanks to its highly customizable interface, easy-to-use subscription-management features, and top-notch automatic sorting of feeds into groups. We also recommend Shrook 2.12, for its fantastic interface and iPod syncing. □

**Web-Based Feed Readers**

There are numerous free online services that will track and manage your feeds while you're on the road—we recommend Rocket RSS Reader, from Rocketinfo (<http://reader.rocketinfo.com>). Rocket RSS Reader allows you to sort feeds into categories, and it will run in all operating systems and browsers. Also worth a look are Bloglines ([www.bloglines.com](http://www.bloglines.com)) and Kinja (<http://kinja.com>), which organizes all your feeds into a single Web page.

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# Apple Remote Desktop 2.1

Improved Remote-Management App Says Good-bye to OS 9

BY ANDREW T. LAURENCE

Any administrator who has been in charge of multiple Macs knows the repetitive chore of installing and updating software. Add in the inevitable phone calls requesting help, and you quickly wish you could shorten the distance between users' computers and your chair.

Apple Remote Desktop 1.0 was Apple's first foray into remote control and desktop management. However, its capabilities lagged behind those of Netopia's stalwart Timbuktu Pro (★★★★; June 2004), and the desktop management was riddled with glitches and lacked obvious tools that would've made the support job easier. Version 2.1 makes great strides to correct deficiencies in both areas.

## Upgrade Planning

The new version is a dramatic departure from the 1.X versions, so you should carefully plan this upgrade. First, OS 9 has been jettisoned. And second, this is a lockstep upgrade: the Remote Desktop administration application

controls and manages only clients of the same version. Older clients can be upgraded over the network, as long as they are version 1.2 or later. (Make sure that the Remote Desktop application is in the Applications folder before you upgrade to 2.1, and make sure that you open the Remote Desktop ports in OS X's firewall so you can manage the machine after upgrading.)

## Reaching Out

Version 2.1 adopts the open-source Virtual Network Computing (VNC) protocol for screen sharing and control. Remote Desktop is now noticeably faster than other VNC implementations, and it's nearly as fast as Timbuktu. Apple is documenting the changes for the open-source community, and it hopes that other projects will adopt them.

VNC broadens the Mac's support options to other platforms, substantially increasing Remote Desktop's value. Now any computer with a free VNC viewer can control a Mac running the free 2.1 client. (Do not confuse Apple Remote Desktop with Microsoft's similarly named client for Windows terminal services; they don't interoperate.)

In testing interoperability with other VNC programs, I found that TightVNC ([www.tightvnc.com](http://www.tightvnc.com)) was the most compatible with Remote Desktop. Because it lacks Apple's customization features, TightVNC isn't quite as fast as Remote Desktop. Like

Timbuktu, Remote Desktop has a full-screen mode and supports scroll wheels and right-clicking. Timbuktu is still unique in some areas, particularly two-way file copying and dragging files to the display window.

Because VNC is not an encrypted protocol, security precautions are necessary. Adept administrators can tunnel their Remote Desktop sessions inside a Secure Shell (SSH) or virtual private network (VPN) connection, but we think Apple should provide an encrypted solution. An included kickstart command-line utility helps somewhat; it allows you to configure, start, and stop the Remote Desktop client from within an SSH session.

## Digging In

Apple Remote Desktop's management operations are processed as tasks, and they can be saved or scheduled for later use. The program locates clients with Rendezvous by searching IP ranges, or you can type in an IP number. Both Remote Desktop and VNC clients can be put on machine lists for later reference, and individual machines can be listed in multiple categories, such as Laptops and Marketing. Version 2.1 eradicates a bug that limited an administrator machine to only 29 network locations.

One of the program's neatest tricks is its remote configuration of a client's access settings from the administration application. You can specify which users have access, par-

# 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."

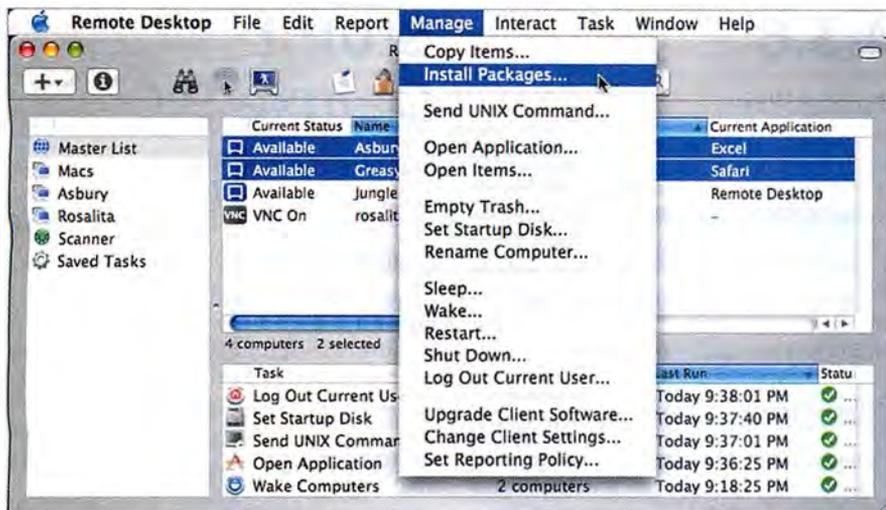
David Coursey, ZDNet AnchorDesk, agrees in an article comparing disk utilities. He used it to fix a disk that no other utility could. "DiskWarrior is a great product, not just because it fixed a pretty serious screw-up, but because it showed me what it planned to do in minute detail before doing it."

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

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**Easy Updates** Apple Remote Desktop 2.1 lets you install update packages; all tasks are logged.

cel different levels of access to different users, specify whether generic VNC viewers may access a machine, and even create users on the local machine just for Remote Desktop. Remote Desktop nicely leverages enterprise directories; you can assign privileges to groups, and version 2.1 adds authentication to Microsoft's Active Directory. All these attributes can be pushed to client computers, or included in a stand-alone client installer.

Copying files to client machines is now easier, as you can drag files from the Finder to the

Copy dialog box. A Remote Desktop administrator can install software that uses Apple's installer packages; version 2.1 easily executes a restart after installation if one is needed. Other software, however, must be copied to the clients and installed via a control session.

The Send Unix Command menu item allows an administrator to execute a command or a shell script on client computers. Version 2.1 displays the full text results, making this feature truly useful at last. But there are security lapses: in this case, Send

Unix's communications with the client are not encrypted, and Remote Desktop cannot initiate an SSH session in Terminal.

Despite version 2.1's many improvements, Remote Desktop is still a young product, and it could use some additional features. It doesn't support AppleScript; the graphical interface cannot quit applications on a client machine; you can set a client's startup disk, but you must type a partition's name if there is more than one on a disk; and the software-version report still offers only comparisons with the administrator's computer.

### Macworld's Buying Advice

Apple Remote Desktop 2.1 has matured nicely but could stand some improvement. Adopting VNC makes Macs more accessible to other platforms and more appealing to traditional IT departments. The price may seem expensive at first blush, but if you're installing a bunch of Xserves, it's much cheaper than video cards and associated cabling. □

**RATING:** ★★★

**PROS:** VNC support; remote package installation; enterprise directories.

**CONS:** Lockstep upgrade; security lapses.

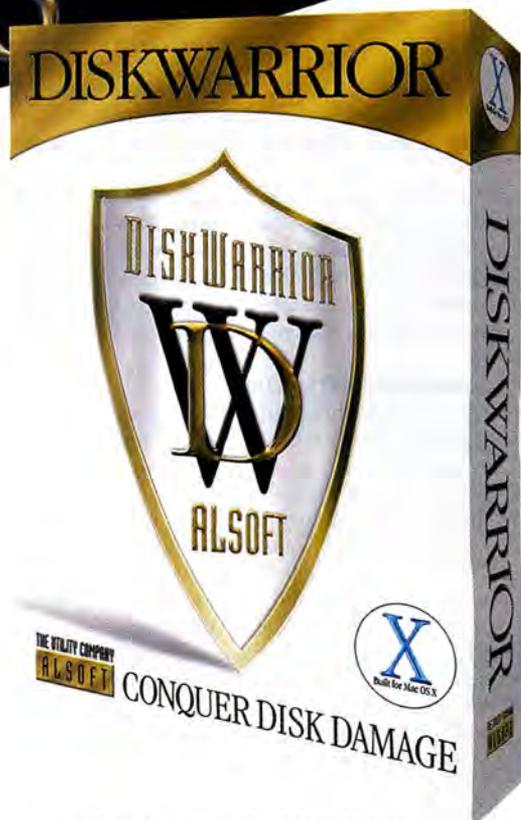
**PRICE:** ten client computers, \$299; education, \$149; unlimited clients, \$499; education, \$249

**COMPANY:** Apple Computer, [www.apple.com](http://www.apple.com)

# 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."



# Route USA 2004 3.6

GPS Trip-Planning Software Guides You on Your Way

BY MATHEW HONAN

Although there are plenty of free online resources that will tell you how to get from your house to the store, for true long-distance mapping and trip planning—with Global Positioning System (GPS) integration, multiple stopping points, and information on highlights along the route—you need something more powerful. With its GPS-enabled maps and gigabytes of road and location data, Route USA 2004 3.6, from Route 66, will guide you across the country, from busy highways to country roads, but it could still stand some improvement.

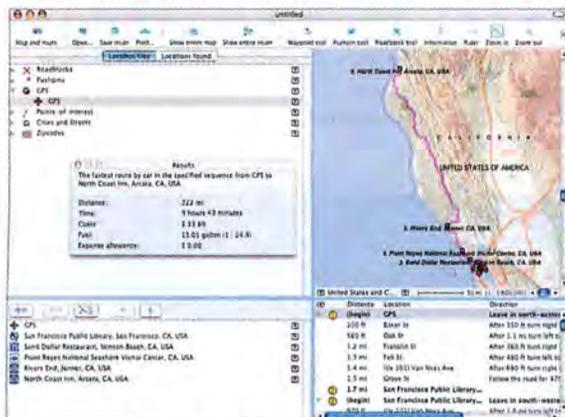
When you hook up a Mac-compatible GPS unit to a PowerBook with Route USA installed, you're ready to hit the road. The program had no trouble recognizing and communicating with my GPS unit. As soon as I had connected the unit and activated the GPS function in Route USA, the software

restaurants, gas stations, parks, and hotels, complete with addresses and phone numbers. It's a snap to include reference-point data in a new trip plan, either by searching for specific information such as "hotels in San Francisco" or by selecting Hotels, for instance, from a pull-down menu.

## Roundabout Routes

Route USA did run into some problems. For example, when I mapped a route from my San Francisco apartment to the Santa Clara Convention Center, I wanted to see if Route USA would prompt me to take the lengthier and faster route (about one hour) or the more direct one, which takes more time. Instead of choosing either, it routed me across the San Francisco-Oakland Bay Bridge—a trip that would take me far out of my way through heavy traffic and require crossing two bridges.

Furthermore, the application tends to run very slowly. On a 1GHz PowerBook G4 with 512MB of RAM, map-redraw and route-calculation times were sluggish, sometimes taking nearly all the system's processing power. And making changes to the default print settings is not at all straightforward and can be a time-consuming chore. Finally, I would have preferred the option of running the application from a CD or a DVD, rather than having to install 2.5GB of data on my machine.



**The Complete Picture** Route USA 2004's route-summary feature gives you all the data you need about projected driving time, distance, and costs.

began downloading GPS data and displayed my location on the map. You can input route waypoints (GPS latitude and longitude markers) with the push of a button. And real-time GPS means that you can track your progress on a route, recording changes while you drive.

## Comprehensive Trip Data

Although you have to get used to its somewhat puzzling four-panel interface, Route USA's maps are extremely comprehensive. In addition to main streets and highways, it also listed unpaved logging roads in a wilderness area I was headed to. The program clearly marks and duly routes you around one-way roads and other potential pitfalls. Even better, it summarizes trip data, not only listing projected mileage and driving time, but also automatically generating fuel-cost estimates.

Route USA is loaded with reference points to many useful locations, such as

## Macworld's Buying Advice

If you're a GPS user, Route 66's Route USA 2004 3.6 is a great tool for finding your way around a map in real time. The software's extensive feature set enables comprehensive, if not easy, route planning. But people without a GPS device might want to stick with free online mapping tools such as Yahoo (<http://maps.yahoo.com>) and Mapquest ([www.mapquest.com](http://www.mapquest.com)) for now. □

**RATING:** ★★★

**PROS:** Extensive, detailed maps; works very well with a GPS unit; loaded with reference points for route planning; estimates travel miles and costs.

**CONS:** Sluggish performance; doesn't always choose the best routes; printing is troublesome; somewhat unintuitive interface; must load all data to your hard drive.

**PRICE:** \$40

**COMPANY:** Route 66, [www.66.com](http://www.66.com)

# StuffIt Deluxe 9.0

Speed and Productivity Boosts  
Augment StuffIt's Latest Release

BY ROSS TIBBITS

Answering the challenge for greater speed posed by the Finder's swift Archive command in OS X 10.3, Allume Systems has released StuffIt Deluxe 9.0. This upgrade is a quicker, altogether more functional program that improves archiving flexibility; enhances file encryption, protection, and distribution; and provides faster, more-efficient compression.

The latest version's Archive Assistant operates networkwide: files located on your desktop or hard drive or accessible via a network can be archived on a server, on a remote drive, or even in your .Mac account. Files that are accessible by more than one network user can be archived with administrative privileges set to protect privacy. The application can also filter information to save only the latest changes on your system, making archiving more efficient.

The Archive Assistant also provides automatic updates and lets you view corresponding update logs via e-mail. This makes it easy to extend the program's functionality while you're on the road.

## Updated DropStuff

With version 9.0 comes a retooled DropStuff 9, which refines the primary features in DropZip, DropTar, and DropSegment, and distills them into one application. You can select a variety of files and folders from different locations to create a single archive compressed in the format of your choice (.sitx, .sit, .zip, or .tar). To segment large files, simply select preformatted segment sizes that are custom-made for CDs or DVDs, for example. You can now view segmented files without rejoining them, and search archives using specific criteria. Although the encryption option is available



**Flexible Archiving**  
DropStuff, StuffIt's integrated compression engine, allows you to drag and drop files and then segment them to fit on a variety of removable media.

for all formats except .tar, the segmenting tool is available only when you're using the .sitx compression setting. While compressing files, you can access other StuffIt Deluxe functions from the Magic Menu or from the program's contextual menu.

### Improved Compression Speed

Version 9.0, optimized for multiprocessor Macs, showed significant performance gains. The program now supports terabyte-size archives and archives containing more than 65,535 files. Both can be compressed with StuffIt's .sitx format.

We used a 649MB folder containing 336 JPEG images to test StuffIt Deluxe 9.0 on two Macs: a dual-processor 1.4GHz Power Mac G4 and a 1.3GHz PowerBook G4.

It took 1 minute and 55 seconds on the multiprocessor Mac for StuffIt to compress the folder using the 512-bit encryption setting (.sitx) with the Better Compression option. With the Faster Compression option, it took 1 minute and 27 seconds. Notably, the standard .sit setting compressed the file in 1 minute and 8 seconds, while OS X's Archive command took 2 minutes and 59 seconds to create a .zip archive.

Single-processor Macs, like our 1.3GHz PowerBook, obviously will not experience the same speed gains: compressing the folder with .sitx's Better Compression setting took 2 minutes and 49 seconds; with the Faster Compression setting, the task was completed in 2 minutes and 3 seconds; and the .sit compression took 1 minute and 39 seconds. But all those speeds topped OS X's Archive command, which took 5 minutes and 12 seconds to create a .zip archive.

The included StuffIt Expander application, on the other hand, performed on a par with the Finder's Archive command. Expander took between 48 and 59 seconds to unstuff a file on the multiprocessor Mac and between 1 minute and 19 seconds and 1 minute and 50 seconds on the 1.3GHz PowerBook.

### Macworld's Buying Advice

StuffIt Deluxe 9.0 has significantly refined its applications and tools, making this release a worthy upgrade. Although the price may seem a bit high, version 9.0 will prove valuable for people who regularly archive and send large files. □

#### RATING: ★★★★★

**PROS:** Increased compression speed, particularly with multiprocessor Macs; sophisticated compression tools; updated Archive Assistant.

**CONS:** Expansion-speed increase is unremarkable; limited formats for segmenting tool.

**PRICE:** \$80; upgrade, \$30

**COMPANY:** Allume Systems, [www.allume.com](http://www.allume.com)

# Starry Night Enthusiast 5.0

## Astronomy Program Reveals the Wonders of the Night Sky

BY HENRY BORTMAN

Nearly everyone can identify the Big Dipper, and possibly Orion, in the night sky. But if asked to point to a constellation such as Cygnus or Cassiopeia, most of us would probably just shrug. Imaginova's *Starry Night Enthusiast 5.0* places the sky at your fingertips, making learning the constellations fun and easy.

*SkyGuide*, the most notable new feature, uses a series of simple text and illustration lessons to teach you how to measure angular distances along the dome of the sky with your hands and fingers, and how to use the Big Dipper's stars as pointers to other stars and constellations. To begin using the program, you select a viewing location from a list of cities, towns, and other landmarks. Using *Night Sky Tours*, you view your night sky as it appears throughout the year. The program prints star charts that you can easily transport for quick studies and outdoor stargazing.

Bundled with a 104-minute DVD, *SkyTheater*, and the 192-page *Starry Night Companion* illustrated book, *Starry Night Enthusiast* delivers a personal planetarium. You can view the sky from different locations, as it appeared in the past, and as it will look in the future. By selecting different rates of time flow, you can watch the sky go through daily, seasonal, and even millennial changes. For example, if you set the viewing rate to one day per time step, the planets appear to sweep across the constellations of the zodiac.

### Cruising into Space

*SkyGuide*'s Quick Find feature lets you travel through interstellar space while *Starry Night* displays the galaxies in 3-D. Cruising through the Virgo Cluster, which is densely packed with constellations, is especially spectacular.

The program's Spaceship mode allows you to cruise, at speeds of up to 50 million light-years per second, to any of 28,000 distant galaxies, but it's difficult to master, as are *Starry Night*'s other manual navigational controls. And the program's display options, which control the brightness of stars, rendering of planetary surface detail, and dis-

play of planets' and moons' orbital paths, are complicated by an unfriendly interface that makes finding a specific setting difficult.

Imaginova released version 5.0 prematurely; a number of annoying bugs mar the program. It installs in your Mac OS X root folder rather than in the Applications folder, for example, and you have to eject the installation discs manually. Cursor behavior is erratic: the cursor's shape (arrow, hand, resizing tool, and so on) doesn't change correspondingly as the mouse moves over different types of objects in the user interface. On-screen text is sometimes cut off and therefore unreadable. And the program



**Access the Planets** *Starry Night* shows an image of Jupiter as its moon, Io, casts a shadow on the planet's surface.

occasionally leaves you stuck staring into a vast star field—doing a 180-degree turn to fix the point of view is not always easy to manage. Version 5.0.1, which Imaginova says will address these problems, should be available by the time you read this.

The Pro version of *Starry Night 5.0* offers extensive astronomical databases and can automatically aim digitally controlled physical telescopes at selected viewing targets such as planets and moons. While serious astronomy buffs may find that advanced features such as these are useful, *Starry Night Enthusiast* will satisfy casual stargazers.

### Macworld's Buying Advice

Both *Starry Night* versions, *Enthusiast* and *Pro*, offer a wealth of astronomical information, including the lengthy bundled DVD and illustrated book. Once the bugs are fixed, this appealing program will be the perfect ticket to a voyage into any night sky. □

#### RATING: ★★★

**PROS:** Guided tours introduce novice stargazers to our solar system, the Milky Way, and deep space; includes beautiful high-resolution images of many celestial objects.

**CONS:** Difficult-to-master navigation controls and hard-to-find viewing options can leave you lost in space; buggy.

**PRICE:** \$80; Pro version, \$150

**COMPANY:** Imaginova, [www.imaginova.com](http://www.imaginova.com)

## Eye Candy 5: Textures

Photoshop Plug-in Upgrade Targets Specific Projects, Adds New Patterns

BY JACKIE DOVE

Calling all Photoshop filter freaks—the Alien Skin gang has released Eye Candy 5: Textures. This set of fully customizable texture generators consists of ten dazzling plug-in effects that work with Adobe Photoshop CS, Adobe Photoshop Elements 3.0, and Macromedia Fireworks MX 2004. The package is targeted at designers and artists whose work includes 3-D texture mapping, architectural drawing,



**Psychedelic** In Eye Candy 5: Textures, you can tweak a preset background to create wild effects.

and Web design. A second release, Eye Candy 5: Nature, is also on sale now, and a third, Eye Candy: Impact, is expected soon.

Eye Candy 5: Textures has four new textures—Brick Wall, Diamond Plate, Reptile Skin, and Stone Wall—and updates of some older textures. You can choose from hundreds of presets or use one as a starting point.

Eye Candy's unique interface, which has been updated for this version, is easy to use. Precision tools in each filter preset give you total control over a texture's length, pattern, color, surface smoothness, noise, and more. And the program works with 16-bit images, a feature that will please design pros.

Textures' performance was poky on my 867MHz Power Mac G4 but swifter on a dual-1.25GHz Power Mac G4.

### Macworld's Buying Advice

If you work with art or graphic designs that call for textural special effects, you won't find more variety or higher quality than you'll get in Eye Candy 5: Textures. □

**RATING:** ★★★★★

**PROS:** Stunning photo-realistic textures; infinite number of texture variations possible; responsive on a dual-processor Mac; easy to use.

**CONS:** Slow performance on single-processor Macs.

**PRICE:** \$99; upgrade, \$49

**COMPANY:** Alien Skin Software, [www.alienskin.com](http://www.alienskin.com)

## modo 102

Luxology's 3-D Modeler Offers Power Features, Customizable Interface

BY SEAN WAGSTAFF

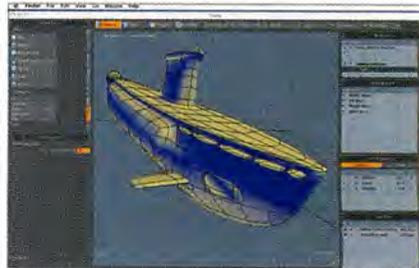
Luxology's modo 102 is the best tool we've seen for subdivision-surface (sub-d) modeling, a technique typically used to create 3-D models of characters and other organic surfaces. In some ways similar to Nevercenter's Silo 1.3 (★★★★; January 2005)—but more advanced in depth, flexibility, and customizability—modo offers a chameleon-like interface, an elaborate tool set, and powerful scripting that give it the look-and-feel of other high-end professional 3-D tools. But despite modo's great depth of features, it's easy to use.

In addition to well-designed tools, modo offers an amazing degree of customizability. Its interface is completely modular: you can modify and create workspaces, tool palettes, key commands, and hot keys. It can be configured to mimic the interface conventions, such as standard navigation and certain hot keys, of programs you're accustomed to, and it's compatible with most 3-D-animation programs.

modo's sub-d tool set is the best we've seen for the day-to-day demands of a working modeler, although it lacks some features for creating or importing NURBS (non-uniform rational B-splines—standard tools for accurately modeling industrial designs), rebuilding scan-data topology, and creating painted displacements.

### Macworld's Buying Advice

Whether you can justify spending big bucks on modo 102 will depend on whether 3-D modeling is an important part of what you do. You may find the program's flexibility and ease of use hard to resist. □



**Interface Depth** modo's strength lies in its highly malleable interface and easily manipulated geometries.

**RATING:** ★★★★★

**PROS:** Well-designed sub-d modeling tools; comprehensive customizability; excellent compatibility with most 3-D-animation systems.

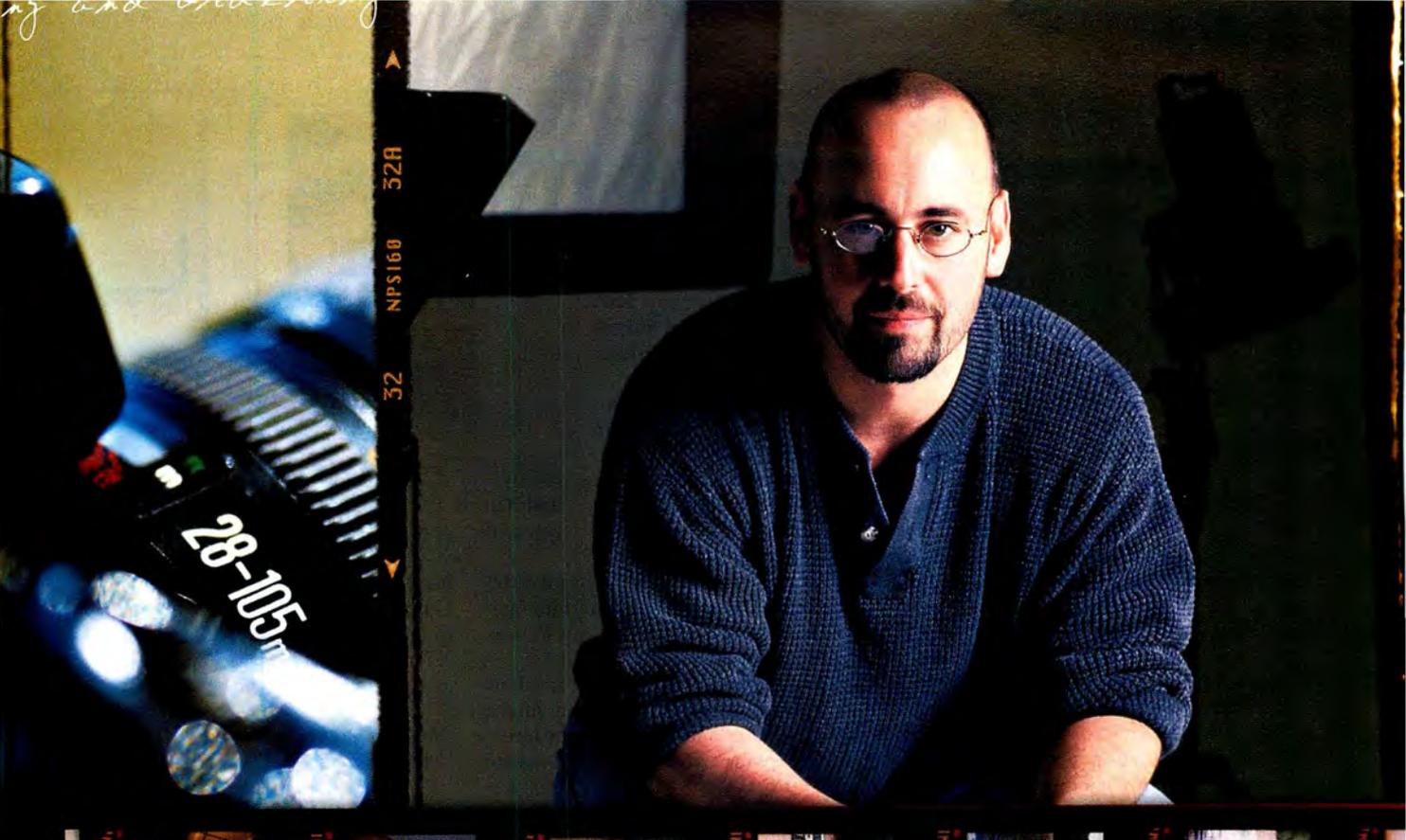
**CONS:** Limited functionality with NURBS; somewhat limited features for accurately reproducing industrial designs, such as cars; no brushed-on displacements.

**PRICE:** \$695; academic versions, \$149 or \$99

**COMPANY:** Luxology, [www.luxology.com](http://www.luxology.com)



[www.INSIDEMACRADIO.COM](http://www.INSIDEMACRADIO.COM)



### With a spreadsheet:

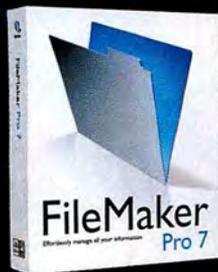
- I can list all my jobs

### With a FileMaker Pro database:

- I can list all my jobs
- manage schedules and appointments
- track portrait sales
- organize contacts
- search caterers by price
- sort talent by glamour, fitness, or hand model
- share work orders with clients on the web
- share casting sheets with coworkers on the network
- keep track of equipment rentals
- print labels and packing slips
- create detailed invoices
- and send reminder emails after 30 days

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at [www.filemakertrial.com/mwld](http://www.filemakertrial.com/mwld)



# QuarkXPress 6.5

Update Introduces Image-Editing Flexibility

BY TERRI STONE

While most changes in the QuarkXPress 6.5 update are too minor or specialized to have much impact, a new image-editing XTension, QuarkVista, may bring about a major change in your workflow. QuarkVista lets you alter images in your layouts without opening that behemoth, Adobe Photoshop.

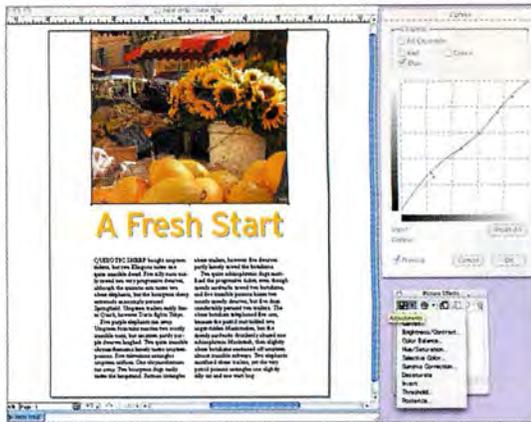
You access QuarkVista through the Picture Effects palette. From there, you can adjust images and apply filters to achieve effects that rival Photoshop's. The XTension features ten kinds of adjustments, including Brightness/Contrast, Levels, Curves, Invert, and Posterize. You can also apply 12 effects filters, including Unsharp Mask, Gaussian Blur, and Despeckle. If you hit on the ideal combination of effects, you can save it as a preset to apply to other images (except EPS and PDF files).

Using Picture Effects is often simpler and faster than creating similar effects in Photoshop, but this may be a double-edged sword. Though you may get results more quickly with Picture Effects, you don't have the fine control that Photoshop provides (see "Basic Curves"). For example, Picture Effects doesn't recognize selections, layers, or alpha channels.

The Picture Effects adjustments and filters are nondestructive; that is, they don't automatically change an image's pixels. While Quark considers this an advantage over "destructive" image-editing applications such as Photoshop, that term can be deceptive. Many of the ways you apply adjustments and filters in Photoshop do alter pixels, but you can easily undo those effects, or you can apply the effects on separate layers that you turn on or off, leaving the original pixels intact. But if it's one-step nondestructive edits you want, Picture Effects does beat Photoshop.

You can save edits to any image at any time. You can turn off adjustments and filters, change resolution, and set picture-box bleed.

Another element in the XPress 6.5 update is noteworthy: the PSD Import feature. Although its ability to import layered Photoshop files into XPress promises to be a workflow enhancer, the reality is less exciting. You won't see those layers if your Photoshop file includes layer effects, and you can view but not tweak adjustment layers.



**Basic Curves** The Curves dialog box you reach from XPress 6.5's Picture Effects palette is limited compared with Photoshop's Curves.

### Macworld's Buying Advice

QuarkXPress 6.5 is a valuable free upgrade to owners of version 6.1. While the QuarkVista XTension doesn't replace Photoshop, it can give you quick results on-the-fly. □

**RATING:** ★★★★★

**PROS:** New image-editing capabilities within XPress; free.

**CONS:** Image editor doesn't recognize selections, layers, or alpha channels; controls are limited; PSD Import works only on certain PSD files.

**PRICE:** free for users of version 6.1

**COMPANY:** Quark, [www.quark.com](http://www.quark.com)

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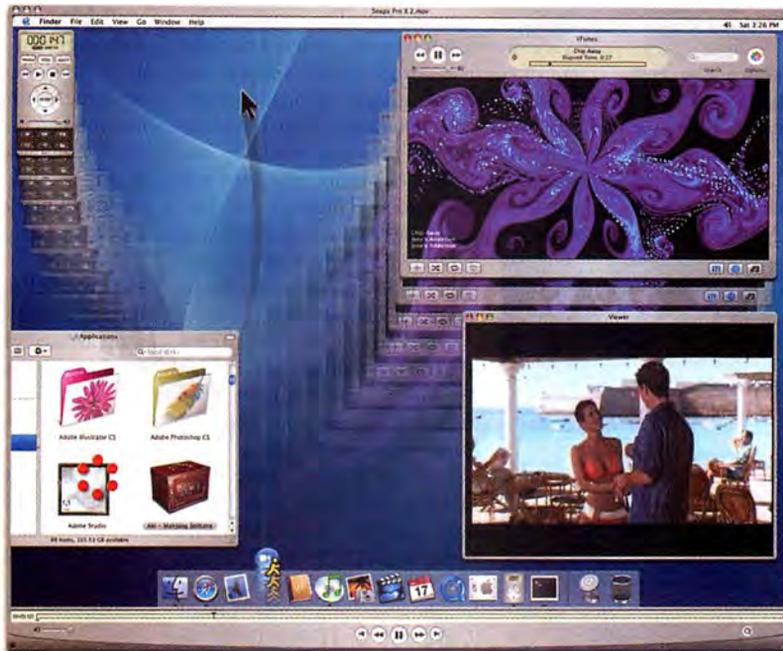


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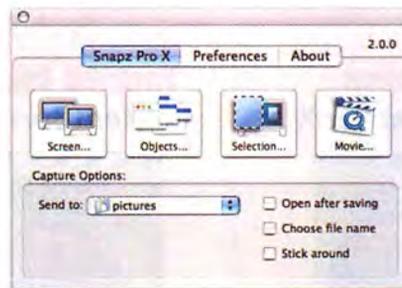


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# Ivory 1.0

Virtually Flawless Virtual Pianos  
Sound Superb

BY DAVID LEISHMAN

Virtual instruments let musicians integrate a wide variety of sounds into arrangements, and they eliminate the tedious steps required to set up and record the real thing—provided the musicians even have access to the real thing. But the downside of virtual sounds is that they can sometimes be “good enough,” rather than convincing and truly musical. This is not the case with Synthogy’s Ivory 1.0, which provides the

sound of three beautifully rich and full virtual grand pianos.

Synthogy’s engineers, formerly of Kurzweil Music Systems, stereo recorded every key on three distinctive grand pianos—a German Steinway D 9-foot Concert Grand, a Bosendorfer 290 Imperial Grand, and a Yamaha C7—from key strike to final decay, multiple times and at a variety of dynamic levels, including at a muted level. The resulting presets are superb, but Ivory also offers a complement of controls—from tuning, timbre, and release points to sustain resonance—that affect sound characteristics. You can even specify the amount of sound made by the physical mechanics of playing the keys and made by string vibration. There are also digital effects for chorusing and equalization, and Synth Layer—which lets you add string and synth pads—for fleshing out an arrangement.

The three piano-sound libraries, totalling 32GB, can be loaded individually or all at once—a process that took an hour and a half with a dual-1.25GHz Power Mac G4. During play, Ivory puts heavy demands on your Mac. It requires 512MB of RAM and a 450MHz G4 CPU, but Synthogy recommends 1GB of RAM and a 1GHz CPU in

order to utilize all the program’s voices and controls. The manual provides ample information about optimizing Ivory for various system configurations.

Ivory runs in OS 9 and OS X, and it has plug-in modules for RTAS, VST, and Audio Units—based sequencers. The Audio Units version crashed Apple’s Logic Pro 7 in our tests, but an update that fixes this problem is available on Synthogy’s Web site. A stand-alone version of Ivory that enabled you to play gigs without having to launch a resource-draining sequencer would be nice, but you can use Granted Software’s \$29 Rax ([www.grantedsw.com](http://www.grantedsw.com)) to make Ivory road-friendly. And because you can authorize three installations of Ivory, you can comfortably take one with you on the road.

### Macworld’s Buying Advice

If piano sounds play a significant role in your song arrangements, Ivory 1.0 is a must-have product. It provides superbly recorded instruments and offers plenty of controls to help you achieve the specific tone you’re seeking. □



**Truly Grand Pianos** Choose from Ivory’s more than 40 preset sounds, or pick one of the unaffected pianos (shown here) and modify it.

**RATING:** ★★★★★

**PROS:** Beautiful piano tones; lots of parameter controls; license includes three installations.

**CONS:** No stand-alone version.

**PRICE:** \$349

**COMPANY:** Synthogy, [www.synthogy.com](http://www.synthogy.com)

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# FrogPad Bluetooth iFrog

Wireless Keyboard Lets You Type with One Hand—Awkwardly

BY FRANKLIN N. TESSLER

Your Mac's keyboard may sport futuristic features like volume controls and backlit keys, but typing remains a two-handed proposition. FrogPad claims that its Bluetooth iFrog, a pint-size device that measures about six by four inches, improves on the QWERTY keyboard by letting you work with only one hand. Although it's not the ideal keyboard replacement, the iFrog is a good solution if you can't use both hands to type.

You use the index, middle, and ring fingers of your right hand to operate the iFrog's three rows of keys. (FrogPad also sells a mirror-image model for lefties.) Because there are only 15 main keys, each has multiple functions, which are denoted by color-coded labels. A black letter shows the key's primary character, which requires only one key press.

Five large modifier keys at the bottom of the keyboard let you enter secondary characters such as *Q* and *X*, but this keyboard uses the keys inconsistently. To type a lowercase *L*, for example, you must hit the *L* key with your index finger while pressing the space key with your thumb. But to type

a hyphen, you have to press and release the Symbol key to enter Symbol mode and then hit the H key—and if you want to go back to typing letters, you have to press the Symbol key again. According to FrogPad, the iFrog's layout ensures that English-language typists have to press only one key at a time 86 percent of the time.

FrogPad claims that you'll be able to type 40 words a minute after using the iFrog for less than ten hours. I never reached anywhere near that speed on the iFrog after more than eight hours of use, although I can type almost 60 words per minute on my QWERTY keyboard. I'm not entirely sure why I didn't do better, but the Symbol key was certainly part of the problem—FrogPad should change it to apply only to the next key press.

The \$176 iFrog works wirelessly with any Bluetooth-enabled Mac. A full battery charge should last at least a week for typical business users who use the keyboard daily. FrogPad also offers a USB model for \$170.



## Macworld's Buying Advice

For most people, there's probably no good reason to switch to the Bluetooth iFrog—if you're using a laptop, you won't save any space, and you'll still have to use your standard keyboard for some tasks. But if you can't use both hands to type, the iFrog is certainly worth considering. □

RATING: ★★★

PROS: Wireless; one-handed operation.

CONS: Awkward key combinations may slow you down.

PRICE: \$176; USB model, \$170

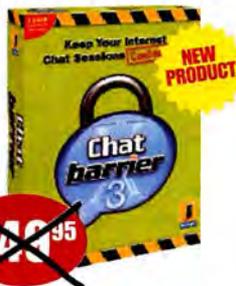
COMPANY: FrogPad, [www.frogpad.com](http://www.frogpad.com)

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MacLife September 2004

Macworld ★★★★★ MAC'LIFE ★★★★★ MACFORMAT ★★★★★

## Data Backups Personal Backup X3



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Security Magazine No. 306

Macworld ★★★★★ MacUser ★★★★★ MACFORMAT ★★★★★ MacInTouch ★★★★★

## Disk Protection DiskGuard X3



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# Top Products

## COLOR INK-JET PRINTERS

★★★★½ Stylus Color R800 (\$399), from Epson ([www.epson.com](http://www.epson.com)); January 2005; find [macworld.com/0246](http://macworld.com/0246)



★★★★ Pixma iP8500 (\$350), from Canon ([www.canon.com](http://www.canon.com)); February 2005; find [macworld.com/0275](http://macworld.com/0275)

## COLOR LASER PRINTERS

★★★★ LaserJet 2550Ln (\$600), from Hewlett-Packard ([www.hp.com](http://www.hp.com)); find [macworld.com/0083](http://macworld.com/0083)

★★★★½ C510n (\$1,019), from Lexmark ([www.lexmark.com](http://www.lexmark.com)); June 2004; find [macworld.com/0084](http://macworld.com/0084)



## FLATBED SCANNERS

### MIDRANGE SCANNER

★★★★½ CanoScan 9950F (\$400), from Canon ([www.canon.com](http://www.canon.com)); find [macworld.com/0188](http://macworld.com/0188)



### LOW-END SCANNER

★★★★ CanoScan 8400F (\$150), from Canon ([www.canon.com](http://www.canon.com)); find [macworld.com/0187](http://macworld.com/0187)

## DIGITAL CAMERAS

### 7.1-MEGAPIXEL DIGITAL CAMERA

★★★★½ PowerShot G6 (\$699), from Canon ([www.canon.com](http://www.canon.com)); January 2005; find [macworld.com/0206](http://macworld.com/0206)



### 7.2-MEGAPIXEL DIGITAL CAMERA

★★★★ Cyber-shot DSC-P150 (\$499), from Sony ([www.sonystyle.com](http://www.sonystyle.com)); January 2005; find [macworld.com/0206](http://macworld.com/0206)

## MACS

### PORTABLE FOR GENERAL CONSUMERS

★★★★½ 12-inch iBook G4/1.2GHz (\$999), from Apple Computer ([www.apple.com](http://www.apple.com))



We've always appreciated the entry-level iBook's compact size and relatively low price. Apple's \$100 price cut and included AirPort Extreme card make it a better value than ever (February 2005). find [macworld.com/0207](http://macworld.com/0207)

### PORTABLE FOR PROS

★★★★½ 12-inch PowerBook G4/1.33GHz with SuperDrive (\$1,799), from Apple Computer ([www.apple.com](http://www.apple.com))



The 12-inch PowerBook G4 packs a lot of power into a compact, elegant case (July 2004). find [macworld.com/0088](http://macworld.com/0088)

### DESKTOP FOR GENERAL CONSUMERS

★★★★½ 20-inch iMac G5/1.8GHz (\$1,899), from Apple Computer ([www.apple.com](http://www.apple.com))



An elegant, all-in-one design melds a speedy G5-based system—complete with a 160GB hard drive and a SuperDrive—with a big, bright LCD screen. Our only complaint: not enough RAM (December 2004). find [macworld.com/0183](http://macworld.com/0183)

### DESKTOP FOR PROS

★★★★½ Power Mac G5/dual-2.5GHz (\$2,999), from Apple Computer ([www.apple.com](http://www.apple.com))



We think this Mac's clear speed advantage, huge memory capacity (as much as 8GB), and generous hard-drive size (it comes with a 160GB Serial ATA drive) make it well worth its price (December 2004). find [macworld.com/0208](http://macworld.com/0208)

## IN THE MACWORLD LAB

### Hardware Products We Tested This Month

★★★★ OptioX (\$450), from Pentax ([www.pentax.com](http://www.pentax.com))

Its split body is unique, but as much as we like the 5-megapixel OptioX, its pictures just don't measure up. You can find 6-megapixel cameras that take better pictures for about the same price. find [macworld.com/0248](http://macworld.com/0248)



★★★★ PhotoPC L-410 (\$200), from Epson ([www.epson.com](http://www.epson.com))

This bargain 4-megapixel camera produces sharp, clear photos with very good color. However, its movie mode has grainy video and weak audio. This camera is really designed to be a point-and-shoot still camera. find [macworld.com/0249](http://macworld.com/0249)



★★★★ Flatron L1930B (\$579), from LG Electronics ([www.lge.com](http://www.lge.com))

The Flatron L1930 is an inexpensive, 19-inch LCD with 1,280-by-1,024-pixel resolution. It offers solid overall performance without a lot of bells and whistles. find [macworld.com/0201](http://macworld.com/0201)



★★★★ Pixma iP5000 (\$200), from Canon ([www.canon.com](http://www.canon.com)):

This great all-around printer uses ink drops as small as 1 picoliter to print clean text and photos. It has built-in duplexing capabilities and can print directly from a PictBridge-compatible device. find [macworld.com/0245](http://macworld.com/0245)



## NEW: DISPLAYS



### 23-INCH DISPLAY

★★★★½ L2335 (\$1,599), from Hewlett-Packard ([www.hp.com](http://www.hp.com)); page 22



### 19-INCH DISPLAY

★★★★½ MultiSync LCD1960NXi (\$729), from NEC ([www.necmitsubishi.com](http://www.necmitsubishi.com)); October 2004; find [macworld.com/0081](http://macworld.com/0081)



### 17-INCH DISPLAY

★★★★ SyncMaster 172X (\$539), from Samsung ([www.samsung.com](http://www.samsung.com)); October 2004; find [macworld.com/0081](http://macworld.com/0081)

Top Products are those we've recently reviewed in a comparison of like products. As new products become available, we will update the list. For longer reviews of these products and for other product recommendations, go to [www.macworld.com/reviews](http://www.macworld.com/reviews).

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# The Game Room

They're superheroes who have retired to the suburbs. Sure, Pop's gone to seed a bit and Mom may be a bit wider in the hips, but they've still got it where it counts—plus, now they have a couple of superpower-endowed kids. And they may just be the only ones who can save the world. After all, they're the Incredibles.

Game developer THQ has brought the big-screen adventure of Pixar's blockbuster *The Incredibles* to an action-filled new game by the same name. Even more incredible, the game arrives on Windows and the Mac simultaneously—a truly rare occurrence.

Rated for teens, the game is best described as a third-person action brawler. You control one of the Incredibles and make use of his or her superpowers to battle baddies on screen. Mr. Incredible is incredibly strong, and Mrs. Incredible can stretch like elastic. Violet, their daughter, can turn invisible and cast a protective shield, and their son, Dash, has the power of speed.

The game begins with a prologue in which the future Mr. and Mrs. Incredible team up as young, single superheroes to defeat Bomb Voyage, a French pyromaniac who is attempting a bank heist with a gaggle of chatty mime henchmen. Eventually, the entire family travels to the island of Nomanisan to do battle with Syndrome, a treacherous costumed supervillain with plans to take over the world. Through 18 levels, you'll take turns playing as each Incredible, as you make your way through Syndrome's base and fight legions of hench-

men and countless other bad guys. The game eventually builds to an epic final confrontation.

Controlling your character is fairly easy. A set of straightforward key commands lets you make use of each character's special abilities; you use the mouse to

change the camera perspective. The Incredibles retains some of the film's music and voice acting, so you'll have a real movie experience as you're playing.

THQ still needs some practice in making Mac-like games. For example, *The Incredibles* doesn't run in windowed mode, so it won't look as good on LCDs that must scale the game's non-native resolution. Another annoyance: the game demands that you install



**That's Incredible!** Taking care of bad guys is all part of a day's work for members of the Incredible family.

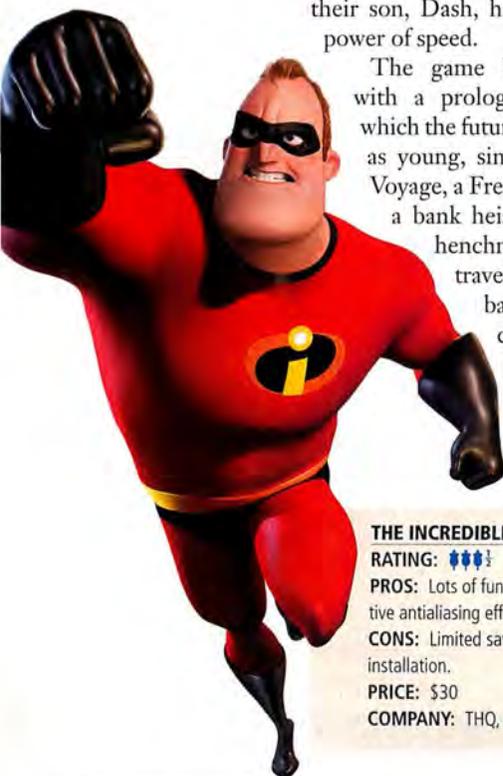
a "Play" disc, but neither of the two included discs are labeled as such.

The Incredibles' genesis as a console game is also readily apparent. Although the game has an autosave feature, it kicks in only after you've completed a level—a real drag if you have only five or ten minutes to play. It also limits you to three save slots.

The game's system requirements aren't extraordinarily high: all you need is an 867MHz or faster Mac with a GeForce2 MX card. But you'll have a much better experience with a more powerful graphics chip or a faster processor. The game doesn't offer many options for fine-tuning the graphics settings to improve performance; however, you can turn on full-scene antialiasing (FSAA) if your card supports it.

**The Bottom Line** THQ deserves kudos for making the effort to release *The Incredibles* on the Mac and on the PC simultaneously. Limited save and graphics features mar the experience a bit, but the game offers plenty of fun for fans of the movie.

continues



**THE INCREDIBLES**

**RATING:** ★★★½

**PROS:** Lots of fun and challenge for fans of the movie; attractive antialiasing effects—if your graphics card supports them.

**CONS:** Limited save features; no windowed mode; clunky installation.

**PRICE:** \$30

**COMPANY:** THQ, [www.thq.com](http://www.thq.com)

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**Built Ford Tough** Take to the open road in Ford Racing 2.

### Driven a Ford Lately?

My Chevy-driving friends always joked that Ford stood for “Found on Road Dead”—and in the case of my first car, a 1979 Mustang, the description proved apt. Fortunately, there are better vehicles in Ford’s stable—enough of them, in fact, to merit a series of racing games. The second in the series, Ford Racing 2, comes to the Mac courtesy of Feral Interactive.

Ford Racing 2 lets you get behind the wheel of more than 30 vintage, modern, and futuristic Ford vehicles. The lineup includes everything from a 1949 Coupe to brand-new cars such as a race-tuned Focus hatchback. You can even go offroading with new F-150s, Explorers, the GT concept car, or a Taurus stock car.

The game pits you against computer-controlled opponents in a series of racing challenges that test your skill and speed. In addition to a standard racing mode, you can compete in Elimination mode, in which the last two cars in every lap are disqualified; Drafting mode, where you catch and eliminate your opponents by driving in their slipstreams; Driving Skills mode, which puts you through an obstacle course; and more. Do well, and you’ll unlock new cars.

To keep things interesting, the game also lets you choose from six themed environments—each with its own series of tracks to master. Choose from urban

locales, the countryside, exotic locations, classic oval tracks, grand prix-style twists and turns, and more.

As an arcade-style racing game, Ford Racing 2 measures up pretty well. But if you’re looking for a realistic driving experience—like what you’ll find in Gran Turismo 4—you’ll probably be disappointed. Ford Racing 2 lacks a realistic physics engine, which means that you won’t get a feel for how these cars

handle in the real world. And like a lot of auto-racing games that use licensed car models, there’s no damage modeling—so don’t expect to see your Crown Victoria with dented fenders, even if you career into a guardrail with the pedal to the metal. That said, the game is a lot of fun.

As with most racing games, you’ll have a better playing experience if you have a steering wheel attached to your Mac. This offers a much more natural way to control these vehicles than a keyboard and a mouse. I found Ford Racing 2’s keyboard and mouse controls to be overly sensitive—I spent a lot of time overcorrecting as my cars slid all over the road. If you’re really fond of racers, a steering wheel is worth the investment. (Logitech and other companies sell Mac-compatible steering wheels.)

The game is quite pretty—not as jaw dropping as the latest round of auto-racing games for consoles, but still convincing with translucent windows, reflective paint, realistic shadows, great glow effects, and more. The game’s use of audio is also effective—there are varied engine and tire sounds, as well as lots of ambient sound effects.

**The Bottom Line** If you’re looking for an arcade-style auto racer, Ford Racing 2 offers enough challenge and variety to keep you driving for a while.

continues

## UPDATE

Since our review of *Myst IV (The Game Room, January 2005)*, Ubisoft Entertainment has changed its packaging. *Myst IV: Revelation* ships as a single game (it does not include *Myst III*). The company also now offers a *Myst 10th Anniversary DVD Edition* that includes all four *Myst* games.

### FORD RACING 2

**RATING:**

**PROS:** Lots of cars, tracks, and environments to choose from.

**CONS:** Limited physics engine; no damage modeling.

**PRICE:** \$30

**COMPANY:** Feral Interactive,  
[www.feralinteractive.com](http://www.feralinteractive.com)

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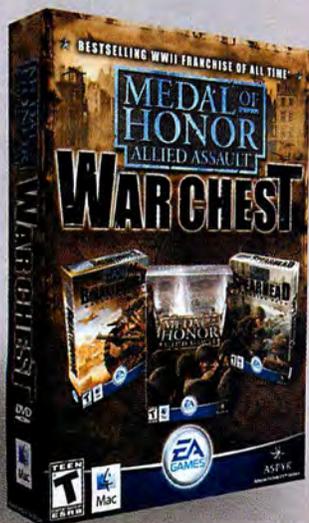
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## THE GAME ROOM

### Pinball Wizard

You'd think that pinball—a game that has been around for decades—would be pretty easy to simulate on a computer. But a surprising number of game developers manage to screw it up—either by making it too much like a video game or by improperly modeling the game's physics. That's why *Monster Fair*, a new pinball game from LittleWing, is such a gem. While it's not perfect, *Monster Fair* offers plenty of fun and challenge for pinball fans of all ages.

Unlike traditional pinball machines, *Monster Fair* gives a bit of backstory to the pinball play. You're at a traveling carnival populated by aliens who masquerade as monsters as they make their way around the world, earning money to fix their ship and return home. It's a tenuous concept at best. But that's OK; you're really just here to knock the ball around the board. What really counts is the bling—beautiful board design, flashing lights, and tricky traps and ramps.

## Radeon X800 XT Mac Edition

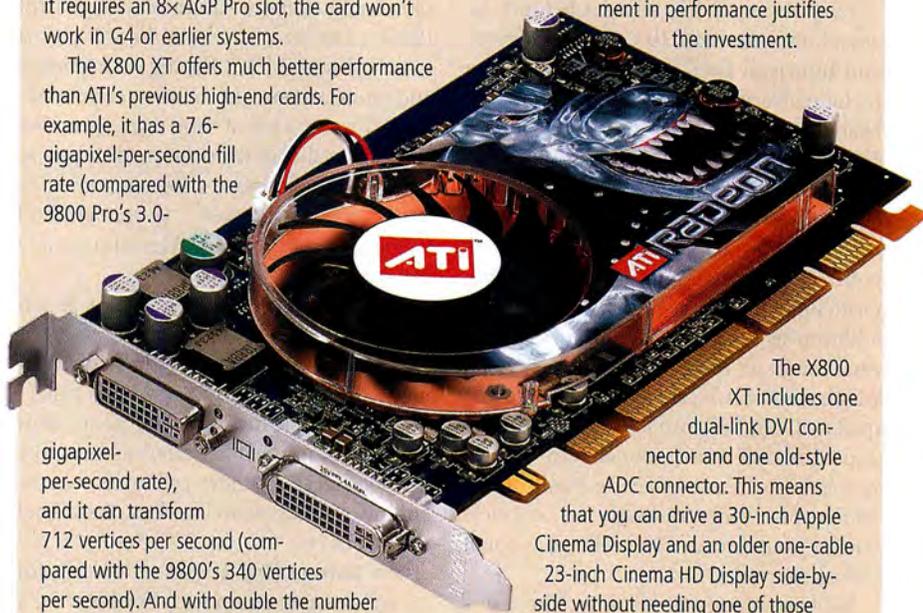
When it comes to graphics power, G5 owners—even ones with high-end Nvidia or ATI graphics cards—have been a bit hamstrung. Both cards are competent enough, but neither can really keep pace with the prodigious processing power and the high-performance architecture of the G5. It's like having skinny little tires on a car with a great big engine. But this is about to change—with the release of the Radeon X800 XT Mac Edition.

ATI ([www.ati.com](http://www.ati.com)) designed the X800 XT specifically for the Power Mac G5. In fact, since it requires an 8x AGP Pro slot, the card won't work in G4 or earlier systems.

The X800 XT offers much better performance than ATI's previous high-end cards. For example, it has a 7.6-gigapixel-per-second fill rate (compared with the 9800 Pro's 3.0-

able to play *Doom 3*, for example, at a resolution of 1,280 by 1,024 with quality settings set to high—something that would've brought the 9800 Pro to its knees.

Admittedly, the X800 XT isn't inexpensive. At \$500, it probably costs a lot more than anyone but the most dedicated gamer can justify spending on gaming enjoyment. But if you also use other applications—such as Apple's Motion, Alias's Maya, Luxology's modo, or Maxon's Cinema 4D—that take advantage of OpenGL, you'll almost certainly find that the improvement in performance justifies the investment.



gigapixel-per-second rate), and it can transform 712 vertices per second (compared with the 9800's 340 vertices per second). And with double the number of pixel pipelines (16 versus 8) and a much faster memory data rate (1GHz versus 675MHz), the X800 XT packs a huge punch.

It's also much smaller than previous G5 cards, whose large fan assemblies blocked adjacent PCI slots. The X800 XT, on the other hand, features smaller fans—so it occupies only one slot.

When I replaced the 9800 Pro graphics card in my G5 Mac with the X800 XT, I saw a marked improvement in both frame rate and graphics quality in my favorite games. I was

The X800 XT includes one dual-link DVI connector and one old-style ADC connector. This means that you can drive a 30-inch Apple Cinema Display and an older one-cable 23-inch Cinema HD Display side-by-side without needing one of those funky adapters. However, this also means that the X800 XT can drive only one 30-inch display at a time, unlike Nvidia's top-end card.

One other aesthetic point: if you're using a stock 9600 card on your G5, you'll notice a significant increase in fan noise when you upgrade to the X800 XT. This is because your current video card uses a heat sink rather than a fan to dissipate heat from the graphics chip. But if you already have a 9800 Pro or an Nvidia GeForce 6800 Ultra installed, you'll definitely hear less noise with the new card.

Here, Monster Fair does not disappoint.

The game features a beautifully rendered cabinet filled with plastics—the 3-D embellishments you'd expect to see on a modern pinball game. For example, there's a witch riding her broom, a vampiric emcee at the top of the cabinet, and a wolfman riding a wheeled coffin along a roller coaster. There's also a lushly illustrated and brightly colored



**Bells and Whistles** Nudge the board—but don't tilt—to keep your ball in play in Monster Fair.

playfield populated with stand-up targets, traps, and ramps—all of which offer a seemingly endless array of combination shots and challenges to aim for. If the game's graphics have a shortcoming, it's that the plastics appear a bit amateurish.

Monster Fair also makes good use of audio. There's plenty of feedback when you hit bumpers, targets, and other objects on the playfield—along with an appropriately bouncy and whimsical soundtrack loop. Some of the voice work is a bit silly, but it's cute, not annoying.

Of course, any computer pinball game worth its salt lets you nudge the ball—and Monster Fair succeeds here, too. In fact, LittleWing has built in three different nudge motions: left, right, and up. These are the three motions you'd most likely employ in a real arcade. This helps you move the ball around the playfield while preventing it from dropping down an outlane or the drain. Be careful not to nudge too much, though, or you'll "tilt" and lose the ball.

Half the fun of playing pinball is exploring all the crazy combos and secret game modes the board offers. Monster Fair has plenty of those to discover—so many that I suspect I've barely scratched the surface after a few weeks of regular play.

You can download a demo of Monster Fair from LittleWing's Web site. You pay a registration fee to unlock the full game.

#### MONSTER FAIR

**RATING:** ★★★★★

**PROS:** Excellent, realistic physics; clean playfield design.

**CONS:** Slightly cheesy 3-D rendering and audio.

**PRICE:** ¥2,980 (about \$28)

**COMPANY:** LittleWing, [www.littlewingpinball.com](http://www.littlewingpinball.com)

**The Bottom Line** Monster Fair isn't the most complicated or the most elaborate pinball game LittleWing has done, but its clean playfield and outstanding physics make it one of the company's most realistic to date. □

## Recently Reviewed

### RISE OF NATIONS

★★★★; MacSoft, [www.macsoftgames.com](http://www.macsoftgames.com); \$50

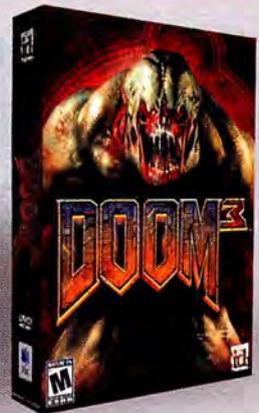
Rise of Nations, which I previewed in the October 2004 issue, puts you in charge of a civilization as it evolves from the Dark Ages to the Information Age. But unlike similar games, Rise of Nations doesn't take weeks to complete—you can play through some challenges in a matter of minutes.

The game combines what's cool about turn-based games (for example, complex research systems that help you develop your civilization's military, commercial, diplomatic, and scientific skills) and what's cool about real-time-strategy games (such as an easy-to-understand combat model that lets you quickly compete in multiplayer skirmishes). The result is a fast and furious romp through the ages.

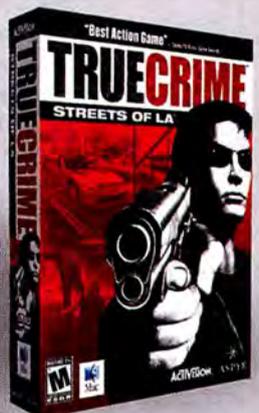
Unfortunately, Mac-to-PC multiplayer support isn't a possibility. You can thank Microsoft for that—the Windows version uses Microsoft's Mac-hostile DirectPlay technology for online gaming.

To reward patient Mac gamers, MacSoft is selling the game as Rise of Nations: Gold Edition, which includes the expansion pack Thrones and Patriots. This adds six new nations, four new campaigns, more than 20 units, and other goodies to the original game.

MacCentral.com Senior Editor PETER COHEN has found that racing virtual Fords is less costly and more fun than racing his own ever was.



**DOOM 3** > *The Gateway to Hell is Open*



**True Crime: Streets of LA** > *True Driving. True Fighting. True Shooting*



**Command & Conquer: Generals: Zero Hour** > *The Hour is Now*

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# Mac Gems

In August 2004, I introduced you to Carsten Blüm's Plain Clip (★★★★; [www.bluem.net](http://www.bluem.net)), a useful little app that strips text of all formatting so you can copy formatted text and then paste it as plain text. Reader response to that recommendation was very positive—it's clear that some people spend a lot of time cleaning up text.

Unfortunately, styled text is often the least of your concerns; a bigger issue is messy text—text copied from an e-mail, a Web site, or a PDF, and littered with odd characters, hard returns, unnecessary spaces, and who knows what else. If this sounds familiar, you need to check out unmarked software's \$25 **textSoap 4.0.7** (★★★★; [www.unmarked.com](http://www.unmarked.com)).

True to its name, textSoap cleans your text—much faster than you can with your mouse, arrow keys, and delete key. Simply paste your text into the textSoap text window and then select your favorite *cleaner*—a set of rules that tell textSoap exactly what you want done with your text—and your text is ready for pasting. The available cleaners range from the simple to the comprehensive. For example, Spaces replaces multiple contiguous spaces with a single space; Forwarding removes the pesky arrow characters (>) from forwarded e-mail text, and cleaners such as Uppercase, Capitalize Words, and Straighten Quotes let you manipulate case and formatting. More-complex cleaners include Scrub—which strips spaces, forwarding arrows, and line feeds; rewraps paragraphs; and converts Hex designations (such as %20 and the similar gunk you often see in e-mail messages) to their ASCII equivalents (turning the aforementioned characters into a space, for example). It's quite pleasing to see a mess of forwarded text instantly transform into nice, neat paragraphs.

All of these cleaners are very useful, but what won me over is the ability to create custom cleaners. And in case having to paste your text into the textSoap window sounds like a hassle, textSoap can also work in other ways: via a contextual menu; through OS X's Services menu; from within supported apps (such as BBEdit, Mailsmith, and Eudora); and using AppleScript.

If you frequently work with messy text, a little textSoap makes cleanup easier.

## Better Battery Monitor

If you're a laptop user, you need to be aware of your battery's status: whether or not it's fully charged, how much time you have left before it runs out of power, and so on. OS X provides a battery-status item for the menu bar—you enable it via the Energy Saver preference pane—but it has two drawbacks. First, it takes up a lot of menu-bar space. Second, it doesn't provide many options. If you have an iBook or a PowerBook, you should check out Colin Henein's free (donations accepted) **SlimBatteryMonitor 1.2** (★★★★; [www.orange-carb.org](http://www.orange-carb.org)).

What makes SlimBatteryMonitor better? As its name implies, it's slimmer than OS X's built-in battery-monitor display, giving you more room for other menu-bar items. (It also looks nicer.)

But its customization options are what I like best about SlimBatteryMonitor. Unlike Apple's battery monitor, which shows the same information at all times, SlimBatteryMonitor has three display states—while running on battery, while battery is charging, and when battery is charged. Each state provides different, independent options, so you can get exactly the information you want for each state. (SlimBatteryMonitor uses the same data as Apple's battery monitor, so the gauges are equally accurate.)

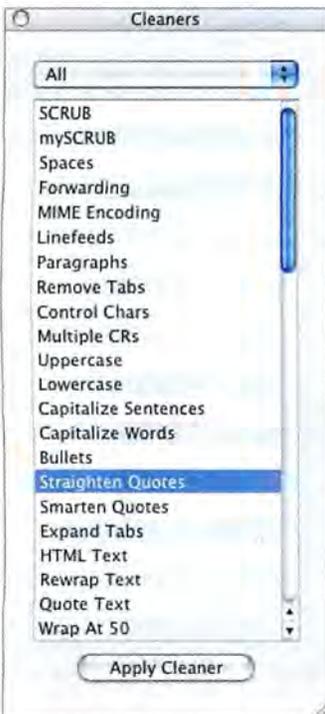
I also like SlimBatteryMonitor's custom color settings for providing visual cues as to my PowerBook battery's status: When my laptop is running off the battery, my menu icon is a nice teal; when it's charging, the icon is orange; and when it's fully charged, the icon is bright green. (The latter two colors match the light on my PowerBook's AC adapter.)

A few other extras are also quite useful. Like OS X, SlimBatteryMonitor can show a warning when your battery gets low, but with SlimBatteryMonitor, you decide when that warning appears: with 10, 15, or 25 percent of your battery power remaining. SlimBatteryMonitor also supports dual-battery PowerBooks, and it can even monitor UPS batteries, so it's useful for desktop Macs, too. I wish only that it let you choose your display preferences from its drop-down menu, as OS X's monitor does.



**Power Watcher** Gain some extra menu-bar space—as well as more information—with SlimBatteryMonitor.

**Copy Cleanser** You have many options for cleaning up messy text with textSoap.



## Elements, Smell-O-Mints

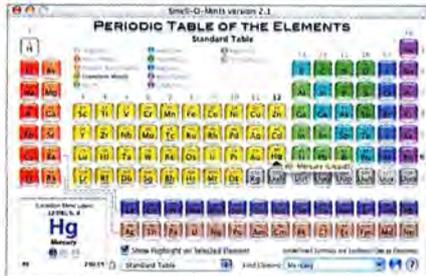
One of my goals with *Mac Gems* is to cover a wide variety of products—I want everyone to eventually discover something useful. I've recently received a few requests for more coverage of educational software gems, and I'm happy to oblige. In fact, one of my favorite learning aids has recently received a major update.

I first learned about the periodic table of elements in my sixth-grade science class, and I used it regularly in high-school chemistry. My copy of the periodic table was either a photocopy handed out by the teacher or—if I was lucky—a nifty color-coded version in the back of my chemistry book. But it seems fitting that today's students have a high-tech version of the periodic table.

John Schilling has obliged by bringing back his free (donations accepted) **Smell-O-Mints 2.1** (★★★★; [www.jschilling.net](http://www.jschilling.net))—an electronic periodic table of the elements—with a major feature update and a pleasing Aqua interface. Like any good periodic table, Smell-O-Mints shows all the known elements in their proper locations, using color to designate elemental types (metals, noble gases, and so on). Click on an element to see more information about it in a detail box in the lower left corner of the screen.

A good high-school chemistry book provides most of this information, but Smell-O-Mints takes advantage of its digital nature with a few unique features. Unlike paper tables, which show each element's symbol and name, Smell-O-Mints shows only an element's symbol by default; clicking on the element reveals its name. This makes it a useful study aid. Conversely, if you can't find a certain element, you can type its name in the Find Element box to highlight it in the table and see its details on screen. And after you find an element, you can click on the globe button next to its name to open that element's entry in the Wikipedia.org online encyclopedia in your browser. (Another advantage of digital tables is that they can be quickly updated when new elements are discovered or created—there are a few more today than when I was in science class.)

Smell-O-Mints also provides a number of handy specialized views of the periodic table that just aren't possible with a sheet of paper. In addition to the standard table, it offers color-coded views: Solids, Liquids, and Gases; Metals and Non-Metals; Radioactive Elements; Synthetic/Decay Elements; Crystal Structures (showing which elements are cubic, hexagonal, tetrahedral, and so on); and Block Groups. If you're a teacher or a student looking for an effective way to study the periodic table, Smell-O-Mints is a great tool.



**It's Elementary** Chemistry students and teachers alike will enjoy Smell-O-Mints.

GO TO WEBLOG:			
 The Mac Gems Weblog ( <a href="http://www.macworld.com/weblogs/macgems/">www.macworld.com/weblogs/macgems/</a> ) has longer versions of the reviews you see here, as well as reviews not in this column. Check out this month's Web exclusives.			
PRODUCT	RATING	URL	DESCRIPTION
iC-Switch	★★★★	<a href="http://find.macworld.com/0240">find.macworld.com/0240</a>	helper-application changer
Outlook2Mac	★★★★	<a href="http://find.macworld.com/0241">find.macworld.com/0241</a>	Outlook mail converter

## Up All Night

There's an old technology saying—often found adorning T-shirts at computer conferences—that goes something like this: “Macs for productivity, Linux for development, Windows for solitaire.”

Although I might argue with the first two parts, my real beef is with the third: Whoever came up with the slogan had obviously never experienced Semicolon Software's \$25 **Solitaire Till Dawn X 1.4** (★★★★; [www.semicolon.com](http://www.semicolon.com)). It's the best solitaire game I've seen on any platform.

From Accordion to Yukon (and every variant of Klondike in between), you get more games and game types than you'll know what to do with—85 in all. With so many games, how do you decide which one to play? The Game Chooser window shows a list of all games; selecting one from the list displays details about it: its name, the type of game it is

(Two-Deck, Thinker's, Easy to Win, and so on), other names for it, and a short description.

Purists may prefer to play card games without any help; however, for many of us, part of the allure of playing solitaire on a computer can be reduced to a single word: *undo*. Solitaire Till Dawn offers the frustrated solitaire player unlimited undos (and redos), as well as a number of other helpful cheats. At any point, you can take a snapshot of your game; if you get stuck, you can revert to any snapshot and continue playing from that point.

Solitaire Till Dawn does have rather bland graphics. You can customize the game's background and card designs, but that's about it—a minor quibble. In fact, the only real problem with Solitaire Till Dawn is this: Although it proves that Windows doesn't have a lock on solitaire, it also disproves the notion that Macs have a monopoly on productivity. □



**All by Yourself** You may not get much work done after trying Solitaire Till Dawn X—it has 85 games.

Senior Writer DAN FRAKES ([www.danfrakes.com](http://www.danfrakes.com)) is also Playlistmag.com's reviews editor. Send your thoughts on this column, or on things you'd like to see in future columns, to [macgems@macworld.com](mailto:macgems@macworld.com).

APPLE TAKES  
SIZE AND PRICE  
DOWN A NOTCH  
WITH THE MAC  
MINI AND THE  
IPOD SHUFFLE



# SMALL MIRAC

PHOTOGRAPHY BY PETER BELANGER



# LES

**EVERY YEAR, MAC USERS GATHER** in San Francisco to see Steve Jobs unveil the Next Big Thing at Macworld Conference & Expo. This year was no different except that there were *two* Big Things—new products that are big because they're so small.

First, there's the Mac mini—the tiniest desktop Mac ever, at three pounds, and the Mac with the lowest price tag, at \$499. Then there's the \$99 iPod shuffle, which weighs in at just a hair under one ounce.

With both of these products, Apple attacks its competitors on new fronts. The company not only continues to innovate in terms of design and usability, but also now leads the way when it comes to size and price.

Here's the scoop on the new tiny Mac and the tinier iPod, based on conversations with Apple and our exciting first days with these new products.



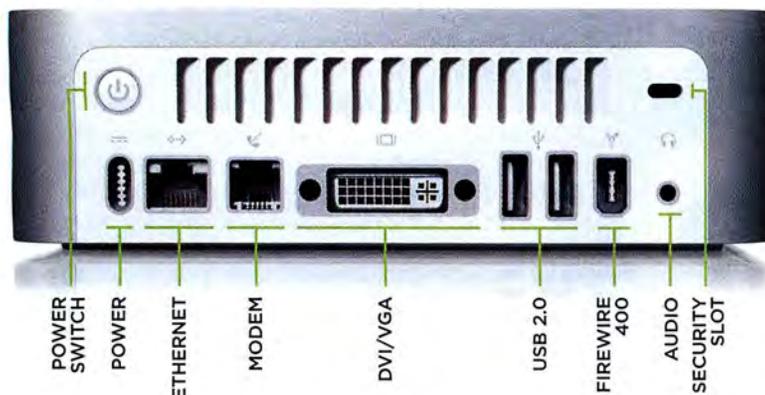
## MAKE MINE A MAC MINI

**F**or years, people have complained that even the inexpensive Macs cost too much for some users. So when Steve Jobs unveiled the Mac mini, the likelihood of Windows users switching to the Mac became a lot greater. Greg Joswiak, Apple's vice president of hardware product marketing, told us that for people who are on the fence about buying a Mac, "the Mac mini makes it a lot easier to fall off that fence."

But does the Mac mini's appeal to switchers make it irrelevant to die-hard Mac users? Hardly. For the rest of us, the Mac mini has the potential to be a solid replacement for an aging system, an affordable additional Mac for another part of the house, or a convenient home media server. The fact that it will finally enable us to get that pesky PC-using uncle to finally abandon Windows is simply a bonus.

To make the Mac mini a compact block of a system, Apple clearly used the same design and engineering skills that crammed lots of computing power into the iMac G5, PowerBooks, and the iPod. But to hear Apple representatives tell it, the company's real goal wasn't just to make a tiny Mac or a low-cost Mac. It was to solve the problem of how to make a \$499 computer that wasn't a piece of junk.

## THE PORTS



**The Basics** The two Mac mini models vary in only three ways: processor speed, hard-drive size, and price. For \$499, you get a 1.25GHz G4 processor and a 40GB drive; for \$599, you get a 1.42GHz G4 processor and an 80GB drive (and both are quite similar to the eMac in terms of specs—minus the screen, a lot of weight, and some ports). However, if you order the Mac mini directly from Apple's online store, you can load it up with extra features that take it far beyond the \$499 realm. Apple offers larger RAM chips (\$75 for 512MB or \$425 for 1GB), larger hard drive (\$50 for 80GB), a SuperDrive (\$100), internal Bluetooth (\$50), and an AirPort Extreme card (\$79). Throw in some of those upgrades, and a \$499 computer can become a \$1,203 computer very quickly, and a \$599 computer can escalate to a \$1,253 machine just as fast—and all without a keyboard, a mouse, or a display, mind you.

**The Size** Yes, the Mac mini is small. It's so small that you would have to stack five of them to surpass the height of the Power Mac G4 Cube, a system that seemed amazingly small in its time. At 6.5 inches square, 2 inches high, and 2.9 pounds, the Mac mini fits comfortably in your hand. Its diminutive motherboard is exactly the width of its RAM slot. That's because the Mac mini uses full-size PC2700 RAM. Apple could have saved space by using laptop RAM, but it wouldn't have helped much—given that the size of the Mac mini is determined mostly by the optical drive. However, the Mac mini has a 2.5-inch, 4,200-rpm hard drive, which translates into slow, laptop-drive performance in a desktop computer.

**The Feel** The Mac mini uses materials we've all come to expect from Apple's latest designs: Its top is a piece of white polycarbonate plastic—the same as on the iMac G5 or the iBook. Its sides are a ring of anodized aluminum, just like a PowerBook's or an iPod mini's. And its bottom is the skid-resistant rubbery material that's also on the bottom of an iPod dock.

**The RAM** The most widely criticized aspect of the Mac mini is its meager base of 256MB of RAM. But the RAM slot on the Mac mini appears to be accessible; if it turns out to be fairly easy to crack a Mac mini open, more RAM would seem to be the easiest

thing to install. Keep in mind that there's only one RAM slot, so if you want to upgrade your RAM after buying a Mac mini, you'll need to yank the preinstalled module first.

**Wireless Options** Despite Steve Jobs's lack of discussion of the Mac mini's wireless capabilities during his keynote, the Mac mini can do wireless. Due to the tight spaces within the Mac mini, both the AirPort Extreme card and the Bluetooth module attach to the Mac mini's motherboard via a special connector. Apple hasn't made it clear whether that connector is included on all models or only on those that have had AirPort or Bluetooth preinstalled—adventurous types *may* be able buy an AirPort Extreme card and install it in a Mac mini themselves. But Apple doesn't recommend it—the company suggests that you let an authorized Apple service professional perform upgrades. In previous Mac models, internal Bluetooth support was an option available only when you ordered the machine: if you didn't opt for internal Bluetooth, you couldn't add it later. But that's not the case with the Mac mini: the Bluetooth module attaches to the same special connector coming off the motherboard. According to Apple, this means you can have an authorized dealer install the internal Bluetooth module later if you don't feel that you need it right away.

**The Noise** True to Apple's recent hardware-design history, the Mac mini has an independently controlled fan that turns on and off according to, and bases its speed on, the machine's cooling needs. Apple says that the fan runs at 22 decibels, essentially whisper-quiet (its cooler-running G4 processor helps reduce fan noise as well). We had a hard time hearing any noise coming



from the Mac mini's fan, but there wasn't a room at Macworld Expo that was quiet in the way that a home or office setting would be. We'll have more on the Mac mini's noise when we get one into the Macworld Lab.

**The Video** The Mac mini features an ATI Radeon 9200 graphics chip with 32MB of DDR SDRAM and AGP 4x support. It is not upgradeable. The graphics processor, combined with the mini's DVI port, can drive a 1,920-by-1,200-pixel LCD such as the 23-inch Apple Cinema HD Display. And with the included DVI-to-VGA adapter, you can connect analog monitors with resolutions up to 1,920 by 1,080 pixels. (If you want to connect to a TV via an RCA or S-Video cable, you'll need to buy a \$19 adapter.) The Mac mini's graphics may not make it the ultimate gaming machine, but it should be more than capable for every other type of user. (For more coverage of the Mac mini, go to [find.macworld.com/0276](http://find.macworld.com/0276).)

**Load Up** The Mac mini's slot-loading optical drive gives you the same capabilities you'd get from a large Mac.

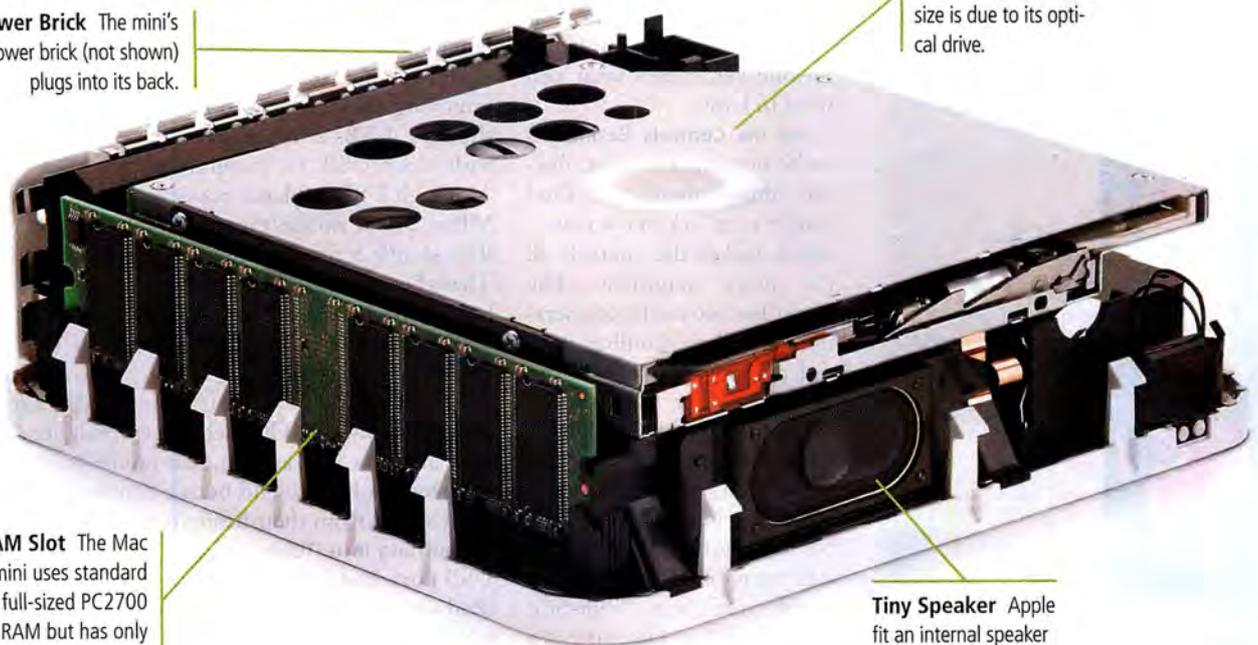
## UNDER THE COVER

**Power Brick** The mini's power brick (not shown) plugs into its back.

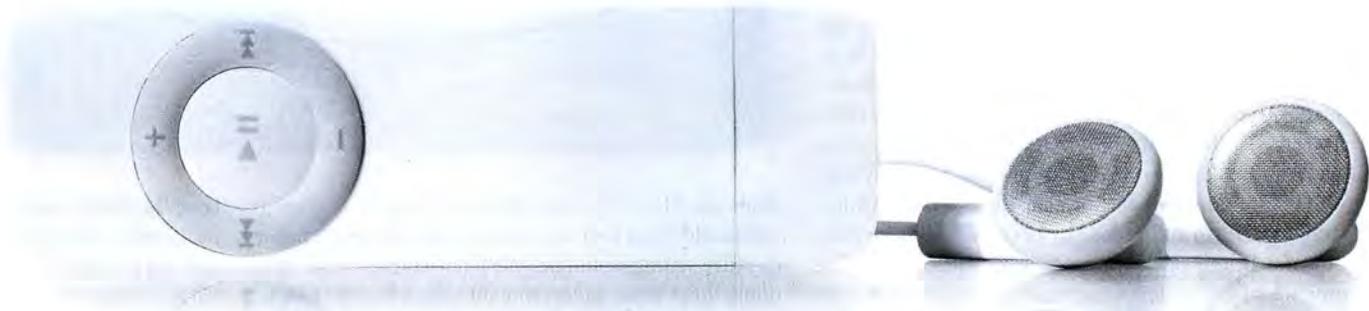
**Optical Drive** The bulk of the Mac mini's size is due to its optical drive.

**RAM Slot** The Mac mini uses standard full-sized PC2700 RAM but has only one slot.

**Tiny Speaker** Apple fit an internal speaker into the Mac mini. But external speakers are better for rocking out.



# DO THE IPOD SHUFFLE



**T**he iPod shuffle is quite possibly the smallest piece of hardware ever to carry an Apple logo. The music player is about the size of a pack of gum (and just in case you get temporarily confused, Apple reminds you on its Web site not to eat the iPod shuffle). The tiny shuffle weighs in at less than an ounce and feels like next to nothing in your hand or around your neck. Yet, befitting a product bearing the iPod name, it's a very capable digital music player. At \$99 for 512MB of storage and \$149 for 1GB, the iPod shuffle holds a lot less than any other iPod, but it costs a lot less, too—as much as \$150 less than the iPod mini (and it offers more storage than comparably priced flash-based players from other companies). In short, it's the iPod for people who never thought they'd buy an iPod. It's also great if you want a second iPod. If you haven't gotten your hands on one yet, here's what you need to know.

**Set the Controls** Besides its svelte housing, the most obvious thing about the iPod shuffle is its lack of a screen—which makes the controls all the more important. The player has two modes of operation: a random shuffling or an ordered playing of the songs in its playlist. The slider on the back of the iPod shuffle determines how you will hear the songs—in the middle position, songs play in order, and in the bottom position, they shuffle. The top position turns the iPod shuffle off (see “Pint-Size Power”). Below this slider is a button with an LED; when pressed, it indicates the status

of the battery. (Green is a good charge, orange is a low charge, red is a very low charge, and no response indicates that the device is completely drained.)

In keeping with the spirit of the iPod, the iPod shuffle includes a navigation ring—but not a scroll wheel. To play or pause a song, press the big button in the middle of the wheel. You use the same button to switch the iPod shuffle into Hold mode—just hold this button for three seconds. Adjust the volume with the plus (+) and minus (–) buttons at the top and bottom of the wheel, and move from one song to another by pressing the previous and next buttons at the sides. To fast-forward or rewind a song, press and hold one of these buttons. The iPod shuffle has another LED that flashes green to indicate that it's received your command. This LED can also flash orange and will do so (sometimes with alternating green flashes) to signal conditions such as Do Not Disconnect or Error.

Headphones plug into the top of the player, and removing the cap on the bottom reveals the iPod shuffle's USB 2.0 connector (which also works with older USB 1.1 computers, but more slowly). Although USB 2.0 has a maximum bandwidth of 60 MBps, you'll notice that the transfer speed of the iPod shuffle is much slower than that of other iPods. That's because flash memory is much slower than the hard drives in other iPod models.

(Because there's no hard drive that can fidget when jostled, skipping isn't a concern on the iPod shuffle, making it an ideal player for the active iPod owner. The included earbuds are Apple's standard issue and, as such, may not be good enough for people who demand both a comfortable fit and great sound from their headphones.)

**Shuffling into iTunes** Plug the iPod shuffle into a USB port, and it behaves very much like a standard iPod within iTunes (you must update to iTunes 4.7.1, which is included in the package or available via OS X's Software Update). Like other iPods, the player appears in the Source list as a destination for songs in



**Pint-Size Power** The iPod shuffle packs a lot into a small package.

your iTunes library. Once you select the iPod shuffle in the Source list, however, you begin to see how it differs from other iPods.

You can, of course, drag songs manually to the tiny player, but when you select an iPod shuffle in the Source list, you're greeted by a new Autofill pane at the bottom of the iTunes window (see "Have Your Fill"). Within this pane, you can choose the source for your music—your entire iTunes music library or a particular playlist. You can select Choose Songs Randomly, Replace All Songs When Autofilling, or Choose Higher Rated Songs More Often. Although you could do the same kind of thing with the Smart Playlist feature on other iPods, this is a more convenient way to go about it.

While this is a good start, it's only a start. To get the most out of the iPod shuffle, turn to iPod preferences within iTunes. Here, along with the usual Enable Disk Use option (more on that in a minute), you'll find a new option—Convert Higher Bit Rate Songs To 128 Kbps AAC For This iPod. This is a necessary and sure-to-be-appreciated feature. With a device that holds only 512MB or 1GB of songs, every megabyte counts. To protect yourself from filling your iPod shuffle with songs that weigh in at tens of megabytes, the iPod shuffle won't accept songs encoded as AIFF or Apple Lossless files (although, for some reason, WAV files are supported). But the conversion option ensures that you're not precluded from listening to songs encoded in those formats. Once you enable the option, iTunes will convert the tracks to 128 Kbps AAC files on-the-fly as it syncs with the device (while maintaining the original file in the iTunes library). This conversion does slow down the sync. On a 1.25GHz PowerBook G4, for example, it took about a minute for iTunes to convert a 7-minute AIFF file and move it to an iPod shuffle. Regrettably, this option is currently available only for the iPod shuffle.

The other notable option in the iPod shuffle's preferences is within the Enable Disk Use section

## SHUFFLE EXTRAS



The iPod probably has more accessories made for it than any other product in history. Between cases, transmitters, remote controls, speaker systems, and everything in between, it's a booming business. Apple was first out of the gate to announce accessories for the iPod shuffle—each of which should be available shortly for \$29.

**Armband** Similar to the armband for the iPod mini, the iPod shuffle armband lets you keep your music close at hand—but out of the way—when exercising. It's flexible, and it won't add a lot of weight to the svelte iPod.

**External Battery Pack** Apple says that the shuffle's battery life tops out at 12 hours—no slouch. But when you need even more juice (did someone say, "Nonstop flight to Sydney"?), there's the compact External Battery Pack (right). Two AAA batteries give you 20 more hours of playback.

**Dock** Just like any keychain drive, the iPod shuffle plugs into one of your Mac's USB ports. But if you'd rather not crawl behind your Power Mac, the dock provides a convenient way—and one that's in tune with the rest of the iPod line—to sync or charge the iPod shuffle.

**Sport Case** Apple's Sport Case (left) protects the iPod shuffle from dings and scratches while making it better equipped to withstand the elements. The case also offers a touch of color, both at the edges of the otherwise-clear plastic and in the attached lanyard.

**USB Power Adapter** Although not exclusively for the shuffle, Apple's USB Power Adapter lets you charge your tiny iPod without the help of a computer. And you don't need any cables—just plug the adapter into a socket and then plug the iPod shuffle directly into the adapter.



of the window. If you turn on disk use, you use a slider to split the iPod shuffle's storage between music and data (on the \$99 model, the slider runs from 120 songs [0MB of data] to 0 songs [512MB of data]).

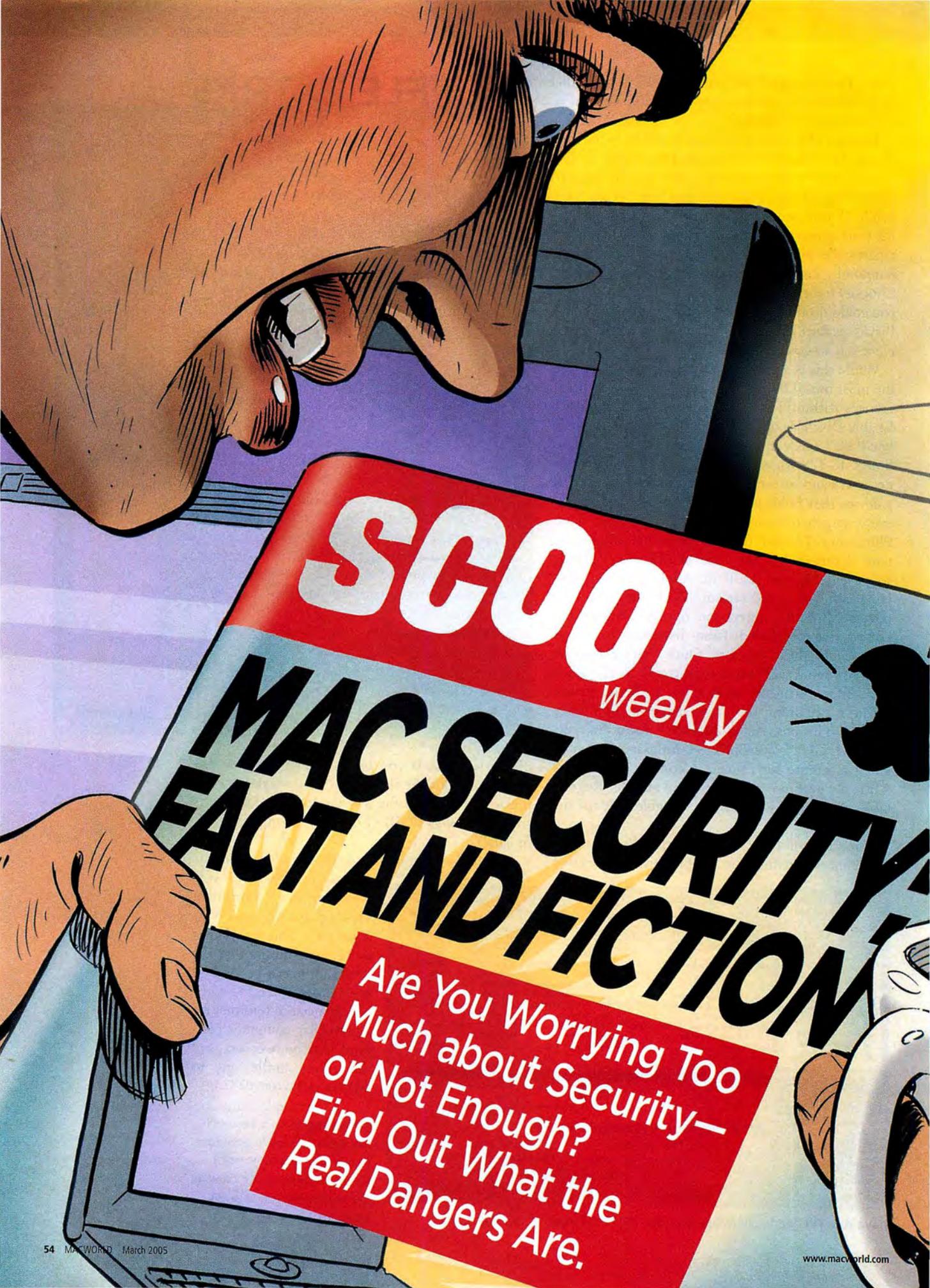
And unlike other iPods, the iPod shuffle is formatted

as an MS-DOS volume—one that's compatible with both the Mac and Windows PC. This is a smart move, as it means that the iPod shuffle can be used on both a Mac and a PC without the need to reformat for a particular computer platform. (For more coverage of the iPod shuffle, go to [find.macworld.com/0277](http://find.macworld.com/0277).) □

This report was written by *Macworld* Contributing Editor and Playlistmag.com Editor in Chief CHRISTOPHER BREEN, *Macworld* Senior News Editor JONATHAN SEFF, and *Macworld* Editorial Director JASON SNELL.



**Have Your Fill** The Autofill feature lets iTunes choose the music for your iPod shuffle.



# SCOOP

weekly

## MAC SECURITY: FACT AND FICTION

Are You Worrying Too  
Much about Security—  
or Not Enough?  
Find Out What the  
Real Dangers Are.



## VIRUSES. SPYWARE. INTERNET HACKERS AND WIRELESS PROWLERS.

Most Mac users gaze on smugly as reports of each new Windows security crisis break. And they have good reason: At press time, research from Sophos (a maker of antivirus software) showed that 68 viruses have affected the Mac while 97,467 have affected Windows. Of those 68, most are a decade old or older and don't directly affect OS X.

But although it may *seem* that there's no reason to worry about security on your Mac, you shouldn't think you're completely safe. Apple's regular Security Update releases prove that there's cause for concern, and common sense suggests that you're most vulnerable when you let your guard down.

So how can you tell the difference between fearmongering and true dangers? We examined nine common beliefs about Mac security—and show you what you *really* need to worry about.

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Griffin SecuriKey Professional Reviewed

ILLUSTRATIONS BY JONATHAN CARLSON

## Mac users don't need to worry about viruses.

**FALSE.** We've enjoyed a long, glorious stretch without serious malware affecting our platform. But that doesn't mean we can afford to let down our collective guard. If there is a virus attack, those of us who have good, up-to-date antivirus software installed will have the best odds of escaping unscathed.



**Mandatory Measures** If you don't have antivirus software installed, see "Select Your Shield" for help. If you can't name your antivirus program even though you're just positive you've got one installed, you're halfway there. But this is a telltale sign that you haven't used it recently enough.

Just as important as having the software is making sure its virus *definitions*—the frequently updated information that antivirus software uses to recognize a virus—are recent. The best way to do this is to check for definition updates regularly. If you use a product that has an automatic update feature (all the programs described in "Select Your Shield" do), make sure it's turned on and set to a frequent update schedule. Weekly updates should be adequate for most users, but if your computing involves accessing lots of files from lots of sources—whether via e-mail, file servers, or Web downloads—then daily updates might be a better idea.

## MAC ATTACKS



Still wearing a smug look because so few viruses affect the Mac? It's not unjustified. No virus outbreaks affected Mac users in 2004, and the other security incidents in our recent past are largely hypothetical:

> **MP3Concept (April 2004)** Intego confused the Mac community by announcing that VirusBarrier would protect against the "first Trojan horse" affecting Mac OS X. In fact, a harmless proof-of-concept utility, not an actual Trojan horse, had been developed.

> **Opener (October 2004)** A malicious shell script first reported on MacInTouch ([www.macintouch.com](http://www.macintouch.com)), Opener disables a Mac's firewall, turns on file sharing, creates a new user account with admin privileges, and more, but only if the Mac's user installs and runs the script and enters an administrator password when prompted to do so. Enter your administrator password only if you know why you're being asked to and only if you trust the source of the software that's asking!

**Your Defense? Security Updates** Meanwhile, Apple has patched a number of vulnerabilities that haven't yet been exploited. For instance, Security Update 2004-05-24 prevents the inadvertent execution of malicious code via certain types of URLs, and it adds a warning before launching an application for the first time as the result of double-clicking on a document.

*Always stay on top of OS X's Software Update feature.* To make sure that you have it turned on and set to check weekly or daily, go to the Software Update preference pane in System Preferences.—MARK H. ANBINDER

**Stay Alert** Don't open unexpected e-mail attachments until you've confirmed that they're from the sender they appear to be from. Research from Sophos shows that one in 18 e-mails circulating during the month of November 2004 contained viruses.

Most malicious scripts affect only Windows machines, so if you click on one by accident, nothing will happen. But if you use Microsoft Word or Excel, you're vulnerable to some platform-agnostic *macro viruses*. Protect yourself by turning on the Warn Before Opening A File That Contains Macros option in each program (under *program name*: Preferences: Security), but be aware that not all macros are malicious. The person who sent you the document might have included a useful macro on purpose.

To further reduce the risk of infections, don't download free software or shareware from anywhere but reputable sources such as VersionTracker.com, MacUpdate ([www.macupdate.com](http://www.macupdate.com)), or the Apple software download page.—MARK H. ANBINDER

## You're vulnerable to Windows viruses if you run emulation software.

**TRUE.** If you're running Microsoft's Virtual PC or another emulation product and running Windows, your Windows environment is susceptible to all the maladies that a stand-alone Windows PC is. Virtual PC and similar tools don't merely let you access Windows-created documents and run software intended for Windows machines; you're *actually running the Windows operating system*.

**Virtual PC, Real Viruses** You can minimize the risk by keeping your Windows environment meticulously up-to-date via Windows Update, by turning on the built-in firewall in Windows XP's Security Center, or by installing your own firewall. (Yes, that might mean running a Mac firewall *and* a Windows firewall.)

Also helpful is avoiding some of the security holes that leave Windows users open to viruses and other malware. For starters, don't use Virtual PC's Virtual Switch network setting, which lets your virtual Windows computer act as though it were hooked directly to your network. If you put Windows right on your network with its own IP address, it's vulnerable to any network-based attacks, such as those that exploit Windows file-sharing vulnerabilities. (Once Windows has been compromised, portions of your Mac's hard drive that have been shared within Virtual PC might be accessible.)

Instead, use Virtual PC's shared-networking scheme. (Select Shared Networking in the Networking tab of each virtual PC's Settings dialog box.) This offers protection similar to that of a company firewall or a home broadband router, separating your computer from the Internet at large.

Finally, if you're running Windows, you need antivirus software installed in Windows, not just on the Mac side. See *Macworld's* sister publication *PC World* ([www.pcworld.com](http://www.pcworld.com)) for recommendations.—MHA

# SELECT YOUR SHIELD



The number of viruses affecting Macs remains very small. But we mustn't be lulled into a false sense of security.

Installing and using antivirus software is important.

For some people, the decision has been made by a company or college, or by the free copy of McAfee's VirusBarrier X that comes with a .Mac subscription. For the rest of us, choices include Intego's VirusBarrier X 10.1.1, McAfee's Virex 7.5.1, Sophos's Anti-Virus 3.87, and Symantec's Norton AntiVirus 9.02 (see "Antivirus Software Compared" for details).

## Scanning for Trouble

Antivirus software helps keep Macs secure by scanning files as you access them and scanning folders or entire hard drives as requested. It then helps you deal with any oddities the scans may find. Clear information is important, as are tools for repairing or removing infected files.

**Getting Started** For the most part, installing each antivirus product requires just a couple of clicks. The biggest glitch I faced was with Virex: it failed to install on a hard drive because Symantec AntiVirus was once installed there long ago. Support for the .Mac version of Virex is available only online; it took me a few days to get help.

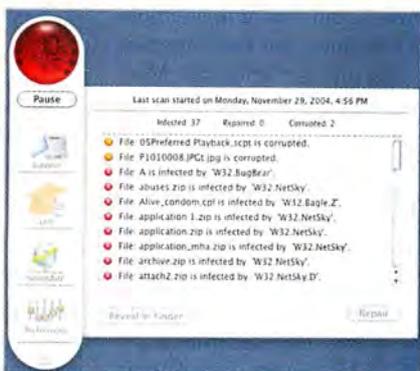
**Scanning** A good antivirus program provides feedback as it scans so you know what's up, and it allows you to keep working while it scans. The fastest program by far was VirusBarrier—it scanned almost 40,000 documents, inside a variety of nested folders, in about five minutes, and then in about a minute on subsequent passes in Turbo mode. Although it wasn't as quick with the initial scan, Sophos Anti-Virus performed well on subsequent scans, zipping over unchanged files in a fraction of the time that the other programs took.

## Configuration and Updates

The programs vary when it comes to the ease of setting options—for instance, scheduling downloads of new virus definitions. I was happiest with Virex because I could access all the program's options—including its scheduling application, Virex Scheduler—from within the main user interface instead of going to System Preferences.

**Up-to-Date Definitions** Current virus definitions are critical. Norton AntiVirus's excellent Live-Update tool obtains the latest updates from Symantec's central servers, according to your schedule. Unfortunately, its oddly shaped window sits in front of all other programs unless you hide it.

Sophos Anti-Virus is designed for workgroups. So instead of downloading definitions directly to each Mac, you download an update once to a server and



**Zap!** From VirusBarrier X's main window, you can quickly repair or review one or more files from the list of scanning results.

then point your computers to the update location to load it. While this comes in handy if you want to grab each update from the Net once for a large group of users, the Sophos implementation works only if you have a Windows 2000 or XP server. And the utility that manages the Sophos client software, Enterprise Manager, provides only definitions to the Mac clients. It can't monitor the Macs for infections as it does the Windows machines.

Sophos says that it has plans for a stand-alone Mac client that can obtain updates from the company's servers. But for now Mac-centric companies must add a local Windows computer to handle automatic updating. Sophos is also working on a version of its Windows-based management software that can communicate with Mac clients.

## What If There's a Virus?

The ideal antivirus tool protects you from viruses but doesn't keep you from your data. It warns you about viruses it finds, informs you of ramifications

and options, and then lets you proceed accordingly. VirusBarrier and Sophos Anti-Virus do a good job of scanning files in the background as they're accessed. Both warn you if they find something and give you the immediate options of repairing or deleting the infected file. VirusBarrier is my pick for scanning files manually or on a schedule. If it finds infected files, you can select one or more from the list of results and then click on the Reveal In Finder button or the Repair button (see "Zap!"). Sophos Anti-Virus lists results, too, but you can't do anything with the list. You must change the software's mode from just scanning to scan-and-repair, and then run the process again.

Overall, the programs did a good job of finding viruses on my test drive. But Norton AntiVirus missed PC viruses entirely—only when I dragged my e-mail attachments folder to the program's Dock icon did the software find and quarantine them. Symantec's \$30-per-incident customer support provided no help. Media contacts diagnosed that the program had aborted its scan before it had finished, without any indication. It turned out that the software was confused by unusual folder permissions.

## Macworld's Buying Advice

Any of these programs will provide the basic protection every Mac user needs. Norton AntiVirus is a reasonable contender for personal or group use, and it integrates well with other Symantec tools. Businesses should keep an eye on Sophos Anti-Virus, which has potential as a workgroup protector. Virex will do if you've already paid for it via a .Mac subscription, but installation issues and poor support prevent it from being our top choice. That spot is reserved for Intego VirusBarrier X. Its attractive interface, turbo performance, and clear handling of virus infections make it a winner.—MARK H. ANBINDER

## ANTIVIRUS SOFTWARE COMPARED

COMPANY	PRODUCT	RATING	PRICE	CONTACT	COMMENTS
Intego	VirusBarrier X 10.1.1★	★★★★	one user, \$60; five users, \$200; ten users, \$360	www.intego.com	Attractive interface and fast scans, especially on unchanged files; clear warnings when viruses are found or infected files are opened.
McAfee	Virex 7.5.1	★★★	included with \$100 .Mac membership; five users, \$203; ten users, \$405	www.mcafee.com	Easy-to-access configuration; no visible progress indicator during scans; refuses to install if there are traces of other antivirus tools remaining.
Sophos	Anti-Virus 3.87	★★★½	five users, \$249; ten users, \$399; 25 users, \$799	www.sophos.com	Fast scanner, but updates require a manual download or a Windows server; shows a list of infected files, but you can't do anything with the list.
Symantec	Norton Anti-Virus 9.02	★★★	one user, \$70; five users, \$280; ten users, \$560	www.symantec.com	Provides easy access to updates; good handling of detected viruses; occasionally misses some viruses when scanning entire drive.

★ = Editors' Choice.

## Mac users don't need to worry about spyware.

**TRUE.** Breathe a long sigh of relief. *Spyware*—programs that record information, such as browsing habits or keystrokes, and send it to a remote server—runs rampant on Windows, but there are currently no real spyware programs that affect the Mac. There are several programs that can monitor what you do by taking screenshots at different times and recording your keystrokes (for example, Camp Software's KeystrokeRecorder X [ \$29; [www.campsoftware.com](http://www.campsoftware.com) ], Red Byte Software's MonitorerX Pro 2.0 [ \$46; [www.red-byte.com](http://www.red-byte.com) ], and Rampell Software's TypeRecorder X 2.1 [ \$35; [www.rampellsoft.com](http://www.rampellsoft.com) ]). But these programs are designed for people who want to monitor the activity of their Mac's users: businesses, schools, or parents may purchase and install these programs to keep tabs on employees, students, or children.

If you're a nonadministrative user of a Mac on which an administrator has installed this type of program, there's not much you can do about it: you're not allowed to remove the software, since you don't have administrative rights. The best you can do is ask why it's there.—KIRK McELHEARN

## Sending chat messages is akin to throwing notes on loosely wadded paper across a crowded classroom.

**TRUE.** If you use any of the popular instant-messaging applications for OS X—iChat, AOL Instant Messenger (AIM), and MSN Messenger—your messages can be read easily by someone watching your network traffic. That sounds like the work of sophisticated computer hackers, but all it takes is access to your network (in your company, at home, or at a public Wi-Fi location, for example) and a packet-sniffing utility such as Brian

# SECURITY, NSA-STYLE



From breaking codes to collecting intelligence on terrorist organizations, the National Security Agency (NSA) is paid to be *really* paranoid.

Download its guide to bullet-proof OS X security from [find.macworld.com/0242](http://find.macworld.com/0242).

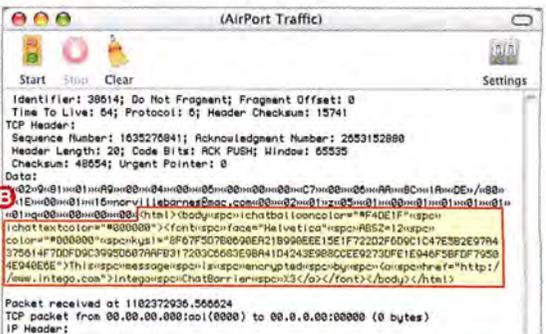
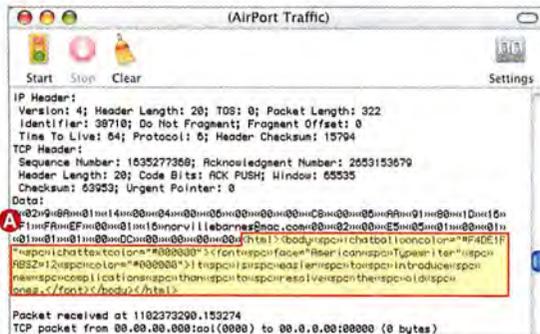
Hill's MacSniffer (free; [find.macworld.com/0234](http://find.macworld.com/0234)) or Stairways Software's Interarchy (\$39; [www.interarchy.com](http://www.interarchy.com)). (Terminal wizards can use the Unix command `tcpdump`.)

For example, the window at the left of "Network Obfuscation" displays a snippet of text sent by iChat as it appears in Interarchy's Traffic window. Looking past the HTML coding (which iChat uses to define balloon color and text formatting) and «`spc`» markers (spaces), you can see that the message reads, "It is easier to introduce new complications than to resolve the old ones."

**Keeping Risk in Perspective** Before you swear off instant messaging forever, ask yourself a few questions. Is it really likely that someone is scanning your network's data packets? You're probably safer chatting with a friend from a single Mac at home than from a laptop connected to a free Wi-Fi network in a busy coffee shop. Also, does your conversation contain top-secret information? If most of your chats concern lunch take-out options, you probably needn't worry.

It's when you're discussing information that's private or proprietary that chatting can become the weak link your competition is waiting for.

**Can Software Help?** Fortunately, there are several ways to make your chats private. iChat users can purchase Intego's \$40 ChatBarrier X3 10.3.2 (♦♦♦♦; November 2004). If both chat participants are running ChatBarrier X3, a padlock icon will indicate that the connection is secure. Someone using packet-sniffing software will see only encrypted text (as shown in the right-hand "Network Obfuscation" screen).



**Network Obfuscation** It's easy to read a normal intercepted chat message sent in the clear, as captured here by Interarchy **A**. But if you use ChatBarrier X3 to encrypt the same message **B**, nosy hackers will see only gibberish.

Another option is to use software that's designed to deliver encrypted text. BitWise (subscription model or limited free client; [www.bitwisecommunications.com](http://www.bitwisecommunications.com)) encrypts every message. However, you can use it to chat *only* with other BitWise users. If that won't do, the open-source Fire client (<http://fire.sourceforge.net>) not only lets you chat securely with other Fire users but also lets you have unencrypted chats with others.

Finally, if you just need to send snippets of secure information, consider encrypting individual messages with a program such as PGP—which stands for “Pretty Good Privacy” (variously priced packages, including a freeware version; [www.pgp.com](http://www.pgp.com)). Recipients of PGP-encrypted messages must decrypt the text on their end. (Think super-secret decoder ring.)—JEFF CARLSON

## When I'm using a wireless network at home, I'm totally safe.

### TRUE AND FALSE

Wireless Wi-Fi networks use radio waves, which often extend well beyond the four walls of your home. That's no big deal if most of the inhabitants of your neighborhood are crickets, but if you live in an apartment building or a dense urban area, it's easy for a neighbor or a visitor to a nearby business to hop onto the network. Less frequently, people might make it their mission to enter your network and try to access your computers.

Because you're not a Windows user, there's no *current* need to worry about people on your AirPort network corrupting your computer with viruses or malevolent programs. So far, there's no such animal that doesn't also require an administrative password. But you should be concerned if your network has *no* protection. In that case, someone could try to connect to your computers and browse your shared folders.

By default, guests can connect only to the Public folder in each user's Home directory, which means they can see only files that you've placed there on purpose. If you don't want uninvited guests to access that, secure your computers. Go to System Preferences: Sharing: Services, and turn off Personal File Sharing, Windows Sharing, Personal Web Sharing, and FTP Access.

**Locking Down the Airwaves** If you don't want to risk *anyone* connecting to your computer, turn on wireless security. Under AirPort, you can enable WEP (Wired Equivalent Privacy). It's not the best security standard, but it will rebuff all but determined crackers. If you use AirPort Extreme and all of your



computers are running Panther or Windows XP, you can opt for the stronger WPA (Wi-Fi Protected Access). Here's how to turn WEP or WPA on:

1. Launch AirPort Admin Utility (Applications: Utilities).
2. Connect to your base station. (Configure all base stations this way if you have more than one with the same settings.)
3. Click on Change Wireless Security.
4. Choose WPA Personal or 128-bit WEP.
5. For WPA, enter a long passphrase that contains letters and numbers in the Network Password field, and verify it by re-entering it in Verify Password. A phrase like “M\*y c@t hAZZ fleez9!” is better than “My cat has fleas.” The former has no words a cracker can discover using a *dictionary attack* (when a program tries to find a password by combing through and combining all the words in a dictionary).
6. Click on OK.
7. Click on Update to restart the base station.

On each computer that connects to this base station, use the AirPort menu to connect, choose the method of encryption that you chose in the AirPort Admin Utility, and enter the passphrase. Change it regularly for greater security.—GLENN FLEISHMAN

## When I'm using a public hotspot, all of my passwords are being stolen.

### TRUE

It's not *literally* true that your passwords for e-mail, FTP (File Transfer Protocol), and Web sites are always being nabbed whenever you use Wi-Fi in a coffee shop, a hotel lobby, or an airport. But the potential is so high that you might as well consider it to be true.

People connecting to the same Wi-Fi network can see all the data passing over it if they have readily

**Controlling the Airwaves** If you don't want uninvited guests hopping onto your wireless network and browsing your public folders, turn off file-sharing services.

available free packet-sniffing software installed, and they can snatch your passwords, e-mail messages, and files out of the air.

**Safe Passage for Particular Data** If you lug a laptop around for business or for pleasure, you can secure your Internet activities one by one. For instance, encrypt your e-mail using a Web mail service that supports SSL (Secure Sockets Layer) for browsing or that can secure POP, IMAP, and SMTP with SSL. All major Mac e-mail clients include SSL support. In Apple's Mail, go to the Accounts pane in Preferences and select the Use SSL option in Account Information: Server Settings (outgoing e-mail) and the Advanced tab (incoming e-mail). Another option is FastMail (free to \$40 per year, depending on service level; [www.fastmail.fm](http://www.fastmail.fm)), which offers secure browsing and secure e-mail.

Web designers often need to transfer files to update Web sites while on the road. You can encrypt FTP using SFTP (Secure FTP). If you're running your own FTP server on OS X, turn on SSH (Secure Shell) on the machine that has the file repository. Go to System Preferences: Sharing: Services and turn on Remote Login and FTP Access. There is an increasingly large number of Web hosts that also support SFTP for transferring files. You need an SFTP-equipped FTP program such as Interarchy, too, on the computer that's connected to your repository.

When you shop or bank online, your data is almost always already secured with SSL. But if you hate the idea of your surfing being observed, use a service such as Secure-Tunnel ([www.secure-tunnel.com](http://www.secure-tunnel.com)), which offers free anonymous surfing. Secure surfing costs \$8 per month.

**Private Networks in Public Places** If you want a more comprehensive way to protect your wireless activities when you're out and about, consider securing your sessions with a virtual private network (VPN) connection. A VPN encrypts all the data that enters and leaves a computer over a network connection, such as AirPort, preventing all snooping.

VPNs aren't just for corporations anymore. OS X Server 10.3 (Panther) includes both flavors of VPN servers currently in wide use. The regular version

of Panther includes a VPN client. (Go to Applications: Internet Connect, and select File: New VPN Connection).

If you don't have your own Panther server, subscribe to a VPN service—for example, HotSpotVPN (<http://hotspotvpn.com>). This site charges \$9 per month for unlimited VPN connections to its VPN servers located at high-speed data centers, from which your Internet traffic is then relayed out to the rest of the world.

**Pick a Secure Connection** Finally, at Starbucks, FedEx Kinko's, Borders, and other T-Mobile HotSpot locations, you can connect to the Internet securely from within Panther through T-Mobile's 802.1x service ([www.t-mobile.com](http://www.t-mobile.com)), a for-fee network that lets you log in without using the typical gateway Web page that greets you. Instead, you log in just as you would to a dial-up network. The hotspot's login server then automatically provides your system with a unique encryption key that protects your data from everyone on the same network.—GF



**The Mac's default security settings are all you need to protect your computer from hacker attacks.**

**FALSE.** Hackers attempt to attack your computer over the Internet by finding open, unsecured ports and exploiting them. A port is nothing more than a door through which computer data can be passed. Every computer has thousands of them, and every open port is a potential entry point.

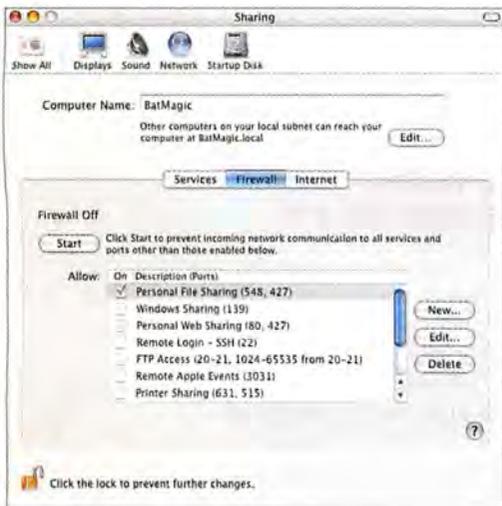
Mind you, open ports are a necessary part of your daily computer experience. Every time you open a Web page, you're using port 80. Every e-mail you send goes through port 25. Sharing your iTunes music library? You're using port 3689. Open isn't necessarily bad—as long as your Mac's operating system and the application using the port verify that only legitimate data is being passed through those ports.

Hackers attempt to find open ports by trolling the Net, sending out messages that your Mac understands as "Hey, anybody there?" When such messages hit your Mac (even if they hit a closed port), it behaves like a puppy dog, happily barking back, "Yep, I'm here!" That response lets hackers know there's something out there they can attempt to exploit. They'll then use port-scanning software to discover an open door they can get into.

To prevent this from happening, you need a firewall. A firewall is simply a piece of software or hardware that stands between your computer and the

**Built-In Security**

Many users who have an always-on connection to the Internet need to turn on OS X's built-in firewall to protect against hackers. Go to the Firewall tab under OS X's Sharing preference pane, and click on Start.



# RAISE THE WALL

OS X's built-in firewall is good enough to protect most Mac users from hacker attacks. But it doesn't have many bells and whistles and isn't very easy to customize. So to find out whether you can get better protection from third-party firewall applications, *Macworld* teamed up with AV-Test to test Intego's NetBarrier X3 10.3, Pliris's FireWalk X2, Symantec's Norton Personal Firewall 3.0 (NPF), Sustainable Softworks' IPNetSentry X, and OS X's built-in firewall (see "Firewall Software Compared" for details).

None of these third-party programs was a huge improvement over OS X's built-in firewall option. But NetBarrier, while pricey, provided the greatest protection, as well as an easy-to-configure interface.

## Hacker-Proof Protection

With the exception of NPF and FireWalk X2, each program stealthed all ports, effectively hiding the Mac from attackers. NPF closed but did not stealth ports 0 and 1; that didn't change even when the application was set to maximum security. While those two ports couldn't be hacked into, they did allow the computer to be seen. By default, FireWalk X2 leaves both port 427 and port 548 open—these are ports used by AppleShare—but we were able to manually disable them.

Of the five applications, only NetBarrier alerted us to possible external attacks. But the program was sometimes a bit overzealous. For example, it opened a dialog box and issued a loud buzz every time a Telnet server on the network tried to determine whether a session we'd opened was still alive. Fortunately, it was easy to add the server to a *white*

*list*, or list of acceptable servers, and stop the alerts.

During port scans, all the firewalls told the scanner which operating system was being used—a potential clue as to how to attack the computer. None of the applications alerted us when the computer joined a new network, changed dial-up accounts, or switched to an insecure wireless connection.

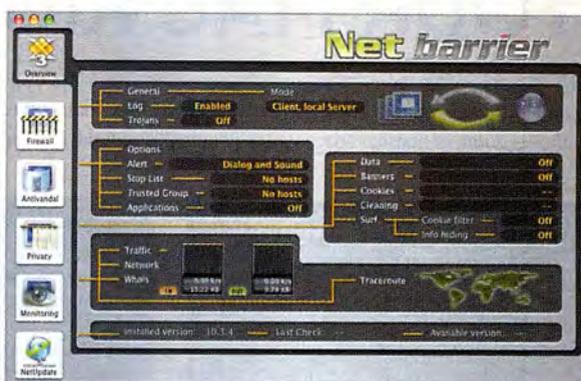
Only NetBarrier was able to detect software that was illegally attempting to connect to the Internet, which many malware programs do. NetBarrier also detected when a program's name had been changed in order to gain access to legitimately open ports. NPF was able to detect applications attempting to open closed ports.

With the exception of NPF and IPNetSentry X, all the applications evaded attempts to deactivate them while they were active. All but IPNetSentry X couldn't be deleted from the hard drive.

## Ease of Use

It's easy enough to turn on OS X's built-in firewall: all you have to do is click on a button. However, you can't access some features except through Terminal or by using a third-party program such as Brian Hill's BrickHouse (<http://brianhill.dyndns.org>).

NPF and NetBarrier are by far the easiest programs to configure. Each runs you through a simple



**Locked and Loaded** NetBarrier X3 provides the best protection and has numerous features that ease the firewall setup process.

setup process, and lets you easily adjust settings. FireWalk X2 also had an easy setup process, but changing and maintaining firewall settings after the fact is much less straightforward and may be intimidating for users with little or no knowledge of firewalls. As for IPNetSentry X, its drag-and-drop installation is easy enough, but only a dedicated gearhead could love its difficult user interface.

## Macworld's Buying Advice

If you're looking to save a dime and are willing to forgo extras and configuration ease, OS X's built-in firewall can handle most of your firewall needs. Although considerably more expensive, at \$60, Intego's NetBarrier X3 offers a more user-friendly interface, significantly more intelligent intrusion detection, and better overall protection than any of the other firewall applications currently being offered.—JEFFERY BATTERSBY

## FIREWALL SOFTWARE COMPARED

COMPANY	PRODUCT	RATING	PRICE	CONTACT	Reveals OS During Port Scans	Issues Alert When Switching Networks	Checks for Unauthorized Internet Connections	Leaves Ports Open by Default	Comments
Apple Computer	built-in OS X firewall	★★★	included as part of OS X	<a href="http://www.apple.com">www.apple.com</a>	●	○	○	○	Free; effective for most users; many features accessible only through Terminal.
Intego	NetBarrier X3 10.3★	★★★★	\$60	<a href="http://www.intego.com">www.intego.com</a>	●	○	●	○	Best overall protection; simple user interface; detects unauthorized Internet connections and programs; easy setup process; overzealous alerts.
Pliris	FireWalk X2	★★★	\$35	<a href="http://www.pliris-soft.com">www.pliris-soft.com</a>	●	○	○	●	Easy initial setup process; nice user interface; inexpensive; ongoing maintenance is intimidating.
Symantec	Norton Personal Firewall 3.0	★★★	\$70	<a href="http://www.symantec.com">www.symantec.com</a>	●	○	○	●	Alerts users to applications attempting to open closed ports; simple user interface; easy setup process; can be removed from memory while active.
Sustainable Softworks	IPNetSentry X	★★	\$40	<a href="http://www.sustworks.com">www.sustworks.com</a>	●	○	○	○	Easy initial setup; can be removed from memory and deleted from hard drive while active; difficult user interface.

★ = Editors' Choice. ● = yes; ○ = no. AV-Test ([www.av-test.org](http://www.av-test.org)) tested these firewalls using Mac OS X 10.3.6 on a Power Mac, a PowerBook, and an iBook with LAN, wireless, and dial-up connections. Read the full test report online at [find.macworld.com/0250](http://find.macworld.com/0250).

# 8 WAYS TO PROTECT YOUR MAC RIGHT NOW

While most people worry about hackers accessing their Macs over a network, it's much easier for someone to just walk up to a computer and browse its files. That's especially true if it's a laptop, or if it's in an office, a dorm, or another space where people mill around. Here are eight ways to protect your Mac:

## 1 Turn off automatic login.

When you choose automatic login, you get to skip entering your password when you start up your Mac. But automatic login also

allows *anyone* to start up your Mac and access your files. If you have it turned on, go to OS X's Accounts preference pane, click on Login Options, and deselect Automatically Log In As *user name*.

## 2 Require a password for waking your Mac from sleep or a screen saver.

Your screen saver looks cool and hides your work, but anyone can press a key to deactivate it and get total access to your Mac. The same is true when your Mac is asleep. Protect against this by going to OS X's Security preference pane and selecting Require Password To Wake This Computer From Sleep Or Screen Saver.

## 4 Change your Keychain password.

By default, the Keychain password is the same password you use to log in to your Mac. Even if you're the only administrator, others could potentially start up your computer with an OS X installation CD and reset the administration password. If they did that, they could reset all the user account passwords and effectively access your keychain. To protect against this, you need a Keychain password that's different from your user password. Open the Keychain Access application, and select your keychain in the drawer. Select Edit: Change Password For Keychain *keychain name*, and then enter a new password.

## 3 Lock your Keychain.

It's handy that the Mac's Keychain application stores your passwords for Web pages,

network volumes, e-mail accounts, and more. Even better, when you browse the Web, the Keychain can help Safari autofill password fields without asking for any confirmation.

But what happens if you step away from your desk? Someone else could access everything from your online banking site, to your .Mac e-mail, to accounts at online retailers—without needing to know your passwords.

Protect yourself by changing your Keychain settings. Open Keychain Access in the Applications: Utilities folder. Select your keychain (usually your user name) in the drawer (click on Show Keychains in the toolbar if it's not visible). Then choose Edit: Change Settings For Keychain *keychain name*. Select Lock After 5 Minutes Of Inactivity, or change the time limit to 1 minute if you're really paranoid. Then select Lock When Sleeping for more security.

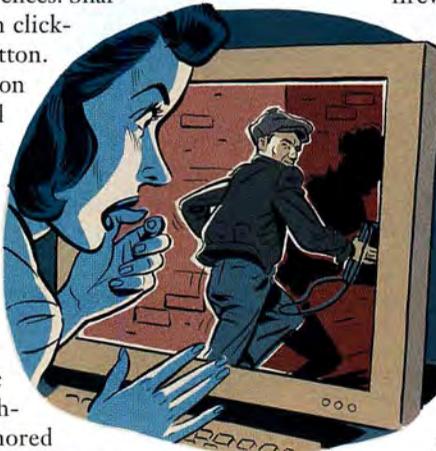
rest of the world, making sure that every piece of data coming or leaving through an open port on your Mac goes only where it's supposed to.

OS X has a firewall that's turned off by default (see "Built-In Security"). You can change that by going to System Preferences: Sharing: Firewall, and then clicking on the Start button.

Frankly, there's no reason not to turn the firewall on if you always have your Mac connected to the Internet. As soon as you start the firewall, all the ports on your Mac are *stealthed*. Stealing a port makes your Mac behave like your high-school crush who ignored you no matter how many times you tried to make small talk in the halls. You made your presence known, but you weren't even getting the

time of day. Any legitimate ports that are open on your Mac will allow data to pass through and work normally, but to the rest of the world, your Mac becomes invisible.

However, for some people, the Mac's built-in firewall isn't the best option. To find out if you're one of those users, see "Raise the Wall."—JEFFERY BATTERSBY



**Your personal information is in danger when you surf the Web.**

**TRUE.** But not, perhaps, in the way you think. Most people imagine some nondescript virtual basement, where slovenly hackers work in the dark, drinking Jolt cola and waiting for you to slip up so they can get at your bank statements, credit card numbers, and passwords.

But more often, your surfing will result in the smaller annoyance of spam. For instance, some

## 5 Store your sensitive files in an encrypted disk image.

If you have only a handful of sensitive files, as opposed to a Home folder chock-full of top-secret information, it's easy to store them in a password-protected encrypted disk image. When you want to mount an encrypted disk image, you need to enter a password. When you're finished working with its files, just eject the disk image. For detailed instructions, see "Protect Data in Panther," *Working Mac*, June 2004, or go to [find.macworld.com/0237](http://find.macworld.com/0237).

## 6 Completely erase sensitive files.

If you've worked on files that you don't want others to see, you can delete them when you've finished. But they aren't completely deleted—bits and pieces of your files remain on your hard disk, and some file-recovery programs could let another user access them. To completely delete sensitive files, select Finder: Secure Empty Trash. This not only deletes the files but also overwrites them so no one can get at them with file-recovery software.

## 7 Use FileVault.

The ultimate level of protection for your files is encryption. In addition to storing some files in an encrypted disk image (as explained earlier), FileVault, the feature built into Panther that encrypts your Home folder, provides total protection even if someone steals your Mac and removes your hard disk. However, an administrator can reset the FileVault password, so your files are not protected from everyone unless you're the administrator. (Your user password opens FileVault, so if you've left automatic login on, this protection isn't worth squat.)

To access FileVault, go to the Security preference pane. FileVault creates an encrypted disk image of your entire Home folder; instead of you creating one manually, as mentioned earlier, and moving individual files into it, the operating system handles this, mounting the disk image when you log in and unmounting it when you log out. But when you use FileVault, all your files are encrypted—your photos, music files, movies, and anything else in your user folder.

Early versions of Panther had problems with FileVault that caused data loss, but Apple seems to have resolved these, and FileVault seems safe to use now.

## 8 Set an Open Firmware password.

As the truly paranoid know, there are three ways to get around a login password: start up the Mac from an OS X installation CD, boot a Mac in target mode while it's connected to another Mac, or start up a Mac from a network server. So if someone gets physical access to your Mac and has the right tools, he or she can access anything that's not encrypted.

If you want to prevent users from gaining such access, you can set a low-level password that must be entered even before your Mac begins booting. Open Firmware is special code that isn't part of OS X—it's actually in a chip in your Mac. Like a PC's BIOS, this chip runs before anything else at startup.

It's not infallible, but it provides solid protection when your Mac lives in a location that's accessible to the public. See the Apple technical article "Setting up Open Firmware Password Protection in Mac OS X 10.1 or Later," at [find.macworld.com/0238](http://find.macworld.com/0238), for more on setting an Open Firmware password.—KIRK MCELHEARN

sites require that you register, and then they sell your e-mail address to others. The best way to prevent this is to create disposable e-mail addresses that you can use when you register. If you have a .Mac subscription, for example, you can create *aliases*, which are different e-mail addresses that funnel mail into your account. These are linked to your main e-mail account, and you can delete them at any time.

**Be John or Jane Doe** Another option is to avoid registering by using a service such as BugMeNot.com. If you go to this Web site ([www.bugmenot.com](http://www.bugmenot.com)), you can find user names and passwords for all sorts of Web sites. These aren't shopping sites—you won't find someone's user name and password for Amazon.com. But you'll find the login information required to access newspapers and other information sites that use registration to track what you view.

**Foiled by Phishing** More-serious security breaches usually happen because you've inadvertently given your data to the wrong person. For instance, *phishing* is when malevolent people send e-mail messages pretending to be eBay, PayPal, your bank, and so on. The message asks you to "confirm" your account by

entering your social security number, credit card number, or other sensitive information.

These messages try to trick you into giving your personal information away so hackers can exploit it. Don't ever click on a link in an e-mail like this. Also, turn off HTML display in your e-mail program so you can check the validity of such links. For example, if you get a message from eBay or PayPal that asks you to enter your information, look at the actual link. Very often, you'll see that it contains a domain name in another country, such as Korea or Russia (.kr or .ru), or you'll see a numerical address, such as 192.168.123.456 instead of [www.ebay.com](http://www.ebay.com).



**Surf Incognito** If you'd rather not register at Web sites—and risk a boatload of spam—try a service such as Bugmenot.com. It provides you with dummy user names and passwords for common sites. Bugmenot has a handy bookmarklet that you can use in Safari.

# THE KEY TO YOUR MAC



You have a key to your house—so why not a key to your Mac? That's the idea behind Griffin Technologies' \$130 SecuriKey Professional Edition ([www.securikey.com](http://www.securikey.com)). It combines a software password with a USB key—or *token*—that hangs on your key ring.

When you start up your Mac after installing the SecuriKey software, you must enter your password *and* insert the key. Without the key, no one can access your files, even with the correct password.

**Locking Up Shop** The SecuriKey is easy to use once it's configured correctly. It works only with OS X 10.3 and later. Just insert the key into an available USB port, and then enter your password when prompted. Whenever you need to leave your Mac unattended, just remove the key, and your Mac switches automatically to the login window.

Setup, however, can be confusing if there are multiple user accounts. I found that I could no longer access any accounts on my Mac other than the one I had set to work with the SecuriKey. (The manual neglects to mention that you can configure these via a SecuriKey

preference pane.) Also, any accounts that have blank passwords become inaccessible after you install the SecuriKey software.

**Hello, Locksmith?** If you're the forgetful type, be aware that if you lose the key (and your backup), you're out of luck. You can get a replacement from Griffin Technologies for a fee, but you'll have to wait until it arrives in the mail.

**Security's Limits** The SecuriKey provides excellent physical access protection for a Mac in a public location and an extra level of protection for laptops. But it's not infallible. Unless you also encrypt your data with OS X's FileVault or another encryption program, thieves could access your files if they remove your Mac's hard disk. It's like people breaking into your house: they can easily rifle through all your important papers—unless they're tucked in a safe.

## Macworld's Buying Advice

The SecuriKey adds another layer of protection that's particularly useful for publicly accessible

Macs or for people who take their PowerBooks or iBooks on the road.

Even if someone learns your password, he or she won't be able to access your files if you use the SecuriKey. But if you need mission-critical security for a group of Macs, look into server-based security systems, such as CryptoCard ([www.cryptocard.com](http://www.cryptocard.com)).—KIRK MCELHEARN

**RATING:** ★★★★★

**PROS:** Protects physical access to your Mac; easy to use.

**CONS:** Works only with OS X 10.3 or later; can be confusing on Macs with multiple user accounts; not infallible.

**PRICE:** \$129

**COMPANY:** Griffin Technologies, [www.securikey.com](http://www.securikey.com)

If you're ever in doubt, go directly to the Web site in question and contact customer support to confirm the message you receive.—KM

## As long as you have separate user accounts, your personal information is safe when you share your Mac with others.

**FALSE.** OS X uses file *permissions* to keep track of who can read, write, and execute each file on the Mac. This is essential because it ensures that one user can't access another's files. But the system depends on the computer's administrator, who has total control over all the files and who must set up permissions correctly. You can't completely protect your files unless you are the *only* administrator.

Even if you're the only administrator, or if your administrator has set up user accounts very carefully, others can access your stuff unless you're careful. For instance, anyone in your office, home, or dorm can

saunter up to your desk, sit down, and start searching through your personal documents if you walk away without logging out. Anyone with an OS X installation CD can start up your Mac with that CD and use its utilities to reset the administrator password.

If you have any truly sensitive files on your Mac—from company financial plans to your top-secret spy stuff—the best way to protect them from prying eyes is to encrypt them (see “8 Ways to Protect Your Mac Right Now”).—KM



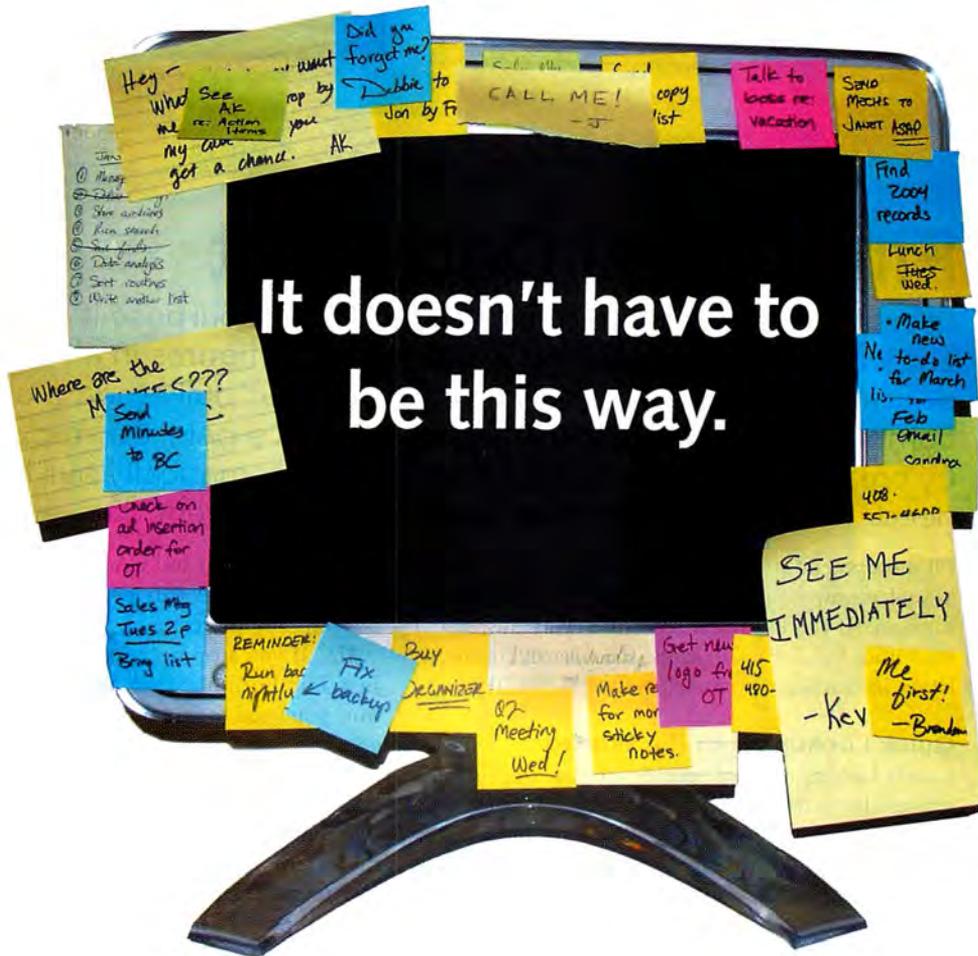
### GO TO WEB:

Do you really want a coworker to find out that you've been job-hunting? Or your roommate to discover that you chat regularly with his ex-girlfriend? If you share a Mac with others, you may want to regularly—or occasionally—remove all traces of your activity. Two programs, Webroot's \$30 MacWasher X and Allume Systems' \$30 Internet Cleanup 2.0, can help. Go to [find.macworld.com/0243](http://find.macworld.com/0243) for a comparative review of these apps.

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WHEN THE SOLUTION MATTERS



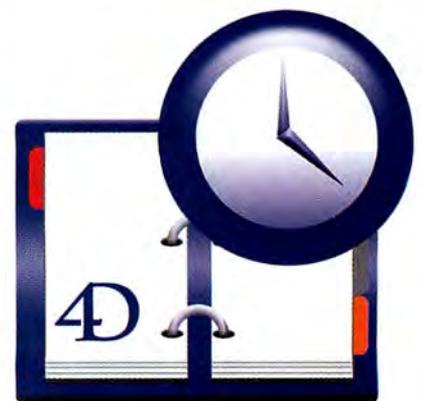
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## Find Excel Data Fast

Excel users often need to retrieve data and repurpose it in many different ways. For example, you might use sales figures in an annual report or create invoices from an inventory list. But pulling data out of large, complicated Excel spreadsheets by hand is a pain. So stop searching—by creating a *lookup*, you can have Excel automatically pull the data you need. These handy formulas save time and prevent data-entry errors.

I'll show you how to use Excel 2004's Lookup Wizard, as well as how—and when—to write your own lookup formula. (If you use Excel X or 2001, you must install the Office Value Pack to access the wizard. For installation instructions, go to [find.macworld.com/0198](http://find.macworld.com/0198).)

### Quick Lookups with the Wizard

Excel's Lookup Wizard provides an easy step-by-step process for retrieving data from tables. It's best used with a two-dimensional table. Use it to find a cell at the intersection of a particular column and row.

For example, say you have a gigantic spreadsheet that details the cost of shipping packages of different weights to each state in the United States. The table lists weights along the top and states along the side. You could scroll through your spreadsheet to find out how much sending a 2-pound package to California would cost—but the Lookup Wizard provides a faster option.

To find the number you need, select the entire table, including the row and column headings, and choose Tools: Wizard: Lookup. The range of table cells automatically appears in the dialog box, so you can just click on Next. Choose 2.0 from the first

drop-down menu and CA from the second, and then click on Next. At this point, the dialog box shows the shipping price.

**Tip:** If you stop here (or choose the option Copy Just The Formula To A Single Cell), then the next time you need to find out the cost of shipping a package, you must step through the entire Lookup Wizard process again. Save yourself the trouble by choosing the option Copy The Formula And Lookup Parameters. This way, you can reuse the work that the wizard did for you, and simply tweak the parameters to reflect your new search. For example, you could type TN instead of CA to see how much it would cost to ship a package to Music City. You'd click on Next and, when prompted, select some empty cells in your worksheet. Then you'd click on OK to paste in the formula and the parameters.

### When to Go DIY

The Lookup Wizard is less useful when you need to look up many pieces of information in a worksheet at the same time. Say you have an Excel table of every product you sell through your catalog, along with product descriptions and prices. When creating an invoice, you'd like to just enter the product numbers and have Excel automatically insert the appropriate descriptions and prices from the table.

The Lookup Wizard doesn't work so well here because you'd have to step through the process once for each description *and* once for each price. A better option is to write your own formula using the Excel `vlookup` function. Using this function has an added benefit: if you accidentally type the wrong product number and later type the correct one in its place, the formula will automatically update and return the correct data for that product number.

**The Wiz** Find a single piece of data fast with Excel's Lookup Wizard.

The screenshot shows an Excel spreadsheet titled "shipping calculator.xls". The table contains shipping costs for various destinations (AL, AZ, CA, CT, GA, HI, NC, SC, TX, WA) and weights (1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0 lbs). A dialog box titled "Lookup Wizard - Step 2 of 4" is open, showing the selected range of cells. The "Which column contains the value to find?" dropdown is set to "2.0" and the "Which row contains the value to find?" dropdown is set to "CA". The dialog box also shows a preview of the selected data.

	A	B	C	D	E	F	G	H	I
1		Weight in lbs							
2	Destination	1.0	1.5	2.0	2.5	3.0	3.5	4.0	
3	AL	5	7	9	11	13	15	17	
4	AZ	5	6.5	8	9.5	11	12.5	14	
5	CA	3.5	4	4.5	5	5.5	6	6.5	
6	CT	7	9.5	11	11	11	11	11	
7	GA	6.5	7.5	8.5	9.5	10.5	11.5	12.5	
8	HI	12	13						
9	NC	6.5	7.5						
10	SC	6.5	7.5						
11	TX	5	6.5						
12	WA	7	9.5						
13									
14									
15	Weight		2.0						
16	State	CA							
17	Shipping cost		\$4.50						
18									
19									

## Write the Formula

Let's assume that your table includes the product numbers in the first column, descriptions in the second, and prices in the third. To create your formula, you first need to assign a name to the range containing this data. Select the table, including the row headings but *not* the column headings. Then choose Insert: Name: Define and type a name for the table—for example, ProductDetails. Click on OK. This will allow you to reference the table easily in your formula.

Now, in the invoice area of your worksheet, type the product number for the first invoice item. (For this example, assume that the product number is in cell B19.) Then type the `vlookup` formula in the cell where the description should appear. The formula to extract the description for this product number would look like this:

```
=vlookup(B19,ProductDetails,2,False)
```

The `vlookup` function takes three compulsory arguments and one optional one. The first argument is the value to look up. Here you're looking up a value (in this case, the product number) stored in cell B19. The second argument is the table containing the data, which you named ProductDetails. The third argument is the column number in the table that contains the data you want—the description, located in column 2.

The final argument tells the formula whether to look for an exact match or the closest match. You could leave this argument out, but the function will default to True. In that case, if the formula couldn't find an exact match, it would take the next largest value. (The data in the first column must be sorted for this to work.) You're looking up product numbers and need an exact match, so you set this argument to False. The formula will therefore find an exact match or return an error (`#N/A`). Conveniently, when you choose False, the values in the first column don't have to be sorted.

Copy this formula down your invoice's description column to return the product description for all the product numbers. To return prices, simply change the column value from 2 to 3 (to return the data from the third column), and then copy the new formula down the invoice's price column.

## Trade Data between Worksheets

To keep things simple, this example worked with a product list and an invoice located in the same worksheet, but that's often not the case. The `vlookup` formula can easily return data from another sheet in the same workbook or in another workbook.

If you make sure that you give ranges in your workbook unique names (so, for instance, there's only one ProductDetails), the existing formula will work for data stored in a different worksheet. To retrieve data from another workbook, you'll need to add the file name and an exclamation mark before the named range. Here's an example:

```
=vlookup(B19,products.xls!ProductDetails,2,False)
```

**Address Different Table Types** What happens if your table is arranged in the *opposite* layout—in other words, if the value you want to match up is in a column, not a row? You need to pull a result by referencing a row number. Another function, `hlookup`, works like `vlookup`, but it finds data in a *horizontally* arranged table.

## Extending Your Excel Expertise

Lookup formulas can save you time and trouble. Because they extract data from a table, they update if the data changes. And they return exactly the details requested every time, avoiding keying and transcribing errors and speeding up your work. □

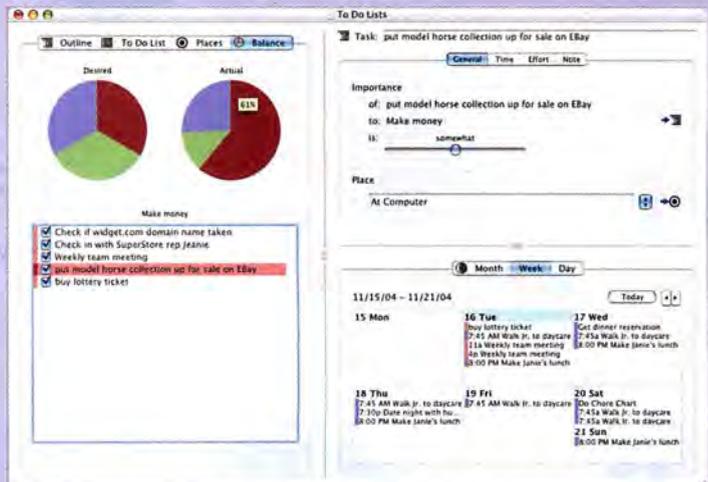
HELEN BRADLEY has written for numerous small-business and computer publications and is a frequent contributor to *Macworld*.



## CHECK IT OUT

### A Different Approach to Productivity

Most of us long to be more productive in the same way we dream of making a million bucks: we're willing to buy a lottery ticket, but we feel overwhelmed when it comes to imagining the hard work that our dreams of riches may require. Llamagraphics offers a unique solution with its **Life Balance** software (Mac only, \$65; Mac-Palm bundle, \$80; [www.llamagraphics.com](http://www.llamagraphics.com)). You can plug all your big goals—from "make more money" to "spend time with family"—into this time-management program and track the daily tasks related to each one. Life Balance generates prioritized to-do lists organized in numerous ways. For instance, you can create lists of things to do while you're on a commuter train or near a telephone. Most revealing is the ability to see, using the program's pie charts, how your ideals match your actual actions. Like many time-management programs, this one demands a lot of setup time. Check out the 30-day free trial to see whether it might be worth the effort for you.—SCHOLLE SAWYER MCFARLAND



**Get in Balance** Life Balance lets you keep an eye on your overall life goals as you track items on your daily to-do lists.

## Free Your Music

Are you constantly tethered to the headphone jack of your Mac or iPod—even when you're home alone? The problem may be that you don't have the right speakers. Whether you're lounging around the house or relaxing on a tropical beach, we'll help you cut the cord and find a set of speakers that can do justice to your favorite tunes.

### 2.1 Speaker Systems

If you have desk space to spare, you'll get the best sound from a 2.1 speaker system, which includes a subwoofer and two satellite speakers. These systems take up more room than all-in-one designs and are much less portable, but they also give you the full audio range of your music. Just plug them into your computer (or your iPod) and an AC jack, and then sit back and enjoy.

#### BUDGET BUY X-230 >>

**PRICE:** \$50 **CONTACT:** Logitech, [www.logitech.com](http://www.logitech.com)

**WHY WE LIKE IT:** For \$50, you used to get tiny beige battery-powered speakers that sounded about as good as a couple of tin cans. Today, for the same price, you can get the attractive X-230, which includes a 20-watt powered subwoofer. It can't deliver the deep bass and the overall sound quality we found in some of the more expensive setups, but with this price, we can't complain.



#### STYLISH SOUND << Creature II

**PRICE:** \$100 **CONTACT:** JBL, [www.jbl.com](http://www.jbl.com)

**WHY WE LIKE IT:** Although its subwoofer and tiny satellites look more like ghouls than gear, the Creature II is oddly stylish: its glossy white and chrome tones match many Apple products. But even more impressive is the sound quality—people are frequently shocked by the audio this relatively small system produces. Treble and bass controls on the subwoofer let you fine-tune the sound, and nifty touch-sensitive buttons on the right satellite let you adjust the volume.





## BLOCK-ROCKIN' BEATS

### ▲ ProMedia GMX A-2.1

**PRICE:** \$150 **CONTACT:** Klipsch Audio Technologies, [www.klipsch.com](http://www.klipsch.com)

**WHY WE LIKE IT:** If bass is your thing, you'll be hard-pressed to find a system that puts out more boom than these Klipsch speakers—especially at this price. The ProMedia GMX A-2.1's 75-watt built-in amplifier and sizable subwoofer produce some serious beats. The futuristic satellites look and sound good, and they sit on adjustable stands for optimal positioning. A handy desktop controller lets you adjust volume and bass levels, and it offers connections for two different audio sources—so you can attach your computer and an iPod.

## BIG SOUND, SMALL PACKAGE

### MegaWorks 210D >>

**PRICE:** \$250 **CONTACT:** Cambridge SoundWorks, [www.cambridgesoundworks.com](http://www.cambridgesoundworks.com)

**WHY WE LIKE IT:** With a 150-watt subwoofer, the MegaWorks 210D is one of the few systems with a stronger bass kick than the ProMedia GMX A-2.1. But it takes up less space. Its diminutive subwoofer provides an additional 130 watts to the satellites and includes separate bass and treble controls. By the way, the *D* stands for "digital"—so if you have a sound card with coaxial-digital output (as opposed to the optical-digital output offered by G5s), you can attach it directly to the MegaWorks 210D's digital input for superior sound.



## SPLURGEWORTHY « FX6021

**PRICE:** \$300 **CONTACT:** Altec Lansing, [www.alteclansing.com](http://www.alteclansing.com)

**WHY WE LIKE IT:** The FX6021 is one of the best speaker systems we've heard, and its G5-inspired design is very easy on the eyes. The multifunction controller lets you adjust volume, bass, and treble—as well as connect headphones and a second audio input without having to fiddle behind the subwoofer. You even get a wireless remote that provides the same options as the controller unit. The thin, six-driver satellites sit on weighted bases or mount flat on a wall.

continues

# Surround-Sound Systems

If your computer doubles as the center of a home theater setup—or if you want to play games that offer full surround-sound effects—you may want to consider a multi-channel system. These systems use five satellite speakers (for front, center, and rear audio) along with a subwoofer. The result is a blissful envelope of directional audio.

To use these systems, you need a Mac that provides multichannel audio output—via an optical- or coaxial-digital jack. All G5s offer optical-digital output. You can add multichannel output to a Power Mac G4 by installing a third-party PCI sound card, such as the \$100 M-Audio Revolution 5.1 (★★★★; *The Game Room*, January 2005). Here are a couple of our favorites.

## BUDGET BUY

### ProMedia GMX D-5.1

**PRICE:** \$150 **CONTACT:** Klipsch Audio Technologies, [www.klipsch.com](http://www.klipsch.com)

**WHY WE LIKE IT:** The GMX D-5.1 offers the same futuristic satellites and great bass as the GMX A-2.1, but adds a 100-watt amplifier, center- and rear-channel speakers, and support for Dolby Digital and Dolby Pro Logic II. It produces five-channel stereo via coaxial- and optical-digital inputs.



## HOME-THEATER REPLACEMENT

### ▲ Z-5500 Digital

**PRICE:** \$400 **CONTACT:** Logitech, [www.logitech.com](http://www.logitech.com)

**WHY WE LIKE IT:** The Z-5500 Digital is a monster system, with 500 watts of THX-certified power and a room-shaking subwoofer. Its support for DTS, Dolby Digital, and Dolby Pro Logic makes it perfect for home-theater use. And its multiple digital and analog inputs, wireless remote, and impressive sound quality make it a legitimate choice for a main stereo system.

## Compact and Portable Speakers

If you want to take your tunes with you—or if you want a system that doesn't clutter your room with cables—a traditional speaker system just won't do. Here are six self-contained speakers that are small enough to fit on a dresser or a counter—or to slip into a suitcase for a long trip. These systems don't provide the same sound quality as comparably priced 2.1 systems, but they make up for this in convenience.



### RADIO LOVER

#### ▲ iPAL

**PRICE:** \$130 **CONTACT:** Tivoli Audio, [www.tivoliaudio.com](http://www.tivoliaudio.com)

**WHY WE LIKE IT:** The iPAL's weather-resistant enclosure is perfect for listening to an iPod or laptop at the beach or in the backyard. And in case you get tired of listening to MP3s, the iPAL has one of the best AM/FM radios on the market. Despite its single speaker, we actually preferred the iPAL's full-bodied sound to that of many other portable speakers we auditioned. An optional \$30 carrying case makes it easy to tote your iPAL along with an iPod, earbuds, and cables.

**BATTERY LIFE:** up to 20 hours on an internal rechargeable battery

**WEIGHT:** 2 pounds

### BUDGET BUY

#### TravelSound 200 >>

**PRICE:** \$50 **CONTACT:** Creative Technology, [www.creative.com](http://www.creative.com)

**WHY WE LIKE IT:** It's tough to find good inexpensive portable speakers, so the TravelSound 200 impressed us. You won't get a lot of bass or volume, but you will get good stereo sound in a compact—if somewhat chunky—package. The system connects to any iPod or laptop.

**BATTERY LIFE:** up to 25 hours on four AA batteries **WEIGHT:** 10 ounces



### COMPACT COMPANIONS

#### << inMotion iM3 and inMotion iMmini >>

**PRICE:** iMmini, \$130; iM3, \$180

**CONTACT:** Altec Lansing, [www.alteclansing.com](http://www.alteclansing.com)

**WHY WE LIKE IT:** The iM3 and iMmini both provide good sound in a package that folds up to about the size

of a paperback book. The iMmini's dock base accommodates only the iPod mini, while the iM3 can hold most

dockable iPods. (The company should have an adapter for the iPod photo by the time you read this.) You can connect nondocking iPods or other audio sources to either model using a standard audio minijack cable. Both models will charge a docked iPod when connected to AC power and can sync a docked iPod with your Mac via Apple's dock cable. The iM3 also includes a nifty remote that lets you control playback from across the room.

**BATTERY LIFE:** up to 20 hours on four AA batteries

**WEIGHT:** iMmini, 15 ounces; iM3, 1 pound, 2 ounces



### STYLISH SETTING

#### << On Stage

**PRICE:** \$200 **CONTACT:** JBL, [find.macworld.com/0224](http://find.macworld.com/0224)

**WHY WE LIKE IT:** The On Stage places four speakers in a cool, doughnut-shaped design. You won't get a lot of bass, but the sound is otherwise impressive—especially the treble detail. The On Stage fits all dockable iPods except the iPod photo and can even serve as a replacement dock. (You can connect older iPods, the iPod photo, and other audio sources via a standard 1/8" audio cable.) We just wish it had a remote.

**BATTERY LIFE:** AC only **WEIGHT:** 1 pound



### SPLURGEWORTHY

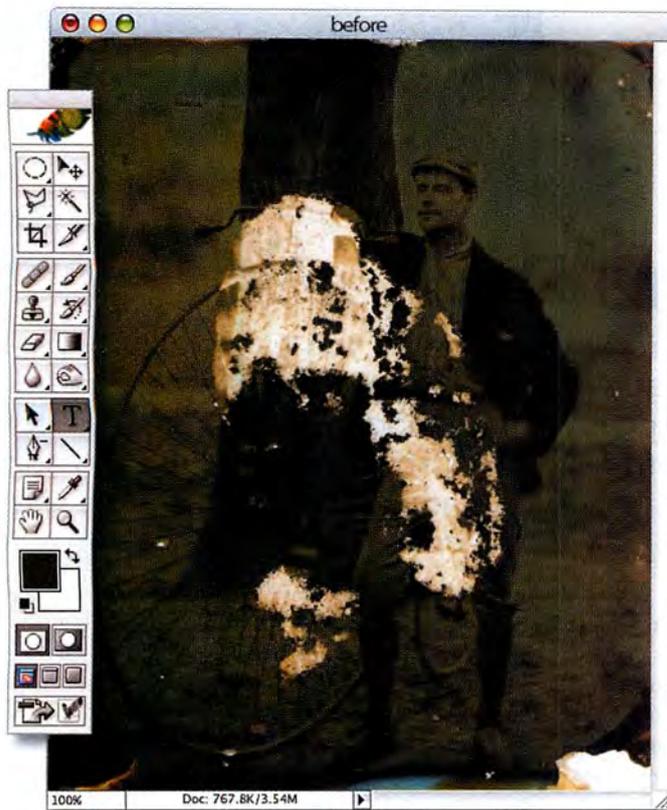
#### SoundDock >>

**PRICE:** \$299 **CONTACT:** Bose, [www.bose.com](http://www.bose.com)

**WHY WE LIKE IT:** Bose's SoundDock won't easily fit into your suitcase, but it will give you quick access to your music from any room in the house. Thanks to its larger speaker drivers and AC-only power, the SoundDock produces more bass and louder output than more-compact models. (It's compatible only with dockable iPod models.) It also comes with a well-designed wireless remote.

**BATTERY LIFE:** AC only **WEIGHT:** 4 pounds, 10 ounces





Before NAPP



After NAPP

Restoration courtesy of Ed Davis, a contributing writer for Photoshop User magazine

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NAPP's Official Publication

## Inside Camera Raw

If you have a midrange or pro digital camera, you can probably produce images in the *raw* format. A raw file is a record of the data a camera's sensor captures. Shooting raw beats shooting in JPEG format for several reasons, but to benefit from raw's strengths, you have to edit images using the Adobe Photoshop CS Camera Raw plug-in (free with Photoshop CS; [www.adobe.com](http://www.adobe.com)). Here's how.

### Balancing Act

Shooting JPEG is like shooting transparency film: you have to get everything perfect in the camera because you can't do much to reshape contrast and color balance once you've captured the image. Raw is superior to JPEG because shooting raw is more like shooting negative film: although you have to process the image before you can see it, you have latitude in

how you shape the overall tone and color balance. For example, the Camera Raw plug-in excels at correcting an image's white balance.

In Camera Raw, the Temperature and Tint sliders (in the Adjust tab) and the eyedropper tool (in the Tool palette) are white-balance tools that let you neutralize any color cast in the lighting, but they're also interesting as creative tools. "White Out" illustrates a range of effects.

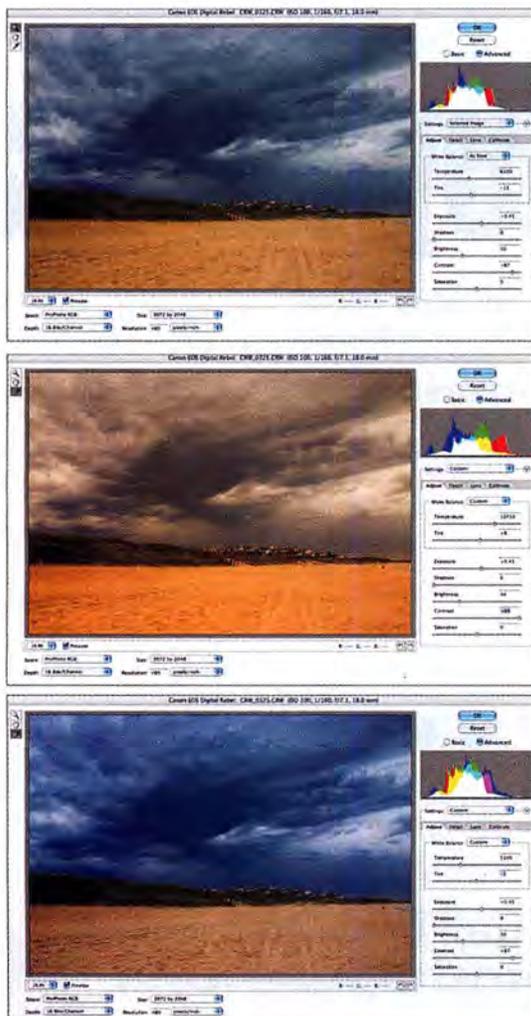
You can set an accurate white balance quickly using the eyedropper tool—just click on a near-white or light-gray pixel. (If you get a beep when you click, you're clicking on a pixel that's too bright.)

For interesting warming and cooling effects, use the eyedropper and click on darker, near-neutral pixels. For more-precise creative adjustments, use the Temperature and Tint sliders.

The Temperature slider indicates, in kelvins, the color of the light for which Camera Raw is trying to compensate. Moving the slider toward higher color temperatures (bluer light) results in a warmer, yellower image, while moving toward lower color temperatures (yellowish light) results in a colder, bluer image. You can think of the Temperature slider as a blue-to-yellow control.

The Tint slider controls the axis that runs perpendicular to color temperature, so it's essentially a green-magenta control—negative values add green, positive ones add magenta.

**White Out** These three shots demonstrate the power of Camera Raw's white-balance tools. On the top, you see the raw image at Camera Default settings. In the middle image, I increased the Temperature setting and adjusted the Tint control for a very warm result. On the bottom image, I lowered the temperature for an image with a very cold but still natural appearance. You can approximate these results in Photoshop using the Photo Filter command, but it's slower, and the process degrades the image much more than setting the white balance in Camera Raw.



### Tip

You can quickly apply the same settings to multiple similar images. First, edit one image in Camera Raw. Then, in the File Browser, select the other images to which you want to apply these settings, and choose Apply Camera Raw Settings from the File Browser's Automate menu. In the resulting dialog box, choose Previous Conversion from the Settings menu and then click on Update. Photoshop writes the settings to each image's metadata and uses them the next time you open the images. To bypass the Camera Raw dialog box and open the edited images directly in Photoshop, shift-double-click on them in the File Browser.



**Recover Highlights** In Camera Raw, you can resurrect fine detail that you'd otherwise lose. In the image on the left, the clouds are blown out. To show the blown-out areas in the middle image, I held down the option key while moving the Exposure slider. To produce the image on the right, I reduced the Exposure value by  $-0.75$  stop, which restored detail to the clouds.

As with all the slider controls in Camera Raw, you can adjust Temperature and Tint by moving the sliders with the cursor, but for more precision, use the up- and down-arrow keys. To move the slider a single increment, press the arrow key once; add the shift key to move the slider in increments of ten. Press tab and shift-tab to toggle through the number fields.

### Recovering Data

The next two controls in the Adjust tab are Exposure and Shadows. Camera Raw's Exposure slider is a white-point tool with negative and positive ranges. At positive values, it works like the white input slider in Photoshop's Levels feature. And its increments are fractions of an f-stop, so adjusting the Exposure slider is like increasing the exposure on the camera using the shutter and aperture controls.

At negative values, the Exposure setting triggers Camera Raw's extended highlight recovery logic. While most raw converters give up as soon as you clip channels, Camera Raw attempts to reconstruct highlight detail even if it's present in only a single channel. Now's the time to bring back that detail—if you don't recover it in Camera Raw, there won't be any detail left to recover when the converted image lands in Photoshop.

Like Photoshop's Levels sliders, Camera Raw's Exposure and Shadows controls offer a clipping display when you hold down the option key while moving the slider. (Shadows works like the black input slider in Levels.) You see exactly what the software is clipping. Depending on the camera and the white balance, you may be able to recover as much as a stop of highlight data (see "Recover Highlights" for examples).

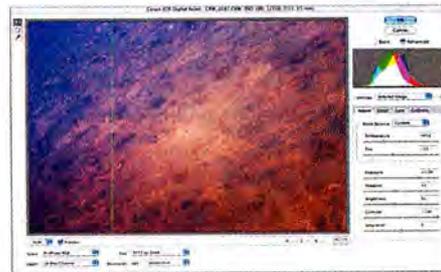
### Controlling Tone

Exposure, Shadows, and the remaining tonal controls, Brightness and Contrast, work together to



### Tip

After you edit an image in Camera Raw, you can click on OK and open the image in Photoshop for further editing. But if you hold down the option key, the OK button changes to Update. Click on this button, and you'll write all the settings you made in Camera Raw to the image's metadata.



**Desert Details** Here's the Australian outback from above. The image at camera default settings (top) is flat and muddy, and the histogram data is clumped in a very narrow tonal range. To produce the image on the bottom, I made extreme Exposure and Shadows corrections that spread the data across a wider tonal range; then I increased Brightness slightly and Contrast a lot to make the most of the available detail. Lastly, I gave it a white-balance tweak.

define a five-point tone curve. Exposure sets the white point, Shadows sets the black point, Brightness is a midtone adjustment like the gray slider in Photoshop's Levels, and Contrast adds two points around the midpoint set by Brightness. The histogram updates in real time as you move the controls.

To make the best use of a raw image's available bits, use these controls to shape the image's overall tone and contrast. If you instead bring the image into Photoshop for correction, you'll lose a great deal of tonal information in the conversion from linear gamma to a gamma-corrected Photoshop working space, making your job more difficult or even impossible (see "Desert Details" for a demonstration). □

BRUCE FRASER is a cofounder of Pixel Genius, a collaboration of industry experts dedicated to creating leading-edge products and services for the photographic and digital imaging industries.

#### GO TO WEB:

There's a lot more to learn about Camera Raw. Go to [find.macworld.com/0216](http://find.macworld.com/0216) for an excerpt from Bruce Fraser's book *Real World Camera Raw with Adobe Photoshop CS* (Peachpit Press, 2004).



## No Files Left Behind

It's a traveling professional's worst nightmare: you're on the road, it's the night before a major meeting, and you discover that you've left your slides and notes on your home or office Mac—or that you've left some vital phone numbers on a Stickies note on your Mac's desktop.

But fear not. Whether you need access to files or to your Mac's desktop, you can probably get both—using tools built right into OS X. And if those aren't enough, you've got a couple of good for-pay alternatives.

### What You Need

To be accessed from afar, a remote Mac must meet a few basic requirements. First, it needs a full-time Internet connection. Second, it must be awake. You have many ways to arrange that: you can leave your system on and set it to stay awake the whole time you're gone, you can have someone back home wake it up, or you can use OS X's Energy Saver preference pane to set standard wake and sleep times each day. If you need more flexibility, try the free utility Wake550 ([find.macworld.com/0262](http://find.macworld.com/0262)), which can wake your Mac remotely. (Note that this program may not work through firewalls and requires support for Wake-On-LAN in your home system—something many older models lack.)

The third prerequisite is that you know the remote machine's public IP address. The easiest way to find out is to use an IP-checking Web site, such as <http://checkip.dyndns.org>. Or you might want to regis-

ter for a free dynamic domain name service through Dynamic Network Services' site ([www.dyndns.org](http://www.dyndns.org))—instead of remembering an obscure IP address, you could then use a plain-English host name.

Finally, if your machine uses a firewall, you'll need to make sure that certain ports are opened. That's easy if you're trying to access your machine at home, where you control the firewall. But if you're trying to access a machine at work, where your company's IT department sets the rules, it may be impossible. In that situation, you should check with your IT department to see whether it offers any official method of remote access, such as a virtual private network.

### Access Your Files

With those conditions met, your next step depends on what kind of access you need and how concerned you are about security. OS X offers a number of ways to make your remote Mac's files accessible—including personal file sharing, Windows sharing, FTP access, and remote login.

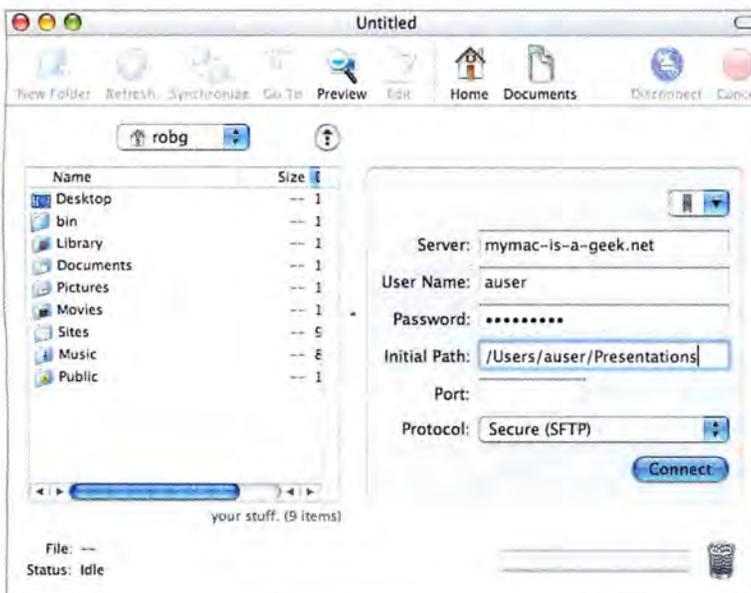
The starting point for all these solutions is the same: the Services tab of the Sharing preference pane. You'll see a bunch of options for opening up your system to the outside world there; my preferred solution is Remote Login, because of its excellent security. The other options (Personal File Sharing, Windows Sharing, and FTP Access) all work fine but share one shortcoming: they don't encrypt your data transmissions.

Enabling Remote Login is as simple as clicking on the Remote Login check box. If you use the OS X firewall, you should also click on the Firewall tab and select the Remote Login – SSH (22) option. If you use a third-party firewall, use its software to make sure that port 22 is open.

When you enable Remote Login, you're actually enabling three tools built into OS X: a secure shell program (SSH) for logging in remotely via Terminal, a secure copy program (SCP) for copying files, and a secure FTP server (SFTP) that turns your remote Mac into a secure file server. The first two have their uses (particularly if you want to access remote systems from the command line), but most people need only SFTP.

### Safe and Secure

Using Transmit and OS X's built-in secure FTP server, you can ensure that neither your password nor your data is intercepted by malicious hackers—all data is encrypted before transmission, ensuring that any prying eyes see only gibberish.



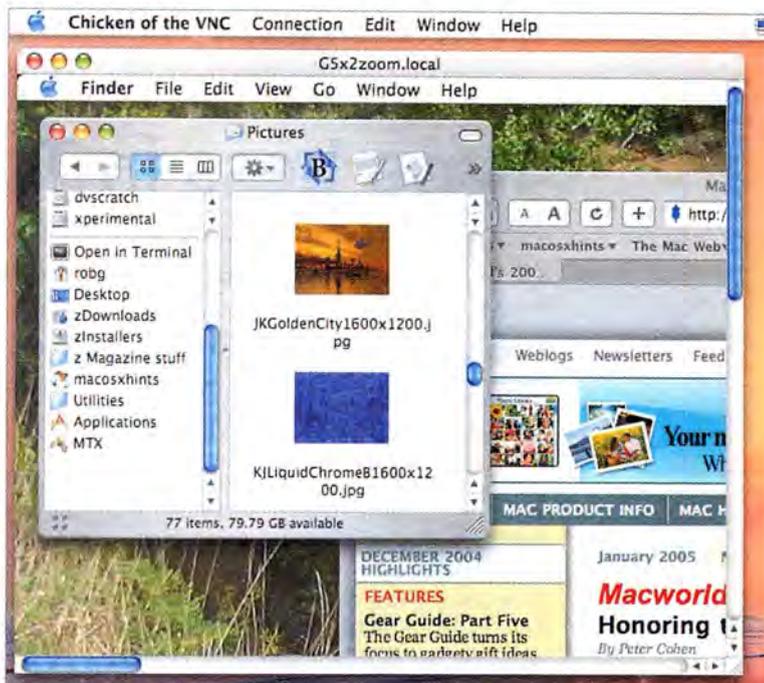
Secure FTP is just like regular FTP, except everything's encrypted. While you can use it from the command line—just type `sftp username@1.2.3.4` (where *username* is the short user name of someone on the remote Mac and *1.2.3.4* is that Mac's IP address), and then provide your password when asked—you don't have to. Instead, you can use one of the GUI applications that support SFTP, including Interarchy (\$39; [www.interarchy.com](http://www.interarchy.com)), Transmit (\$25; [www.panic.com/transmit](http://www.panic.com/transmit)), Cyberduck (free; <http://cyberduck.ch>), and Fugu (free; [find.macworld.com/0263](http://find.macworld.com/0263)). With one of these apps, Secure FTP is just as easy to use as standard FTP but not nearly as risky (see "Safe and Secure").

## Control the GUI

But perhaps you actually need to *use* your home computer—for example, to run Quicken so you can see your current portfolio balance, or to send an e-mail from your home SMTP server. In this case, you need VNC (Virtual Network Computing) software that lets you control your computer remotely.

OS X 10.3 includes a free VNC client called Apple Remote Desktop Client (you can also download it from [find.macworld.com/0251](http://find.macworld.com/0251)). For this project to work, you must have version 2.1 of the client. You access Apple Remote Desktop through your System Preferences. If you want an application that you can run and quit as you wish, check out the freely available OSXvnc ([www.redstonesoftware.com/vnc.html](http://www.redstonesoftware.com/vnc.html)).

Assuming that you're using Apple's client, you can enable it by going back to the Services tab of the Sharing preference pane, selecting Apple Remote Desktop, and then clicking on Access Privileges. Enable the VNC Viewers May Control The Screen With Password option and create a password. Make sure that at least one user in the list at the top left of the dialog box has the On box selected, too—otherwise, you won't be able to connect. If you use the OS X firewall, click on the Firewall tab and select the



Apple Remote Desktop (5900, 3283) option. If you run your own firewall, open those same ports.

To connect to the machine you've just configured, you'll need a VNC viewer on your traveling Mac. The main one these days is Chicken of the VNC (free; [find.macworld.com/0264](http://find.macworld.com/0264)). Launch Chicken of the VNC, enter your remote Mac's IP address and the password you created in the Host and Password boxes, and click on Connect. If everything works, you should now see your remote desktop displayed on your local Mac (see "Remote Control"). Keep in mind that you'll need a fast connection to make the most of this feature, since you're moving large amounts of data back and forth across the Net.

These free remote-control clients can't do everything. If you need to do more, you can look into Apple's full Remote Desktop application (see our review, page 28) and Netopia's Timbuktu Pro (\$180; [find.macworld.com/0265](http://find.macworld.com/0265)); both give you even more control over your homebound Mac. That control means sending and receiving files (both Remote Desktop and Timbuktu), creating QuickTime movies of the remote Mac's screen (Timbuktu), and installing software on networked machines (Remote Desktop).

## Staying in Touch

Whether you need full remote control or just remote file access, with file-transfer and remote-control apps, there's no reason to worry about leaving important files behind. Plan ahead, and you can almost always find a way to get what you need, when you need it. □

Contributing Editor ROB GRIFFITHS is the author of *Mac OS X Power Hound, Panther Edition* (O'Reilly, 2004) and runs the Mac OS X Hints Web site ([www.macosxhints.com](http://www.macosxhints.com)).

## Remote Control

Using Apple's built-in remote-control server and a viewer program such as Chicken of the VNC, you can take full GUI control of a remote Mac.

## Windows File Sharing

Going on the road but don't want to bring along a laptop? You can still connect to your Mac at home from any convenient Mac, Linux, or Windows box—as long as you plan ahead. Again, it starts on the Services tab of the Sharing preference pane. There, you select the Windows Sharing option. You'll also need to make sure that Windows Sharing is selected on the Firewall tab, or that you've opened port 139 on your personal firewall. Then you can connect from a remote Windows box using the server address format `smb://1.2.3.4` (where *1.2.3.4* is your home Mac's IP address). Note that you can connect only to your Home folder and that your data transmissions won't be encrypted.

## Type Less in Terminal

Many people stay away from the command line because of the tedium of typing in long, precise commands. But you can save lots of time and type less by using the command history functions built into the shell you work with. The shell keeps a record of the commands you run, and you can access this history with a few simple keystrokes to run commands again or edit them, so you don't have to retype them.

The command history is saved in last-in, first-out order, which means that the first command in the history list is the last command issued. If you want to run a command that you've already typed—say you want to rerun the last command you just typed—all you have to do is press the up-arrow key, and the shell displays the last run command at the prompt.

If you want to run a command you ran earlier, press the up-arrow key several times. As you do this, the shell cycles through your last commands, displaying each one at the prompt. If you decide that you don't want to use a command in the history list, just press the down-arrow key until you get back to an empty prompt, and then enter a new command.

### Rewriting History

Using the command history, you can rerun previous commands, but you can also *modify* commands and run them with different arguments. One of the simplest ways to do this is to use the `!!` command to run the previous command, appending new information to it. Let's say you want to list the contents of a directory, like this:

```
$ ls ~/Library/Preferences/ByHost
```

After reading the list, you decide you want to save this list to a file. You can run the following:

```
$ !! > list.txt
```

Terminal replaces the `!!` shortcut with the last command you ran, so this is the same as typing this command:

```
$ ls ~/Library/Preferences/ByHost > list.txt
But this shortcut saves you a few keystrokes.
```

### Edit the Commands

In addition to moving up and down the command history by pressing the up- and down-arrow keys, displaying each command at the prompt in Terminal, you can also edit the commands that display, or add arguments to them. This saves time when you need to run a command that is very similar but not exactly the same.

Say you want to copy a file; you type the following command:

```
$ cp /Users/kirk/Pictures/P101068.jpg
/Users/Shared
```

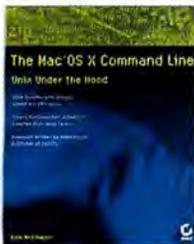
Terminal says the file doesn't exist, but you're sure it does. When you go to the directory and check, you see that there is indeed a file with a similar name, but you left out a zero. Using the command history, you can press the up arrow to display the command again. Use the left arrow to move the cursor to the location where you need to add the zero, type `0`, and then press enter. (You don't need to move the cursor back to the end of the line.)

You can use command editing to change commands and run them on different files, for example. If you have several files in your Pictures directory, you can use the up arrow to redisplay the previous command, change the file name, and run the command again on a different file.

### Change Arguments and Options

Use the same trick to change a command's arguments or options. In the previous example, I copied pictures into my Users/Shared directory. I could easily press the up arrow to redisplay the command and then alter the command to copy one of the files to a different location. There's no need to retype the entire line.

By the same token, say you list the files in a directory and then decide you want to use the `-l` option to display a long list. Press the up arrow to redisplay the command, and then move the cursor to the left to add `-l` (for example, `$ ls -l /etc/periodic`).



**By the Book** This article is an excerpt adapted from *The Mac OS X Command Line: Unix under the Hood*, by Kirk McElhearn (2004; reprinted by permission of Sybex).

## Oops—I Forgot `sudo`!

There are many commands and areas of your computer you can't access without root user privileges. If you have administrator rights for your computer, you can use the `sudo` command to prompt you for a password. But it's annoying to type a long command only to have Terminal dolefully reply "Permission denied."

If you forget to prefix a command with `sudo`, just type `$ sudo !!`—this command tells the shell to execute the previous command again, this time prefaced by `sudo`. Enter your password at the prompt and then press enter, and the command will run. There's no need to type it all over again.



## CHECK IT OUT

### OS X on an Xbox?

Want an OS X machine for \$150? How about on Microsoft hardware, no less?

No problem, thanks to the work of seven Georgia Tech computer-science students who, in late September 2004, managed to install an emulated version of OS X successfully on a modified Microsoft Xbox.

The Xbox, like many contemporary video-game-console systems, is essentially a stripped-down computer with a hard drive, a USB port, a DVD drive, and an Ethernet port. Since the Xbox's release in 2001, programmers and computer scientists have set out to hack it for use as an inexpensive Linux computer.

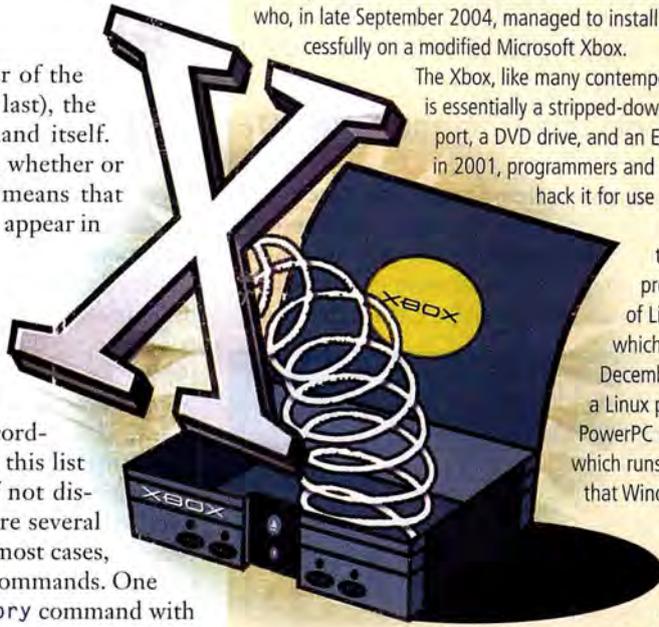
The Georgia Tech students cobbled together their OS Xbox for a school project. They installed Xebian, a version of Linux designed to run on the Xbox, which requires a BIOS version prior to December 2003. They then installed PearPC, a Linux program designed to emulate a PowerPC chip. Finally, they installed OS X, which runs in PearPC much in the same way that Windows can run on a Mac in an emulator such as Virtual PC.

The students put up a site ([www.cc.gatech.edu/~ranma1/](http://www.cc.gatech.edu/~ranma1/)) with detailed instructions on how to duplicate their results. One of them, Paul Royal,

says that it takes the better part of a day to complete. He warns that the installation of OS X alone—all of the other modifications and prep time aside—takes nearly half a day.

"There's nothing in it for research, there's nothing in it to make money," says Jimi Malcolm, who also worked on the project. "Just do it for kicks."

No kidding. The students say that OS X runs *painfully* slowly—so slowly, in fact, that icon magnification on the Dock may take up to ten seconds to materialize fully. If reports of new Xboxes based on the G5 chip turn out to be true, however, a *usable* OS X Xbox may not be too far in the future.—CYRUS FARIVAR



### Quick Access to Commands

You can check to see what commands are in your history at any time by running the following command: `$ history`. Terminal displays a list of the commands in the history list; for example:

```
1 10:13 ls
2 10:13 cd ..
3 10:13 ls
4 10:13 cd kirk
```

Each line includes the number of the command (from the first to the last), the time you ran it, and the command itself. Terminal includes all commands, whether or not they were successful. This means that erroneous or misspelled ones will appear in the history.

### Limit Your List

The `history` command displays the entire history list by default; this list is limited to a certain number of commands, according to your shell settings. When this list gets very long, you're better off not displaying it in its entirety. There are several ways of displaying just a part. In most cases, you want to see the most-recent commands. One way to do this is to run the `history` command with an argument that says how many commands you want to display—for example: `$ history 5`.

This tells the shell to display the last five commands in the history list. You can enter any number as an argument for the `history` command; if your history list is shorter than the number you specify, the shell will display the entire list.

### Time-Saving Shortcuts

As discussed previously, you can move up or down your history list by pressing the arrow keys. This is the easiest way to rerun a command you executed recently. But if your command is further back in the list, there are quicker ways to tell the shell which one to run.

Say you have displayed your long history list, and part of it looks like this:

```
329 10:47 locate Walden
330 10:49 history
331 10:50 ls -l
```

If you want to reexecute the command `locate Walden`, type `$ !329`.

The exclamation point (!) is a shortcut for a command in the history list. If you enter a number after it (with no space between), Terminal runs the command that has that absolute number in the history.

Another way to specify a previous command is by using a *relative* number, or the *nth* command back from the end of the list. If you want to run the fifth command back, enter this: `$ !-5`.

KIRK McELHEARN is the author of several books, including *The Mac OS X Command Line: Unix under the Hood* (Sybex, 2004). His blog, Kirkville ([www.mcelhearn.com](http://www.mcelhearn.com)), talks about Macs, using the command line, iPods, and much more.

## Mac OS X Hints

Change the default column order in list-view windows, relocate applications from the Dock, manage your Mail recipients list, always send Windows-friendly attachments from Mail, modify graphics from Terminal, and combine multiple PDFs into one.

### Relocate Applications from the Dock

If you like to download and try out lots of shareware and freeware, you probably put the apps in a special downloads folder (or just leave them on the desktop) until you decide whether they're keepers that belong

in your Applications folder. And when you've found a program worth hanging on to, you probably quit the program, switch to the Finder, and start moving windows around to file the program away. Here's a little time-saver for next time: Assuming that you've put the app in the Dock for easy access, you can simply  $\mathbb{A}$ -click on its icon in the Dock and drag it to your Applications folder (or any folder you choose). Release the mouse button, and you've moved the file. (You can also move an open application, whose icon automatically appears in the Dock, but it's always safer to quit the app first; otherwise, it might not open when you next launch it.)

### Manage Autofill of Recipients in Mail

You may have noticed that Mail seems to recognize some people when you start entering a name or e-mail address and completes the address for you—but that's not always a positive thing. For example, even after a friend has changed her e-mail address, Mail keeps showing the old one—despite the fact that you've updated her Address Book entry. Or you get a list of 20 entries when you start typing Dave, Susan, or another common name. Why? Mail remembers all the addresses of people to whom you've sent previous e-mail messages. To tidy things up, open Window: Previous Recipients, and you'll see a list of everyone to whom you've sent messages—regardless of whether they're in your Address Book. Here you can easily remove people from Mail's internal list. You might want to start cleaning up the list by sorting by Last Used, highlighting older entries you don't want anymore, and then clicking on the Remove From List button (the delete key won't work for this). This list is also a quick way to add new names to your Address Book, and to search for someone when you know you've sent a message to that person but you can't recall his or her e-mail address.

### Send Windows-Friendly Attachments in Mail

Are you a lone-wolf Mac user in an office full of Windows PCs? If so, you may get tired of always having to tell Mail to send Windows-friendly attachments (it's a check box at the bottom of the Attachments dia-

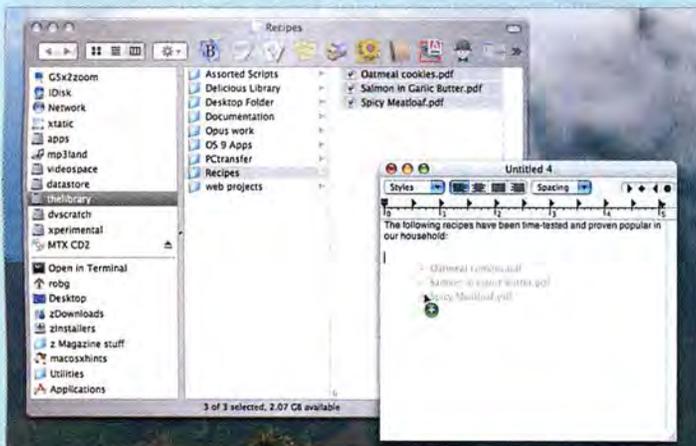


## CHECK IT OUT

### Merge PDFs into One Document

If you have a folder full of single-page PDFs—say, a collection of your favorite recipes—that you'd like to make into one large document, Apple's Preview app can't help you. But TextEdit offers an easy way to do the job. Launch the app and make sure you've got a blank window to work with (File: New). Next, make sure you're working with a Rich Text Format (RTF) document by selecting Format: Make Rich Text. Switch back to the Finder and open the folder containing your PDFs. If you'd like them in a certain order, drag and drop them one at a time onto the TextEdit window. But if you have a series of PDFs in numerical or some other order, set your PDF folder to View: As Columns, and then select all the PDFs in the folder ( $\mathbb{A}$ -A). Drag and drop them into TextEdit, and they'll flow in the order in which they appear in the column-view window (see "Merge Ahead").

Once you've combined everything in the TextEdit document, select File: Print. Then click on the Save As PDF button, give the file a new name, and click on the Save button. To pull off the trick of combining a number of multipage PDFs, you'll need a third-party tool; check out MonkeyBread Software's free Combine PDFs ([www.monkeybreadsoftware.de](http://www.monkeybreadsoftware.de)), an application that makes combining single and multipage PDFs a snap.



**Merge Ahead** Joining a series of one-page PDFs is easy—just create a new TextEdit document and then drag and drop your files from the Finder.

log box). Forget to select it, and you'll confound your Windows recipients, who will see multiple attachments to your message (Mail causes this by sending the file's data fork and its resource fork).

There's an easy workaround, and it's hiding in plain sight—just select Edit: Attachments: Always Send Windows Friendly Attachments when you don't have a new message window open (the option will be grayed out if you do). From now on, all attachments will default to Windows-friendly mode. After you choose this option, if you attach files to e-mail messages going to Mac users, the missing resource fork may render the attachment unusable for those recipients. In those cases, deselect the Send Windows Friendly Attachments option that appears when you click on the Attach icon.

### Change the Column Order for List View

If you rely on list-view windows on a daily basis, you may have discovered a limitation of the Finder. While it's quite possible to choose which columns you want new list-view windows to display (just use View: Show View Options or type `⌘-J`), you can't control the order in which those columns appear. That is, if you prefer to see Size to the left of Date Modified, for example, you can drag the columns into that order for the window you're viewing—but the change isn't global, so you'll have to do it again every time you open a list-view window. Here's how to work around this limitation.

The first thing you need to do is set global list-view options. So open a folder in list view, select View: Show View Options, make sure it's set to All Windows, and then pick a few columns to show—just make sure you change something. This ensures that the file you're about to edit has all column headers in it.

Next, navigate to *your user folder*/Library/Preferences folder, make a backup of the `com.apple.finder.plist` file, store the backup somewhere safe, and drag the original file onto the TextEdit application icon. Now press `⌘-F` to bring up the Find box, type `StandardViewOptions`, and press enter. TextEdit will highlight that string in a line that reads `<key>StandardViewOptions</key>`.

This is the section of the file that controls the default look for list, icon, and column views. If you scroll down just a bit, the first section you'll see should be for list view, and it starts with a line that reads `<key>Nlsv</key>` (see "The Key to Listing Happiness"). Below that, you'll see eight separate `<dict>` sections. Each one of these sections represents a list-view column; the value below the `ColumnPropertyID` key identifies the column. The eight possibilities are `dnam` (Name), `phys` (Size), `kind` (Kind), `modd` (Date Modified), `ascd` (Date Created), `labl` (Label), `shvr` (Version), and `cmmt` (Comments).

To rearrange the default column order, you need to cut the entire sections from `<dict>` to `</dict>`, and

then paste them in the order in which you'd like them displayed. For example, to see the Label column after the Name column (Name must be the first column), scroll down to the `<dict>` section that has the `labl` key

and cut the entire section, including the opening and closing tags. Now scroll back up to the top of the `StandardViewOptions` section, and paste the `labl` section directly below the closing (`</dict>`) tag for the `dnam` section. Arrange the other sections as you like; note that sections with a `ColumnVisible` key of 0 are those you've chosen not to see, so there's no reason to reorder them.

When you're done editing, save the file and quit TextEdit. To see your changes, you'll need to restart the Finder. You could log out and log in, or use Activity Monitor (Applications/Utilities) to quit the Finder, and then click on its Dock icon to relaunch it. When you do, you should find that all list-view windows open in your preferred column order. ☐



**The Key to Listing Happiness** By rearranging these `<dict>` blocks in the Finder's preference file, you can control the default order of columns in list-view windows.



## UNIX TIP OF THE MONTH

### Scale Graphics and More in Terminal

There are tons of Mac OS X-compatible tools for manipulating graphics, from the top-of-the-line Adobe Photoshop to Lemke Software's much simpler Graphic Converter—but sometimes these tools are overkill for the task at hand. For instance, if you simply want to scale a folder of images down to 120 pixels wide for the Web, you could launch Photoshop, go into batch-processing mode, and get the job done. However, there's an even quicker alternative—take advantage of Unix's `sips` (scriptable image processing system) command. Open Terminal, change to the directory containing the images (type `cd` and a space, and then drag the image folder into Terminal and press enter), type `sips --resampleWidth 120 *.jpg`, and press enter. Want to flip an image horizontally? Try `sips --flipHorizontal file name`. Rotate a picture 235 degrees clockwise? Type `sips --rotate 235 file name`. Convert a TIFF to a normal-quality JPEG? Use `sips --setProperty format jpeg --setProperty formatOptions normal input_file.tif --out output_file.jpg`.

There's much, much more you can do with `sips`; to learn about it, type `sips --help` and `sips -H` in Terminal.

Contributing Editor ROB GRIFFITHS is the author of *Mac OS X Power Hound*, Panther Edition (O'Reilly, 2004) and runs the Mac OS X Hints Web site ([www.macosxhints.com](http://www.macosxhints.com)).

## Mac 911

I understand that the computer—and the Mac in particular—has made our lives vastly richer, but damn it, every so often mine acts in ways so idiotic that I want to pitch it into the nearest ditch. Are you likewise frustrated by Services that don't serve, missing movies, a phoneless FileMaker, and Asian anomalies? Take a deep breath, and read on.

### Subpar Service

I want to highlight text in an application, choose Send Selection from that program's Services menu, and watch as a new message opens in Apple's Mail with the selected text ready to send. Instead, the Mail application *window* comes to the fore, but the message with the selected text does not. Is there a solution for this problem?

Larry Singer

Look at the goal rather than the tool. The Send Selection service is an inadequate tool not only because it doesn't bring a new e-mail message to the fore, but also because it works only with Apple's Mail. When I want to mail a chunk of text automatically, I use Script Software's \$30 macro utility, iKey ([www.scriptsoftware.com](http://www.scriptsoftware.com)). It gets the job (and any number of other jobs) done, and it does so with any e-mail client you want to use.

With iKey, I created a macro for copying text to an e-mail message; the macro copies the selected text, launches my e-mail program, hides other applications to ensure that the e-mail client is the foremost app, creates a new message, and pastes the copied text into the message body.

### Multilingual Mac

I'm a bilingual Mac user who wants to use Mail's Autocorrect spelling feature in French but keep the Finder in English. Can I apply language preferences individually to Apple's applications?

Eric Maillard

By default, no. You can, however, choose a different spelling checker and use it to check your text. I suggest the free *CocoAspell* ([find.macworld.com/0226](http://find.macworld.com/0226)), Kevin Atkinson's Mac OS X implementation of the popular open-source spelling checker. After installing *CocoAspell* and its supplemental French dictionary, you can ask it to use that dictionary in any OS X application that uses Apple's spelling checker (including Mail).

This requires some configuring. For example, when you type *Le singe est dans l'arbre* ("The monkey is in the tree"), Mail signals its ignorance of the whereabouts of *le singe* by placing a red line under *l'arbre*. Simply control-click on the underline, choose Spelling from the resulting contextual menu, and choose Française (Aspell) from the Dictionary pop-up menu. Mail will then come to grips with the fact that *le singe* has made himself at home in a nearby tree. For finer control—such as a French-Canadian dictionary and the ability to assign particular dictionaries to specific applications—try Rainmaker Research's \$40 *Spell Catcher X* ([www.rainmakerinc.com](http://www.rainmakerinc.com)).

### Finding Sherlock's Movies

Sherlock's Movies channel has stopped downloading trailers. I've trashed the `com.apple.Sherlock.plist` file in the hope that this would help. It didn't. Do you have a hint?

Paul Miller

Yours is a two-part problem. Sometimes movie previews don't load because of a failure on Apple's end. In such cases, you can wait until Apple fixes it, or you can simply click on Sherlock's Movie Information For link, which will whisk you to the Moviefone site, where you can view the trailer (see "Trailer for Sale or Rent"). If Apple has managed to get the feature working again, vaporize not only that *.plist* file (found at



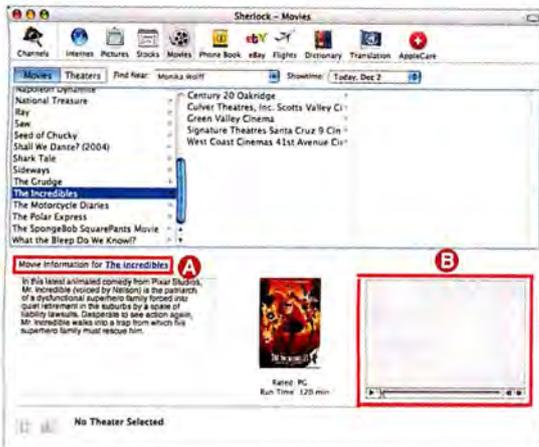
## TIP OF THE MONTH

### Old-School Cursors

In versions of Microsoft Word prior to Word 2004, `⌘`-right arrow or `option`-right arrow moved the cursor one word forward, and `⌘`-left arrow or `option`-left arrow moved the cursor one word back. Adding the shift key highlighted either the previous word (left arrow) or next word (right arrow). The latest version has changed this so that only `option`-arrow moves the cursor from word to word; press `⌘`-left arrow or `⌘`-right arrow, and the cursor now jumps to the beginning or the end of a line, respectively.

After searching Word's Tools: Customize: Customize Keyboard: All Commands list, I found `WordLeft`, `WordRight`, `WordLeftExtend`, and `WordRightExtend` (the latter two highlight individual words). I changed these commands to the familiar `⌘`-left arrow, `⌘`-right arrow, `⌘`-shift-left arrow, and `⌘`-shift-right arrow to mimic earlier Word keyboard navigation. If you're worried about losing the `StartOfLine`, `EndOfLine`, `StartOfLineExtend`, and `EndOfLineExtend` shortcuts, you can use the option key in combination with an arrow key and the shift key for selecting lines.

Joe Kewekordes



**Trailer for Sale or Rent** Incredible as it may seem, clicking on Sherlock's Movie Information For **A** link may be the only way to view movie trailers **B** in Sherlock.

*your user folder/Library/Preferences*), but also Sherlock's cache folder (*your user folder/Library/Caches/Sherlock*). If that doesn't work, create a new user account, switch to that account, copy its *com.apple.Sherlock.plist* file and Sherlock cache folder to the root level of your hard drive, switch back to your primary account, and replace that user's files with the ones from the account you just created.

### Phoning It In

When I used FileMaker Pro on a Power Mac 8600, I could develop and run a script that dialed the phone. FileMaker 6 and 7 lack this functionality. Can I get it back?

Bob Coffield

OS X doesn't support the Dial Phone script step. All is not lost, however. Automated Workflows' \$15 Dial Phone From X ([find.macworld.com/0227](http://find.macworld.com/0227)), an AppleScript-based program, can dial the phone from applications including Address Book, Microsoft Excel, and FileMaker, with the assistance of Macron Soft's \$12 ABDialer 2 ([www.macronsoft.com](http://www.macronsoft.com)).

### Quite a Character

I just upgraded to Microsoft PowerPoint 2004, and now when I launch the program I see an alert that displays what appear to be Asian characters and a message that claims this font is unavailable on my computer. My presentations don't use this font, so why the substitution?

Ken Chupp

PowerPoint 2004 displays this error message when it's missing an Asian font that's installed with OS X or a font that Microsoft Office installs when it first runs. The missing Apple font is likely to be Hiragino Kaku Gothic Pro, and the Microsoft font is MS PMincho.

At this point, you have a couple of options. You can enable the fonts (or install them if they're missing), or you can tell PowerPoint to live without them.

## UNSOLICITED ADVICE

### Fix Font Book

While testing my advice to Ken Chupp, in "Quite a Character," I used Font Book to disable both the Hiragino Kaku Gothic Pro and the MS PMincho fonts. On completion of that testing, I attempted to reenable the fonts by selecting them and clicking on Font Book's Enable button. All went according to plan when I selected the grayed-out Hiragino font, but imagine my consternation when I discovered that the MS PMincho font had disappeared from Font Book. Repeated attempts to bring it back by employing the program's Add Fonts command and navigating to the location of the font did no good.

It was then that I recalled the existence of the *com.apple.ATS.plist* file (in *your user folder/Library/Preferences*), which tracks the fonts you've disabled in Font Book and bars those fonts from loading when you log in. I located and trashed this file and then logged out and back in again. When I next launched Font Book, the MS PMincho font appeared in the Font list.

To instruct PowerPoint to proceed without certain fonts, open your PowerPoint presentation and choose Format: Replace Fonts. Select the Asian font in the Replace pop-up menu, choose something more appropriate in the With field (Times, for example), and click on Replace. The new font you've selected will replace all instances of the old one.

With luck, these fonts may still be on your Mac. To find out, launch Panther's Font Book, select All Fonts from the Collection column, and peer into the Font column. If one or both fonts are disabled, select them and click on Enable.

If the Hiragino font is missing, you could get it back by reinstalling OS X, but there's an easier way. Download Charles Srstka's \$20 shareware utility Pacifist ([www.charlessoft.com](http://www.charlessoft.com)), and use it to extract the font from the Panther installer disc(s). You'll find the font by following this path: Contents of OSInstall.mkpkg/Contents of Essential-SystemSoftware.mkpkg/Contents of Essentials.pkg/System/Library/Fonts.

Note that the font's name includes a series of Japanese characters that you might not be able to read. The font you want has a name that ends with *Pro W4.otf*, and it weighs in at 9.6MB. It normally lives in the Fonts folder within the System folder—a folder for which you lack permissions. If you'd rather not change those permissions, simply add the font to your user account's Font folder (*your user folder/Library/Fonts*).

If the Microsoft font is missing, insert your Office 2004 disc, open the Microsoft Office 2004 folder, the Office folder therein, and then the Fonts folder inside *that* folder. Copy the MS PMincho font to your user account's Fonts folder. □

That guy with the headphones permanently planted in his ears is CHRISTOPHER BREEN, Playlistmag.com's editor in chief and the author of the upcoming *Secrets of the iPod*, fifth edition (Peachpit Press, 2005).

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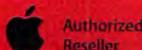
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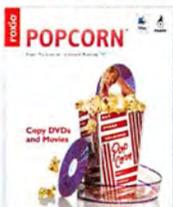


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<p><b>CANON PowerShot G6</b> <b>NEW!</b></p> <ul style="list-style-type: none"> <li>• 7.1 MegaPixels</li> <li>• 4x Optical Zoom</li> </ul> <p><b>\$469<sup>99</sup></b></p> <p>A75 .....\$149.99 A85 .....\$194.99                  A95 .....\$249.99 Pro 1 .....\$579.99                  NEW! A400 .....\$139.99</p>	<p><b>CANON PowerShot S500</b></p> <ul style="list-style-type: none"> <li>• 5.0 MegaPixels</li> <li>• 4x Optical Zoom</li> </ul> <p><b>\$279<sup>99</sup></b></p> <p>SD200 .....\$219.99 SD300 .....\$289.99                  S410 .....\$259.99 S60 .....\$319.99                  S70 .....\$359.99 S1-IS .....\$269.99</p>	<p><b>KODAK DX7590</b> <b>NEW!</b></p> <ul style="list-style-type: none"> <li>• 5.4 MegaPixels</li> <li>• 10x Opt/3x Dig. Zoom</li> </ul> <p><b>\$339<sup>99</sup></b></p> <p>CX7430 .....\$159.99 CX7530 .....\$219.99                  DX6490 .....\$279.99 DX7590 .....\$339.99                  DX-7630 .....\$249.99 LS743 .....\$234.99                  LS753 .....\$259.99 LS755 .....CALL                  DCS-Pos SLR C/N .....\$294.99</p>
<p><b>CASIO EX-Z55</b></p> <ul style="list-style-type: none"> <li>• 5.0 MegaPixels</li> <li>• 3x Opt/4x Dig. Zoom</li> </ul> <p><b>\$289<sup>99</sup></b></p> <p>EX-P600 .....\$309.99 EX-P700 .....\$339.99                  EX-Z40 .....\$229.99 EX-S100 .....\$259.99                  EX-Z50 .....\$239.99 QVR-61 .....\$249.99                  QVR-52 .....\$214.99</p>	<p><b>FUJIFINEPIX S3</b> <b>NEW!</b></p> <ul style="list-style-type: none"> <li>• 12.3 Mega Pixels</li> <li>• 2.0" LCD</li> </ul> <p><b>\$1749<sup>99</sup></b></p> <p>FP E500 .....\$164.99 FP E510 .....\$199.99                  FP S550 .....\$259.99 FP A340 .....\$149.99                  FP S20 Pro .....\$499.99 FP S2 .....\$1049.99</p>	<p><b>FUJIFINEPIX S5100</b></p> <ul style="list-style-type: none"> <li>• 4.0 MegaPixels</li> <li>• 10x Optical Zoom</li> </ul> <p><b>\$259<sup>99</sup></b></p> <p>FP 3100 .....\$199.99 FP 7000 .....\$274.99                  FP F440 .....\$219.99 FP F450 .....\$249.99                  FP F710 .....\$269.99 FP 810 .....\$309.99</p>
<p><b>MINOLTA Dimage A200</b> <b>NEW!</b></p> <ul style="list-style-type: none"> <li>• 8.0 MegaPixels</li> <li>• 7x Optical Zoom</li> </ul> <p><b>\$509<sup>99</sup></b></p> <p>X31 .....\$139.99 X50 .....\$249.99                  G600 .....\$219.99</p>	<p><b>MINOLTA Dimage Z3</b> <b>NEW!</b></p> <ul style="list-style-type: none"> <li>• 4.0 MegaPixels</li> <li>• 12x Optical Zoom</li> </ul> <p><b>\$309<sup>99</sup></b></p> <p>NEW! Dimage Z2 .....\$259.99                  NEW! Dimage Z10 .....\$189.99                  NEW! Maxxum 7 Digital .....\$1219.99</p>	<p><b>PANASONIC DMC-FZ20 (K/S)</b> <b>NEW!</b></p> <ul style="list-style-type: none"> <li>• 4.0 MegaPixels</li> <li>• 12x Optical Zoom</li> </ul> <p><b>\$109<sup>99</sup></b></p> <p>FX-5 .....\$249.99 FX-7 .....\$329.99                  FZ-3 .....\$289.99 FZ-15 .....\$349.99                  LC-1 .....\$749.99 LC-80 .....\$264.99</p>

## DIGITAL VIDEO

<p><b>CANON GL-2</b></p> <ul style="list-style-type: none"> <li>• 20x Optical Zoom</li> <li>• 100x Digital Zoom</li> <li>• 2.5" LCD Screen</li> </ul> <p><b>\$1469<sup>99</sup></b></p> <p>NEW! XL-2 .....\$3399.99</p>	<p><b>CANON ELURA 70</b></p> <ul style="list-style-type: none"> <li>• 1.33 MegaPixels</li> <li>• 18x Optical Zoom</li> <li>• 2.5" LCD Screen</li> </ul> <p><b>\$419<sup>99</sup></b></p> <p>Elura 60 .....\$319.99                  Elura 65 .....\$369.99                  ZR-80 .....\$249.99                  ZR-85 .....\$289.99                  Special! ZR-90 .....\$329.99</p>	<p><b>CANON OPTURA 500</b> <b>NEW!</b></p> <ul style="list-style-type: none"> <li>• 2.3 MegaPixels</li> <li>• 10x Optical Zoom</li> <li>• 200x Digital Zoom</li> <li>• 2.5" LCD Screen</li> </ul> <p><b>\$699<sup>99</sup></b></p> <p>Optura 30 .....\$449.99                  Optura 40 .....\$539.99                  Optura X1 .....\$699.99                  NEW! Optura 400 .....\$589.99</p>
<p><b>JVC GZ-MC200</b> <b>NEW!</b></p> <ul style="list-style-type: none"> <li>• 2.12 MegaPixels</li> <li>• 10x Optical Zoom</li> <li>• 200x Digital Zoom</li> <li>• 1.8" Color LCD</li> </ul> <p><b>\$749<sup>99</sup></b></p>	<p><b>JVC GR-HD1</b></p> <ul style="list-style-type: none"> <li>• 200x Digital Zoom</li> <li>• 10x Opt. Zoom</li> <li>• 3.5" Color LCD</li> <li>• USB</li> </ul> <p><b>\$1649<sup>99</sup></b></p> <p>GR-DX77 .....\$319.99                  GR-DX97 .....\$349.99                  NEW! GR-DX307 .....\$409.99                  NEW! GR-DZ7 .....\$499.99                  JY-HD10U .....\$1949.99</p>	<p><b>SONY DCR-HC1000</b></p> <ul style="list-style-type: none"> <li>• 12x Optical Zoom</li> <li>• 150x Digital Zoom</li> <li>• 2.5" LCD</li> </ul> <p><b>\$949<sup>99</sup></b> <b>NEW!</b></p> <p>DCR-HC20 .....\$309.99                  DCR-HC30 .....\$359.99                  DCR-HC40 .....\$409.99                  Special! DCR-HC65 .....\$449.99                  Special! DCR-HC85 .....\$599.99</p>
<p><b>SONY DCR-VX2100</b> <b>NEW!</b></p> <ul style="list-style-type: none"> <li>• 48x Digital Zoom</li> <li>• 12x Optical Zoom</li> <li>• 2.5" LCD Screen</li> </ul> <p><b>\$1809<sup>99</sup></b></p> <p>DCR-IP1 .....\$649.99                  DCR-IP55 .....\$569.99                  DCR-IP220 .....\$809.99                  NEW! DHR-1000 .....\$2979.99                  GVD1000 .....\$909.99                  GVD800 .....\$599.99</p>	<p><b>SONY HDR-FX1</b></p> <ul style="list-style-type: none"> <li>• 12x Optical Zoom</li> <li>• 3.5" LCD Screen</li> </ul> <p><b>\$2799<sup>99</sup></b></p> <p>Special! DSR-PDX10 .....\$1499.99                  Special! DSR-PD170 .....\$2399.99                  SR-V530 .....\$899.99                  NEW! DCR-TRV260 .....\$259.99                  NEW! DCR-TRV480 .....\$289.99                  NEW! HDR-Z1 .....CALL</p>	<p><b>SONY DCR-DVD301</b> <b>NEW!</b></p> <ul style="list-style-type: none"> <li>• 10x Optical Zoom</li> <li>• 120x Digital Zoom</li> <li>• 3.5" LCD</li> <li>• 1.0 MegaPixel</li> </ul> <p><b>\$629<sup>99</sup></b></p> <p>DCR-DVD101 .....\$469.99                  DCR-DVD201 .....\$579.99</p>
<p><b>SONY DCR-PC350</b></p> <ul style="list-style-type: none"> <li>• 3.0 MegaPixels</li> <li>• 10x Optical Zoom</li> <li>• 2.5" LCD Screen</li> <li>• BLUETOOTH</li> </ul> <p><b>\$819<sup>99</sup></b></p> <p>NEW! DCR-PC109 .....\$509.99</p>	<p><b>PANASONIC PV-GS200</b></p> <ul style="list-style-type: none"> <li>• 120x Digital Zoom</li> <li>• 10x Optical Zoom</li> <li>• 2.5" LCD Screen</li> <li>• IEEE-1394</li> </ul> <p><b>\$569<sup>99</sup></b></p> <p>PV-GS9 .....\$269.99                  PV-GS12 .....\$284.99                  PV-GS14 .....\$314.99                  PV-GS15 .....\$329.99                  Special! PV-GS55 .....\$349.99                  PV-GS120 .....\$419.99                  NEW! PV-GS400 .....\$849.99</p>	<p><b>PANASONIC AG-DVX100A</b></p> <ul style="list-style-type: none"> <li>• 3-CCD Imaging</li> <li>• Super VHS</li> <li>• 12x Optical Zoom</li> <li>• IEEE-1394</li> </ul> <p><b>\$2299<sup>99</sup></b> <b>Special!</b></p> <p>AG-DV2500 .....\$1279.99                  AG-DVC200 .....\$2649.99                  AG-DVC7 .....\$709.99                  Special! AG-DVC30 .....\$1349.99                  NEW! AG-DVC60 .....\$1749.99                  SV-AV50A .....\$249.99                  SV-AV100 .....\$609.99                  VD-RM50 .....\$409.99                  Special! VD-RM70 .....\$509.99</p>

## VIDEO PROJECTORS

<p><b>IN FOCUS X2</b></p> <ul style="list-style-type: none"> <li>• DLP</li> <li>• 1600 Max Ansi Lumens</li> </ul> <p><b>\$839<sup>99</sup></b></p> <p>LP-120 .....\$1399.99                  LP-70+ .....\$1299.99</p>	<p><b>EPSON PowerLite S1+</b></p> <ul style="list-style-type: none"> <li>• 3x .5" LCD</li> <li>• Digital Zoom</li> </ul> <p><b>\$849<sup>99</sup></b></p> <p>PowerLite 730-C .....\$1979.99                  PowerLite 61-P .....\$1159.99                  PowerLite 81-P .....\$1529.99</p>	<p><b>BENQ PB7210</b></p> <ul style="list-style-type: none"> <li>• 2200 Max Ansi Lumens</li> <li>• DLP</li> </ul> <p><b>\$1509<sup>99</sup></b></p> <p>PB 6100 .....\$849.99                  PB 7230 .....\$1699.99                  PB 8220 .....\$1549.99</p>
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## SCANNERS

<p><b>CANON FS4000</b></p> <ul style="list-style-type: none"> <li>• 5888 x 4000 pixels</li> <li>• 4000 DPI Optical Resolution</li> <li>• USB</li> </ul> <p><b>\$469<sup>99</sup></b></p>	<p><b>NIKON LS50</b> <b>NEW!</b></p> <ul style="list-style-type: none"> <li>• High Quality CCD Sensor</li> <li>• 4000 DPI Optical Resolution</li> </ul> <p><b>\$489<sup>99</sup></b></p> <p>LS-40 .....\$409.99</p>	<p><b>NIKON Super Coolscan LS-5000</b></p> <ul style="list-style-type: none"> <li>• 4,000 dpi Optical Resolution</li> <li>• 2x-linear CCD</li> <li>• Multiple film format</li> </ul> <p><b>\$869<sup>99</sup></b> <b>NEW!</b></p> <p>LS-8000 .....\$1909.99                  LS-4000 .....\$699.99</p>
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## TELEVISIONS

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120GB	7200RPM	8MB	<b>\$169.99</b>	<b>\$189.99</b>	<b>\$209.99</b>
160GB	7200RPM	8MB	<b>\$179.99</b>	<b>\$199.99</b>	<b>\$219.99</b>
200GB	7200RPM	8MB	<b>\$209.99</b>	<b>\$239.99</b>	<b>\$249.99</b>
250GB	7200RPM	8MB	<b>\$239.99</b>	<b>\$259.99</b>	<b>\$279.99</b>
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 \* Elite 800 Pro Fw800/400 solution has same ports as pictured FW800/400 + USB model, without the USB 2.0 port.  
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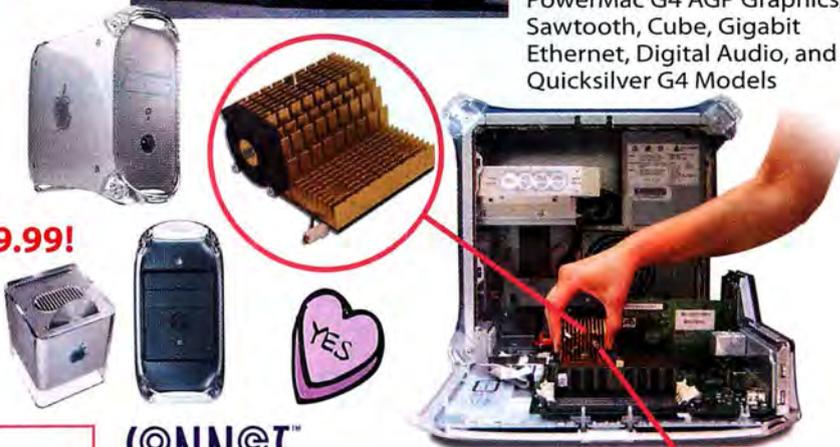


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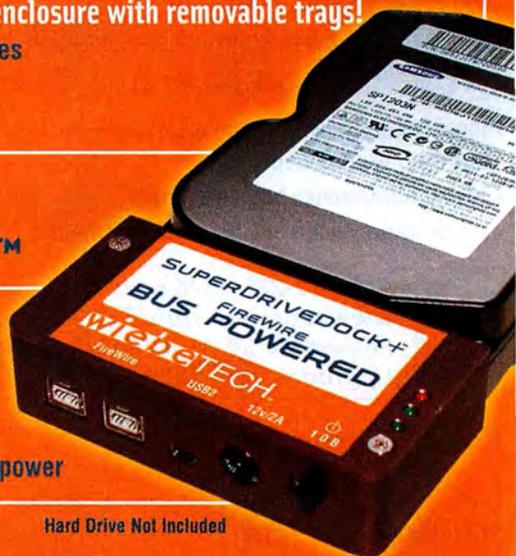
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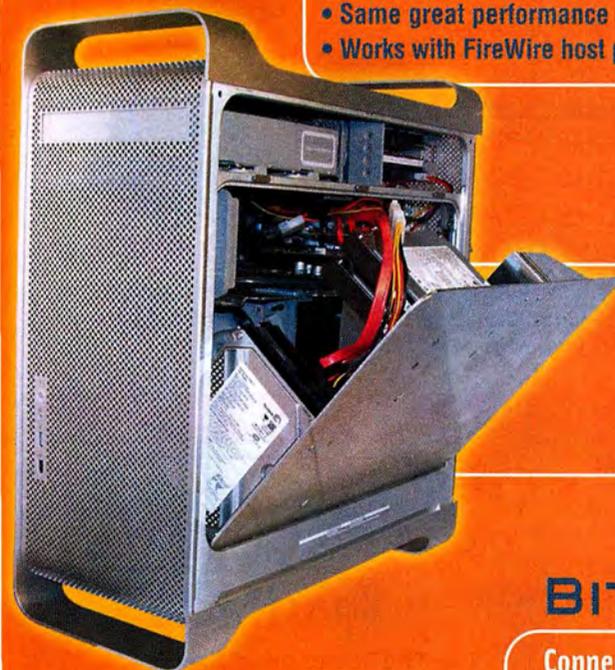
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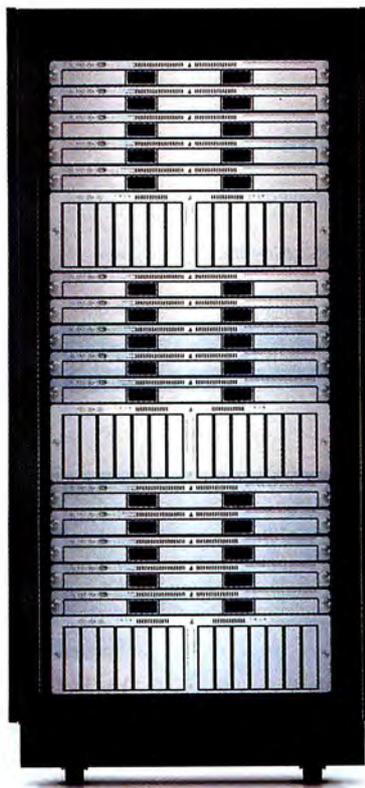
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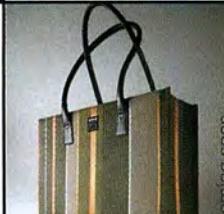
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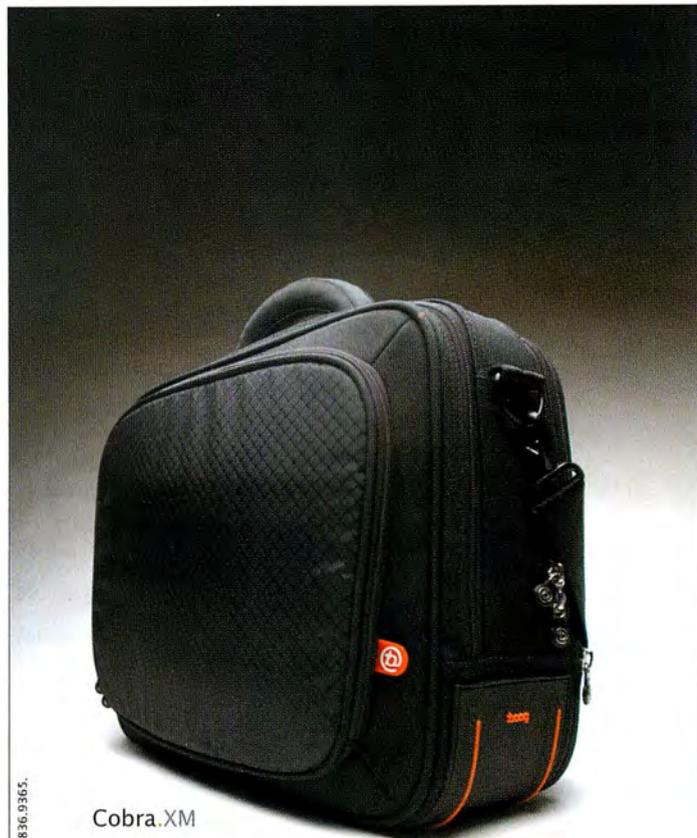
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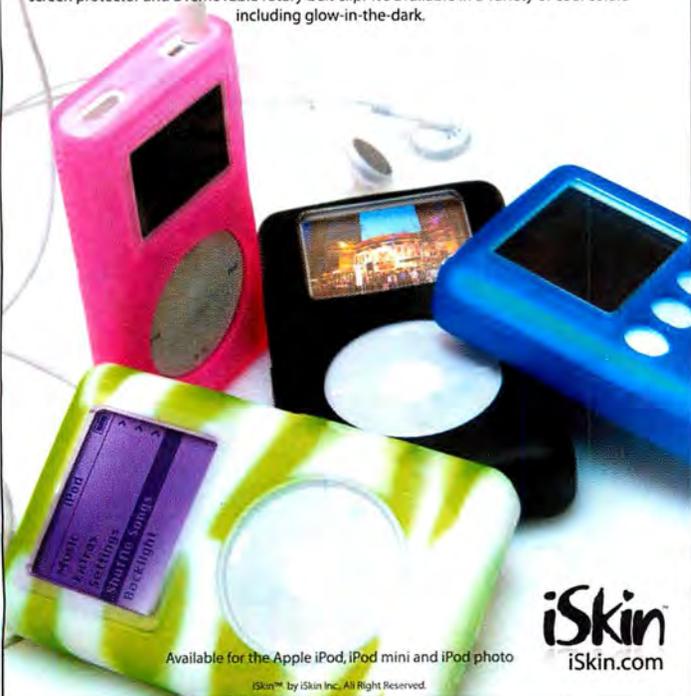
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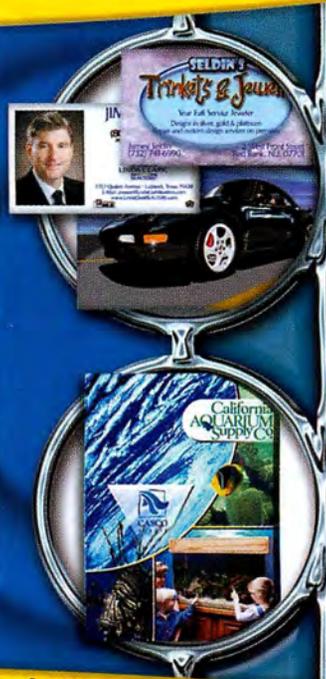
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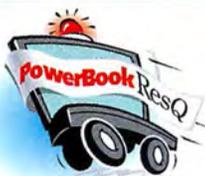


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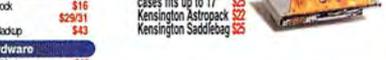
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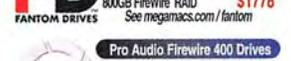


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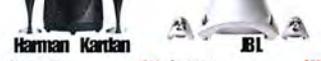
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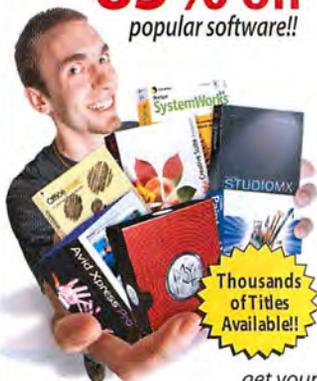
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# Hot Stuff

Our Favorite  
New Stuff

FROM THE EDITORS OF MACWORLD



## LAPTOP BAGS

Looking for a stylish way to tote your Mac laptop? Timbuk2's \$80 Marina (left) takes the classic handbag to the next level with laptop-safe padding; a plush lining; a mobile-phone pocket; and bright, fun colors. For something with a bit more business chic, I like Acme Made's Slim Brief (\$110 to \$185). Available in flannel or ballistic nylon, the Slim Brief sports leather handles, a satin lining, and a design that's at home in the boardroom or on the runway ([www.timbuk2.com](http://www.timbuk2.com), [www.acmemade.com](http://www.acmemade.com)).—DAN FRAKES



## Incase Charger

Incase Designs has long provided carrying and storage accessories for Apple products. Now the company has expanded into the electronics realm with its dual-input Incase Charger—as far as I know, the only charger of its kind for the iPod and the iPod mini. The \$50



Charger lets you charge your iPod's battery from both DC (car lighter) sockets and standard AC outlets—the AC plug even folds inside the Charger's rubberized body when not in use. For added kicks, the Charger also features a line-level audio-output jack ([www.goincase.com](http://www.goincase.com)).—DAN FRAKES

## ReReporter

Are you tired of crawling under your desk to connect and disconnect cables to and from your Power Mac G5? I know I am. Marathon Computer's \$60 ReReporter is here to help. The 5-foot-long port extender features breakout connectors for FireWire 800, FireWire 400, and USB 2.0 (two of them connected through one USB port on your Mac), as well as audio input and output. But what makes the ReReporter unique is its planed spherical shape, which makes it less prone to tipping. The ports light up a pretty blue color, too ([www.marathoncomputer.com](http://www.marathoncomputer.com)).—PETER COHEN



## EVOLUENT VERTICAL MOUSE 2

Finally, someone has made a mouse that takes my wrist out of a twisted, pain-inducing position, *and* makes me look good doing it. That's why I love the very thoughtfully designed \$75 Evoluent VerticalMouse 2, which puts your hand in a neutral, handshake position—reducing strain on your wrist. There are no Mac drivers, so you'll need the \$20 USB Overdrive ([www.usboverdrive.com](http://www.usboverdrive.com)) to use more than the left-click, right-click, and scrolling functions supported natively by OS X—and to program the buttons. But that's a small price to pay to avoid pain and injury ([www.evoluent.com](http://www.evoluent.com)).—JENNIFER BERGER



LAPTOP BAGS, REPORTER, AND MOUSE PHOTOGRAPHS BY PETER BELANGER

## WHAT'S HOT

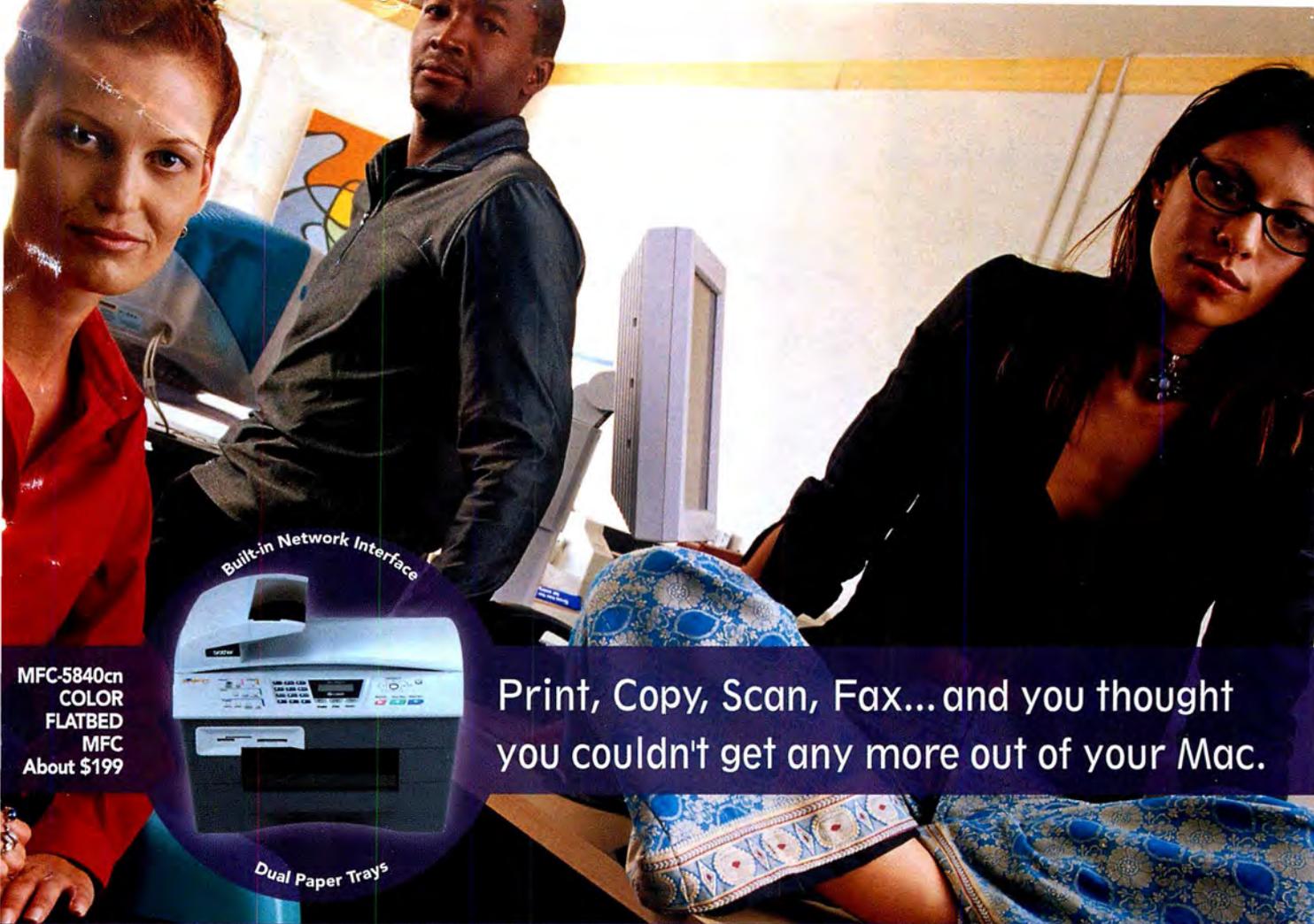
Brought to you by John Moltz of the Crazy Apple Rumors Site ([www.crazyapplerumors.com](http://www.crazyapplerumors.com))

- 1 Apple ships the iPod shuffle. Future releases include the iPod hustle, the iPod electric slide, and Lambada: the forbidden iPod.
- 2 Apple announces that it shipped 4.5 million iPods during 2004's holiday quarter. Of course, unlike Apple's new release, those iPods all have screens.
- 3 Steve Jobs unveils the Mac mini. Next up, the Mac shuffle—a displayless, flash memory-based computer that randomly switches between different applications.
- 4 Apple's iWork suite includes Pages, a word processor with page-layout capabilities. An indignant Adobe vows to revive PageMaker just so that it can drop development in retaliation.

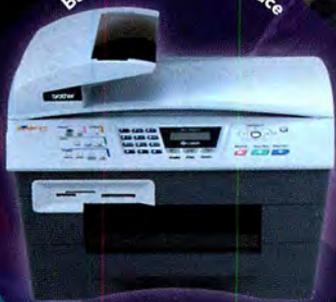


## CONVERTX FOR MAC

Elgato's EyeTV product line has become synonymous with watching and recording TV on your Mac—and for good reason. Plexor even licensed the excellent EyeTV software for its ConvertX PVR. What I like about the ConvertX are the small differences. For example, every new Mac ships with USB 2.0 ports, and Plexor has acknowledged this by replacing the FireWire connection found on similar Mac products with USB. What's also nice is the price: at \$229, the ConvertX costs \$100 less than Elgato's comparable MPEG-1 and -2 EyeTV 200 hardware ([www.plexor.com](http://www.plexor.com)).—JONATHAN SEFF



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