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REVIEWED | 1GHz iMac | Power Macs | Final Cut Express | Palm OS Handhelds

DVD-R DRIVES

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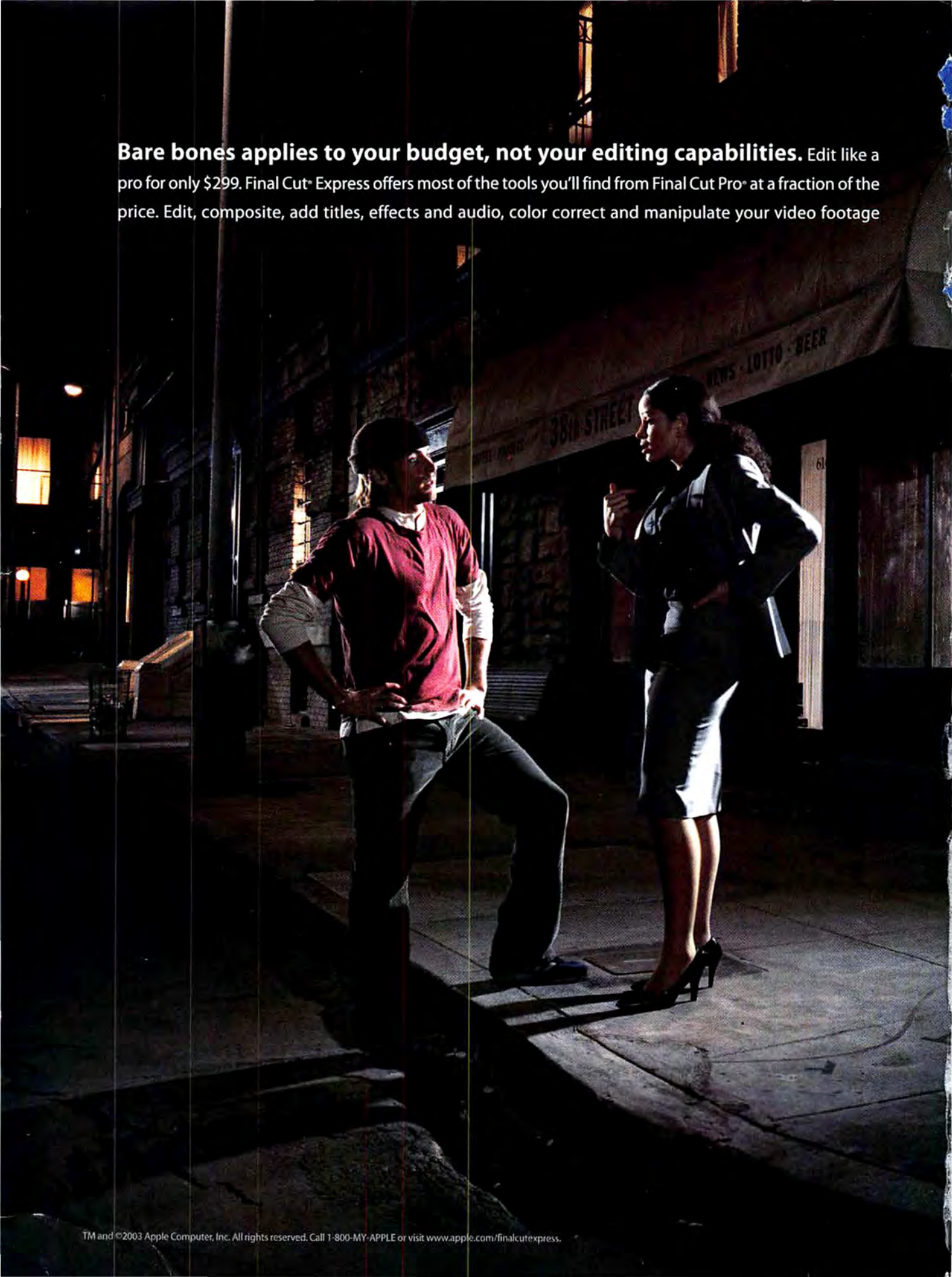

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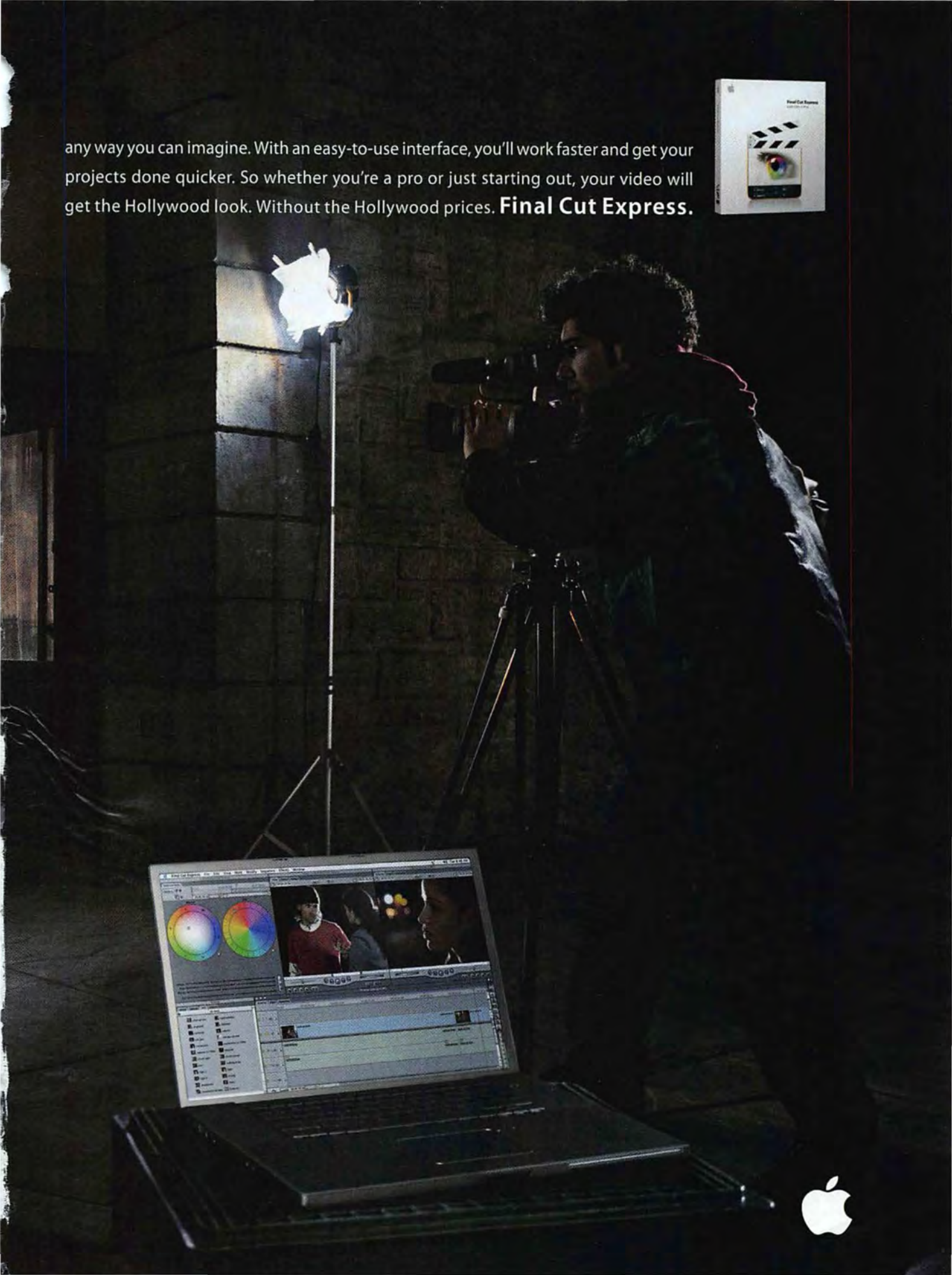

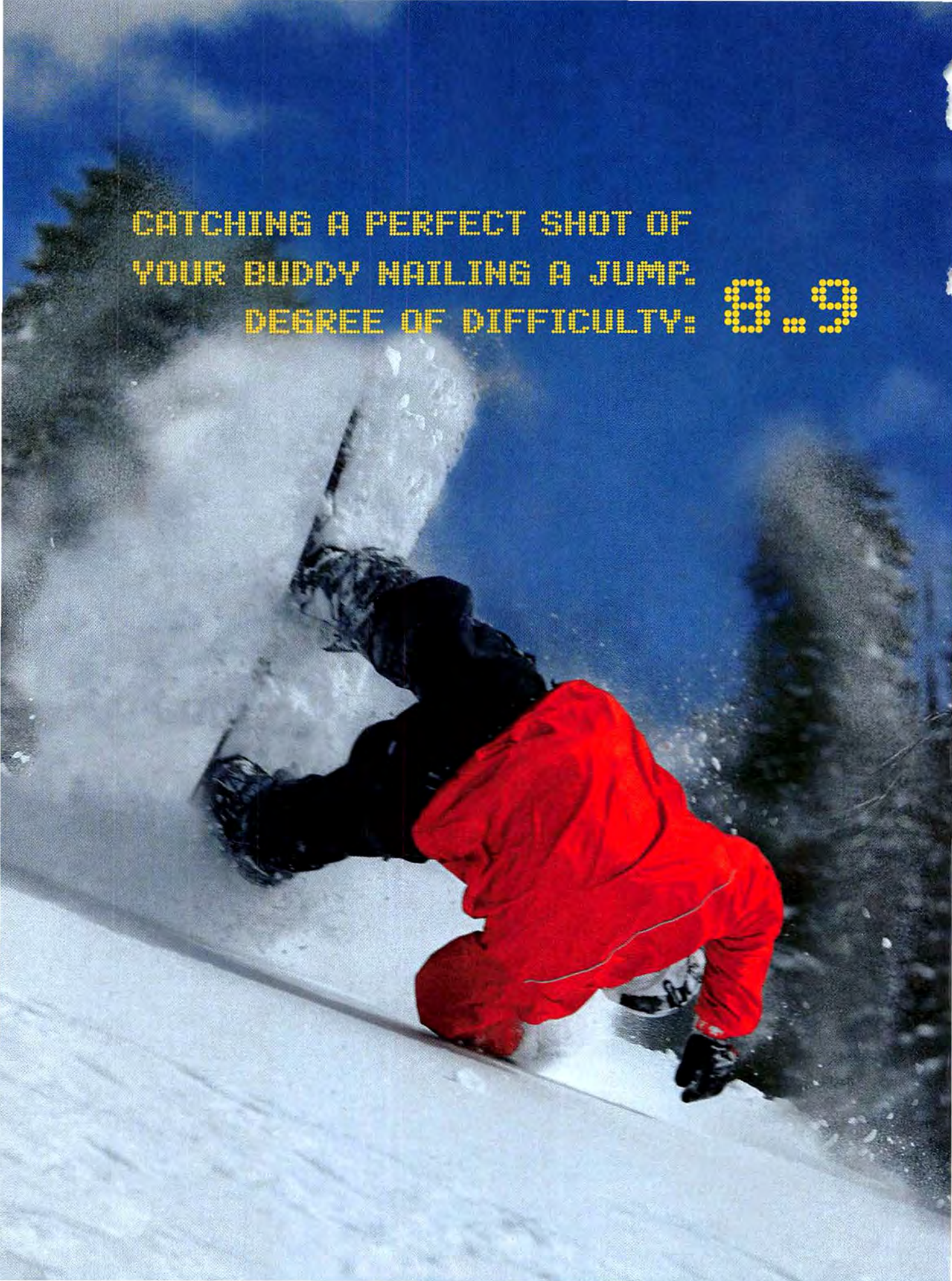
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Incorporating MacUser

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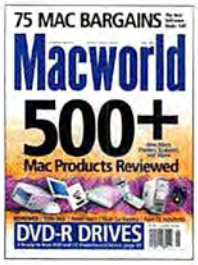

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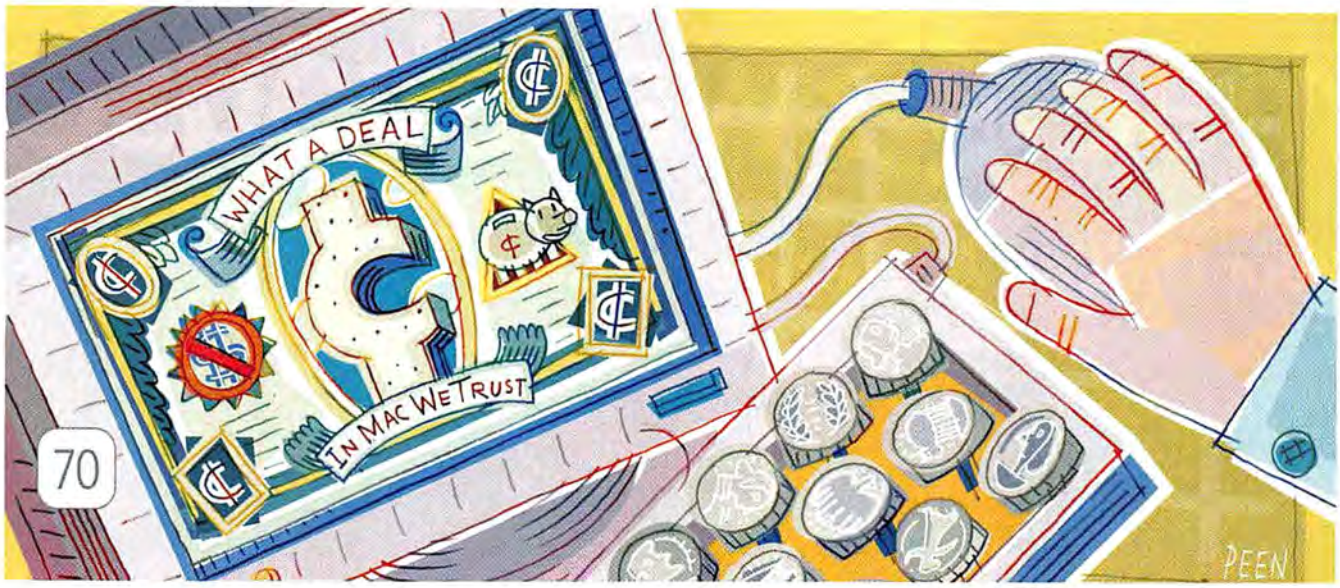

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- ♦♦♦♦½ The Graph Club 2.0
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- ♦♦♦ Master Math Word Problems 1.1
- ♦♦♦♦ Math Advantage 2003
- ♦♦♦♦ Mia's Science Adventure: Romaine's New Hat
- ♦♦♦½ The Powerpuff Girls: Mojo Jojo's Clone Zone
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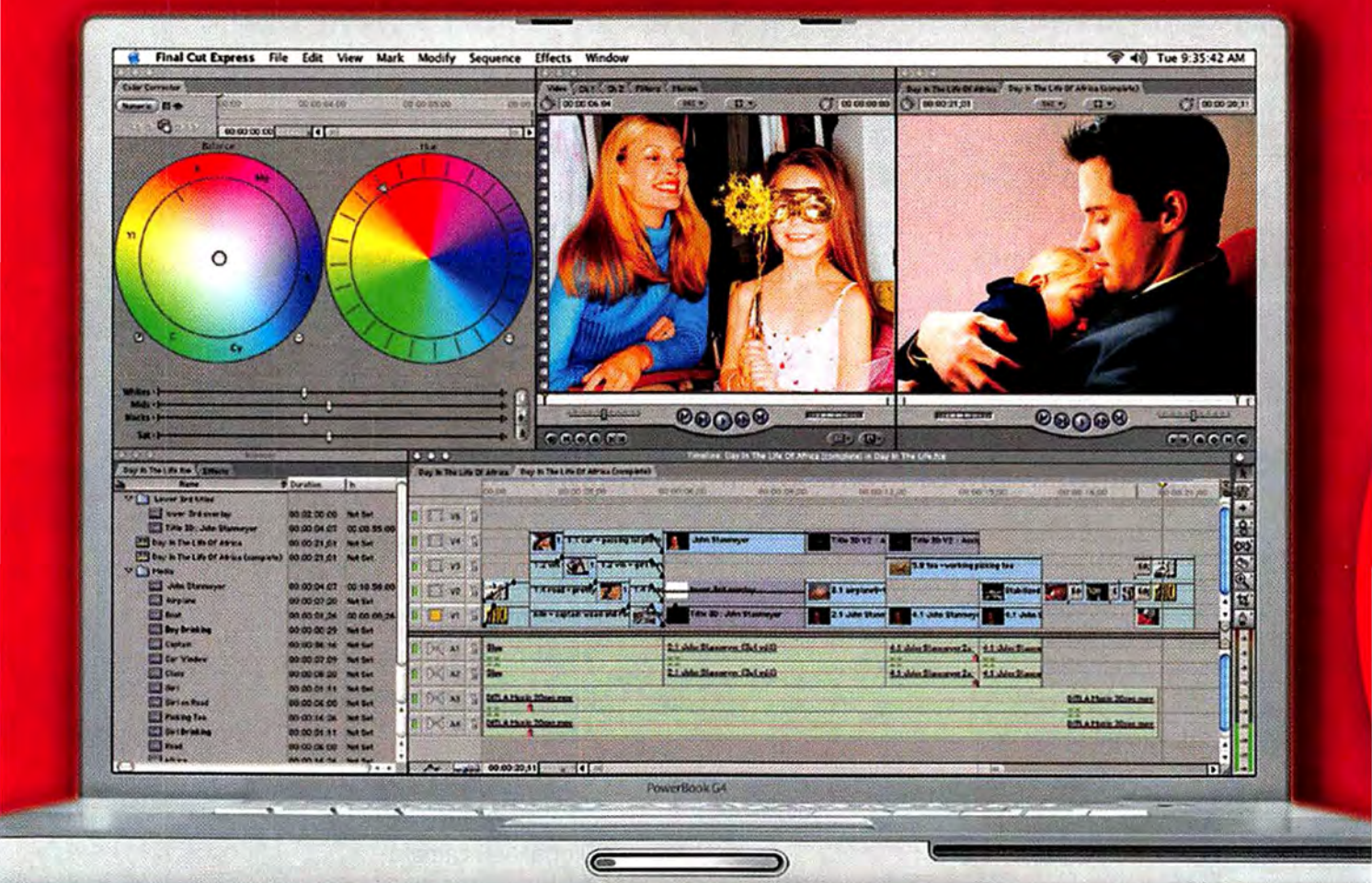

New! Apple 17-inch PowerBook G4

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BY RICK LEPAGE

Product Evaluation Is Our Mission, As This Issue Makes Clear

On Further Review

PRODUCT REVIEWS ARE THE LIFEBLOOD OF A PUBLICATION such as *Macworld*. On average, we review and rate 35 new Mac-related products each month. Each review is thoroughly evaluated by our editorial staff. Our reviewers know that they need to put all hardware and software products through a rigorous set of tests, and our editors do their best to ensure that the reviewers didn't miss anything along the way. While we can't possibly guess every way that a product can be used, our goal is to give you a top-down view of the product, so you can understand what it's good for and why it may or may not be worth your money.

This month, we're going for broke. Most of the issue is made up of reviews (although you'll find our columnists in their usual spots, and our news section, *Mac Beat*, hasn't gone anywhere). Throughout this blockbuster issue, you'll find reviews of the updated iMac and the midrange Power Mac G4 desktops, complete with Macworld Lab–test data; stand-alone evaluations of Apple's Final Cut Express, Maxon Computer's Cinema 4D R8, and more; and comparative reviews of Mac OS X fax software, 35mm film scanners, and Palm OS handhelds.

Low Cost, High Quality

In this issue, you'll also find a supersize version of our *Mac Gems* column that features brief reviews of 75 of today's best low-cost Mac software ("More Mac Software Bargains," page 70). As I noted in the column's debut last month, there is a huge amount of development going on in the Mac market right now, largely by unsung developers, and we want to make sure we're on top of it for you.

We published our first software-bargains story in our July 2002 issue, showcasing 60 low-cost shareware and commercial software packages from nearly as many developers. Since that time, there's been an even bigger wave of new programs and updates—so many that we could have filled an entire issue with reviews of these products. Once you dig into our story, I'm sure you'll find a few gems that you'd like to install and play with, no matter what you're looking for—keyboard- or system-enhancement utilities, such as Michael Kamprath's excellent Keyboard Maestro and bitart's unique Cocoa Gestures; outliners, such as AquaMinds' NoteTaker and Dan Schimpf Software's MacJournal; or fun stuff, such as HairerSoft's Amadeus II and Math Game House's iStorm.

As I talk with some of these smaller developers, I'm impressed by their boundless enthusiasm. Many of them are using OS X to build some beautiful and useful products. Take a look at Wincent Colaiuta's slick and smart Synergy, for example: I can't see why any iTunes junkie wouldn't want to spend $5 for the functionality this utility adds to the Mac. Syngery is also a splendid example of how to use OS X's transparency features to create a well-designed background application.

The only downside to this miniboom in Mac software is that there's an awful lot of stuff to sift through. (I would also like to see a moratorium on using the letter *i* at the beginning of a product name—surely some of these creative minds can come up with better titles!) We'll do our best to continue to give you a glimpse into this fascinating world. Who knows? A few of these companies could very well turn into the major Mac OS developers of the next decade.

Return of Minifinders

Time was, *Macworld* and *MacUser* magazines regularly printed capsule reviews of the most-recent products, giving readers a chance to catch up on any reviews they missed. Those capsule reviews were especially useful to people who, when they were ready to make a purchase, couldn't remember what our buying advice had been.

> I'm impressed with the boundless enthusiasm of small Mac developers.

That's why I'm happy to introduce our new *Minifinders* section. This month, starting on page 88, you'll find capsule reviews (with mouse ratings) of more than 400 products reviewed by *Macworld* in the past 12 months. This section should make for an extremely useful reference. And starting with next month's issue, you'll find *Minifinders*, which will feature capsule reviews of the top new Mac products most recently reviewed in *Macworld*, at the end of the *Reviews* section. You'll also be able to search through *Minifinders* and read the full text of any review online at www.macworld.com. □

What do you want from *Macworld*? More reviews and product comparisons? Longer how-tos? Extreme opinions? Drop me a line about these topics or anything else related to the Mac. I can be reached by e-mail, at rick_lepage@macworld.com, or you can join in the discussion forums at www.macworld.com.

PHOTOGRAPH BY BETTINA SALOMON

ALL TOGETHER NOW

For many years, businesses have dreamed of finding easy and affordable ways of integrating the many applications they have developed. Most businesses have a multitude of applications running, whether on desktops or on servers. But methods of integrating these data into a single "killer" application proved expensive, unmanageable, and otherwise impractical.

In tough times, business professionals focus on those customers with whom they do the best business. Consider the case of the business that wanted to emphasize improved customer service with more personalization, but found that its customer information was stored on a dozen different applications. In other words, the business benefits of integration have remained a dream—until now.

Today, the dream is a realistic goal, particularly with the arrival of Web services that enhance application integration capabilities. Application integration allows businesses to choose tools according to what is right for the job, rather than settling for a tool simply because it was originally used in the organization. In addition, when businesses are acquiring applications, they can now focus on the functionality of the application and the benefits it adds instead of worrying about the underlying technology. With unparalleled experience from 18 years of delivering cross-platform solutions, 4D and its groundbreaking 4th Dimension 2003 application development tool now offer businesses of all sizes exactly what the times demand: fast, cost-effective, real-time access to data from disparate applications and platforms with a solution that is as powerful as it is easy to use.

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INDEPENDENT RAVES

As the ever-tough reviewers in *Macworld* magazine noted, "If you want to create professional-quality database applications to help manage an organization or a project and if you need to run them on multiple platforms, 4D should be just the ticket." This view was further emphasized when 4D won two "Best of Show" awards from Macworld Expo 2003: one for 4th Dimension 2003 and one for 4D developer, MasterWriter. A quick look at the 4th Dimension suite of business solutions speaks volumes about their ease of use in creating Web services to provide highly prized applications integration capabilities.

Web services use widely accepted standards to allow applications to exchange data in real time, so that all Web-service-enabled applications, regardless of vendor, programming language, or any other factors, can successfully share data as well as application logic.

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And because Web-service-enabled applications share language, data, and logic, fewer developer hours are required to develop and deploy applications, while developers will find they are far more productive.

>> For more information and several white papers on the business value of application integration and on the 4th Dimension solution set, please point your browser to www.4d.com.

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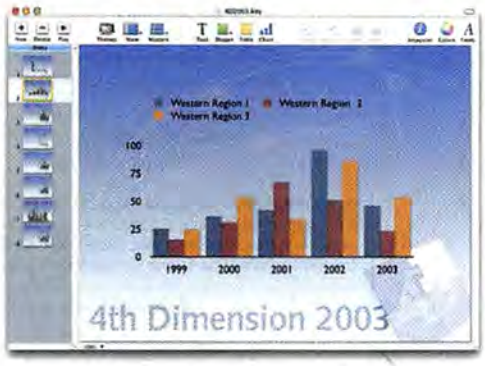

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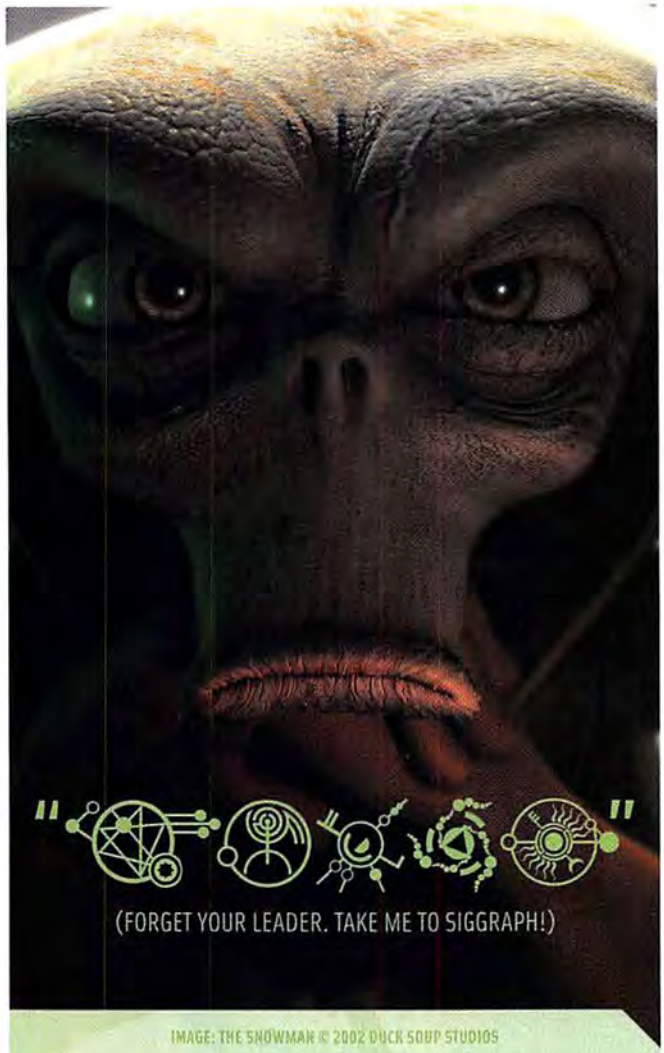

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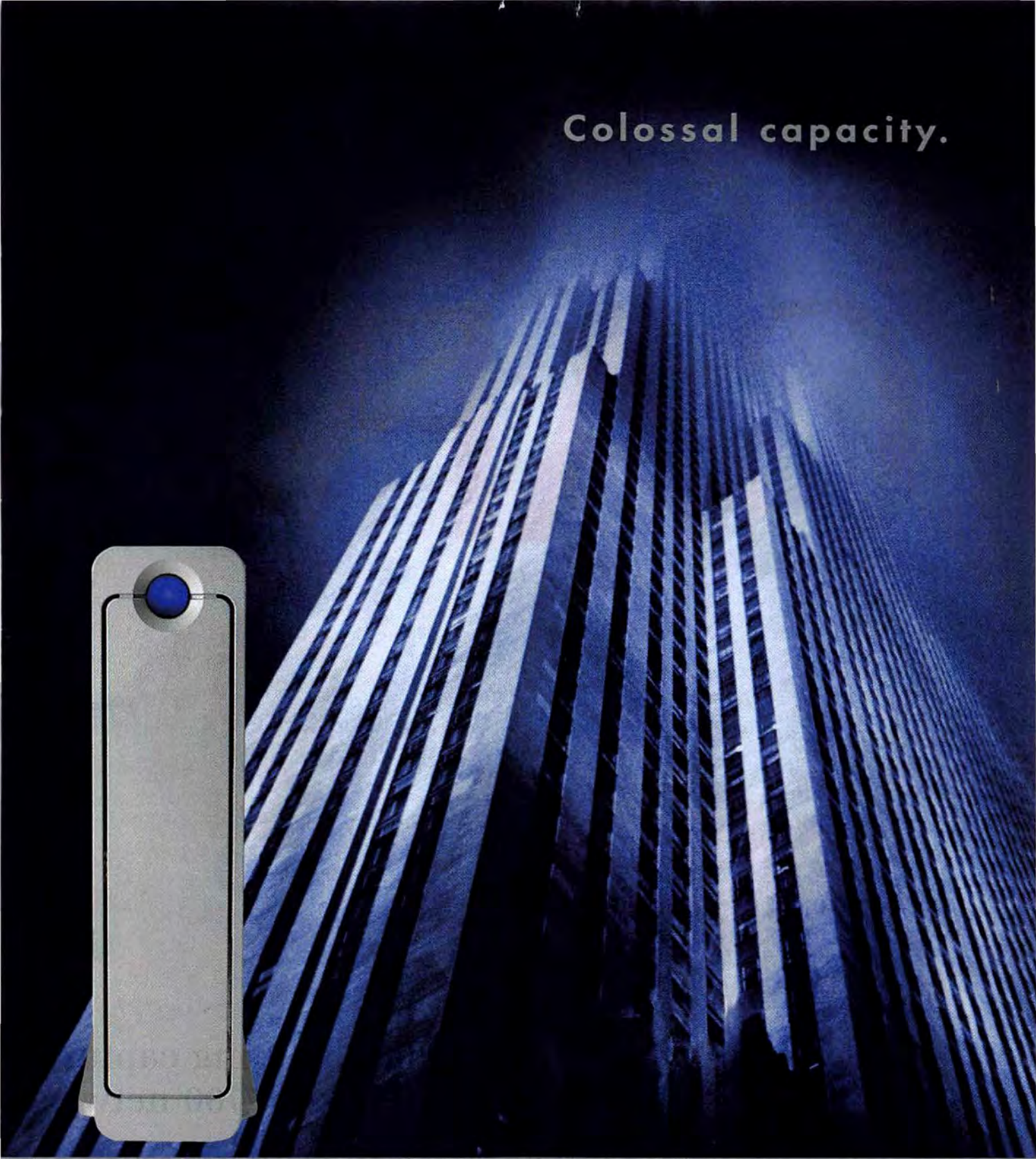

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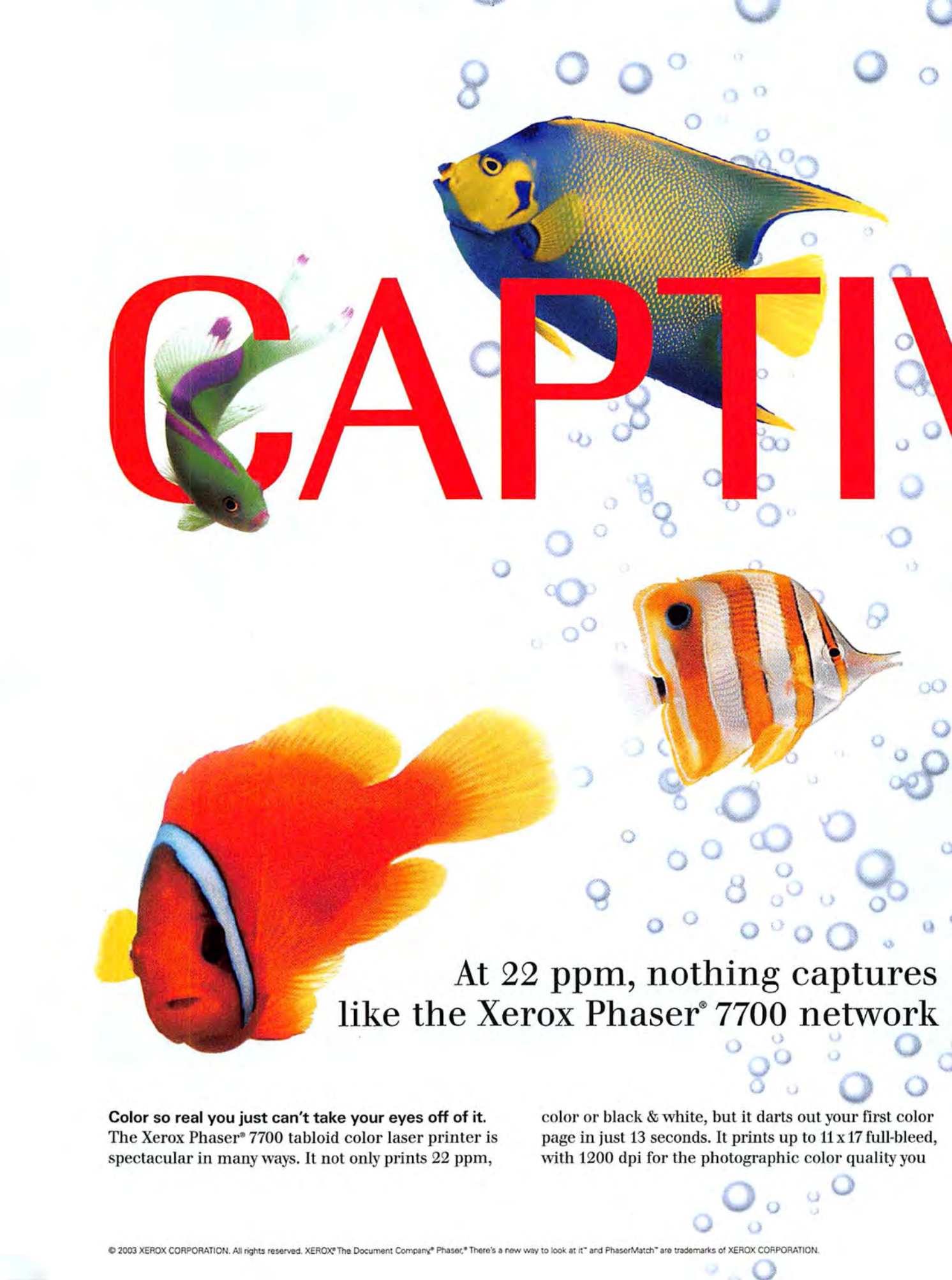

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FEEDBACK

Bugging Out

Most readers couldn't have been happier with our February 2003 cover story. But a few others saw the phrase "Jaguar Bugs" in bold, eye-catching type on the cover and found themselves, well, *bugged* by the idea of a Mac magazine pointing out problems with Apple's operating system. Look, we've been enthusiastic supporters of OS X—something that bugs another segment of our readership—and we'll continue to be. But pointing out ways to make a great OS run even better is part of what we do. Still, keep sending in your comments—even negative feedback doesn't bug us.

Bugaboos

DAVID GILLISPIE

After update upon update to OS X, I cannot say that it has been without glitches. When I read "Exterminate OS X Troubles" (February 2003), I took a giant leap forward in understanding some of the inner workings of the new Mac OS. In particular, when I downloaded and installed Safari, I encountered errors with another program and other problems I'd never seen before. After finishing your article, I immediately went to work under the hood of OS X and cleaned those errors up. Without *Macworld* to help me make sense of the endless nuances of a fabulous new operating system, the world would truly be a dimmer place.

JAMEY KEY

Thanks for the information, specifically regarding printing problems. I downloaded the Gimp-Print application as Ted Landau suggested. Now I'm able to print from the envelope feeder on my LaserWriter 16/600. Woo hoo!

MARK COHEN

It's sad that the best you could do for a cover story was to dis the stablest OS I have yet seen on any personal computer. Since upgrading my laptop to Jaguar at the beginning of October, I've done forced reboots only three times—and then only because I had inserted defective DVD media. Yes, your article said that problems were rare, but any casual magazine reader would look at your cover and expect only Windows-like reliability from Apple's latest OS. I'm certain that there are a few users who have had trouble, but stories like yours are a disservice, not only to Apple but also to the users who are trying hard to keep their own shops up-to-date. You've given ammunition to holdouts, who now cause support headaches in environments that benefit from being homogenous.

LEO MARTIN

I've been a Mac user since day one. I've run my business on a Mac for 16 years. "Exterminate OS X Troubles" convinced me not to switch to OS X. It appears that Apple has lost its vision—what happened to ease of use?

ROBERT FLEMING

Unbelievable. Virtually an entire magazine devoted to fixing OS X bugs. Face it—OS X isn't really Mac-like at all, and until Apple twists that aberration into looking and acting like a Mac, it will remain dead in the water.

BERNARD YOMTOV

I appreciate the tips on how to get around various OS X problems, but I think you could provide a valuable service to your readers by being more critical of the companies responsible for the problems, including Apple. For example, the February 2003 issue provides some workarounds for getting printers to work with Jaguar. Why should this be necessary? I have an HP LaserJet 3330 multifunction machine. This is a current product, widely sold and promoted as compatible with OS X. Yet it doesn't work with Jaguar. That is unconscionable, and you should say so, as well as pry loose from Hewlett-Packard some information as to when this will change.

KENNY STILLMAN

We all know that Jaguar isn't perfect. We all know that Mac computers aren't perfect. We can agree that they are 100 percent better than any Windows box. But then I go to the bookstore to get my new issue of *Macworld* and see in big, bold letters "Top 10 Jaguar Bugs Fixed!"—to a PC user, that translates to "Macs suck." Unless you're on a mission to undo all the "Switch" campaigning that Apple has done, you should refrain from having negative headlines about Macs and OS X. It sends a bad message to any non-Mac person. Leave the OS mudslinging to the PC magazines.

JOHN DALBEC

I'm a big fan of OS X. I bought my newer Mac at least partly because of it. That said, I can see room for improvement. I think the dialog box that pops up with a "permission denied" message should have a lock icon you can click on to continue or restart the current operation as the root user (after entering an administrator name and password, of course), to override any permissions that might get in the way. There's a lot of shareware devoted to fixing permissions problems or overriding permissions altogether; Brian Hill's Pseudo and Gideon Softworks' FileXaminer are examples.

February: The Cruelest Month

MARK STENROOS

Reading the February 2003 issue was one of the most depressing experiences in this longtime Mac advocate's life. The cover started things off with the screamer "Top 10 Jaguar Bugs Fixed!" The next stop was *From the Editor's Desk*, in which Rick LePage informed me that this "very good year" meant that OS 9 would no longer be supported through further upgrades. Turn to *Feedback*, where four of the first six letters bemoan the misery of running OS X. Cut to Ted Landau's article on OS X troubles, which describes the world of pain one encounters when attempting to run the

simplest of functions or applications in OS X. And as if hearing about the OS X–native bugs weren't enough, we're informed that one needs to buy third-party software to fix some of them. If I want that kind of trouble, I may as well call Gateway and save myself a thousand or so bucks.

Eddys Recount

JOE SCHOTT

In awarding Mac of the Year to the 800MHz iMac ("The 18th Annual Editors' Choice Awards," February 2003), you wrote, "The top model's 17-inch . . . flat-panel display puts the perfectly fine 15-inch iMac's screen to shame." I was fortunate enough to buy my 15-inch iMac with a SuperDrive the very day Apple jacked the price up $100, so I paid $1,999—a price that promptly dropped by the time I finally got delivery and that now rests at $1,699. It's good to be reminded that I paid for a product shamefully inferior to a similarly priced one. This really doesn't conjure up impressions of "perfectly fine" to me.

Why X

JOHN FOLEY

Reader comments about OS X (*Feedback*, February 2003) are reminiscent of earlier times when other versions of Mac OS were introduced. My, how the Mac faithful groused about how it broke software and changed the way they used Macs. It should be evident to all that OS X is just another signpost along the road to wherever Apple is taking us. Whether or not to use OS X is a choice, but I think we all need to consider one possibility: Apple's digging in on when it will no longer load OS 9 on new systems means that software developers will have no reason to update their applications to run on anything other than Apple's latest version of OS X.

iHnatko on iApps

ANDERSON LAM

I thought Andy Ihnatko had a very valid point regarding how Apple's i-apps could discourage software developers from making programs for the Mac ("i Is the Loneliest Number," February 2003). But I think there is another perspective to all this. How many of these developers would write for the Mac in the first place? The i-apps encourage consumers to purchase Macs, thus growing the user base. By increasing the number of Mac users, software developers will naturally want to tap into this growing customer base. The i-apps also allow users to sample the convenience and pleasures of working with MP3, digital photography, and digital movies. I now use each of these technologies; without the free i-apps, I would have been very hesitant to invest money in an unfamiliar hobby.

HOWIE SWAIM

Not that it negates Andy's point, but you can easily capture DVD frame grabs with Ambrosia Software's Snapz Pro X.

B. JEFFERSON LE BLANC

Andy could have gotten his frame captures while playing a DVD movie with iDVD if

continues

he had been aware of the freeware utility DVD Capture. The biggest challenge is getting iDVD to pause on the frame you want to snap. Once you get there, it's relatively easy to use DVD Capture to pick up the frame and save it to the Clipboard or to a file.

Snapz Pro X and DVD Capture are both cool tools. My point was not that you can't *grab DVD frames, but that Apple stands in your way.—Andy Ihnatko*

Their CUPS Runneth Over

DAVID LEE MYERS

Many thanks to Dan Frakes for "Jaguar's Printing Power" (*Secrets*, February 2003). Frakes writes, "Don't run out and buy a new printer," and that says it all. I was about to consign my ancient Epson Stylus Photo 700 to the trash heap when CUPS saved the day. This relic is now chugging away happily in OS X.

DAVID TURCASO

Thanks to Dan Frakes and the good folks at Gimp-Print, I can now print to my old workhorse HP LaserJet 6P. CUPS allowed me to set up the Netgear print server that it's attached to, but I couldn't print from some applications, such as AppleWorks and Acrobat Reader. Between Dan's article and the Gimp-Print documentation, I not only know why but also have fixed the problem.

'Book Reviews

PHILIP STEIN

Have we longtime Mac users become so jaded that we don't recognize Insanely Great when we see it? *InfoWorld*, not known to be partial to Apple, recently reviewed the 1GHz Titanium PowerBook and gave it incredible raves. Rick LePage gave the same machine a ♦♦♦♦ rating (*Reviews*, February 2003). Wake up, guys—we have a world-class winner on our hands, and we should let the world know about it.

Canada Counts, Too

ANDREW BENNETT

I read Jeffery Battersby's review of MYOB's AccountEdge 3 (February 2003) with enthusiasm and wanted to purchase an updated version. One huge problem—it does not sell in Canada. Same with QuickBooks 5.0—no version for the Mac in Canada. I don't know how many Canadian readers you have, but I think we warrant consideration when you're reviewing these products.

MYOB sold its Canadian business unit to Intuit, which sells the AccountEdge product as Intuit Accounts for Mac. For further information, you can contact Intuit Canada at 888/333-8580 or visit www.intuit.com/canada.—Jeffery Battersby

Taxing Demands

PAUL E. KENT

Regarding "Depth and Taxes" (*Mac Beat*, February 2003), the policies of H&R Block and Intuit toward Mac users should irritate all of us. Although H&R Block offers TaxCut in Standard, Deluxe, and Platinum versions to Windows users, Mac users are offered only the $40 Platinum version. If all you need is the Standard or Deluxe version, too bad. Intuit just charges more for identical products. TurboTax Basic is $30 for Windows users but $40 for Mac users. And Deluxe is $40 for Windows users but $50 for Mac users.

Fortune Tellers

FRANKLIN HARRINGTON

After reading "What's in the Cards" (*Mac Beat*, February 2003), I have a question that has bugged me since the iMac came out: When will Apple come out with a true entry-level box? When the iMac was released, it was a great way to get my mom into a new computer with all the upgrades in one box. My father now has to upgrade, but he has been a Windows and DOS person since IBM said it was OK to have a PC. Now he's ready to jump to Mac. So what bugs me? The fact that he has a perfectly acceptable display, a USB printer, a keyboard, a mouse, speakers, a Zip drive, and external FireWire drive, and no cheap Mac—a low-priced box without all the graphics-professional add-ons or the mega-expandability—to replace his PC with.

ANDREW DAVIS

I predict that Apple will make the screen on the iMac rotate 90 degrees, from landscape to portrait. This physical reorientation would make the screen able to display a whole 8.5-by-11-inch page without scrolling and would make it nicer for Web browsing.

The Truth about TWAIN?

TONY CERVO

Kudos to Andrew Shalat for the informative "When Shall the TWAIN Meet?" (*Mac Beat*, February 2003). I believe, however, that attributing the origin of the acronym *TWAIN* to a Kipling poem is incorrect. I remember reading, at a developer newsgroup several years ago, that the group that developed the TWAIN protocol couldn't come up with an interesting acronym, so they used "TWAIN" internally as a joke—and it stuck. The joke was that the acronym stood for "Thing Without An Interesting Name."

Chronology makes all the difference. Our research indicates that the Kipling reference came first and that the acronym followed.—Andrew Shalat

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CORRECTIONS

Our review of BBEdit 7.0 (*Reviews*, March 2003) listed an incorrect upgrade price for owners of version 6.1 or later. The $49 upgrade price is only for version 6.5 or later; the upgrade price for previous versions is $59.

"Exterminate OS X Troubles" (February 2003) misidentified the acronym *CUPS*. It stands for "Common Unix Printing System."

In "This Month in Ink-Jet Printers" (*Reviews*, March 2003), we incorrectly reported a feature of Canon's i850 ink-jet printer. It does support borderless printing in OS X 10.2 and higher.

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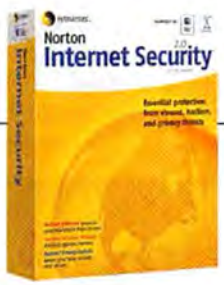

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WITH SAFARI, APPLE TAKES A MORE OPEN APPROACH TO PRODUCT DEVELOPMENT

Pulling Back the Curtain

WHAT'S NEXT

Mac developers get the straight dope about OS X directly from Apple during the annual Worldwide Developers' Conference, May 19 through 23.

To most Web surfers, Dave Hyatt's Weblog probably doesn't seem like anything out of the ordinary. But to Mac users, Hyatt's Web page, which chronicles his work on Apple's Safari Web browser, offers a rare glimpse into product development at a company known for keeping a tight lid on its inner workings.

Apple typically guards any product-development news as if it were a state secret. But Safari is different from most products: it's based on an open-source project, meaning that chunks of its code are open to anyone who wants to refine, modify, or expand upon them. As a result, Apple is handling things a little bit unusually this time—everything from placing a bug button, for instantaneous bug reports, in the Safari toolbar to sharing code with developers from outside of Apple.

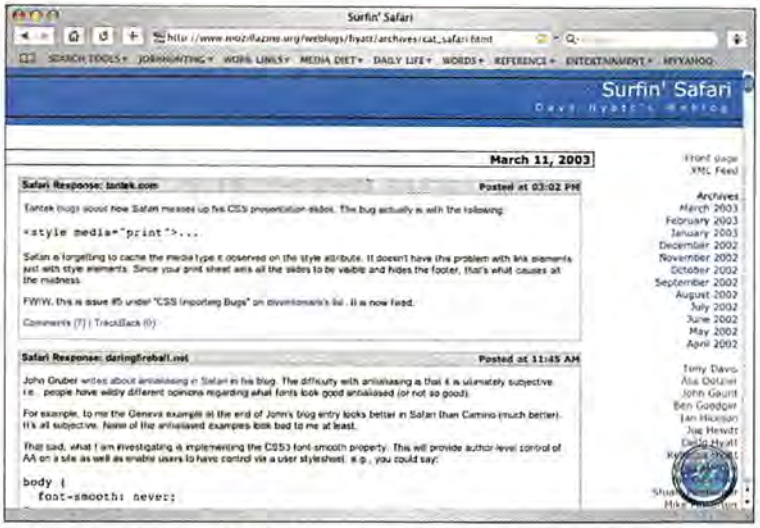
Then there's Hyatt's Weblog. Hyatt works on the open-source part of Safari's rendering engine. Only a few hours after Steve Jobs introduced Safari at January's Macworld Conference & Expo, Hyatt was writing about the Web browser at www.mozillazine.org/weblogs/hyatt/. That same day, he was answering user bug reports from people like Web designer Mark Pilgrim. "He's been incredibly responsive," Pilgrim says. "I've been flabbergasted by how open and responsive he was."

JOHN CRAIG

Open Season

Safari is only the most recent example of the company's more open approach to software development, according to Apple. Brian Croll, Apple's senior director of product marketing for systems software, says that Apple developers have been down in the trenches with open-source communities on several software projects in the past, including Mac OS X, OS X Server, and Rendezvous. "It's a fundamental strategy as to how we're developing software [at] Apple for OS X, that open-source mentality of going out there, working with the community, and going in a dialogue with the community," Croll adds.

One of the things Apple has been doing to maintain dialogues with open-source communities is passing along its work on the KHTML project—the Konquerer HTML rendering engine developed by the open-source KDE Project—to its core development group, the KDE Project, and the Mac OS X developers' community. As a result, The Omni Group may be able to use the Safari code to improve its own browser, OmniWeb. "Making use of [Apple's publicly available] frameworks might allow us to reach our compatibility goals for OmniWeb much more quickly than if we had continued on the path of reworking much of our own engine to gain compati-



Safari Guide Dave Hyatt's Safari Weblog marks an unusual amount of openness in Apple's product-development process.

bility," says The Omni Group's CEO, Ken Case.

Contacting KDE

By sharing code, Apple has also made friends within the KDE Project, the group of developers who work on the open-source KHTML rendering engine at Safari's heart. Dirk Mueller, a KDE Project member who works on the KHTML rendering engine, says that much of the KDE community wasn't even aware of Apple's plan to base Safari on KHTML. "The public release on January 7 was surprising to us as well, and we were not involved in the development before," he says. After the keynote, Safari Engineering Manager Don Melton e-mailed Mueller and other KDE developers, introducing himself and adding that he'd like to engage in an ongoing dialogue with the KDE group; he then sent a second e-mail detailing Apple's changes to the KDE build the company had been using. Ever since, Mueller says, "we regularly exchange patches and discuss the further development."

Mueller points out that the working situation is fairly unusual within the open-standards world: KDE is developed in a manner best described by open-source advocate Eric Raymond as, "a great babbling bazaar of differing agendas and approaches," and Safari is not. "KHTML/KJS is developed in a very original bazaar style," Mueller says. "Though this is very difficult to handle for companies like Apple, they do an excellent job here."

Openness has its limits. Pilgrim notes that unlike a lot of open-source projects, Apple doesn't keep a public database. So the Web designer is keeping a running list of Safari bugs and test cases on his own Web site (http://diveintomark.org/safari). "I can't guarantee [that Hyatt is] going to be checking my page every day of his life," says Pilgrim, although he notes that some cascading style sheet–rendering problems he noted in his bug list were fixed in one of Safari's beta builds.

Whether Apple will be able to maintain warm relations with the KDE open-source community remains to be seen. In the meantime, everyone's basking in the warm glow of consensus. Croll says that Apple is "extremely happy with the results" of making Safari open to others. As for developers, The Omni Group's Case says, "We think it's great that Apple has been so open with the development on Safari. In general, a more open development process can mean that more user concerns are addressed and users get a sense of being involved in the development of the product." However Safari may turn out, Pilgrim notes, Apple is "getting a huge amount of brownie points from the open-source community and the design community for their public face."—LISA SCHMEISER

MICROSOFT BUYS VIRTUAL PC FROM CONNECTIX

Emulation Sensation

The leading Windows-emulation software for the Mac is now in the hands of the leading Windows developer. And news of Microsoft's February purchase of Connectix's Virtual PC product line has caused a stir among Mac users, leaving some wondering what the future holds for the popular program.

Both Microsoft and Connectix insist that Mac users have nothing to worry about in the deal that gives Microsoft ownership of Virtual PC for the Mac (as well as two other Connectix products, Virtual PC for Windows and Virtual Server). Still, some Mac users can't help but remember the last time Connectix dealt one of its products—in 2001, when the company sold its Virtual Game Station to Sony. The PlayStation-emulation technology hasn't been heard from since.

But don't assume that a similar fate will befall Virtual PC. Microsoft has given every indication that it plans to keep the product alive. It's handing development of the Mac version of Virtual PC over to its Mac Business Unit, a division that has enjoyed some success in making Microsoft Office more Mac-like and improving the productivity suite's interaction with its Windows counterpart. "[Virtual PC] is a perfect fit with our strategy," says Tim McDonough, director of marketing and business development for Microsoft's Mac Business Unit.

As part of the deal, many of the people who developed Virtual PC for Connectix are coming over to Microsoft—between 30 and 40 initially, says Connectix Vice President Kurt Schmucker.

The latest update to Virtual PC integrated Windows applications with OS X's Dock, right down to a stylish re-creation of the Windows Start menu, but the companies declined to say whether that release had prompted Microsoft's interest in the product. "But it's safe to say the positive reaction to Virtual PC 6 didn't hurt the deal at all," Schmucker says. For its part, Microsoft says that Virtual PC fits in with its focus on cross-platform compatibility and that adding the program underscores its commitment to produce software for the Mac.

Because Microsoft develops the operating system that Virtual PC emulates, Schmucker believes that there's an opportunity to further improve the product. "Microsoft has both pieces under control," he adds. "The level of integration will be significantly greater than it would be for a third party like Connectix." McDonough won't comment on future changes, but he does concede that it will be easy for Microsoft to improve Virtual PC's integration with Windows. "I think we know exactly who to call," he says.—PHILIP MICHAELS

HARDWARE BEAT

Displays

An 18-inch LCD monitor from Princeton Graphic Systems (800/747-6249, www.prgr.com): The **VL1821** ($599) is an 18.1-inch TFT Active Matrix LCD with a native resolution of 1,024 by 768 pixels.

Printers

Two multifunction devices from Brother (800/284-4357, www.brother.com): The **MFC-4420c** ($250) has a 2,400-by-1,200-dpi resolution and prints 13 black-and-white and 11 color pages per minute. It scans at a 600-by-2,400-dpi resolution. It also features faxing and photo-capture capabilities. The **MFC-4820c** ($300) includes all the features of the MFC-4420c, along with a built-in Message Center, telephone handset, and full duplex speakerphone.

Three printers from Canon (800/652-2666, www.usa.canon.com): The **i450 Color Bubble Jet Printer** ($99) and **i470D Photo Printer** ($199) are both aimed at consumers. They print 18 black-and-white and 12 color pages per minute and have a 4,800-by-1,200-dpi resolution. They also feature borderless photo printing. The i470D has a built-in operation panel and built-in slots for removable flash memory cards. The **i9100 Photo Printer** ($500) also features 4,800-by-1,200-dpi resolution. Aimed at pro users, it prints a 4-by-6-inch photo in 37 seconds.

Color digital and monochrome digital printers from Oki Data (800/654-4620, www.okidata.com): The **Oki C5300n** color LED printer ($1,299) is network-ready and prints 12 color or 20 monochrome pages per minute at a maximum resolution of 1,200-by-600 dpi. The **Oki B4200** ($299) and **Oki B4300** ($419) are compact LED monochrome printers. Both printers produce 19 pages per minute at a resolution of 1,200-by-600 dpi. The B4300 features a larger toner capacity and an operator panel.

System Hardware

UPS-monitoring cards from Invensys Powerware (800/554-3448, www.invensys.com): The **ConnectUPS-X** and **Connect UPS-BD Web/SNMP** cards (both $299) are now OS X–compatible; they make it possible to monitor and control Powerware Uninterrupted Power Supplies. The cards include NetWatch client software and MultiView monitoring software.

Announced

A hardware-recycling program by Epson (800/463-7766, www.epson.com): Under the Web-based program, participants pay $10 per product to cover the cost of shipping and recycling eligible Epson products, including printers, scanners, digital cameras, and projectors (a complete list is available at Epson's Web site). In exchange, participants will receive a $5 coupon that can be used in future purchases of Epson products.—COMPILED BY KELLY LUNSFORD AND PHILIP MICHAELS

WITH APPLE STORES EXPANDING, MAC SHOPPERS FACE MORE CHOICES

Selling Points: Where to Shop

Just a few years ago, buying a Mac meant either ordering directly from Apple (over the phone or via the Web) or paying a visit to an Apple-authorized reseller. But that all changed in 2001, when Apple opened its first brick-and-mortar stores in McLean, Virginia, and Glendale, California. Since then, more than 50 Apple stores have sprung up in the United States, as part of a strategy Apple Chief Financial Officer Fred Anderson calls the "key to growing our market share and driving the growth of the company."

Apple's goal with its retail push may be to attract new customers and not take business away from existing Mac resellers, but some independent Mac specialist stores are complaining that Apple's strategy is doing exactly that. So several resellers—which provide both sales and expanded technical support—have filed lawsuits against Apple alleging unfair competition and breach of contract. No matter what the outcome of the suits is, the Mac retail landscape has undergone some dramatic changes, leaving Mac shoppers with more choices—and more opportunity for confusion. So which is the best option for purchasing a Mac these days? The answer depends on what you're looking for in terms of customer service, price, and buying experience.—DAVID MORGENSTERN

STUART BRADFORD

Apple Online

Pros Apple's online store may be the easiest way to purchase and configure a Mac. Thanks to the site's extensive spec sheets, answers to questions are always close at hand.

Cons Selection is somewhat limited. Since you're ordering directly from Apple, expect to pay list price.

Mail Order

Pros Wide selection and low costs are the primary selling points. Vendors also often have great deals on older models.

Cons Customer service can be hit or miss. Returning orders can be dicey, and you will pay all the shipping costs.

Computer Retailers

Pros Some outlets are more Mac-friendly than others—take the 170 CompUSA stores that have Apple employees minding the store-within-a-store section. You'll also enjoy a great selection of Mac-compatible PC peripherals.

Cons Nothing drives home the Mac's 5-percent market share like a visit to most general-interest computer stores.

Apple Stores

Pros Apple's retail outlets offer customers an opportunity to try out new models and software. With a walk-in tech-support desk and resident gurus, there's more Mac advice available there than anywhere else.

Cons Steve Jobs said in January that 85 million people live within 15 miles of one of the 50-plus Apple Store locations; that leaves the other 205 million people in this country with some driving to do.

Apple Specialists

Pros Authorized resellers put a great emphasis on customer service and offer extensive technical support, especially for older products mostly ignored by the Apple Store. Specialists also provide a high degree of repair services.

Cons That level of customer and technical service often comes at a price.

NEW MODELS HIT THE MARKET AFTER PHOTOGRAPHY TRADE SHOW

Focus on Digital Cameras

It happens every spring—the weather warms up, the flowers bloom, and digital-camera enthusiasts have a whole new crop of devices to sort through after leading manufacturers unveil their new models at the annual Photo Marketing Association trade show. Here are some highlights, from three digital-camera makers, that should be of particular interest to Mac users.—RICK LEPAGE

Hewlett-Packard

Hewlett-Packard (800/752-0900, www.hp.com) has announced two new cameras along with an optional dock:

Photosmart 735 This $299 3-megapixel camera features a 3× optical zoom, 16MB of internal memory, support for Secure-Digital/MMC (SD/MMC) cards, direct print capabilities with HP printers, and limited manual controls. It will ship in June.

Photosmart 935 The $449 5.3-megapixel camera comes with a 3× zoom lens, a 32MB SD/MMC card, and more manual controls and scene modes than the 735. It's expected to ship in April.

Photosmart 8886 Docking Station This $99 optional dock can be used with the Photosmart 735 and 935 cameras; it comes with two rechargeable NiMH batteries and a remote control. The dock has a built-in battery charger and an AV mode for connecting to a TV directly. It ships in April.

Nikon

Nikon (800/645-6687, www.nikonusa.com) has announced three new cameras, including one that features a unique body style:

Coolpix 2100 This $250 2-megapixel camera with a 3× optical zoom has more than 14 scene modes and a movie mode. It comes with a 16MB CompactFlash card, USB cable, and nonrechargeable battery.

The Nikon Coolpix SQ

Coolpix 3100 This $350 camera sports a 3× zoom lens and the same scene- and movie-mode features as the Coolpix 2100, but it's a 3.2-megapixel model. Like the Coolpix 2100, it's now shipping.

Coolpix SQ This $499 3.2-megapixel camera with a 3× zoom lens has a stylish square body and a swiveling lens—it's similar to the old Coolpix 900 series. It comes with a rechargeable battery, dock, and 16MB CompactFlash card. The SQ will ship later this spring.

Olympus

Olympus (888/553-4448, www.olympusamerica.com) has introduced four new cameras, all of which are shipping:

D-390 This 2-megapixel, entry-level camera costs $149 and features a fixed 38mm lens, an optical viewfinder, and a movie mode.

D-560 Zoom This $299 camera has a 3-megapixel CCD, a movie mode, and five scene modes.

C-740 Aimed at photographers looking for a longer zoom than the previous two models, this $499 3-megapixel camera has a 10× optical zoom (equivalent to 38mm–380mm on a 35mm camera).

C-750 Ultra Zoom This $599 4-megapixel model has the same 10× optical zoom as the C-740. It also sports a metal body, a movie mode, and a hot shoe for attaching an external flash unit.

BRETFORD BASES DESK DESIGN ON APPLE'S DIGITAL-HUB CONCEPT

A Home for Your Hub

Furniture maker Bretford (800/521-9614, www.digitalhubworkspace.com) thinks the Mac's unique ability to get the most out of electronic devices deserves a unique setup. So it designed a desk, the Digital Hub Workspace, based on Apple's digital-hub concept. The Digital Hub Workspace features an optional digital-gear locker that attaches to one of the desk's three legs, providing easy access to digital devices, CD-R and DVD-R media, or whatever else you want to store there. Another optional accessory lets you mount your Power Mac G4 tower to a second desk leg, freeing up even more space on the 68-by-44-inch work surface. A power hopper equipped with 10 outlets attaches to the back of the Digital Hub Workspace to free the floor of cable clutter. But the desk's most impressive feature may be its flexibility—a built-in crank lets you adjust the desk's height to anywhere between 24.5 inches and 43 inches. Since each of the three legs features a high-tension spring to offset any weight, you can reset the Digital Hub Workspace's height without having to take anything off the desk. The Digital Hub Workspace sells for $1,199; adding a full complement of accessories raises the price to $1,995—and turns the center of your digital life into the center of attention.—PHILIP MICHAELS

USB SCANNER READS FINGERPRINTS TO PROVIDE MAC ACCESS

Security at Your Fingertips

Passwords and permissions certainly provide plenty of protection when it comes to safeguarding your Mac against unwanted users. But if you want another way to keep your computer from falling into the wrong hands, Sony hopes you'll let your fingers do the walking to Puppy Suite for OS X. Distributed in North America by Pacific Software Publishing (425/957-0808, www.puppysuite.com), Puppy Suite is a $199 USB fingerprint scanner that allows Mac users to log in to a computer by placing a finger on the device, which uses fingerprints to verify identity. To read a fingerprint's grooves, Puppy Suite relies on *capacitance*—the tiny electric fields generated by your finger moving over the scanner. The USB device, which requires an OS X–powered Mac, can store as many as 1,000 fingerprints. The setup software lets users scan backup prints and even set passwords for layers of security as complex and unique as the patterns on a finger.—DAVID READ

MULTIMEDIA BEAT

Hardware

Video

A 10-bit uncompressed video board from Blackmagic Design (www.decklink.com): The **DeckLink 2** ($995) is an SDI video card designed for connecting a Mac workstation to digital broadcast decks.

A high-definition video board from Digital Voodoo (www.digitalvoodoo.net): The **HD|Vengeance** ($11,995) is the first uncompressed high-definition 10-bit SDI broadcast card with two HD-SDI outputs, one HD-SDI input, and a standard-definition SDI down converter on a single PCI card for the Mac.

Software

Audio

Logic Platinum 6, from Emagic (530/477-1051, www.emagicusa.com): This updated music-production software features better CPU management, video synchronization, and increased format support ($949; upgrades, $129 from version 5.X, $278 from version 4.X).

Video

Boris Continuum Complete 2.0, from Boris FX (888/772-6747, www.borisfx.com): This updated version of the filter package contains 110 16-bit filters for Adobe After Effects 5.5, Apple Final Cut Pro 3, Discreet Combustion 2.1, and Boris Red ($595; upgrade, $199).—COMPILED BY JONATHAN SEFF

INTERNET BEAT

Software

Connectivity

QuickLink Mobile for Mac OS X, from Smith Micro (949/362-5800, www.smithmicro.com): The application configures both mobile phones and Macs to permit connectivity between the two via wireless Internet access, so mobile users can turn their cell phones into Internet-access hubs. The software also allows users to monitor cell-phone battery levels and signal strength to better keep tabs on what kind of Net access to expect ($60).

FTP

FTP Client for Mac OS X, from Vicomsoft (888/842-2608, www.vicomsoft.com): The updated version of the FTP client adds OS X support and appropriates many OS X interface features, such as live resizing. The application also supports multithreaded requests and the ability to resume interrupted queries and downloads ($35; upgrade, $30).—COMPILED BY LISA SCHMEISER

HITTING THE SLOPES WITH THE iPOD-FRIENDLY SNOWBOARDING JACKET

Burton Amp: Smokin' Jacket

The crowds at January's Macworld Conference & Expo may have drooled over Apple's $499 Burton Amp jacket, the skiing and snowboarding jacket that features soft buttons on the sleeve for controlling your iPod when you're out on the slopes. But what would a real teenage snowboarder think of the jacket, which was created by snowboarding pioneer Jake Burton's own Burton Snowboards in partnership with Apple? To find out, *Macworld* outfitted 17-year-old Michael Gordon with an Amp jacket and an iPod and sent him out for a busy weekend of MP3-enhanced snowboarding:

"It's pretty awesome," Gordon says. "The jacket is comfortable, with lots of pockets, and is super waterproof. The iPod goes in a chest pocket, and I was thinking that it would hurt if I fell right on it—but it's perfectly padded. You can't even tell that it's there."

Coat of Arms Michael Gordon controls his iPod with the buttons on his Burton Amp jacket.

The Amp's on-sleeve control buttons also impressed Gordon—and he wasn't alone. "Everybody was amazed when they saw me—they'd say, 'Oh my God, are those buttons on your arm?' The buttons are easy to use, but not so easy to push that you'd hit them accidentally. When I get on a chair lift, I want to turn down my music so I can talk with my friends while I'm listening. But when I start to ride and the wind starts to blow, I can turn it up."

Still, Gordon didn't completely flip for the jacket-iPod combo: there's no separate Hold button on the jacket, so you must leave the iPod's Hold button off and run the risk of accidental button-pushes.

But in general, our snowboarder gives the jacket his approval, except for its $499 price. "It's sick! I like it a lot. As soon as the price comes down, it'll catch on quick."—JASON SNELL

Dress Up Your iPod with Add-Ons

If Burton's iPod snowboarding jacket isn't your thing, you can choose from an entire parade of iPod-friendly paraphernalia that add substance and style. Here are a few recently released devices that will make your iPod as eclectic as your favorite playlist.

Transmitters An iPod may put hundreds of songs in your pocket, but you'll need an FM transmitter like the iTrip, from Griffin Technology (615/399-7000, www.griffintechnology.com), if you want others to listen, too. The $35 iTrip (pictured left) plugs into your iPod's headphone jack, with a second plug anchoring to the FireWire port. Devices such as the iTrip or the iRock 300W, from First International Digital (847/202-1900, www.myirock.com), broadcast music stored on the iPod over an FM frequency that you can receive from any nearby car or home stereo. The difference? The $30 iRock requires two AAA batteries and broadcasts its signal over four frequencies. The iTrip draws power from the iPod while using any FM signal.

Protection A pair of carrying cases are aimed at shielding your iPod from bumps and bruises. iPod Armor (pictured right), from Matias (888/663-4263, www.ipodarmor.com), features a rugged aluminum construction. Unlike other cases, iPod Armor's hard outer shell doesn't actually touch your iPod, thanks to its cushioning open-cell EVA foam interior: the force of a fall hits the outer shell of the $50 case, not the iPod. If controlling the iPod while it's still in its protective casing is key, consider an iSee, from Contour Design (800/462-6678, www.contourdesign.com). The $30 clear carrying case features an opening for the iPod's scroll wheel and buttons.—ADELIA CELLINI

U.S. Digital Creators Receive Global Recognition in International Contest

It was the simplicity and sensitive handling of the subject that won Brad Trost the Bronze award in the Digital Graphics/Illustration (Print) Division of the 2002 Canon Digital Creators Contest. "It started as a study. I was interested in seeing how these 3D objects would look if I scanned them," described Brad, a Portland, Oregon-based graphic designer. "It created a black and white tonal image that looked like a graphite rendering." After scanning, Brad imported the images to Photoshop, combined them, and hand-stitched the outputted pages.

When asked why he entered the Canon contest, Brad explained, "the international interest makes it different from most of the contests here in the States. I think that the work people create is inspired by their daily life and culture. I like to see that influence." Because the contest is free to enter and is international in scope, it offers an incredible opportunity for young digital artists everywhere to put their work in front of prestigious, well-known professionals working in the digital field.

For Ben Pinckney, an Arizona-born self-described "digital carpenter" who resides and works in Taiwan, it was the judges that inspired him to create his entry "Superelectronic" for the Web Division. "When I found out one of my favorite musicians, Ryuichi Sakamoto, was one of the judges, I had to enter," said Ben. "All the judges of the contest are so well respected." His entry, submitted under the group name of Aoineko, received an Honorary Mention and will be among the Canon contest's award-winning works that will be on exhibit for the first time this year in New York and Los Angeles.

Established just three years ago, Canon's annual contest has grown from a successful regional competition into a global event, garnering 5,025 entries from 77 countries and regions in 2002. By actively supporting the artistic use of digital technology and by opening the Canon contest to the world, Canon seeks both to push the boundaries of visual expression and to be the place the world looks to for the best digital art. Entrants can win cash and Canon products in four different digital categories: photography, graphics/illustration, movie, and web design.

In 2003, the dialogue continues. Entries for the 2003 Canon Digital Creators Contest are accepted March 24th through September 4th. For contest rules and an entry form, visit www.canon.com/cdcc/

"This book contains pictures of a vase and a goblet arranged in 36 permutations, literally. The imagery is very appealing - the creator takes something very regular and ordinary and, by combining and photographing them in a really sensitive way, makes them magical. The style of photography is almost like a rayogram, where you can almost see through everything. It is sensitively handled and beautifully bound. It is one of my favorites."

Dirk Van Dooren (tomato)
Digital Graphics/Illustration (Print) Division Judge

Pages from "36 Permutations."

Screen shots from "Superelectronic."

"The creator of this site mixes up so many different graphic styles that it's hard to believe it was done by a single person."

Tota Hasegawa (tomato)
Web Division Judge

CANON DIGITAL CREATORS CONTEST EXHIBITION

The Cooper Union
March 27 - April 12, 2003
The Great Hall Gallery
East 7th Street at Third Avenue
New York City

UCLA
May 1 - May 17, 2003
Department of Design|Media Arts
EDA (Experimental Digital Arts)
11000 Kinross Avenue
Westwood, Los Angeles

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IMAGING BEAT

Hardware

Scanners

A flatbed scanner from Canon (800/652-2666, www.usa.canon.com): The **CanoScan 9900F** ($400) features a 3,200-by-6,400-dpi resolution with 48-bit color depth. The scanner includes film guides to support batch scanning of as many as 24 negatives or eight mounted slides.

Software

Plug-ins

Photoshop Camera Raw Plug-In 1.0, from Adobe (800/833-6687, www.adobe.com): The plug-in is a conversion tool that manipulates and converts raw-format digital-camera images and imports them directly into Photoshop 7.0.1 or later. The plug-in supports a variety of cameras and offers control over white balance, sharpness, resolution, and color space. Also included is a plug-in that adds support for the JPEG 2000 image format ($99).

Image Browsers

ArcherPro 3.1, from Parker Software Development (www.parkersoftware.com): The update to the multimedia viewer adds a background menu for changing the background color of each image individually. A new preference also lets users change the default background color ($30; upgrade, free).—COMPILED BY PHILIP MICHAELS

INPUT-DEVICE BEAT

Hardware

Mice

A wireless mouse from Belkin (800/223-5546, www.belkin.com): The **MiniWireless Optical Mouse** ($50) uses radio frequency, operating at 27MHz and working as far as three feet away from your computers. The mouse is targeted at mobile users.

Software

Drivers

USB Overdrive X 10.2, from Alessandro Levi Montalcini (www.usboverdrive.com): The Jaguar-compatible version of the USB driver for configuring mice, trackballs, and USB-based input devices adds support for joysticks and game controllers. Also receiving an update is **USB Overdrive 1.4**, which is aimed at OS 9 and OS X's Classic layer. The new version adds support for mouse-wheel scrolling in Classic applications ($20).—COMPILED BY PHILIP MICHAELS

RECORDERS STORE DIGITAL VIDEO FOR PLAYBACK, EDITING

Cutting through the Tape

Forget celluloid and videotape. Thanks to advances in digital-recording devices, pure data could eliminate both from video production—and sooner than you might think.

Take the compact DV Bank FireWire, from Datavideo Technologies (562/696-2324, www.datavideo-tek.com). The $1,100 device looks and acts like a normal videotape recorder, but it stores incoming DV material—as much as 4.5 hours—on an internal 60GB IDE hard drive instead of on a video cassette. The DV Bank can receive digital video from any DV or Digital 8 camera via its FireWire connection. Once the video has been recorded, users can access it randomly for quick playback.

The DV Bank FireWire

Other manufacturers vying for tapeless productions include Laird Telemedia (800/898-0759, www.lairdtelemedia.com) and Focus Enhancements (408/866-8300, www.focusinfo.com). Laird's CapDiv is available in 40GB and 60GB versions for $1,295 and $1,595, respectively. Unlike the DV Bank, the CapDiv can save video as QuickTime movies, making re-digitizing unnecessary. Focus Enhancement's $1,695 FireStore is a videotape-recorder emulator without an internal hard drive. You add whatever size FireWire drive you like, thus removing any capture-time limitations.

Tape-free video production may still be a ways off. But these three devices mark an important step toward leaving tape on the cutting room floor.—ANTON LINECKER

CABINETS COULD LESSEN SOUND FROM LAST YEAR'S NOISY MODELS

The Silence of the Power Macs

When Apple rolled out an upgraded line of dual-processor Power Macs last summer, the company was hoping to make some noise in the computer world. But the grumbling about the noise generated by the mirrored-drive-door machines probably wasn't what Apple had in mind.

The dual-processor models introduced last year generate more heat than earlier, single-processor units; therefore, they require more fans and larger heat sinks. The two fans located in the dual-processor Power Macs' power-supply unit appear to be responsible for the increased noise.

The updated Power Macs unveiled by Apple this year address the problem with quieter fans. A firmware update for last year's models decreases fan noise when the machine is running OS 9. And an exchange program set up by Apple allows owners of mirrored-drive-door Power Macs to swap their original power supplies and system fans for quieter versions.

Still, for owners of the older mirrored-drive-door Power Macs who use their computers in professions demanding near silence—for example, audio engineering—any noise is prohibitive to productivity. Those users may want to consider a noise-reduction case such as those in the CoolMac Silencer series, from Crywolf Consulting (866/266-5622, www.crywolfstore.com). Crywolf's gCab for Power Macs uses heat-pipe and airflow technologies to keep your Mac cool without external fans. Crywolf claims that the case can reduce a Power Mac G4's noise level from 65 to 37 decibels. At $699, the gCab isn't inexpensive, but if your profession demands quiet, the resulting silence could be golden.—ANDREW SHALAT

Crywolf's gCab for Power Macs

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PRODUCTIVITY BEAT

Software

Layout

RagTime 5.6.3 for OS X, from ComGrafix (800/448-6277, www.comgrafix.com): The latest version of the business publishing application has been updated to run natively in OS X 10.2. RagTime lets users create spreadsheets, annual reports, and catalogues ($695; upgrade, $100 for RagTime 5 and later).

Messaging

FirstClass 7.1, from the FirstClass division of Open Text (888/808-0388, www.firstclass.com): The update to the integrated messaging and communications software adds full client support for OS X (pricing varies).

Utilities

TechTool Pro 4, from Micromat (800/829-6227, www.micromat.com): The updated repair utility is now compatible with OS X, providing it with new MultiTesting and optimization features. Due in April, the new version includes Self Monitoring Analysis and Reporting Technology test monitoring for diagnostic analysis of hard drives. ($150; upgrade, $50 for version 3.0 and Drive 10 users).—COMPILED BY PHILIP MICHAELS

STORAGE BEAT

Hardware

Hard Drives

An external hard drive from Western Digital (949/672-7000, www.westerndigital.com): The **FireWire/USB 2.0 Combo** external hard drive features a WD Caviar 7,200-rpm drive in 120GB ($300) or 200GB ($400) capacities. The stackable case features two FireWire 400 ports and one USB 2.0 port.

An external hard drive enclosure from Miglia (www.miglia.com): The **MiniBank MT-II** ($119) features an aluminum case with one FireWire 400 port and one USB 2.0 port. User configured, it will hold almost any 2.5-inch drive.

Media Readers

A flash memory reader/writer from Addonics Technologies (408/433-3899, www.addonics.com): The **FireWire Mini DigiDrive** ($89) is compatible with CompactFlash Type I and II, SmartMedia, Memory Stick, MultiMedia Card, MicroDrive and SD formats. The Mini DigiDrive can read and write between two different media types simultaneously.—COMPILED BY JAMES GALBRAITH

MACS AT WORK

Hitting the Road with OS X

OS X brought symmetric multiprocessing and protected memory to the Mac, but how about the ability to get 25 miles to the gallon? While that capability may be missing from most of the Macs shipping these days, it's part of the OS X–powered entertainment system on board Honda's Studio E concept car (a sort of pie-in-the-sky vehicle prototype), which was on display during January's North American International Auto Show in Detroit.

With the Studio E, Honda took its Element SUV and turned it into a rolling audio and video studio built around the needs of a club DJ. Honda equipped the Studio E with an onboard Mac that can mix multiple inputs. Users can attach turntables, an effects generator, or a more traditional guitar, drum machine, or microphone. The concept car also features a motorized, 42-inch high-definition plasma display that folds down from the car's ceiling and out the back. Studio E's mobile entertainment system transits more than 800 watts of power to 11 speakers, throughout the vehicle, ranging in size from 2-inch tweeters to the thunderous 10-inch subwoofers beneath the car's rear cargo floor.

Because it incorporates OS X, the concept car enjoys a budding online fan club among Mac users—a development that has taken Honda by surprise. "That's great that people are interested in a vehicle with these computer capabilities," spokesman John Fitzsimmons says. The carmaker outfitted this car with a Mac because the computer is popular among Honda's interior designers. "That's what they have in their offices, so that's what they used in the car," Fitzsimmons adds.

Aqua-Mobile Honda's Studio E concept car runs its onboard equipment on OS X.

But don't clear out space in your garage for the Studio E just yet. Honda makes no promises as to when, or even if, it will manufacture Studio Es for sale. "Studio E is pure concept," says Tom Elliott, executive vice president of American Honda Motor Company, "simply an example of what could be done." Even so, one day all roads may lead to OS X.—ADELIA CELLINI

NEW MACROMEDIA PRODUCT BRINGS FLASH-DRIVEN INTERNET APPS OFFLINE

Flash MX Takes a Central Stage

When Macromedia rolled out its first version of Flash in 1997, developers quickly recognized the file format as a great way to add complex, interactive animations with bandwidth-pleasing file sizes. But even with the advent of more-complex, interactive Flash applications, users still had to be online to use them.

Macromedia wants to take Flash off the Web and put it on your desktop, with the introduction of its latest effort—a Flash-based application browser named Macromedia Central. The new program will sit on your desktop, serving as a repository for Flash-based applications that you can use even while offline. For example, a PriceGrabber.com program already under development would let offline shoppers sort through pricing information about various products, automatically updating the database whenever the user connects to the Web.

The Central browser will be a free download for end users, who will then try out and later buy Flash-based applications designed for the browser. In April, Macromedia will release a beta developer's kit for adapting existing Web applications. Look for the final version of Macromedia Central to ship this summer.—KELLY LUNSFORD

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WHAT'S HOT

A Quick Look at the World of Macs

1. **The actor who played the Dell Dude in TV commercials is busted for marijuana possession.** *You'd turn to mind-altering substances, too, if you had to use Windows all the time.*

2. **Microsoft buys Virtual PC from Connectix.** *Analysts say the acquisition fits in perfectly with Microsoft's strategic let's-buy-everything-in-the-world policy.*

3. **Mac developers descend upon San Jose for Apple's annual developers' conference.** *Last year's keynote featured a mock funeral for OS 9; this year, expect a mock séance with OS 8.*

4. **Quark gives the public a peek at QuarkXPress 6, which runs natively in OS X.** *Quark says work on the new version is progressing, thanks to refinements in Jaguar and Steve Jobs's daily "Are you done yet?" phone calls.*

Mac OS X Updates

powered by versiontracker.com

AirPort Extreme 5.0.3
Firmware update for 802.11g Base Station

Amorphium 3.1
Software for 3-D-object modeling and animation

Apple Keynote 1.0.1
Presentation tool

Apple Mac OS X Server 10.2.4
Server software

BBEdit 7.0.2
Maintenance update for HTML and text editor

Cocktail 1.0
General-purpose system utility

Eudora X 5.2.1b5
E-mail client beta

Faxstf X Pro 10.1
Fax software adds new browser

File Buddy 7.5
File- and folder-editing and -task tool

FontBook X 3.8
Utility for printing font samples

Fruit Menu 3.0
For customizing and enhancing Apple and contextual menus in OS X

Griffin iMate X 1.5.3
Lets ADB devices connect to USB ports

HotApp 1.7.1
Assign hot keys to any app, file, or URL

HP DeskJet 2.1
OS X printer drivers for most models

iCab X 2.9.1
Web browser

iMovie 2 Sounds for iMovie 3 1.1
Adds iMovie 2 sound effects to iMovie 3

iOrganizeX 4.4.2
Note-pad application

iPhoto Librarian 1.2
Launches iPhoto with a different library folder

IPNetTunerX 1.1.2
Optimizes Internet connections

Jaguar Cache Cleaner 1.6
OS X maintenance utility

Lasso Professional 6.0.3
Web-site–building tool

Netscape X 7.02
Enhanced security and improved stability for Web browser

Safari Menu 1.1
Utility opens Safari bookmarks from the menu bar

Sony Ericsson Clicker 1.0
Remotely control a Mac from a Bluetooth Sony Ericsson phone

Starry Night 4 4.0.5
Astronomy software

TextWrangler 1.0
Text editor

Trash It 2.7
AppleScript that force-empties stubborn Trash items

VectorWorks 10.1
Object-based CAD program

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www.macworld.com/subject/updates
Macworld.com has the latest from VersionTracker.com.

PRIMERA'S BRAVO DUPLICATOR ALSO PRINTS LABELS ONTO CDS, DVDS

Designer Labels for Discs

Maybe people shouldn't judge a book by its cover, but a plain CD-ROM isn't likely to make much of an impression on customers. While several products design labels for CDs and DVDs, Mac users can pick from a growing number of options that print them directly onto discs. Epson America (800/463-7766, www.epson.com) has added CD-printing capabilities to its $349 Stylus Photo 960 printer (existing Stylus Photo 960 owners can order a free upgrade kit). The most versatile offering may be the Bravo Disc Publisher, from Primera Technology (800/797-2772, www.primeratechnology.com). The Bravo not only has printing capabilities but also serves as a duplicator. Bundled with Charismac's Discribe 5.0, the $1,995 duplicator burns CDs at 48× (a $2,495 version uses a Pioneer DVD-R/CD-R recorder to duplicate DVDs at 4× and CDs at 16×). The Bravo, which attaches to OS X–powered Macs via USB or FireWire, can also print full-color labels imported from Mac graphics-design applications. All of this is automated—a robotic arm moves the disc into the recorder and then over to the printer. Think of it as a way to quickly make the outside of your discs as eye-catching as the content they're storing.—PHILIP MICHAELS

ICONS: WWW.ANDYMARTIN.UK.COM

GAME BEAT

Software

Armored Assault, from iEntertainment Network (www.totalsims.com): The 3-D–action game with a strong online component puts you in control of World War II–era tanks facing off against each other in the European Theater ($30).

Billy Frontier, from Pangea Software (www.pangeasoft.net): In this whimsical arcade-style game from the makers of Bugdom and Otto Matic, you're an interstellar cowboy living on the planet New Texas. Adventures include quick-draw gunfights with aliens and outrunning a stampede of Kanga-Cows ($15).

Borodino, from By Design (800/527-7472, www.macwargames.com): A new turn-based Napoleonic-era warfare strategy game based on the Waterloo Campaign engine, Borodino covers the battle between Napoleon and the Russians in 1812. An OS X–native version is also available ($25).

Pocket Tanks Deluxe, from Cornerstone TSP Games (www.ctspgames.com): Like the Artillery and Scorched Earth games of old, in this game you and an opponent square off on either sides of a hill, taking turns blasting each other to bits with long-range shells ($16).

Rhem, from Got Game Entertainment (www.gotgameentertainment.com): A first-person adventure in the style of Myst, Rhem lets you move across a strange landscape, solving puzzles in a nonlinear, nonviolent storyline ($30).

SimCity 4, from Aspyr (512/708-8100, www.aspyr.com): The latest version of the legendary city simulation features new simulation and graphics engines, as well as the ability to create a region of bustling metropolises that connect with one another and can both share and compete for resources ($50). Also from Aspyr, **Star Trek Elite Force II** ($50) is a sequel to the *Voyager*-set original. The first-person shooter takes place on the *Enterprise* of *Star Trek: The Next Generation* and features antagonists such as the Borg, Klingons, and Romulans. Aspyr is also shipping **Tiger Woods PGA Tour 2003** ($50). This golf simulation features Tiger Woods and 14 other PGA players. Players can try 12 different golf courses, including Pebble Beach, Spyglass Hill, and St. Andrews.

Warcraft III: The Frozen Throne, from Blizzard Entertainment (900/953-7669, www.blizzard.com): An add-on pack for Warcraft III: Reign of Chaos, The Frozen Throne features new scenarios, one new hero, and several other new units per race, as well as "neutral" heroes capable of being recruited to your cause ($35).

Worms Blast, from Feral Interactive (www.feral.co.uk): As in classic games like Snood, players must shoot colored blocks to destroy them. Worms Blast provides an imaginative array of destructive weaponry available to help you achieve that end ($30).—COMPILED BY JASON SNELL

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REVIEWS

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

1GHZ AND DUAL-1.25GHZ POWER MAC G4S

New Ports and Low Prices Distinguish Latest Power Macs

BY CHRISTOPHER BREEN

Although Apple claims to be innovating its way out of the current economic malaise, the company also clearly recognizes the benefits of good old-fashioned price-slashing. That's how we account for the latest batch of Power Mac G4s—models that sport not only a handful of innovative features but also, in the case of the dual-1.25GHz Power Mac G4, a price that's $1,300 less than last year's similarly configured Power Mac's.

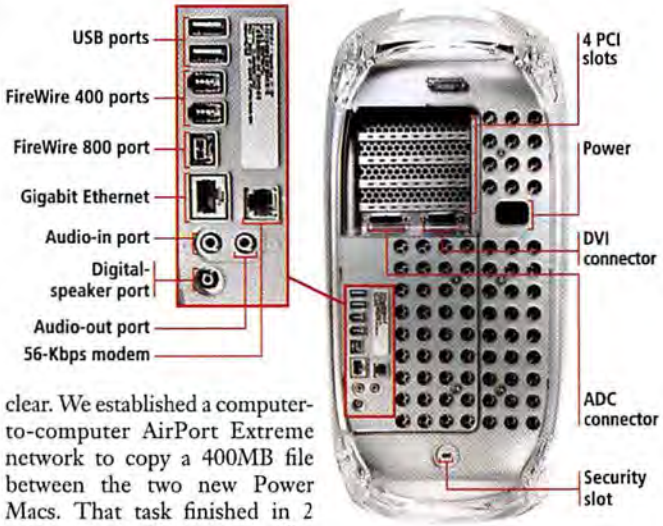
We listened to and looked carefully at the 1GHz ($1,499) and dual-1.25GHz ($1,999) Power Mac G4s. These Power Macs are much quieter than their buzzing predecessors, they boast substantial innovations, and they are inexpensive enough to be great buys for professional users who have to have the sheer power and expandability that a Power Mac affords.

The Innovation

These are the first Power Macs to bear a FireWire 800 port—a port that Apple says can support data rates as high as 800 Mbps. In our limited tests, these ports provided little advantage over the two "old-style" FireWire 400 ports also found on these Power Macs.

Peripherals that take advantage of FireWire 800's capabilities were not available when we tested, so we linked the Macs via their FireWire 800 ports, employing FireWire Target Disk Mode, and we transferred files from one Mac to the other. It took 1 minute and 26 seconds to copy a file of just over a gigabyte via the FireWire 800 connection. That same file took just 6 seconds longer to copy with a FireWire 400 link.

This line of Power Macs is also the first to include AirPort Extreme, which uses the not-yet-ratified 802.11g wireless-networking standard. Its usefulness was immediately clear. We established a computer-to-computer AirPort Extreme network to copy a 400MB file between the two new Power Macs. That task finished in 2 minutes and 46 seconds. The same file moved across an older, 802.11b AirPort network in 10 minutes and 18 seconds. However, you'll only see this speed jump in local file transfers, not in Internet connections.



These Power Macs are Bluetooth ready—providing space on the motherboard for an internal Bluetooth wireless-networking module. Because our mostly stock systems (our dual-1.25GHz model was prebuilt with a SuperDrive rather than the DVD/CD-RW Combo drive—a $200 build-to-order upgrade) did not include this option, we were unable to test Bluetooth performance.

The Status Quo

Aside from these additions, the new Power Macs differ only slightly from the generation before them (see "Apple's New Dual-G4 Macs," November 2002). For example, they bear the same AGP 4× graphics slot. (The 1GHz model has an Nvidia GeForce4 MX, whereas the dual-1.25GHz Power Mac contains the ATI Radeon 9000 Pro.)

Macworld LAB TEST

	Speedmark 3.2	Adobe Photoshop 7.0.1	iMovie 2.1.2	iTunes 3	Quake III v1.30b5	Cinema 4D XL 7.303
	OVERALL SCORE	SUITE	RENDER	MP3 ENCODE	FRAME RATE	3-D RENDER
Apple Power Mac G4/dual-1.25GHz (FW 800)	180	0:33	0:31	0:26	126.6	3:02
Apple Power Mac G4/dual-1.25GHz (previous)	*185*	*0:31*	*0:33*	*0:26*	*131.5*	*3:01*
Apple Power Mac G4/1GHz (FW 800)	152	0:53	0:41	0:41	76.1	6:55
Apple Power Mac G4/dual-1GHz (previous)	*163*	*0:38*	*0:40*	*0:32*	*120.8*	*3:42*
Apple iMac G4/1GHz (17 inch)	132	0:58	0:47	0:49	63.8	7:38
Apple iMac G4/800MHz (17 inch)	*103*	*1:11*	*0:59*	*1:00*	*51.8*	*9:25*
	>Better	<Better	<Better	<Better	>Better	<Better

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

Speedmark 3.2 scores are relative to those of a 700MHz eMac, which is assigned a score of 100. Photoshop, iMovie, iTunes, and Cinema 4D XL scores are in minutes:seconds. Quake III scores are in frames per second. We tested each system with Mac OS X 10.2.3 installed and 256MB of RAM. We set displays to 1,024-by-768-pixel resolution and 24-bit color. For the Photoshop Suite test, the systems are upgraded to 512MB of RAM; the suite is a set of ten scripted tasks using a 50MB file. Photoshop's memory was set to 100 percent and History was set to Minimum. We tested MP3 encoding with an audio-CD track that was 9 minutes and 25 seconds long, converting it from the hard drive using iTunes' Better Quality setting. We tested Quake III at a resolution of 1,024 by 768 pixels with Graphics set to High Quality. For more information on Speedmark 3.2, visit www.macworld.com/speedmark.—MACWORLD LAB TESTING BY JAMES GALBRAITH AND JEFFY K. MILSTEAD

G4 PHOTO BY RICK RIZNER; IMAC PHOTO COURTESY OF APPLE COMPUTER

36 Desktop systems
Apple Power Mac G4/1GHz, Apple Power Mac G4/Dual-1.25GHz
37 All-in-one desktop
Apple iMac G4/1GHz
39 Video-editing software
Final Cut Express 1.0
40 Palm OS–based handheld devices
Handspring Treo 300, Palm Computing Tungsten T, Palm Computing Zire, Sony Clié PEG-NX70V
42 FireWire DVD-R drives
Cyclone DVD Revo FireWire SuperDrive 4×, EZQuest Boa FireWire DVD-RW, Formac Devideon, GVP DVD-R/RW 4× FireWire Drive, Ikebana 4× FireWire DVD-R/RW Drive, LaCie d2 FireWire DVD-Rewritable Drive, OWC Mercury DVR-105
44 Educational software
Decisions, Decisions 5.0: The Constitution; Disney Pixar Learning: 2nd & 3rd Grade; Disney's Phonics Quest; The Graph Club 2.0; JumpStart Advanced Kindergarten; Liberty's Kids; Mango Plumo's Space Adventure; Master Math Word Problems 1.1; Math Advantage 2003; Mia's Science Adventure: Romaine's New Hat; The Powerpuff Girls: Mojo Jojo's Clone Zone; Prime Time Math: Cliffbound; Reader Rabbit Learn to Read with Phonics: 1st & 2nd Grade; Reading for Meaning; Search for the Secret Keys; Stanley: Wild for Sharks; World Book Jaguar Edition
48 Film scanners
Minolta Dimage Scan Dual III, Minolta Dimage Scan Elite II, SmartDisk SmartScan 2700, SmartDisk SmartScan 3600
50 Fax software
Cocoa eFax 1.0.3, FaxElite Network X 6.5, FaxElite Solo X 6.5, Page Sender 2.3.1, 4-Sight Fax 5.0.4
53 Illustration program
Expression 3
55 3-D–animation application
Cinema 4D R8 Core
56 Color-profiling software
MonacoDCcolor
57 Greeting-card software
Easy Card Creator 1.1
58 Digital SLR camera
Canon EOS-1Ds
59 Ergonomic mouse
Designer Appliances The Quill
61 The Game Room
NASCAR Racing 2002 Season, Spaceward Ho 5, Deep-Trouble, Super Collapse II, Helix

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

The 1GHz model holds a single PowerPC G4 processor rather than the two 867MHz G4 processors in the previous generation's entry-level Power Mac, but it contains the same 133MHz system bus, 256MB of PC2100 (266MHz) DDR SDRAM, 60GB Ultra ATA hard drive, and Combo drive found in the dual-867MHz Power Mac G4.

The stock configuration of the dual-1.25GHz Power Mac G4—which is now the middle of the line—strips away some of the features found in the former lineup's dual-1.25GHz Power Mac G4 (mirrored drive door). The new model carries 1MB of L3 cache per chip, rather than the earlier model's 2MB; 256MB of PC2700 (333MHz) DDR SDRAM, compared with 512MB; a Combo drive, instead of a SuperDrive; and an 80GB hard drive, instead of a 120GB drive. Both dual-1.25GHz Power Macs have the same 167MHz system bus.

Unlike their predecessors, neither of these Power Macs boots into Mac OS 9.

The Speed

The Speedmark test suite showed the new dual-1.25GHz Power Mac to be 18 percent faster than the single-processor 1GHz model. The same dual-1.25GHz Power Mac was a little more than 10 percent faster than the older dual-1GHz model and, because it has only 1MB of L3 cache per chip, slightly less than 3 percent slower than the older dual-1.25GHz model (see benchmark chart, page 36, for details).

When we tested the Macs with applications that take advantage of dual processors, the difference between these two new Power Macs became much clearer. Compared with the 1GHz model, the dual-1.25GHz model pumped out 50.5 more frames per second in Quake III, completed our Photoshop 7.0.1 test suite 38 percent faster, rendered a Cinema 4D XL scene in less than half the time, and encoded our iTunes 3 MP3 test file about 37 percent more briskly. We performed the same tests using the new and older dual-1.25GHz Power Mac G4s, and the results were virtually indistinguishable.

We performed one additional—and wholly subjective—test. *Macworld* editors who had experience with the first mirrored-drive-door Power Macs listened to these new computers. Although the new Power Macs produce a low-frequency hum, that hum is significantly quieter than the racket that earned the previous Power Macs unflattering sobriquets such as "hair dryer" and "wind tunnel."

Macworld's Buying Advice

These are both fine machines that perform very well and include innovative features. However, in an economic climate where price is paramount, we are even more impressed that these attributes come at such an attractive price. □

1GHZ POWER MAC G4
RATING: ●●●●
PROS: Attractively priced; good performance; supports new Apple technologies; reasonably quiet.
CONS: Only 1MB of L3 cache.
PRICE: $1,499
OS COMPATIBILITY: Mac OS X
COMPANY: Apple Computer, 800/692-7753, www.apple.com

DUAL-1.25GHZ POWER MAC G4
RATING: ●●●●½
PROS: Excellent value; very good performance; supports new Apple technologies; reasonably quiet.
CONS: Only 1MB of L3 cache per chip.
PRICE: $1,999
OS COMPATIBILITY: Mac OS X
COMPANY: Apple Computer, 800/692-7753, www.apple.com

1GHZ iMAC G4, 17-INCH

Improvements Provide Pro-Level Power at a Non-Pro Price

BY JASON SNELL

The iMac G4 just keeps getting better—the latest addition to the iMac G4 line is a $1,799 model that is armed with several welcome new features.

There are now just two iMac models. At the low end is the $1,299, 15-inch, 800MHz iMac. At the high end is this model, which sports a wide, bright, 17-inch screen with a maximum resolution of 1,440 by 900 pixels.

The 17-inch display seems remarkably large, although it appears to be almost weightless. But the improvements to this model are largely inside. The most obvious boost is to its G4 processor, which runs at 1GHz. This iMac also has a 133MHz system bus (an improvement on the 15-inch model's 100MHz bus). Memory is even faster, because the new iMac uses 256MB of PC2100 DDR RAM, which can transfer data at twice the speed of the system bus.

The result: this iMac is the fastest Mac for non-pros yet, though it did run notably slower than a current Power Mac G4 that was also powered by a single 1GHz processor (see benchmark chart, page 36, for details).

It's the first iMac to support Apple's AirPort Extreme wireless card, which can transfer data much faster between local Macs than the original AirPort technology.

For short-range networking and communication with devices such as cellular phones, you can optionally equip this iMac with a $50 internal Bluetooth module.

The education crowd will especially appreciate two new additions. This iMac offers an audio-in jack, a feature gradually returning to much of the Mac product line after a few years' absence. And while the previous iMac models supported video mirroring to an external VGA display, this iMac also supports mirroring to composite devices (such as TVs and VCRs) via a separately available $19 S-Video and RCA display adapter.

Apple has improved several other areas of the iMac's feature set as a part of this update: an 80GB hard drive is now standard, the iMac's SuperDrive now burns at a maximum 4× speed (as opposed to 1× in earlier models), and an Nvidia GeForce 4 MX video card with 64MB of DDR SDRAM powers the display.

Macworld's Buying Advice

The speed and power of this new iMac are remarkable, especially given its big LCD monitor and $1,799 price. Hobbyists who want to use Apple's iLife suite of applications won't find a more suitable Mac, and even some budget-conscious video and audio pros will look at this new iMac and consider it worthy of their affections. □

RATING: ●●●●●
PROS: Bright, big, adjustable screen; support for AirPort Extreme and Bluetooth; speedy performance.
CONS: None significant.
PRICE: $1,799
OS COMPATIBILITY: Mac OS X
COMPANY: Apple Computer, 800/692-7753, www.apple.com

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FINAL CUT EXPRESS 1.0

Final Cut Pro Sibling Offers Simplified Professional Video Editing for the Budget-Minded User

BY JEFF CARLSON AND LISA BRENNEIS

Apple has successfully covered the extreme ends of the video-editing market: iMovie introduces novices to the world of nonlinear editing, while Final Cut Pro caters to professionals whose dreams are neatly marked with In and Out edit points. Now Apple is offering Final Cut Express, an intermediate application designed for digital-video editors who don't need all the sprockets in Final Cut Pro (and who'd rather pay $300 than $1,000) and for budget-minded iMovie users looking for more-advanced features. Final Cut Express's mission is to offer powerful editing and compositing tools while simplifying the editing process for novices—all without undercutting sales of Final Cut Pro. Apple is also no doubt trying to outmaneuver Adobe's $550 Premiere 6.5 and Avid's downloadable Avid Free DV package (due out in mid-2003). It's quite a balancing act.

Chip off the Old Block

Although Apple built Final Cut Express with Final Cut Pro 3's exoskeleton, we were surprised at just how many of the high-end program's features showed up in Express. Expect an initially tough learning curve if you're not familiar with how Final Cut approaches editing.

You can get a feel for the process by building movies in iMovie, but you need to grasp the Final Cut method to really take advantage of what Express can do. In iMovie, there's one way to do everything. In Final Cut Express, there are three ways to do everything, and that's wonderful—once you've learned the program. Final Cut Express ships with a training DVD but no printed manual—just a 750-page PDF file on the application disc.

Final Cut Almost-Pro

To the casual observer, it's hard to differentiate Final Cut Express and Final Cut Pro (although Express runs only in OS X 10.2 or later). They share the same main windows—the Browser, for organizing clips; the Timeline, for assembling sequences; the Viewer, for previewing and editing clips; and the Canvas, for playing back sequences. You can work with as many as 99 video and audio tracks simultaneously (versus iMovie's one video and two audio tracks), so you can composite multiple layers easily. If you have a relatively recent G4, you can preview many transitions and effects in real time without additional hardware.

Final Cut Express even comes equipped with the color-correction tool from Final Cut Pro, albeit without some of its advanced components, such as video scopes or the Range Check feature. And Final Cut Express has the same impressive audio-editing and voice-over tools as Final Cut Pro, giving you much more audio control than iMovie (even with the improvements in iMovie 3).

More important—and unlike iMovie—Final Cut Express offers completely nondestructive editing. You can define a section of a clip using In and Out points, rather than chopping, cropping, and slicing iMovie clips like so many onions.

So which Final Cut Pro features wound up on the cutting-room floor? Primarily, Final Cut Express has been simplified to handle only DV-format video. It doesn't include some pro-level features, such as high-definition (HD) or 24-fps (frames-per-second) input, support for edit decision lists (EDLs), Offline-RT, serial-device control, or OMF audio export. Also absent from Express are advanced color correction, support for Adobe After Effects plug-ins, some keyframing features, and most logging and batch-capture and -export capabilities.

DV Expressionism Final Cut Express shares the interface and most of the editing and compositing tools of its high-end sibling, Final Cut Pro.

Rough Edges

Final Cut Express suffers somewhat because it uses the recut and abbreviated Final Cut Pro feature set. For example, the lack of logging and batch processing makes the capture process unnecessarily complicated: you can set In and Out points to define a clip, but then you have to capture that clip to disk before moving on to the next one. We anticipate that most people will be tempted to use the Capture Now button, as they do iMovie's Import button, and to then enable DV Start/Stop Detection to mark scene breaks in the footage. These users could find themselves running out of disk space faster than they expect to, because Final Cut Express doesn't trim unused footage from clips when you recapture a project.

Final Cut Express sometimes feels hastily assembled, and we ran into a few snags. For example, the program's AutoSave Vault feature can perform incremental backups, but the Restore Project feature sometimes states that no AutoSave files are available, and there is no on-screen help feature to bail out the novice user.

If you've been working in iMovie and want to step up to Final Cut Express, you're partly in luck. Express will open iMovie 3 projects, but in doing so, you'll lose transitions, titles, sound effects, and custom audio levels. A Final Cut Pro user can open Final Cut Express projects and have full Final Cut Pro capabilities; however, you cannot open a Final Cut Pro project in Final Cut Express.

Macworld's Buying Advice

Learning to use Final Cut Express will take some time and effort, and you'll definitely need to reprogram the editing section of your brain if you're accustomed to working with iMovie. However, if you're looking to step up to professional-level video editing and if you don't require all of Final Cut Pro's advanced capabilities, Final Cut Express will serve you well. □

RATING: ♦♦♦♦
PROS: Professional-level editing; good price.
CONS: Tough learning curve for novices; some rough edges.
PRICE: $300
OS COMPATIBILITY: Mac OS X
COMPANY: Apple Computer, 800/692-7753, www.apple.com

PALM OS–BASED HANDHELD DEVICES

Four Portables Offer a Variety of Enticing Powers to Users Away from Their Macs

BY DAVID WEISS

When you're on the go, sometimes even the smallest laptop can weigh you down. Handheld computers, which offer more capabilities every year, might seem more appealing. We tried out four of the latest Mac-compatible handhelds that run Palm OS: Handspring's Treo 300, Palm Computing's Tungsten T and Zire, and Sony's Clié PEG-NX70V.

All four handhelds have the basics. Each allows you to use a relatively easy-to-learn handwriting scheme called Graffiti to enter data, beam data to other handhelds via infrared ports, and recharge the battery with AC power.

But that's where the similarities end. The Zire is a very basic PDA for the user who wants what amounts to an electronic address book and calendar; the Tungsten T is a PDA with a color screen, Bluetooth connectivity, and other high-end features; the Treo adds a cell phone; and the Clié is both a PDA and a digital camera. Each of these high-quality handhelds will surely meet the needs of specific types of users, but our highest overall recommendations go to the Tungsten T and the Zire, for their quality and design.

A PDA Named Zire

If you're a busy person who wants to store contact information, notes, and calendar entries in a light, portable, no-frills PDA, the Zire was built with you in mind. It comes with 2MB of memory for storage, and unlike the more expensive handhelds, it doesn't have slots for adding storage cards, or ports that allow it to connect to a variety of peripherals. So if you like the idea of adding cards for backup or applications, or of connecting to gear such as the Palm Portable Keyboard, the Zire will seem limiting.

The Zire is about 3 inches wide, 0.5-inch thick, and 4.5 inches tall, making it just a bit bigger than an iPod. But the 3.8-ounce Zire is noticeably lighter than the 10GB iPod, and a simple rubber flap covers and protects its screen. With its small monochrome display, the Zire is not for people who have trouble reading small text. Also, the screen isn't backlit—a standard feature of more-expensive monochrome and color handhelds—so when dusk begins to fall, it's time to put the Zire away.

People familiar with earlier Palm models will find their way around easily. Below the viewable portion of the screen is a touch-sensitive section for writing Graffiti or tapping on built-in icons that let users issue commands or jump to applications; below that area are up and down buttons, a Datebook button, and an Address Book button.

Most PDAs require cradles to exchange data with the Mac via USB, but the Zire connects with a simple cable. If you're on the road, you might appreciate this—however, PDAs that use proper cradles have a different kind of advantage: the cradle-connection port also allows them to connect with the aforementioned Palm Portable Keyboard, business-card scanners, MIDI sound modules (which turn your PDA into a synthesizer), and many other peripherals. If you're trying to simplify your life and not add more gadgets to it, though, the unadorned, self-contained Zire may be just the ticket.

Gleaming Tungsten

If the Zire defines the humble side of Palm Computing's PDA line, the Tungsten T, a color PDA with stereo sound, epitomizes its extravagant side. This device is designed for people who want entertainment, expandability, and flexibility in a PDA. The Tungsten T is eminently portable—it's about the same size as an iPod and a tad lighter. It has a unique design: pull on the bottom of the PDA's front panel, and it expands to reveal a Graffiti-writing area. The device's clip-on cover can be a bit of a pain—when you want to use the Tungsten T, you have to unsnap the cover and then snap it to the back before you can get to work.

The Tungsten T ships with 16MB of storage, but you can add more space via its Secure Digital (SD) card slot. SD cards are about the size of a postage stamp, and you can buy cards capable of storing as much as 256MB of data (SanDisk, at www.sandisk.com, makes a 32MB SD card for $35).

Because the Tungsten T includes stereo-sound capabilities, you can use it as an MP3 player, but you'll need additional software, as well as enough storage space for your music. We tried out the $16 AeroPlayer, from Aerodrome Software (www.aerodromesw.com), and the sound from the Tungsten T was rich, full, clear, and strong.

The Tungsten T has an incredibly sharp, bright 320-by-320-pixel color screen. The colors are rich, and the displayed text is easy to read. Best of all, the Tungsten T's screen remains very sharp and legible in bright sunlight.

For navigation, the Tungsten T provides a five-way thumb switch and four application buttons. In addition, a small button on the left calls up preinstalled software that lets users record voice memos.

The Tungsten T can connect to a Mac via a USB cradle, but its real perk is connecting via Bluetooth without requiring that users purchase additional hardware. It gets better: if you have a Bluetooth-enabled mobile phone, you can not only share contact information between your Tungsten T and the phone,

Palm OS–Based Handheld Devices Compared

COMPANY	PRODUCT	MOUSE RATING	PRICE	CONTACT	ON-BOARD MEMORY	WEIGHT (IN OUNCES)	SCREEN[A]	PROS	CONS
Handspring	Treo 300	♦♦♦½	$499[B]	888/565-9393, www.handspring.com	16MB	5.7	2.0 × 2.0, 160 × 160, 12-bit (4,000 colors) backlit display	Wireless Web and e-mail access; rechargeable LiIon batteries.	No expansion slots; screen is difficult to read in bright sunlight.
Palm Computing	Tungsten T	♦♦♦♦½	$399	800/881-7256, www.palm.com	16MB	5.6	2.25 × 2.25, 320 × 320, 16-bit (6,500 colors) reflective display	Stereo sound; collapsible front panel; SD expansion slot; intuitive controls; Bluetooth-compatible.	Slightly awkward cover.
Palm Computing	Zire	♦♦♦♦	$99	800/881-7256, www.palm.com	2MB	3.8	1.9 × 1.9, 160 × 160, 1-bit monochrome display	Rechargeable LiIon batteries; inexpensive.	Small monochrome screen; no backlighting.
Sony	Clié PEG-NX70V	♦♦♦♦	$599[C]	877/865-7669, www.sonystyle.com	16MB	7.5	2.25 × 3.25, 320 × 480, 16-bit (65,000 colors) backlit display	Stereo sound; rechargeable LiIon batteries; Memory Stick and CompactFlash expansion slots; can mount Memory Sticks on desktop; large screen; digital camera.	Heavy and expensive.

[A] The first measurement is the screen size in inches; the second is the resolution in pixels. [B] Plus monthly network fees ($45 to $115, based on location). [C] Plus $30 for required Missing Sync software.

but also use the phone to set up a wireless Web connection for your PDA. If you want a PDA that can easily speak with the other peripherals in your digital hub, you'll find that the Tungsten T can reach out in many ways.

Treo for the Road

For users who don't want to juggle a handheld and a mobile phone, the Handspring Treo 300 offers a cool two-in-one option.

The Treo 300 is about the same size as the Tungsten T, and it's just a bit heavier, at 5.7 ounces. It ships with a USB cable rather than a cradle for connecting to a Mac, so it's easy to transport. You can order a cradle for the Treo, and its cradle-connection port theoretically allows it to connect with peripherals. However, the connector is nonstandard, and as of press time, no folding keyboards or other such peripherals had been designed for it. The Treo ships with 16MB of storage, and it doesn't provide any expansion slots for additional memory.

The Treo has a 160-by-160-pixel screen, and it supports fewer colors than the Tungsten T, so images appear a bit coarser. This is acceptable, but in bright sunlight, the Treo's screen was nearly impossible to read, even after we had adjusted the contrast and brightness.

Along with the usual application and up and down buttons, the Treo has a clickable, scrolling thumb wheel. One addition we weren't expecting is the Treo's keyboard, reminiscent of Research In Motion's BlackBerry pagers'. The keyboard sits below the screen, and you push the tiny oval buttons with your thumbs to type. The Treo has no Graffiti-writing area, which disappointed us at first. Fortunately for those who prefer Graffiti, Handspring, in partnership with CIC, offers RecoEcho, a free utility that lets you write Graffiti anywhere on screen. It worked flawlessly, and it greatly enhanced our Treo experience.

The Treo uses a Sprint PCS 3G network for its wireless phone service, which provided better coverage than a regular Sprint PCS network in some informal tests we made in the same service area. Voices came through more clearly and signals didn't break up as easily. Also, you can use your Treo's applications while you talk on the phone.

Best of all, the Treo provides wireless Web surfing. It downloads text and images relatively quickly, but don't expect broadband speeds. A simple page such as Google's main screen (www.google.com) takes about two seconds to appear, but Apple's page (www.apple.com) takes a full two minutes.

The Treo 300 is a very useful device for people who don't want to carry around both a PDA and a cell phone, but the screen's poor performance in bright sunlight makes it a little awkward to use.

A Handheld in the Palm We reviewed (from left to right) the Palm Tungsten T, Sony Clié PEG-NX70V, Palm Zire, and Handspring Treo 300.

The Multitalented Clié

What if you wanted a PDA that was not just a PDA or a PDA with a phone, but an MP3 player and a digital camera? You'd have the Sony Clié PEG-NX70V. This handheld is the biggest and heaviest of the bunch, standing a full 5.5 inches high and weighing 7.5 ounces. Like the other higher-end handhelds we tried out, the Clié has a color screen and ships with 16MB of storage.

The Clié gives you multiple options for extending storage and memory. It can take both CompactFlash cards and Memory Sticks, and because it uses a cradle, it's also got a connector on the bottom, which allows you to connect a folding keyboard, as you can with the Tungsten T. And you can mount Memory Sticks right on your Mac's desktop, which allows you to drag files directly to the Clié, turning it into a hard drive.

The Clié requires a $30 third-party application, Mark/Space's The Missing Sync (www.markspace.com), to connect to your Mac. This program, available for both OS 9 and OS X, worked without any problems.

The Clié's screen is on its lid, which might sound unusual; indeed, we found it pretty awkward to write Graffiti on the lid with the base of the PDA dangling beneath it, especially considering the Clié's weight. But the lid can swivel completely around to face out, so when you close it you can hold the Clié comfortably in one hand as you enter text. The Clié has another unique design feature: the Graffiti area is actually part of the display, so you can hide it; this gives you a screen with roughly one-third more real estate (320 by 480 pixels) than the screens of the other PDAs we looked at provide. Like the Tungsten T's, the Clié's screen is very easy on the eyes, but fonts are a bit lighter, and it doesn't hold up quite as well in bright sunlight as the Tungsten T.

Like the Treo, the Clié has its own keyboard, which sits at the base of the handheld with the application and up and down buttons; it also has a scrolling, clickable thumb wheel for navigation.

One of the coolest things about the Clié is the digital camera cleverly concealed inside the lid's hinge. The camera works quite well for its size: it can take pictures at 640-by-480-pixel resolution and record small 2KB movies with sound that run for several minutes. The camera won't give you the greatest image quality, but the colors should be just fine for a gadget-loving amateur videographer.

As if its digital camera functionality weren't enough, the Clié also works as an MP3 player. It comes preloaded with software for playing MP3s, and Sony even throws in a pair of headphones and a remote. When we listened to the same tune side-by-side on the Tungsten T and the Clié, no obvious victor emerged. However, one advantage of the Clié is that if you connect it to your Mac, iTunes can play your MP3s from the Clié directly.

Macworld's Buying Advice

These four Palm OS–based handhelds represent a wide sampling of the major vendors' offerings; your specific needs and whether you can live with a PDA's minor drawbacks are the main factors when choosing such a device. That said, the solid design of the two Palms—the Zire and the Tungsten T—pleased us most. The Zire is perfect if you want a bare-bones PDA; the Tungsten T is a good choice for all-around options and expandability; the Handspring Treo 300 will do the trick for people who want to consolidate the devices they carry around; and the Sony Clié PEG-NX70V is an excellent—though expensive—purchase if you want to record and store small, low-resolution photos or movies on the go. □

FIREWIRE DVD-R DRIVES

External SuperDrives Boost Speed and Expand Options

BY JAMES GALBRAITH

Apple's digital-hub strategy has made the DVD burner—with its ability to play movies, back up more than 4.5GB of data, and create movies that your friends can play on their home DVD players—a highly sought-after system component. But if you don't have the money to upgrade to a new Mac with a built-in SuperDrive, or don't have the option (or inclination) to install one, you can still join the digital revolution by purchasing an external DVD-R drive.

The same Pioneer SuperDrive included in the newest desktop Macs is now available as an external FireWire drive from a variety of companies. And thanks to a hardware upgrade, this new crop of drives can burn a DVD twice as fast as the previous models could. The bad news is that you'll miss out on some basic functionality: external DVD-R drives can't play commercial DVDs unless your Mac already has a DVD drive built in, and you won't be able to use iDVD, Apple's free DVD-authoring software, *at all* (although some external drives do come with iDVD alternatives). But if you're willing to live with these compromises, an external DVD-R drive offers an excellent—and fairly inexpensive—way to add DVD-burning capabilities to your Mac.

Macworld Lab rounded up seven of the newest external FireWire DVD burners: Cyclone's DVD Revo FireWire SuperDrive 4×, EZQuest's Boa FireWire DVD-RW, Formac's Devideon, GVP's DVD-R/RW 4× FireWire Drive, Ikebana's 4× FireWire DVD-R/RW Drive, LaCie's d2 FireWire DVD-Rewritable Drive, and Other World Computing's (OWC) Mercury DVR-105. We found that while they all performed almost identically, only two drives, the $379 LaCie and the $399 Formac, included Mac-compatible DVD-authoring software in the box. Of those two, the LaCie drive's great case design and included media edged it into the lead.

The LaCie d2 FireWire DVD-Rewritable Drive

At First Glance

In an attempt to disguise the plain, beige appearance of the Pioneer mechanism, two of the drives, the Formac and the EZQuest, opted for bulky, completely enclosed, silver case designs. The cases hide the device's true color, as well as the headphone jack and the drive activity lights. The GVP's white case with silver details also features an outer door. But since there are no buttons on the front, you must flip down the door to access the eject button.

Despite their less hip appearance, we prefer the open-face design of the remaining four drives. The best case design belongs to the LaCie drive, which not only was the slimmest of the lot, but also was easily stackable.

Speed Burners

All the DVD-R drives we tested feature the new Pioneer A05 mechanism. This model doubles each of the speed ratings for the A04 mechanism used in the most current preinstalled desktop SuperDrives at the time of testing. (Apple should be including the faster A05 mechanism in its desktop systems by the time you read this.) That means the A05 can burn a DVD at 4×, a DVD-RW at 2×, a CD-R at 16×, and a CD-RW at 8× and can read data from a CD at 32×.

Of course, to burn DVDs at these faster speeds, you need properly rated media. At the time of this testing, 4× DVD-R media was scarce and fairly expensive (averaging about $4 a pop); however, supply should soon catch up with demand.

But before you go out and buy 4× media for all your DVD-R drives, you should note that using this 4× media can be problematic—if not downright destructive—on older DVD-R drives. A03 and A04 models require a firmware update before they can properly recognize the newer media (see Apple's Web site at www.apple.com for more information). Even after the update, these drives will burn DVDs at only 1× speed on 4× media.

Burning to DVD

To see how the drives compared with each other, we connected each to a dual-1GHz Power Mac G4 (DDR) running OS X 10.2.3 with 512MB of RAM and recorded how long it took the drives to complete common tasks. We also compared the results with those of the G4's internal Pioneer A04 SuperDrive, the most current model available at the time of testing.

As you might expect from seven nearly identical drives, the performance times were extremely close. When burning a DVD from a 4.2GB disk image using Apple's Disk Copy, times ranged from 26 minutes and 55 seconds for the OWC drive to 28 minutes and 39 seconds for the EZQuest drive. The Mac's internal drive completed the task in 54 minutes and 10 seconds.

Although none of the drives work with Apple's free iDVD software, each drive is compatible with Apple's $999 DVD Studio Pro 1.5.2. We tested how long it took to burn a movie from DVD Studio Pro by performing a Build And Format of the program's tutorial files. Each drive completed the task in less than 5 minutes, with the LaCie finishing first

Macworld LAB TEST	Burn Video DVD with Disk Copy	Burn Video DVD from DVD Studio Pro	Burn CD-R from iTunes Playlist	Perform Finder Copy from CD-R
Cyclone DVD Revo FireWire SuperDrive 4×	27:06	4:47	4:21	3:29
EZQuest Boa FireWire DVD-RW	28:39	4:38	4:19	3:34
Formac Devideon	27:05	4:46	4:19	3:25
GVP DVD-R/RW 4× FireWire Drive	27:09	4:45	4:19	3:26
Ikebana 4× FireWire DVD-R/RW Drive	26:58	4:40	4:25	3:24
LaCie d2 FireWire DVD-Rewritable Drive	26:58	4:37	4:18	3:25
OWC Mercury DVR-105	26:55	4:38	4:19	3:29
Pioneer A04 (internal) SuperDrive	*54:10*	*10:54*	*8:01*	*5:46*
Yamaha CRW-F1	*N/A*	*N/A*	*3:02*	*2:42*
	<Better	<Better	<Better	<Better

BEST RESULTS IN **BOLD**. REFERENCE SYSTEM IN *ITALICS*. N/A = NOT APPLICABLE.

All scores are in minutes:seconds. We tested each DVD-R drive on a dual-1GHz Power Mac G4 (DDR) with 512MB of RAM and OS X 10.2.3 installed. We recorded the time it took each drive to burn a 4.2GB DVD disk image using Disk Copy, tutorial movies from DVD Studio Pro, and a 560MB CD-R from an iTunes 3 playlist, and to copy the data from a 650MB CD-R to the test system's internal hard drive.—MACWORLD LAB TESTING BY JAMES GALBRAITH

at 4 minutes and 37 seconds. By comparison, the internal drive took nearly 11 minutes.

All of the DVD-R and DVD-RW discs created by the external drives mounted and played in the home DVD players of several *Macworld* staff members.

Burning to CD

Although the DVD-burning speeds for the A05 drives are much improved over those of the previous models, the CD-burning times still have a ways to go to catch up to the powerful 52× CD-R drives now on the market.

When burning a 560MB iTunes playlist to CD-R media, the external burners—all rated as 16× CD-Rs—finished the task in a virtual dead heat. The LaCie finished first, clocking in at 4 minutes and 18 seconds, while the Ikebana pulled up the rear only 7 seconds later. The 8×-rated internal drive finished the burn in just over 8 minutes. Still, none came close to matching the 44×-rated Yamaha CRW-F1 drive, which finished the iTunes burn in just over 3 minutes.

False Starts

As we tested, we ran into a couple of problems with bad drives. Our original OWC drive had trouble recognizing blank DVD media. The GVP drive also gave us some trouble; our Mac occasionally failed to recognize the drive. In this case, turning the drive on and off a few times fixed the problem. When we reported the trouble, both companies sent replacement drives that worked without these problems.

Bundles of Joy

What really sets these drives apart from one another is what software and types of media the companies decide to include in the box. This can make the difference between putting your burner to use immediately and having to make another run to the store for extra equipment.

Only two of the drives, the Formac and the LaCie, include Mac-compatible software for authoring DVDs. This is significant for anyone who wants to create video DVDs without shelling out $999 for DVD Studio Pro (see "iDVD Alternatives Arrive"). In addition to the DVD-authoring software, LaCie also throws in one piece each of DVD-R and CD-R media. Formac, on the other hand, leaves it to you to supply the media.

Although they don't ship with authoring software, the Cyclone, EZQuest, Ikebana, and OWC drives do all include software for burning data DVDs and CDs.

The Cyclone and Ikebana drives come with Roxio's Toast Lite software. While this version of Toast lets you complete some simple burning tasks, for more-advanced features, such as burning VideoCDs, you'll need to spend $79 to upgrade to Toast Titanium. The Ikebana also includes two pieces of blank DVD-R and one piece of DVD-RW media, as well as a handy faux-leather carrying case for easy portability. The Cyclone drive includes one piece each of DVD-R and CD-R media.

Both the EZQuest and the OWC drives come with the full version of Charismac's Discribe software (●●●½; *Reviews*, May 2002). EZQuest throws in a single piece of DVD-R media, while OWC includes by far the biggest goody bag of blank media—5 blank DVD-Rs and a whopping 25 blank CD-Rs.

Taking a minimalist approach, GVP bundles no software or blank media with its drive, although the company told us it plans to begin tossing a blank DVD-R disc into the box in the near future.

Macworld's Buying Advice

To take full advantage of a DVD-R drive, your best bet is to install it internally into your system. If you don't have that option, any of these external drives would be a great addition. Just plug them into your FireWire port and you're ready to go. Both the Formac Devideon and the LaCie d2 include Mac-compatible DVD-authoring software, giving them a clear advantage over the rest. In addition, the LaCie drive comes with spare media and features a more practical case design. □

One of the features missing from most external DVD burners is the ability to create DVD movies easily and inexpensively. Because of licensing issues, Apple's iDVD software doesn't work with FireWire drives, which means your only other option when buying a DVD-R/RW has been to also buy software such as Apple's $999 DVD Studio Pro—neither simple nor cheap. But this limitation is changing as other companies begin to offer iDVD alternatives.

LaCie recently began shipping Pixela's CaptyDVD software with its d2 FireWire DVD-Rewritable drives. (Other Mac users can purchase it separately for $149.) This Mac-compatible DVD-authoring software includes many themes and button designs—as well as an application for making your own buttons—and can create both DVDs and VideoCDs with QuickTime files (not just DV files). The application also lets you create chapter markers and scene-selection menus (similar to those in iDVD 3), and allows you to preview your disc from within the program. Although you can choose to use either PCM or MPEG audio and determine the bit rate, your options for controlling video-compression rates are less advanced—you pick between high (8-Mbps), normal (6-Mbps), and low (4-Mbps) qualities. We found the program's encoding speed to be very slow.

Formac also recently released DVD-authoring software, Devideon 2.0, which is available only with the purchase of the company's Devideon drive. In addition to features you'd find in Apple's iDVD 3, such as customizable backgrounds and music, Devideon 2.0 includes more-advanced features. For instance, you can create both DVDs and Super VideoCDs, use QuickTime files for your movies, choose encoding settings as you would with DVD Studio Pro, and run it on a G3 Mac. However, it lacks the ability to add chapter markers, use themes, or create nested menus.—JONATHAN SEFF

7 FireWire DVD-R Drives Compared

COMPANY	PRODUCT	MOUSE RATING	PRICE	OS COMPATIBILITY	CONTACT	INCLUDED SOFTWARE	BLANK MEDIA	PROS	CONS
Cyclone	DVD Revo FireWire SuperDrive 4×	●●●½	$399	Mac OS 9, Mac OS X	562/799-7740, www.cdcyclone.com	Toast 5 Lite	1 CD-R, 1 DVD-R	Solid performance.	No Mac DVD-authoring software included.
EZQuest	Boa FireWire DVD-RW	●●●½	$399	Mac OS 9, Mac OS X	888/898-8380, www.ezq.com	Discribe 5	1 DVD-R	Solid performance.	No Mac DVD-authoring software included; bulky, enclosed case design.
Formac	Devideon	●●●●½	$399	Mac OS 9, Mac OS X	877/436-7622, www.formac.com	Devideon 2.0	none	Mac DVD-authoring software included.	No blank media; bulky, enclosed case design.
GVP	DVD-R/RW 4× FireWire Drive	●●●½	$359	Mac OS 9, Mac OS X	800/659-0101, www.gvpco.com	none	none	Least expensive.	No bundled software and no blank media; awkward, enclosed case design.
Ikebana	4× FireWire DVD-R/RW Drive	●●●½	$399	Mac OS 9, Mac OS X	800/366-4433, www.ikebanadrive.com	Toast 5 Lite	2 DVD-Rs, 1 DVD-RW	Includes carrying case.	No Mac DVD-authoring software included.
LaCie	d2 FireWire DVD-Rewritable Drive	●●●●½	$379	Mac OS 9, Mac OS X	503/844-4500, www.lacie.com	CaptyDVD 1	1 CD-R, 1 DVD-R	Mac DVD-authoring software included; slim, stackable case design.	None significant.
Other World Computing	Mercury DVR-105	●●●●	$380	Mac OS 9, Mac OS X	800/275-4576, www.macsales.com	Discribe 5	25 CD-Rs, 5 DVD-Rs	Generous blank-media bundle.	No Mac DVD-authoring software included.

EDUCATION SOFTWARE

17 Programs That Will Send Students to the Head of the Class

Fun may not be the first word that comes to mind when you mention algebra practice. But education-software makers are working to change that, with games and activities that blend interactive entertainment with critical thinking and subject-based learning. Whether you're a teacher looking for a new way to bring history alive, or a parent who wants to give your child a leg up on reading and math, we've got what you need. We've gathered 17 programs, in the areas of general learning, math, science, history, and reading, that not only build essential skills but also make learning fun.

GENERAL LEARNING

Stanley: Wild for Sharks 9

♦♦♦♦; Disney Interactive, 800/228-0988, www.disneyinteractive.com; $20 **Ages 3–6**

Straight from the Disney Channel comes Stanley, a young boy with an abiding love of nature and a talking goldfish named Dennis. In Disney Interactive's Stanley: Wild for Sharks, our hero has teamed up with a classmate to do a project on sharks. Alas, though Stanley's school chum will arrive any moment, all the parts they need for their presentation are scattered. It's up to Stanley, Dennis, and you to find them in this underwater adventure.

Through a series of games, puzzles, and activities, Stanley encourages kids to learn about underwater life while reinforcing learning concepts such as critical thinking; memory skills; pattern, shape, and sound recognition; organization; and more. Although most of the activities are appropriate for preschoolers and kindergartners, some younger players and children with less computer experience may find the challenges daunting. For kids who want to learn more about sharks and other sea creatures, the Great Big Book of Everything—a reference that Stanley and Dennis rely on—is always nearby.—PETER COHEN

JumpStart Advanced Kindergarten 9X

♦♦♦♦½; Knowledge Adventure, 800/545-7677, www.knowledgeadventure.com; $30 **Ages 4–6**

Knowledge Adventure has attempted to cram an entire year's worth of kindergarten learning into its JumpStart Advanced Kindergarten software. (The program is part of a new line of JumpStart titles, which includes versions for first and second grade.)

Set against the backdrop of an auto-racing event, JumpStart Advanced Kindergarten teaches kids about science, nature, music, simple arithmetic, and phonics, while offering activities such as painting and drawing. Featuring a team of varied animal personalities called the All-Stars, the program uses the concept of multiple intelligences to help kids learn. Each of the All-Stars offers a different learning style—there's a team leader, a reader, a musician, a math whiz, a scientist, an artist, and an athlete. While each character is featured in specific activities that lead up to the reward of racing, kids can also choose the character that suits them best to help them along the way.

While the game claims to build more than 50 skills, you won't find that many activities. That's because each challenge reinforces multiple skills. A math exercise, for example, also helps kids with color matching. Integrated assessment tests check players' abilities. Parents will appreciate the game's progress reports (to keep track of how well their kids are doing), its leveling features (to keep the game challenging), and its built-in manual (to keep everyone on track). The JumpStart Advanced titles run about $10 more than most other educational software; however, Knowledge Adventure offers a $10 discount when you trade in older JumpStart titles.—PC

Disney Learning Adventure: Search for the Secret Keys 9

♦♦♦♦; Disney Interactive, 800/228-0988, www.disneyinteractive.com; $20 **Ages 5 and Up**

Disney's Mickey Mouse and his friends have gotten themselves locked inside a haunted house, and a trio of trickster spooks won't let the gang out until they solve a variety of puzzles. This is the setting of Search for the Secret Keys, a Disney Interactive title aimed at school-age kids.

While many Disney titles emphasize specific skills such as math or reading, Search for the Secret Keys takes a more holistic approach, focusing instead on critical thinking and problem solving. Tasks vary from game to game. Some challenges—for example, the Armor Disaster game—require math and counting skills. Others are more logic-oriented—players must repair an old grandfather clock by getting the gears to work together, or fix some leaky pipes by putting the joints and pieces in the correct order.

Ghoulish Games Use your addition skills to put these armored knights back together in Disney Interactive's Search for the Secret Keys.

As players get better at solving problems, the challenges get tougher. All the while, kids must work toward the goal of collecting the keys that Mickey's friends need to escape from the house. Parents can print out progress charts and information about each game, including data on what educational skills are being reinforced in each activity. As an added bonus, the package includes Disney's free, Mac-compatible Monsters, Inc. Pinball Panic game.—PC

The Powerpuff Girls: Mojo Jojo's Clone Zone 9X

♦♦♦½; The Learning Company, 800/395-0277, www.learningcompany.com; $20 **Ages 6–10**

The Cartoon Network's runaway hit *The Powerpuff Girls* has generated a merchandising bonanza including everything from snow boots to video games. Now The Learning Company is cashing in on the craze, with an educational title called Mojo Jojo's Clone Zone. In this game, Blossom, Bubbles, and Buttercup (a trio of superpowerful kids created by Professor Utonium) must save Townsville from their archenemy, Mojo Jojo—a mischievous monkey empowered by the same chemical that gave the Powerpuff Girls their abilities.

As players complete a series of minigames that test their spelling and math abilities, logic, reading comprehension, and other learning skills, they aid the Powerpuff Girls in smashing Mojo Jojo's army of clones and then taking on the mastermind himself. With five levels of difficulty and an automatic leveling feature, Mojo Jojo's Clone Zone will challenge kids for a good long time.

Parents will value the progress-tracking feature that shows how well their kids are doing. Unfortunately, the game doesn't make users sign in, so it's hard to track how multiple players fare. We also ran into a couple of audio glitches—sound dropped out during a few activities, necessitating a quick restart of the game.—PC

Disney Pixar Learning: 2nd & 3rd Grade 9

♦♦♦; Disney Interactive, 800/228-0988, www.disneyinteractive.com; $20 **Ages 7–9**

Pixar creation Buzz Lightyear is already the star of two *Toy Story* movies and his own animated TV show. Now the Space Ranger has also found his way onto the computer, in an educational game called Disney Pixar Learning: 2nd & 3rd Grade.

The premise is simple enough. While patrolling the universe, Buzz Lightyear and his partner, Mira Nova, are nearby when Zurg and his minions attack some innocent aliens. Players must help Buzz and Mira stop the villains, by playing a series of games that test reflexes and skills such as grammar, vocabulary, basic math, and logic.

The games—for example, Zurg Attack, Star Miner, Canyon Chaos, and Ranger Racers—are Buzz Lightyear–style updates to classics such as Galaxian, Asteroids, Lunar Lander, and Grand Prix. To maintain the fuel supplies they'll need for blasters, thrusters, shields, and the like, players must solve math, word, spelling, and logic puzzles. Working hard enough unlocks bonuses and secret game features. A progress feature keeps parents up-to-date on how their young Space Rangers are doing.

The software offers a clever blend of arcade gaming and learning, but the controls for some of the learning challenges felt awkward: moving characters around the grid shouldn't have been as difficult as it was. Also, the game's promise of a "2 Deluxe CD-ROM Set" is a bit of a ruse: one disc is to install, the other contains the game—big deal. The package includes Disney's free, Mac-compatible Monsters, Inc. Pinball Panic game.—PC

SCIENCE AND MATH

Mia's Science Adventure: Romaine's New Hat 9 X

♦♦♦♦; Kutoka Interactive, 877/858-8652, www.kutoka.com; $20 **Ages 6–10**

Mia, an inquisitive young mouse, has lost her mother's hat and must now set off on a quest to earn enough local currency—gemstones called Sparklies—to buy a new one. Thus begins Mia's Science Adventure: Romaine's New Hat, one of three engaging learning games by Kutoka Interactive. (Other titles focus on developing reading and math skills.)

Mia's Science Adventure offers the balance of learning and fun that many programs promise but often fail to deliver. As players aid Mia in her journey (illustrated with impressive 3-D graphics) and learn new concepts, they must put their scientific knowledge to the test by identifying clouds, matching animals to their habitats and diets, classifying animals and reptiles, and completing other tasks.

Mia's Science Adventure offers four levels of game play, from beginner to expert, so players will remain challenged as they learn. Games are lengthy—lasting for more than half an hour—but they can be saved and returned to later. If you prefer, you can also skip the game element completely and instead jump right to the individual learning activities. The intensely interactive environment may take new players off guard at first—Mia talks directly to the player, offers suggestions, and occasionally takes initiative to get things done. Younger players in particular may need some guidance as they get started. However, the included informational booklet offers clues for each game, and Mia herself provides assistance if you click on her head.—ADRIENNE ROBILLARD

Mighty Mouse In Mia's Science Adventure: Romaine's New Hat, players explore scientific concepts as they help Mia find a way into the next garden.

Mango Plumo's Space Adventure 9 X

♦♦♦; QA International, 514/499-3000, www.mangoplumo.com; $27 **Ages 5–10**

The sun is sick and slowly growing dim—thanks to the scheming of evil wizard Hocus Pocus—and it's up to you and Mango Plumo to save it. In QA International's well-animated, though sometimes confusing, Mango Plumo's Space Adventure, players head off into the solar system with Mango Plumo, a small red bird, to answer questions, solve problems, and learn how the universe (and our own planet) works.

Along the way, Professor Funnybone explains unfamiliar concepts, although his scientific explanations can seem repetitive after a while. An audio track featuring Mango and Professor Funnybone singing can easily be muted if it becomes tiresome.

Mango Plumo cleverly combines education and entertainment elements. But the game isn't linear, and the variety of characters and options for moving through the software—players can choose to perform experiments, play games, or learn new concepts—can be overwhelming. It may take players some time to master, and many users will need to refer to the included booklet to stay on track. QA International also offers a companion title: Mango Plumo's Weather Adventure.—AR

The Graph Club 2.0 9 X

♦♦♦½; Tom Snyder Productions, 800/342-0236, www.tomsnyder.com; single user, $80; site license, $900 **Ages 5–10**

Graphs are everywhere—from the daily newspaper to advertisements. But learning how to visualize numbers and interpret different types of graphs can be challenging for young students. The Graph Club 2.0 makes learning about and using graphs interesting for both students and teachers. Designed for teachers, the program has Spanish and English modes, and it offers more than 30 activities in math, science, social studies, and language arts. Time-strapped instructors will appreciate that the activities require little or no planning to teach. A tutorial clearly and concisely explains the objectives of the program and allows students to learn independently. Teachers can also project the program onto a large screen for full class participation, and they can customize the program's preferences for added control over the learning environment. Prices vary according to how many computer licenses you need. Additional activities are available on the Ready-Made Activities CD, which is sold separately.—AR

Math Advantage 2003 9 X

♦♦♦♦; Encore Software, 310/719-2890, www.encoresoftware.com; $40 **Ages 11 and Up**

For students struggling with advanced math concepts such as algebra and trigonometry, Encore Software's Math Advantage 2003 offers extra attention, with exercises that clearly explain an array of mathematical concepts. Aimed at middle-school through lower-division–college students, Math Advantage 2003 comes as an eight-CD set, with Pre-Algebra, Algebra I, Geometry, Algebra II, Trigonometry, Pre-Calculus and Calculus, Statistics, and Real World Math sections. (A Business Math section runs only on Windows.)

Students work in one subject at a time, which ensures that they stay focused. Each disc uses a straightforward and easy-to-

continues

navigate interface with step-by-step tutorials and an explanation of the prerequisites students will need to master the lessons. In addition to explaining the concepts for each math subject, the software also includes timed examinations. If students do well, they're rewarded with the opportunity to play games.

The breadth of mathematical concepts covered makes the $40 investment a clear value for a family, school, tutorial center, or even a student who needs extra help or wants to study beyond the materials provided in a math textbook. However, the program is less useful for beginning students, as math basics are not covered.—AR

Master Math Word Problems 1.1 9X

♦♦♦; Fast Rabbit Software, info@fastrabbitsoftware.com, www.fastrabbitsoftware.com; single user, $13; site license, $60 **Ages 7–13**

For many students, the mix of numbers and words in mathematical word problems can be foreign and frustrating. Designed for elementary-school students, Master Math Word Problems, a shareware program by Fast Rabbit Software, gives students extra practice; this game's simple, quizlike interface serves up word problems and their solutions. There are three modes: addition and subtraction, multiplication and division, and a combination. Students select from multiple-choice answers. If they're having trouble, a guidance option offers straightforward direction on how to solve the problems.

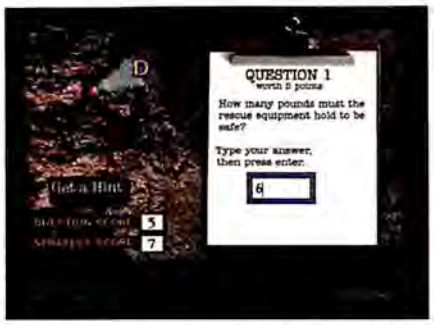
The free version of the shareware limits rounds to only three addition and subtraction problems. Once the program is registered, it offers all three practice modes and runs through rounds of as many as 25 questions. At the end of each round, the student's results appear on screen, with a hint for solving missed questions. These results can be printed with the student's name, making it easy for a parent or teacher to track the progress of multiple students.

Master Math Word Problems is easy to use, and teachers and parents will enjoy the independence students have to practice a variety of word problems. But the problems are very basic, and advanced students may not feel challenged.—AR

PrimeTime Math: Cliffbound 9X

♦♦♦½; Tom Snyder Productions, 800/342-0236, www.tomsnyder.com; single user, $90; site license, $800 **Ages 11–13**

Combining a television-style presentation with real-world drama, Tom Snyder Productions' PrimeTime Math series tries to make math concepts less abstract and more relevant to students' lives. In the Cliffbound edition (the third title in the six-program series), students must calculate rates and ratios to rescue two stranded rock climbers.



Rescue Math Students must calculate ratios and solve other mathematical questions to help save two stranded mountain climbers, in Tom Snyder Productions' PrimeTime Math: Cliffbound.

The program is designed for group, not individual, learning, and it works best in classrooms equipped with a large monitor or LCD projector. Students learn what to watch for, view the video twice, and then solve the problems with the help of included worksheets. (The program also comes with homework assignments that students can complete independently without the computer.) It typically takes two to four hours to move through the entire program, but teachers can break the activities into shorter units to match the pace to students' skills. When they're done, students enter their answers into the computer for evaluation. Thanks to an interesting setup and practical situations, PrimeTime Math does an excellent job of demonstrating the importance of math skills in real life and making students active participants in solving problems. Prices vary according to the number of titles and computer licenses you need.—AR

HISTORY AND WORLD STUDIES

Liberty's Kids 9X

♦♦♦½; The Learning Company, 800/395-0277, www.learningcompany.com; $25 **Ages 8–12**

Working in tandem with the PBS television series by the same name, Liberty's Kids teaches students about the American Revolution through interaction with key figures of the time. Players investigate historic events with the help of Sarah and James, two young reporters at Benjamin Franklin's *The Pennsylvania Gazette*, and then compose newspaper articles to earn a score. Sarah is British, while James is American, and they share their different opinions on the unfolding events.

When researching the Boston Tea Party, for example, the player must search Boston for important Revolutionary figures such as Phillis Wheatley and John Adams. The game also reinforces basic journalism principles as players answer the who, what, when, and where of the events, and collect key objects that the historical figures request along the way. The game is informative and entertaining, but it requires patience as the player memorizes which characters are behind each door and figures out which items to collect.

Liberty's Kids is an affordable, engaging, challenging, and interactive game. The game covers the Boston Tea Party, Lexington and Concord, the Declaration of Independence, Washington crossing the Delaware, Saratoga, Valley Forge, and the Battle of Yorktown. Students can work independently, in pairs, or with parents and teachers.—AR

Decisions, Decisions 5.0: The Constitution 9X

♦♦♦♦; Tom Snyder Productions, 800/342-0236, www.tomsnyder.com; single user, $150; site license, $600 **Ages 9–16**

Many students may feel that historical events are far-removed from their own lives and have little relevance to the present. The Decisions, Decisions social-studies series, by Tom Snyder Productions, tries to change this attitude by placing students in the center of the historic decisions that shaped the modern world. The series covers fifth through tenth grades and offers 15 titles focusing on world and American history, including The Constitution, which is reviewed here.

The program divides students into four groups; each group takes on the role of a different fictional character as defined by the included advisor briefing booklets. Using their characters' viewpoints as a guideline, the different teams debate the merits and modern relevance of historical

Time Travels Young reporters get the real story from John Adams and other historical figures in The Learning Company's Liberty's Kids.

doctrines such as the Articles of Confederation. Each on-screen scenario takes about ten minutes. The teacher's guide is an excellent resource, providing worksheets, technical help, and classroom-management tips. The role-playing activities make learning interactive and visual, and help students develop critical-thinking skills, but the program is not a replacement for a U.S. history textbook. Classrooms with only one computer will benefit from a projector; otherwise, groups must rotate use of the computer. Prices vary according to how many titles and computer licenses you need.—AR

World Book Jaguar Edition X

●●●●½; World Book, 800/967-5325, www.worldbook.com; $68 **All Ages**

World Book has updated its stellar multimedia reference software of the same name to take advantage of OS X 10.2. The Jaguar edition—which still comes on a two-CD set and includes a complete encyclopedia, an atlas, a dictionary, homework wizards, and a word processor—not only capitalizes on the Mac's graphics prowess but also sports new and improved features that make this package even more compelling than before.

One new feature that will please teachers is World Book's enhanced Sticky Notes. Using Jaguar's Rendezvous technology, Sticky Notes lets students working on a network share notes while they collaborate on a project. Anyone who has difficulty using a mouse and keyboard will appreciate the program's support for speech input, which lets you launch, navigate, and quit the application with voice commands. And a new Just Listening section lets you sample music and animal sounds in 14 categories. Our only gripe: you have to keep the second CD mounted to access its contents.—FRANKLIN N. TESSLER

PHONICS AND READING

Disney's Phonics Quest 9

●●●½; Disney Interactive, 800/228-0988, www.disneyinteractive.com; $20 **Ages 5–8**

To help first and second graders build important phonics skills, Disney turned to one of the most enduring images in its huge library of animation—Mickey Mouse as the Sorcerer's Apprentice. The result is Disney's Phonics Quest, an innovative and entertaining game that focuses on a wide range of learning activities.

Disney's Phonics Quest opens with a familiar scene; the sorcerer leaves Apprentice Mickey alone, which, predictably, leads to trouble. Mickey opens the sorcerer's magic book and loses all six of the sorcerer's belongings. You must help Mickey recover the items by completing a series of activities that test reading comprehension, word-building and rhyming skills, and other abilities. Along the way, players get to interact with well-known Disney characters such as Goofy, Minnie Mouse, and Donald Duck.

What's most innovative about this game is its use of speech-recognition technology. It's helpful for kids to learn how to sound out words themselves, not just read and listen to them. Multiple skill levels and a randomization feature keep the game challenging even when it's replayed. And a sign-in feature helps keep track of individual players—a useful addition in classrooms and homes with multiple school-age kids. The game froze up on us once or twice, however, and had to be restarted.—PC

Rabbit Tales First and second graders practice important phonics skills in Reader Rabbit.

Reader Rabbit Learn to Read with Phonics: 1st & 2nd Grade 9X

●●●●; The Learning Company, 800/395-0277, www.learningcompany.com; $25 **Ages 5–8**

Arguably one of today's most well-recognized educational-software franchises, The Learning Company's Reader Rabbit is a complete line of software aimed at helping kids develop an interest in reading, from the time they're toddlers straight through second grade. Now The Learning Company has expanded the series, with two phonics-based titles: one is aimed at preschoolers and kindergartners; the other, at first and second graders.

Reader Rabbit Learn to Read with Phonics: 1st & 2nd Grade comes on two CDs and covers the spectrum of phonics skills, including blending consonants, practicing long and short vowel sounds, using and understanding compound words, examining word families, and more. Players can choose either Adventure Mode, where they play through various activities as part of a story, or Practice Mode, where they hone specific skills. By using one of more than a dozen interactive storybooks, kids can also practice what they've learned and put their new vocabulary skills to good use.

The second CD is packed with extra goodies, including ten audio tracks that will play in a regular CD player, additional skill-building activities, and a collection of crafts, puzzles, and games that kids can print out and use away from the computer, ensuring that their experience is more than just point-and-click work.—PC

Reading for Meaning 9X

●●●●½; Tom Snyder Productions, 800/342-0236, www.tomsnyder.com; single user, $100 (Internet subscription, $60); site license, $1,000 (Internet subscription, $350) **Ages 8–14**

Teachers are always looking for new ways to teach essential reading skills. Tom Snyder Productions' Reading for Meaning is a complete set of tools for building and implementing reading-comprehension lessons for students in third through eighth grades. The program includes more than 60 different lessons that focus on building critical skills, understanding selected literature passages, and teaching popular children's literature such as *The Call of the Wild*. The program comes in a three-ring binder with instructions, literature excerpts, and worksheets that can be printed out or photocopied and used in the classroom.

What's great about Reading for Meaning is that students and teachers can use the program with any piece of literature, so it's flexible enough to fit into a variety of settings. The program can be used for entire class activities, smaller groups, or even individual practice. The program's price is determined by the number of users. Schools can also buy a less expensive Internet subscription. For OS X 10.2 users, a software update is available from the company's Web site.—AR

Teacher's Helper Tom Snyder Productions' Reading for Meaning offers dozens of lesson plans that develop reading-comprehension skills.

FILM SCANNERS

Slide Scanning Becomes Affordable

BY BRUCE FRASER

To make high-quality scans from 35mm film, you need a dedicated film scanner. But while flatbed-scanner prices have been in free fall for several years, film-scanner prices have remained in the realm of pros and very dedicated amateurs—until now. Judging by the four slide scanners we looked at in this review, film scanners are finally coming within the reach of Mac users who don't want to spend a bundle.

We looked at SmartDisk's $230 SmartScan 2700 and $450 SmartScan 3600, and Minolta's $300 Dimage Scan Dual III and $700 Dimage Scan Elite II. The SmartDisk scanners are 35mm only, while the Minolta scanners offer an optional adapter for scanning APS (Advanced Photo System) film format, and all four have OS X–compatible drivers. While we found some flaws and limitations, we were pleasantly surprised by just how well these scanners performed.

The SmartScan 2700 is a bare-bones but capable scanner. The SmartScan 3600 offers automatic batch scanning of film strips containing as many as six frames, and it has more sophisticated editing features than its less expensive sibling. The two Minolta scanners are almost identical; they differ in that the more expensive Dimage Scan Elite II includes Applied Science Fiction's Digital ICE surface-defect removal and Digital GEM grain-reduction technologies.

Pixels and Detail

It's tempting to equate a scanner's resolution—the number of pixels per inch (ppi) it captures—with its ability to capture detail from film. The SmartScan 2700 has the lowest resolution of the four, with a maximum optical resolution of 2,700 ppi, followed closely by both Minolta scanners, with 2,820 ppi. The SmartScan 3600 captures 3,600 ppi, so you might expect that it would produce the most detail. But we found that the SmartScan 3600 didn't extract any more usable detail than the other scanners; it just made a bigger file. The optics in the SmartScan 3600 aren't particularly sharp, negating any advantage the higher resolution might confer. And its manual-focus option proved useless because the only feedback offered when we adjusted the focus was a postage-stamp–size preview of the whole image. The SmartScan 2700, on the other hand, produced very sharp scans, comparable to those from the three other scanners. Resampling the images to the same pixel count in Adobe Photoshop produced results that were nearly identical, in terms of sharpness, from all four scanners (see "Does Resolution Equal Detail?").

In terms of resolution, none of these scanners can compete with the more expensive, 4,000-ppi Nikon SuperCoolScan 4000 ($1,100) or the much more expensive, 8,000-ppi Imacon Flextight 848 ($17,995)—nor would we expect them to. We won't enter the debate about how much information a piece of 35mm film can carry, but 35mm cameras in the hands of amateur photographers using consumer-grade lenses produce film that contains a great deal less information than 35mm cameras in the hands of pros who use professional-grade lenses. These scanners can produce good 8-by-10-inch prints from the majority of consumer images. If you're scanning high-speed (400 ISO or faster) film shot with a point-and-shoot camera, these scanners will very likely deliver everything that's on the film.

Speed and Connectivity

The SmartScan 3600 supports FireWire and USB; the SmartScan 2700 supports only USB. The Minolta scanners use USB 2.0, which is backward-compatible with the Mac's USB 1.0 implementation. We expected the SmartScan 3600 to have the best speeds, due to its FireWire capability, but in practice it didn't. The Minolta scanners did, however, produce a much faster prescan than the SmartDisk scanners, at around six seconds, compared with 20 seconds for the SmartScan 3600 and approximately 30 seconds for the SmartScan 2700.

Film Handling

The SmartScan 2700 scans one frame at a time, either from mounted slides or from strip film. In either case, you must load the film manually into the scanning window. The SmartScan 3600 can scan either a single mounted slide or a film strip that contains three to six frames. Mounted slides feed into a slot on the front of the scanner, while the film strips feed, without a holder, into a slot on the side. Software controls let you advance the film one frame at a time, or you can set the scanner to scan the entire strip as a batch.

The Minolta scanners use holders that can handle four mounted slides or a six-frame strip of uncut film. You can configure the software to scan all the images as a batch and use the same settings, either auto or manual, for each image.

Dynamic Range and Shadow Detail

One of the more confusing aspects of scanner specifications is dynamic range—the range of tones, from white to black, a scanner can record. Measured on the logarithmic Optical Density (OD) scale, dynamic range is limited by the analog sensitivity of the sensor. The whitest recordable white is determined by the point at which the sensor becomes saturated, creating a condition called *blooming*, where current spills over into the adjacent sensors, creating a white blob. This is often a problem with digital cameras, but blooming rarely occurs with scanners.

For scanners, the limitation is the darkest recordable black, determined by the point at which the noise in the system overwhelms the weak signal produced by low levels of light. But just when the signal can be considered "overwhelmed" is a subjective decision, so while dynamic range specifications are somewhat useful in comparing two scanners from the same vendor, they're almost useless in any other type of comparison.

Film Scanners Compared

COMPANY	PRODUCT	RATING	PRICE	OS COMPATIBILITY	CONTACT	PROS	CONS
Minolta	Dimage Scan Dual III	●●●●	$300	Mac OS 9, Mac OS X	877/462-4464, www.minoltausa.com	Excellent dynamic range and color fidelity.	Small preview.
Minolta	Dimage Scan Elite II	●●●●½	$700	Mac OS 9, Mac OS X	877/462-4464, www.minoltausa.com	Excellent dynamic range and color fidelity; Digital ICE and GEM save time.	Relatively expensive; small preview.
SmartDisk	SmartScan 2700	●●●½	$230	Mac OS 9, Mac OS X	239/425-4000, www.smartdisk.com	Inexpensive; easy to use.	Limited dynamic range; small preview.
SmartDisk	SmartScan 3600	●●½	$450	Mac OS 9, Mac OS X	239/425-4000, www.smartdisk.com	High resolution.	Limited dynamic range; small preview; buggy driver.

Does Resolution Equal Detail? In these close-ups of a larger shot (left), the Minolta Dimage Elite II captured 2,820 ppi (middle), and the SmartScan 3600 captured 3,600 ppi (right). But as these samples show, higher resolution doesn't always mean more usable detail.

SmartDisk claims that the SmartScan 3600 has a dynamic range of 3.6 OD, but at the time of this writing, no spec was available for the SmartScan 2700. Minolta claims that both of its scanners have a "computed" dynamic range of 4.8—standard test targets don't even begin to approach such high densities. The only reliable way we know of to compare scanners' dynamic range is to scan the same high-contrast slide on each one and compare the results. The two Minolta scanners performed almost identically, seeing much further into the shadows, with much less noise, than the SmartDisk scanners. The SmartScan 2700 actually seemed to have slightly less shadow noise than its higher-resolution sibling.

Bit Depth

A scanner's bit depth determines the number of discrete shades into which its dynamic range is divided. The SmartDisk scanners use 12 bits per channel, while the Minolta scanners use 16. A wide dynamic range needs more bits to produce smooth gradations than a narrow one, but the real benefit of many bits is editing headroom. If you don't use those extra bits, by either making your edits in the scanner software or bringing high-bit scans into an editing application that can handle them, they're wasted data.

If you plan to scan into Photoshop, you should scan a high-bit file. But the SmartScan 3600 driver has a bug that prevents it from scanning high-bit files at its maximum resolution—it scanned high-bit files at resolutions as high as 3,000 ppi, but when we tried to scan high-bit images at a higher resolution, we got the dreaded spinning beach ball. After leaving it overnight, we had to force-quit Photoshop. If you use Adobe Photoshop Elements, you can scan only to an 8-bit-per-channel file because Elements doesn't support high-bit images, so to get the benefit of the extra bits, you need to use the controls in the scanner's software to optimize your images.

Editing Controls

All four scanners let you scan through either a stand-alone utility or a Photoshop-compatible plug-in. (And all four scanners include Adobe Photoshop Elements 1.0, which isn't OS X native, so we did our testing using the plug-ins and Photoshop 7.0.1.)

The biggest limitation of these scanners' drivers is that they force you to make your edits based on a fairly small prescan. The SmartScan 2700 has the most-limited software, with a preview close to actual size and no readout of RGB values. The SmartScan 3600 does offer RGB readouts and a zoomable preview window, but it simply magnifies the pixels in the prescan, so you see a large, blocky image instead of a small, smooth one. The Minolta scanners' software previews have a somewhat higher pixel count, but they're still too small to allow you to set black and white points precisely.

All four scanning plug-ins include curve- and histogram-based editing tools and slider controls for brightness, contrast, and color balance. They all let you specify a monitor profile for accurate display and an output profile for scanning into the host application, so what you see in the prescan matches the final scan in the host application. The Minolta plug-ins also offer selective color-editing controls.

The scanners' automatic exposure and color balance worked well on positive slides, less so on color negatives. (We've yet to find a scanner that consistently produces good automatic results on color negatives.) If color-negative scanning is important to you, plan to edit each image individually—but you'll have much less work to do with the Minolta scanners than with the SmartDisk models.

Defect and Gain

The Minolta Dimage Scan Elite II includes Applied Science Fiction's Digital ICE and GEM, which involve additional hardware in the scanner as well as special software. They work extraordinarily well.

You shouldn't confuse ICE with a pixel-cloning scheme that attempts to repair defects with software only. ICE uses invisible wavelengths to map surface defects such as dust specks and scratches, and lets the scanner see behind defects and repair them automatically.

GEM reduces obvious film grain that can interfere with image detail. It's particularly valuable on scans of color negatives, because during the editing process the grain on color negatives becomes much more exaggerated than the grain on slides. However, GEM is also useful on other kinds of originals.

Macworld's Buying Advice

The only scanner that disappointed us was SmartDisk's SmartScan 3600. Although it had the highest resolution of the four, its limited dynamic range and quirky software proved frustrating. The SmartScan 2700, however, delivered good results.

Both of the Minolta scanners produced excellent results, with a dynamic range comparable to those of much more expensive film scanners—the only real limitation of these scanners is their relatively low 2,820-ppi resolution. If a low price is more important to you than the time you'll have to spend cleaning up negatives by hand, the Dimage Scan Dual III is a good choice. The Digital ICE and GEM technologies in the Dimage Scan Elite II command a hefty price, but ICE provides huge time savings when you're scanning dirty or scratched film, and GEM does a marvelous job of reducing grain, particularly on high-speed color negatives. So if you have a lot of film to scan and you value your time enough to spend the extra $400, we recommend the Dimage Elite II. □

The Minolta Dimage Scan Dual III

FAX SOFTWARE

One Application Proves to Be a Shining Light in a Field Dominated by Dim Products

BY JEFFERY BATTERSBY

Fax software offers the perfect solution if you want to send faxes without buying an expensive, bulky fax machine. But in recent years decent fax applications for the Mac have been tough to find. Smith Micro's Faxstf X (♦♦½; May 2002) has been available for about a year, but it's extremely limited. Fortunately, over the past several months, some new fax applications for Mac OS X have surfaced, giving you more choices if you want to use your Mac as a desktop fax machine.

We evaluated three single-user applications: Ben Mackin's Cocoa eFax 1.0.3, Glenwarne's FaxElite Solo X 6.5, and Smile Software's Page Sender 2.3.1. We also took a look at two solutions for workgroups that need to send faxes over a network: Glenwarne's FaxElite Network X 6.5 and Soft Solutions' 4-Sight Fax 5.0.4 (see "Sending Faxes via a Network: Not Quite Ready for OS X Prime Time"). While testing these products, we faced a frustrating onslaught of crashes, nasty bugs, and poor application design, but we emerged confident in one amazingly versatile application: Page Sender.

The Perfect Fax Application

Fax software must be at least as easy to use as a fax machine. Ideally, setup should be painless, sending a fax should be as simple as printing a document, and receiving a fax should take no effort at all. In addition to these basic requirements, we also wanted a way to view previously sent and received faxes, store and retrieve fax numbers, and create customized cover sheets.

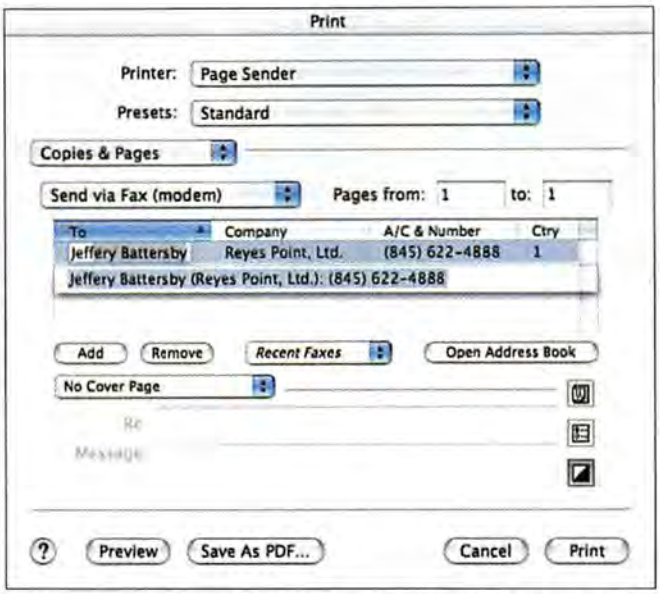
FaxElite Solo X

We knew that FaxElite Solo X would give us an interesting ride as soon as we installed the program and saw the little installation note suggesting that we set our OS X machine to load Classic on startup. Yes indeed, FaxElite is not fully OS X native.

FaxElite is composed of five separate applications, each specialized to handle a specific aspect of the program. There's FaxControl, which processes your faxes; Faxer, which helps you address your fax and add a cover page; FaxViewer, which displays a catalog of your sent and received faxes so you can view them; CoverDesigner, for creating custom cover pages; and Phonebook Editor, for storing fax numbers you add manually. This collection of applications makes FaxElite Solo unwieldy and cumbersome, and only FaxControl is a true OS X application—the rest must run in Classic. While most of the time the program opens and closes each of the necessary applications as needed, we typically had at least three—and often all five—open at once.

As a fax application, FaxElite works like any printer. When you want to fax a document, you go to the Print dialog box, choose FaxElite from the printer menu, and click on the Print button. This prepares the document for faxing and opens the Faxer application. If you've entered names and numbers in your FaxElite phone book, you can select one from a drop-down menu that appears near the Name field. To fax your document to more than one recipient, you can click on the Phonebook button, which allows you to select as many names as you wish.

FaxElite Solo lets you select additional files from your hard drive to send in the same fax



You Send Me Page Sender's Live Addressing feature links directly to your favorite address book and displays fax numbers as you type.

Fax Software Compared

COMPANY	PRODUCT	MOUSE RATING	PRICE	OS COMPATIBILITY	CONTACT	PROS	CONS
INDIVIDUAL FAX SOFTWARE							
Ben Mackin	Cocoa eFax 1.0.3	♦	$10	Mac OS X	www.macadvocacy.com/cocoaefax.htm	Nice user interface; inexpensive; simple installation.	Many bugs; doesn't receive faxes well; formats landscaped documents improperly.
Glenwarne	FaxElite Solo X 6.5	♦♦	$75	Mac OS 9, Mac OS X	[44] 1628 667702, www.faxelite.com	Works like any printer; customizable cover pages; good for basic text faxes.	Unwieldy due to multiple applications; Attach feature did not work; occasional crashes.
Smile Software	Page Sender 2.3.1	♦♦♦♦	$30	Mac OS X	510/289-4000, www.smilesoftware.com	Excellent user interface; links to many Mac-based address books; capable of e-mailing as well as faxing documents; compatible with major online fax services.	No transmission log; no way to organize sent and received faxes.
NETWORK-BASED FAX SOFTWARE							
Glenwarne	FaxElite Network X 6.5	♦♦	server, $99; user packs: 3 users, $229; 5 users, $299; 10 users, $499	server, Mac OS 9; client, Mac OS 9	[44] 1628 667702, www.faxelite.com	Works like any printer; customizable cover pages; good for basic text faxes; can run on older Mac OS systems.	Server prone to crashes; renders server Mac useless for other work.
Soft Solutions	4-Sight Fax 5.0.4	♦♦♦	server, $495 and up; 10-user client license, $295	server, Mac OS 9; client, Mac OS 9 and Mac OS X	770/457-9400, www.4sightfax.com	Excellent OS X client; handles multiple phone lines and modems; capable of routing faxes to individuals on network.	Limited number of modem types supported; occasional crashes during configuration.

Sending Faxes via a Network: Not Quite Ready for OS X Prime Time

Server-based faxing can be very useful in larger office environments where you'd need to deploy a flotilla of fax machines to process all the faxes sent on a typical day. Unfortunately, to deploy a Mac-based fax client, you must also (re)marry a pre–OS X operating system: after taking the plunge, we wanted to annul those renewal vows as quickly as possible. We found that while using an older Mac operating system can be a blessing—for example, when you want to use an old Mac as your server—it also brings the curse of systemwide crashes and restarts. For that reason, we recommend waiting for stable, well-designed OS X fax-server software.

FaxElite Network X

In terms of features and functionality, there's very little difference between Glenwarne's FaxElite Solo and FaxElite Network X 6.5, except that the network version makes no pretense of being an OS X application. The network client will run in Classic mode—with no pseudo-X windows—while the server requires anything from System 7.1 to OS 9.X to run properly.

Installing the server software was quick and easy. FaxElite Network X uses a concurrent licensing scheme, so you'll need to buy licenses for only as many users as you expect to have connected at any one time. While the program's documentation states that it's possible to use the server as a workstation, we found that even a relatively powerful Mac slowed down considerably while the server was processing faxes, making it nearly impossible to work. Also, the FaxElite Server software completely froze the Mac we were using twice within the first 20 minutes we had it running. This behavior didn't continue, but it's a concern if you plan to use this program as the linchpin of your faxing operation.

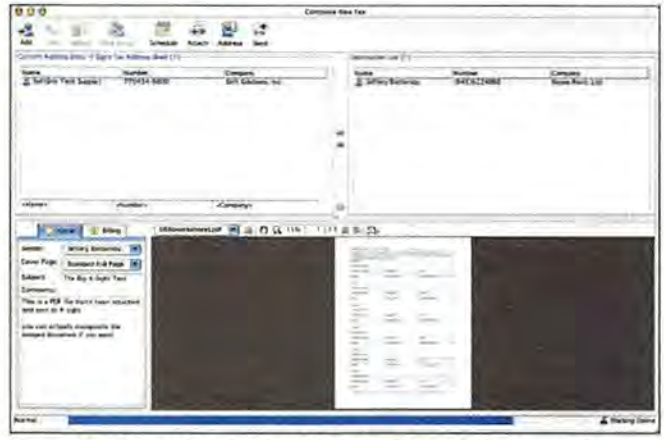
You can install the client software on any system running System 7.1 through OS X, and it has the exact same look, feel, and features as the Solo version, including the customizable cover sheets. In OS X, the program runs entirely in Classic mode and, unlike the Solo version, has no Aqua front end. Other than setting up the printer, almost no configuration is necessary in the FaxElite client. When it's time to fax a document, the client searches the network for a FaxElite server and connects to it automatically. And when the server receives a new fax, FaxElite can automatically print the document and optionally notify selected network users that a new fax has arrived.

4-Sight Fax

Soft Solutions' 4-Sight Fax consists of two distinct pieces: a server based on OS 8.6 to 9.X and a client that's native in OS X, OS 8.6 to 9.X, or Windows. The 4-Sight server is feature-rich, and for an additional cost, it can support as many as 16 modems at once and route faxes to individual users on the network, based on the phone number that receives a fax.

While the program's setup process seemed relatively simple at first, it ended up being horrific. According to the program's documentation, the modem we were using, Apple's internal device, is one of a very limited number of modems (34 in all) that the product supports. So that's what we selected during the setup process. However, we found out the hard way, through numerous crashes and a call to tech support, that some Macs ship with Type 1 modems, which 4-Sight doesn't support. Although tech support couldn't tell for sure, we apparently had a Type 1 modem. After setting up a new modem, we were able to get the server up and running, and it ran flawlessly during the rest of our testing. But we would have been much less frustrated if the company had provided better modem information and some means of testing to see whether our modem was supported.

4-Sight's client is quite versatile, allowing you to fax documents from the Print window, attach documents from your hard drive, work offline if you can't connect to the server, and view and manipulate any document you've sent or received. The program provides both local and server-based address books, and if you're connected to the server, you can view items in the queue to see whether your fax has been sent yet. We liked the way the client worked, but unless you're absolutely desperate for a network-based fax system now, you should hold off on taking the 4-Sight plunge until there's an OS X–native version of the server software.



Making the Connection 4-Sight's OS X–based client displays everything you need to send a fax in a single window. However, its server software runs only on Mac OS 8.6 to 9.X.

transmission. Unfortunately, we couldn't get this feature to work properly. During one attempt, the FaxControl application crashed while trying to render the attachment. In another attempt, FaxElite Solo confirmed that it had sent our four-page fax and indicated with a message box that it had sent 65,498 pages—but the program actually sent only the cover page.

FaxElite Solo's CoverDesigner application offers quite a few ways to customize cover sheets. You can add fields that correspond to the information stored in your phone book, add standing text, and copy and paste an image from your favorite graphics program to your cover page. However, you can't import graphic objects directly onto the page.

Overall, FaxElite Solo fared well when we tried to send relatively uncomplicated pages of text and graphics, but it failed when we tried to use the program's more-advanced features.

Cocoa eFax

Ben Mackin's Cocoa eFax posed a conundrum. It's easy to use, has some excellent features, is integrated into a single package, and at $10 is extraordinarily inexpensive. But when it comes to sending and receiving faxes—the only reason you'd use a fax program—it just doesn't work well.

Created specifically for OS X, Cocoa eFax requires no installation. All we had to do was fire up the application and enter our initial preferences. Cocoa eFax doesn't work like FaxElite: you don't use the Print dialog box to send faxes. Instead, you must either drag and drop the files you want to fax onto the Cocoa eFax icon in the Dock, or click on the program's Send Fax button and select the desired file from your hard drive. The program is also limited by its file compatibility: Cocoa eFax supports only a few file types, including PDF, PICT, JPEG, and TIFF. So if you want to fax a Microsoft Word or AppleWorks document, you'll have to save it as a PDF file first.

One thing we really liked about Cocoa eFax was its helpful Fax Browser, which stores a catalog of every fax you've sent or received. Fax Browser lets you view any cataloged item by clicking on it once. You can also rotate any fax—via a sliding bar at the bottom of the viewing window or by entering the number of degrees you want to rotate the image.

When it's time to address your fax and add a phone number, Cocoa eFax links to OS X's Address Book application. To use this feature, you enter a contact name in the program's Fax Number field and then press the Check Address Book button.

continues

If a name in the Address Book matches your search criteria and has an associated fax number, a message will appear below the Fax Number field stating how many fax numbers Cocoa eFax found. Opening this field's drop-down menu displays the list of selected contacts. Choosing one places the appropriate fax number in the field. Unfortunately, if you type a name in the Fax Number field and accidentally leave it there, Cocoa eFax will attempt to send the fax and then abort the transmission without giving you an error message.

Try as we might, we couldn't get Cocoa eFax to receive a fax properly. Initially, the program crashed every time a new fax came in. After working with the developer, we got an updated application that didn't crash, but it got stuck in an endless loop that continued creating files—without displaying them—until we quit the program. Sending files as fax attachments works fine in Cocoa eFax, as long as you orient the document in portrait mode; the program delivered landscape-mode documents on approximately 8.5-by-8.5-inch pages that were missing a third of the image (see "Half the Fax, Ma'am").

Cocoa eFax can't be considered a ripe offering, but it does have potential. We're curious to see how this product fares when Ben Mackin works out the bugs, but until then we can't recommend it.

Page Sender

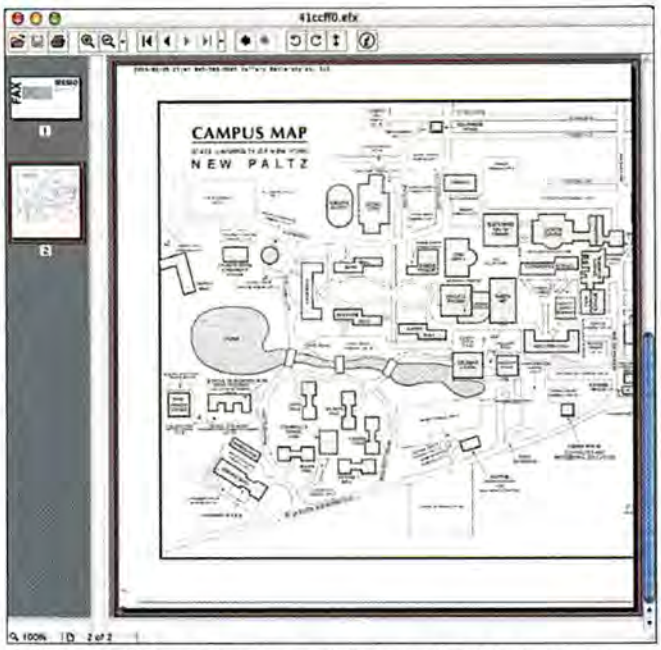
After going through all kinds of trouble with our other two single-user fax applications, Page Sender, which runs in OS X only, provided welcome relief. Page Sender is a stable, superbly designed program with excellent features that are integrated so well with so many applications that you'll want to use it all the time.

Like FaxElite Solo X, Page Sender functions through the Print dialog box. When you want to send a fax, you select Print from the File menu and choose Page Sender as the printer. The Print window then becomes Page Sender's Fax Envelope dialog box, where you add your recipient's name, company, and fax number. You then send faxes using your internal modem or any of the major online fax services, such as eFax.com and J2.com's jConnect.

Aside from its fax capabilities, Page Sender can also send the open document in any application as an e-mail. This is especially useful with programs such as AppleWorks and Intuit's QuickBooks 5, which lack integrated e-mail capabilities. You can share Page Sender on a network like any other printer, with a couple of minor limitations: you can't select a customized cover sheet and you won't receive an acknowledgment that Page Sender has completed your fax job if you're working on a remote computer.

Page Sender makes addressing documents easier than sending a fax to a preset number on a fax machine button. The program links not only to OS X's Address Book app but also to virtually every other major program that has an address book, including Palm Desktop, Microsoft Entourage and Outlook Express, and Eudora. Beyond simply opening your specific address book, Page Sender includes a feature called Live Addressing, which you can use with four of the supported address books: Power On's Now Contact, Microsoft Entourage and Outlook Express, and OS X's Address Book. As you type the name of your recipient in the Name field, Live Addressing lists the matching names in your address book that have a fax or e-mail address (see "You Send Me"). The only time this feature didn't work was when we tried to fax from within a program while Page Sender was using its address book. That is, if you try to fax an e-mail message from within Entourage when Page Sender is accessing the Entourage address book, Live Addressing won't work. That caveat aside, the Live Addressing feature alone is almost worth the price of the product.

When it comes to faxing and receiving documents, Page Sender works perfectly. The program handled everything we threw at it, from graphic images to word processing documents, without a hitch. We also tested it by sending faxes via eFax.com (an excellent product in its own right) instead of a dial-up modem, and Page Sender worked without a hiccup. The only features it lacks are a way to organize sent and received documents (they all appear together in the program's main Fax Center window) and a way to create a transmission log once you've sent a fax. Otherwise, of the products we tested, Page Sender is hands-down the best fax software out there.



Half the Fax, Ma'am Cocoa eFax cut off about one-third of the faxed image, which was intended to be delivered in landscape mode.

It's All in How You View It FaxElite's FaxViewer application allows you to easily manipulate your received documents.

Macworld's Buying Advice

Crashes. Freezes. Bugs. Classic. This roster of Mac-based fax applications isn't pretty, and if not for Page Sender, it'd be downright ugly. At best, Cocoa eFax can be considered only a beta application with a fair degree of potential. FaxElite, in both its solo and network versions, is so tied to pre–OS X operating systems that you have to be willing to live in Classic—or forget about OS X altogether—to use the program. Fortunately, Page Sender—while it needs some minor improvements—is a stellar fax application with a great set of features. □

EXPRESSION 3

Illustration Program Combines Vectors, Rasters, and Something That Has Been Missing—Fun

BY ANDREW SHALAT

The current crop of illustration programs is an array of mature, complex applications able to produce incredible works of print and Web art. But as these programs became more complex, users had to concentrate on technical mastery rather than on creativity.

A new version of Creature House's Expression promises to put back some of what has been missing from the illustration-program field. Expression 3 combines aspects of Corel's Painter, Adobe Illustrator, and Adobe Photoshop, and it can complement any of those applications. But it's also fun.

Hands-on Experience

Expression 3's tools include a wealth of design features that any Web or graphic designer can use. Like Painter, it's best for—and will find its most widespread use among—people who draw by hand, with pen or brush. For that reason, we highly recommend using a pressure-sensitive tablet with this application.

At its core, Expression 3 is a vector-based drawing program. And though it imports and exports bitmap images, it ingeniously disguises vector drawings so they seem like pixel-based images. Back in 1997, Expression 1 was the first vector-graphics tool to employ full transparency, as well as soft-edged strokes that didn't require any rasterizing (conversion to bitmap images). Adobe Illustrator and Macromedia FreeHand subsequently adopted both of these features, in one form or another.

Expression 3's newest features concentrate on workflow and productivity, although this version introduces some new tools and effects, too. New style palettes cling to one another, which helps keep your desktop uncluttered. You can assign keyboard shortcuts to all menu items via the program's preferences, and you can freeze layers through enhanced controls. Freezing a layer rasterizes it temporarily, speeding up redraw and effectively locking in changes without making them permanent.

Except for specific layer-based opacity control, layers work essentially as they do in Illustrator. If you export a file to Illustrator, all layers remain intact, even locked or invisible ones.

Strokes of Genius

Expression uses what its developers call *skeletal strokes*, user-definable brush styles that let you string vector or bitmap images along a path. Imagine a skeletal stroke as the digital equivalent of a pearl necklace: the thread is your vector path; the pearls, the individual instances of any drawing you decide to put there.

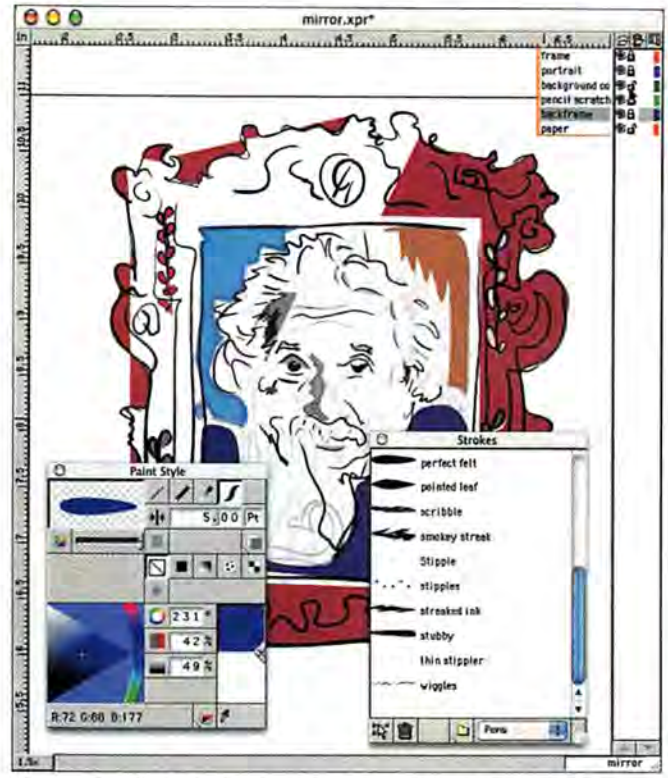
If you want to create a pattern or border on a drawing, for instance, a skeletal stroke will do the job. But you can also add animated images to a path. Imagine each pearl on your necklace turning, moving, or changing size.

You can resize, stretch, and transform each instance of an image defined as a skeletal stroke as it sits on its path. This version of Expression also lets you anchor images, making specific points or areas of the image unchangeable while leaving other parts open to transformation.

As in the previous version of Expression, you can save your files to a number of bitmap and vector formats, including GIF, TIFF, JPEG, Flash, Illustrator, EPS, and PDF. New to this version are Photoshop and PNG export options.

Just Pick Up Your Pen and Draw

Expression doesn't let an excess of complicated tool commands interfere with the creative process. You use simple selection tools to change the style of image strokes, and the program's printed tutorials will guide beginners and advanced users alike through the more complex features.



Discover Your Inner Genius Expression 3's user-definable interface lets you unleash your creativity as you draw.

Expression 3's Paint Style palette gives you fine control over each stroke. With a slider control, you can adjust the width and opacity of each stroke; with a tablet and stylus, you can define stroke edges as hard or soft, thick or thin. You can even apply styles to type, and the text remains editable.

New to Expression 3 are *fringe textures*—vector-based edges that simulate water-blotting effects on paper. Fill opacities and textures have also been expanded to include tiled bitmaps and something called *reflection-mapped fills*, which create three-dimensional metallic effects. A set of PSD and TIFF texture files is installed with the program.

New Drawing Tools

A new Eraser mode lets you lighten or enhance feathering effects on an object. For best results, use a tablet and stylus, rather than a mouse, so you can play with pressure variations.

For comic-book artists, new Effect Line groups generate radiating lines and zoom lines, often used in comics to indicate movement and emotion. You can further transform these lines by applying skeletal strokes and varying the length, width, and spacing of the lines.

This application will surprise you at every turn. The greater your expertise, the more you'll discover. Its one drawback is that the complexity of some tools sometimes overshadows the effect you're after.

Macworld's Buying Advice

Expression 3 might just be the illustration world's best-kept secret. If you're an illustrator, a graphic designer looking for an interesting type effect, or a fine artist working on a computer, this program is for you. □

RATING: ★★★★

PROS: Profound control over drawing tools; great stroke effects; definable shortcuts; good documentation; fun.

CONS: Can sometimes be too complex for the final effect you want.

PRICE: $159; upgrade, $99

OS COMPATIBILITY: Mac OS 9, Mac OS X

COMPANY: Creature House, [852] 2697 8993, www.creaturehouse.com

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CINEMA 4D R8 CORE

Low-Cost Modular Animation System Clears the Way for 3-D Neophytes, Provides Excellent Upgrade

BY SIMON DANAHER

Things are about to get a much needed shake-up in the low-to-midrange 3-D market, thanks to Maxon. The new version of the company's 3-D–animation system, Cinema 4D, dubbed R8 and without the usual *XL* suffix, is being offered for less than half the price of the previous version (★★★★; *Reviews*, June 2002).

The price decrease may sound like a desperate attempt to boost sales, as other high-profile 3-D–software companies have made recently. However, Cinema 4D R8 is a huge release for Maxon, so rather than keep the program in a single package, the company is offering different modular configurations at various prices. The entry-level Cinema 4D R8 Core has almost all the features of version 7, plus several improvements, for the paltry sum of $595. This is almost the same package that was in competition with Maya and LightWave and cost more than $1,500.

To the Core

What you don't get in R8 Core that was available in the previous version is radiosity and caustics, and the three-node NET rendering license. The Advanced Render module for R8 costs an extra $495. For this, you get radiosity and caustics back, as well as a new depth-of-field system and new highlight and glow effects. These produce sparkly highlights on shiny objects or diffused glows. The glow parameters are vast, so you can produce anything from pseudo-fur to electric plasma and fog. This depth-of-field system is a great improvement on the previous version's, especially for high-resolution stills, but it's still not perfect.

R8 Core has many improvements that affect workflow, whether you're doing simple Web graphics or high-end animations and effects. For example, a new Attributes Manager is a nonmodal panel that displays parameters associated with any selection. Select a light, and all the light's parameters—including shadow casting, color, and wireframe color—become accessible. What's more, your changes are updated in the Editor in real time. In fact, almost all panels are nonmodal, including Render Preferences and General Preferences. They can be docked to the interface and left open.

MOCCA Buzz Cinema 4D R8's MOCCA module offers new character tools and features, including an innovative Soft IK system, constraints, and rigging tools.

Another improvement is multiple-object selection. At last, more than one object at a time can be selected in the Editor view or Object Manager, and moved, scaled, and rotated together. Although you can move, rotate, and scale the group using the tools and dragging in the view, you can also use the Coordinates section displayed in the Attributes Manager. This affects the objects on their own axis system, rather than on the center of the group. However, it works only with absolute values, so if the objects have different *x*-position values, for example, moving the *x*-position value in the Attributes Manager will cause all objects to snap to the same *x* position—not always what you want. A relative editing mode is needed.

Express Yourself

XPresso is a new expression system that uses a graphical user interface and blocks called Nodes to build complex (or simple) relationships between objects. Nodes can be objects or special utilities that modify the data in some way. They have ports that can be connected together via wires that are dragged between them. It's a powerful system, and even nontechies can produce incredible results with a minimum of brain work. Others have tried to make expressions in 3-D easier, but no one has succeeded until now.

The other modules available are Thinking Particles, which, together with the XPresso interface, provide high-end particle effects; PyroCluster, for volumetrics; Dynamics; BodyPaint 3D; and NET Render. Last but not least is MOCCA (MOtion Capturing and Character Animation), which addresses Cinema's weakest area: character animation. One of MOCCA's main features is Soft IK. This system reduces the rigid nature of joint hierarchies—typical of other IK (Inverse Kinetics) systems—making characters appear floppier and more natural in their movements. Though still animating a goal object to drive an IK chain, the bones are less tightly bound to one another and have built-in dynamics that take gravity and other natural laws into account, so secondary animation effects occur automatically. Another tool in MOCCA is Cappucino, which records parameters in real time as you move the mouse and helps with the resulting dense data keyframe reduction. There's also a great pose mixing and morphing system, and utility tools such as bone mirroring, weight painting, and up vector constraints, which make character rigging easier.

Modeling has also been improved, with the introduction of edge selection and manipulation. HyperNURBS now feature point and edge weighting, and two new deformers—Spline and Spline Rail—let you use spline curves to deform objects. Rendering is even faster than before, but it's the OpenGL performance that will take your breath away. In many cases, overall speed is five times that of version 7, which was no slouch.

Macworld's Buying Advice

Cinema 4D R8 is a fantastic upgrade with a price that makes it the 3-D program of choice in the low-to-midrange market. However, it can compete with LightWave and Maya in many areas, especially with the new animation and character tools. For 3-D novices, or people who want to upgrade to something more serious, Cinema 4D R8 is a no-brainer that offers a clear upgrade path all the way to the high end. □

RATING: ★★★★½

PROS: The best 3-D application for its price; easy to use; fast; powerful.

CONS: Some minor interface and workflow issues.

PRICE: $595; upgrade from version 7, $495; PyroCluster 2, $295; MOCCA, $395; Thinking Particles, $395; Advanced Render, $495; NET Render 3CL, $295; NET Render UCL, $395; Dynamics, $495; BodyPaint 3D, $595 (various configurations and bundles available)

OS COMPATIBILITY: Mac OS 9, Mac OS X

COMPANY: Maxon Computer, 877/264-6283, www.maxon.net

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MONACODCCOLOR

Color-Profiling Software for Digital Cameras Tries to Solve Color Problems

BY BRUCE FRASER

Monaco Systems says that MonacoDCcolor is "the ideal digital camera profiling solution." After profiling different cameras under different lighting conditions, we believe that although DCcolor is a great tool for building digital-camera profiles—in fact, it's better than most—the ideal solution does not exist yet. DCcolor is strictly for professionals. It's not difficult to use, but as with any camera profiler, to fully exploit the program, you'll have to do a lot of work before you even launch it.

All input profilers follow the same general principle—they compare the captured RGB values of a physical color target with actual measured color values of the target's color patches, and then they build a profile that correlates the two. DCcolor offers more flexibility than some competitors by supporting three targets: the original 24-patch Macbeth ColorChecker and the newer 237-patch Macbeth ColorChecker DC, from GretagMacbeth, as well as the 528-patch HCT, from Hutcheson Consulting.

DCcolor doesn't include targets, so plan on spending an additional $100 to $250.

Profile Alchemy MonacoDCcolor's wizard interface shows you exactly how to crop your color target.

The Hidden Side of Profiles

MonacoDCcolor is very easy to use. A wizard interface steps you through choosing the target's reference file (containing the measurements of the color patches), loading the capture of the target, and cropping it so that DCcolor knows where the patches are. Then you click on the Build Profile button, and DCcolor builds the profile while providing some statistics on its accuracy, compared with the known values of the target. In short, the profile-building process is pretty much idiot-proof.

But the success of a camera profile depends on the capture of the target, and countless variables affect that capture—such as lighting, on-camera exposure and white-balance controls, and the camera's capture settings. If you fail to control these variables, you'll get disappointing results. DCcolor offers some suggestions in its introductory screen and provides a more in-depth discussion in the PDF manual, but it doesn't address the quirks of different cameras and different targets.

For example, we were able to build a single profile for Canon's new EOS-1Ds camera (see *Reviews*, page 58) that worked well in both studio and natural light, but our venerable Kodak DCS 460 needed separate profiles for tungsten and for daylight.

Each target has different properties, too. Under the cross-polarized lighting typically used for capturing fine art, some of the glossy patches on the Macbeth ColorChecker DC showed up almost black in the capture. The 24-patch Macbeth ColorChecker produced the most-consistent results under a wide variety of lighting conditions, but the other targets produced better profiles in some situations. DCcolor offers a slider for tonal control when you build profiles with the Macbeth ColorChecker DC, but not with the other targets.

Macworld's Buying Advice

If you're looking for a simple point-and-click solution for camera profiling, keep looking—you need the knowledge and skill of a professional to get good results from MonacoDCcolor. If you shoot under controlled conditions but spend a lot of time correcting color postcapture, MonacoDCcolor can be a real time-saver. However, profiling cameras can still be inscrutably complex. Be prepared to do plenty of experimenting with variables outside the profiling software if you want to get great profiles. □

RATING: ♦♦♦½
PROS: Supports a wide range of profiling targets; very easy to use.
CONS: Doesn't include color targets.
PRICE: $399
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: Monaco Systems, 978/749-9944, www.monacosys.com

EASY CARD CREATOR 1.1

Greeting-Card App Has Promise but Needs Polish

BY TERRI STONE

With so many good, inexpensive printers and digital cameras available, Mac users can crank out greeting cards faster than Hallmark can. You can make such cards with a wide range of software, but Script Software's OS X–only Easy Card Creator 1.1 Standard Edition is designed to let you focus on this one task. However, the program doesn't live up to its name, making it a poor investment even at $30.

RATING: ❚❚

PROS: Assistant good for beginners; image drag and drop; dynamic Properties palette.

CONS: Inconsistent interface; buggy Help feature.

PRICE: $30

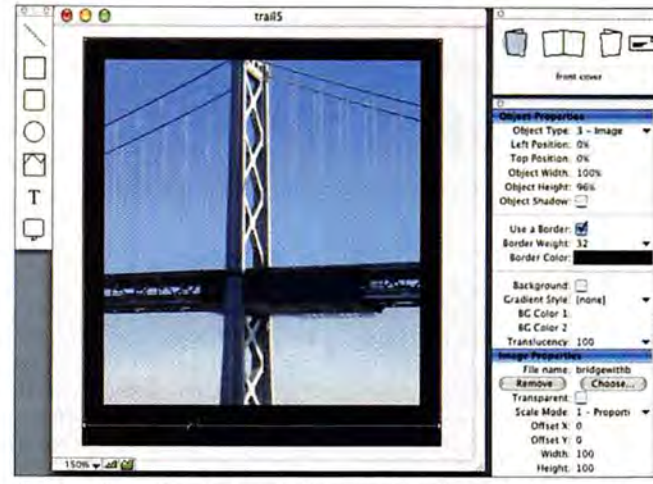
OS COMPATIBILITY: Mac OS X

COMPANY: Script Software, www.scriptsoftware.com

At startup, an Assistant breaks card setup into manageable chunks: inserting an image, writing a message and applying basic formatting, and choosing the number and placement of folds.

After you're done with the Assistant, ease of use begins to suffer. For example, when you double-click on text to edit it, a separate text window with an opaque white background takes over.

The interface is inconsistent in several small ways that add up to confusion. For example, in the Properties palette, which gives you control over the appearance of your card's text and objects, you choose colors for text and borders by clicking on a color bar. To choose a background color, however, you have to click on a blank space; this action brings up a Colors window.



Premium Properties The dynamic Properties palette is a sophisticated concept.

If you're looking for explanations of these and other quirks, you won't get immediate satisfaction from the program's Help menu. When we clicked on it, the Help icon appeared momentarily in the Dock, and then Help quit.

Despite these shortcomings, the application does have some worthwhile elements. You can drag and drop images onto any card panel; it's easy to create and send basic e-mail cards with images and HTML-formatted text; and the Properties palette dynamically adjusts to accommodate an object you've selected.

Macworld's Buying Advice

If you want a fast, easy way to create paper and electronic greeting cards, Easy Card Creator 1.1 has potential. But Script Software needs to iron out the program's kinks. □

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CANON EOS-1DS

A Breakthrough Digital SLR Camera Rivals 35mm

BY BRUCE FRASER

Canon's new EOS-1Ds digital SLR represents a breakthrough in digital cameras, not only in terms of its resolution—it produces a 4,074-by-2,704-pixel image—but also in terms of its chip: this is the first digital SLR whose chip covers the same area as 35mm film, for which the Canon EOS-1 camera system was designed. This means that the focal-length distortion that has plagued digital SLRs—where a normal lens seems like a telephoto lens, a wide-angle lens seems like a normal lens, and wide-angle captures demand extremely expensive super-wide-angle lenses—is a thing of the past. And since the camera uses an EOS-1 body, it works with one of the widest and best ranges of lenses available.

The Canon EOS-1Ds is also one of the most usable digital cameras we've yet seen—for the most part, it behaves exactly like an EOS-1 35mm film camera. If you're used to shooting an entire roll of 35mm film in six seconds, you'll find that the EOS-1Ds can't quite match that kind of performance, but it does allow you to shoot three frames per second for ten frames, after which you'll have to wait, perhaps as long as ten seconds, while the camera writes the data to the CompactFlash card.

Image quality is outstanding—the camera easily captures two more stops of dynamic range than film, while producing sharper, more-detailed images with none of the color distortions to which film is prone. In some situations, the

sharpness of the sensor is a mixed blessing—we tested the camera with Canon's new EF 24–70mm f2.8L USM zoom lens, and found that at focal lengths shorter than 28mm, we could see moderate chromatic aberration (color fringing on high-contrast edges) that film captures made with the same lens didn't show. The problem is that the sensor is merciless when it comes to exposing the same lens flaws that fuzzier film captures hide.

The only real disappointment here (other than the camera's $7,500 body-only price tag) is the Canon capture software for the Mac, which is inexcusably slow and buggy. During our testing, we quickly ditched it in favor of Adobe's CameraRAW plug-in, which worked flawlessly.

Macworld's Buying Advice

If you're looking to make the switch from film to digital, you owe it to yourself to check out the Canon EOS-1Ds. The images from this camera far surpass images from 35mm film, and it retains almost all of the flexibility of the 35mm format. The EOS-1Ds is truly a milestone in the evolution of digital photography. □

RATING: ♦♦♦♦
PROS: Outstanding image quality; user-friendly design.
CONS: Slow, buggy Mac software.
PRICE: $7,500
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: Canon, 800/652-2666, www.canoneos.com

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THE QUILL

Ergonomic Mouse May Reduce Risk of Injury

BY FRANKLIN N. TESSLER

Every time you reach for your mouse, you force your body into an unnatural posture that might cause pain—or even permanent damage. Designer Appliances' The Quill aims to relieve this physical stress by letting you point and click with your hand and wrist in a relaxed, neutral position. Unfortunately, however, the Quill's generous footprint—about as long and almost half as wide as a conventional mouse pad—sometimes gets in the way.

You don't hold the Quill so much as rest your hand on it. A sculpted trough on the right or left side, depending on which hand you use for mousing, gently cradles the edge of your palm. You operate the Quill's two large buttons and single scroll wheel with your middle and index fingers. The upper button works like a standard mouse button and the lower one control-clicks. But unlike many mice and trackballs, the Quill doesn't ship with software that lets you reprogram its buttons and scroll wheel.

Designed for average- to large-size hands, the Quill may be too bulky and uncomfortable for kids or adults with small hands. While I wasn't able to verify the vendor's claim that the Quill can help reduce the risk of injury, I did notice an almost immediate decrease in tension in my forearm, hand, and wrist. If you're already experiencing pain, the Quill may help relieve your symptoms, but it's no substitute for professional medical advice and treatment.

To move the cursor, you glide the Quill across your desktop, as you would a regular mouse; however, because the Quill is larger and heavier than a mouse, simply moving it from side to side requires more effort. And even with the tracking speed at its fastest setting (in the OS X Mouse Preference panel), I occasionally reached the edge of my workspace and had to lift the Quill to reposition it. But the Quill is designed not to be gripped, so it's more awkward to pick up than a mouse. (Software that let you fine-tune the Quill's cursor response would help by reducing the need for repositioning, and Designer Appliances says this software is in the works.) The Quill's size also prevents you from using it with a standard mouse pad—you must instead place it directly on your desktop. Although the Quill's optical sensor worked fine on most surfaces, it functioned erratically on a light-colored wood desk that didn't faze mice from Apple and Microsoft.

Macworld's Buying Advice

The Quill isn't the perfect ergonomic solution, but it's clearly a step in the right direction. If you're concerned about repetitive strain injury (RSI) and have plenty of desk space, The Quill merits your serious consideration. □

RATING: ♦♦♦
PROS: Cradles hand and wrist in neutral position.
CONS: Large footprint; erratic tracking on some surfaces.
PRICE: $120
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: Designer Appliances, 516/244-8334, www.quillmouse.com

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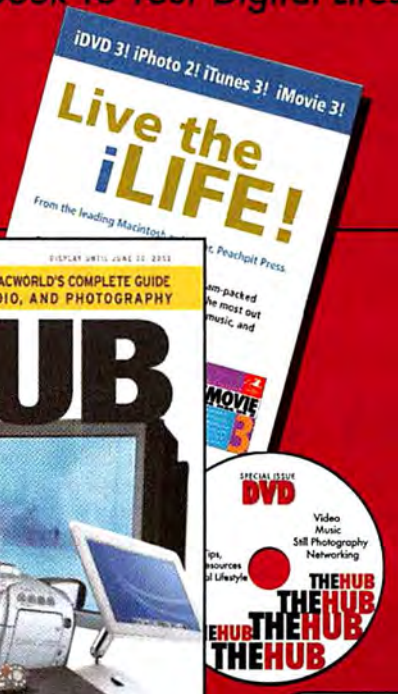

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- NASCAR Racing 2002 Season
- Spaceward Ho 5
- DeepTrouble
- Super Collapse II
- Helix

On Track and Online

WITH THE EXCEPTION OF THE FIRST GAME ON THIS month's *The Game Room* list, every game we discuss here is available via online purchase and download. Now you can satisfy your need for Mac-based entertainment without leaving your keyboard. And you'll find a pretty varied selection, too.

Left Turn It may be all banks and ovals in NASCAR Racing 2002 Season, but you'll have great fun weaving your way through enemy stock-car traffic at 180 mph.

Harder Than It Looks

I have to admit that in the wake of F1 Championship Season 2000 (♦♦♦; April 2003), I didn't have very high hopes for the next racing game on my agenda, Aspyr Media's NASCAR Racing 2002 Season. Formula One racing is challenging, not only because of the high-performance vehicles but also because the twists and turns of the tracks keep you on your toes constantly. NASCAR racing, on the other hand, takes place largely on oval or circular tracks. How hard can it be to drive in endless left-turn circles?

Try asking yourself that question after you've innocently tapped someone's bumper and spent a while somersaulting over a half-dozen other stock cars at breakneck speeds.

In NASCAR Racing, the devil is in the details. While the actual mechanics of circling around a track may, on the surface, seem very simple, the physics are complicated. You're going bumper-to-bumper with a packed crowd of other cars, and this ain't the 405 freeway at rush hour: everyone's pushing 180 miles per hour with 750 horses under the hood. At that speed and with that much raw power, even the smallest miscalculation can result in catastrophe. You have to not only know what you're doing but also make sure that your car is set up well: the camber of your suspension and the type of tires you choose will have a profound effect on your car's performance and handling characteristics.

NASCAR Racing sports some spectacularly disastrous but utterly bloodless crash scenes, and it's safe for the whole family to play. If you just want to get out and race, the game has an Arcade mode that'll let you do just that. But this is ultimately a very carefully constructed simulation. If you want to take the time, you can go up against NASCAR celebs such as Bobby Labonte, Dale Earnhardt Jr., and others as you take to tracks such as the Talladega Superspeedway and Chicagoland Speedway, over the course of an entire season. You'll hear radio chatter from your pit crew telling you what's happening on the track. You'll experience equipment failures as parts of your car wear down from use and abuse. Darrell Waltrip himself was recruited to give tours of each track.

The computer-controlled players will give you a run for your money, but in case that's not enough, NASCAR Racing sports online play. Internet play is best with opponents who have low-latency connections—this is a very fast-paced game, and slow or lost network packets will have a deleterious effect on your gaming experience. The game also supports force feedback, so if you're running Mac OS X 10.2.3 or later and you have a supported force-feedback wheel, you'll feel it rumble and shake as you play.

> In NASCAR Racing, the devil is in the details.

NASCAR Racing has demanding system requirements—you'll need a 733MHz G4 or faster with at least 256MB of RAM to get the most out of it. The Mac game conversion is streamlined for symmetrical multiprocessing, however, so if you have a dual-processor G4, you'll see better results with less horsepower—even a dual-500MHz G4 will be suitable. I saw rock-solid 30-plus frames per second on my dual-1GHz G4 with a

continues

NASCAR RACING 2002 SEASON

RATING: ♦♦♦♦

PROS: Optimized for dual-processor Macs; supports force feedback.

CONS: Demands high-horsepower system for optimal results.

PRICE: $40

OS COMPATIBILITY: Mac OS X

COMPANY: Aspyr Media, 888/212-7797, www.aspyr.com

stock GeForce4 MX graphics card at 1,600-by-1,024-pixel resolution.

The Bottom Line Another great auto-racing game for the Mac has finally arrived. NASCAR Racing 2002 Season may not have much appeal beyond our NASCAR-crazy shores, but this phenomenally detailed, sophisticated driving simulation deserves your attention, no matter where you are.

Fire Phasers, Podner Spaceward Ho 5 lets you hang your (cowboy) hat on various habitable planets—while jockeying for position with human or computer opponents.

An Old Favorite Returns

It's been seven years since Spaceward Ho last made its presence known on the Mac, and a lot has happened since then. Countless new Macs have come and gone, Internet use has gone from curiosity to commonplace, and Mac OS X has been released. The latter two events alone gave Delta Tao compelling reasons to revisit its classic strategy game and perform some tweaking. The result is Spaceward Ho 5, a game that's better than its predecessor but starting to show its age.

Spaceward Ho is a turn-based strategy game in which you explore outer space and colonize worlds. Some worlds are rich in minerals and can be mined for their resources. Some can be terraformed to support colonies that will ultimately generate income for your empire. And some are completely useless. It's up to you to determine how you manage your resources and your income to support your burgeoning space empire. To do that, you build fleets of spacecraft: scouts to visit remote worlds, colony ships to populate them, satellites for your defense, and a diverse armada of defensive and offensive vehicles of different shapes and sizes.

If you're familiar with previous incarnations of Spaceward Ho, you'll find some important improvements in version 5. For example, you can group different types of ships together in a single fleet, and there are new ship types, such as a tanker (for convenient between-colony refueling). The game's interface has also been reworked.

Thanks to its wacky Wild West motif—right down to the copious use of cowboy hats—it's clear that Spaceward Ho doesn't take itself too seriously. But the $50 Spaceward Ho's cartoonish graphics look jarringly out of place when compared with the ultrapolished games in Spaceward Ho's price class. And that price seems fairly out of whack; while Spaceward Ho may be a classic, it doesn't have the production quality of other games that have come along in the past half-decade.

But despite its looks, Spaceward Ho is a serious game. It takes a lot of strategy and skill to plan for a successful outcome, unless you ratchet the computer competition's intelligence down to near-moronic levels. The game features computer-controlled players whose abilities you can adjust using a simple slider.

If battling the computer doesn't interest you, Internet-based multiplayer gaming is also an option, through Delta Tao's dedicated online service. Humans can also play cooperatively against computer opponents.

The Bottom Line Spaceward Ho's cartoonish graphics and silly theme will be familiarly endearing to some but will not appeal to everyone. Underneath is a fantastically fun game that's at last been updated for OS X and Internet play.

SPACEWARD HO 5

RATING: ♦♦♦½
PROS: Updated at last for TCP/IP and OS X.
CONS: Dated, cartoonish graphics; relatively expensive.
PRICE: $50
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: Delta Tao, 800/827-9316, www.deltatao.com

Waterworld Redux

In this version of the future, our planet is 90 percent underwater, due to decades of environmental devastation. The surviving humans have been relegated to floating cities anchored to the land beneath. An unknown pollutant is contaminating the world's oceans—thanks to an alien invasion force lurking below the seas, on the ocean floor. In CodeBlender's first game release, DeepTrouble, you are a submarine com-

continues

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The Abyss DeepTrouble's submarine action is, unfortunately, torpedoed by its poorly conceived premise.

mander whose job it is to destroy the undersea outposts of the alien invaders.

DeepTrouble follows a simple format: Locate the alien fleets and constructions, torpedo the ships, destroy energy generators, and blow up the constructions. Rendered in a third-person perspective, the game shows you your sub floating in front of you as you navigate through trenches and submarine canyons on your quest for alien targets; you occasionally come across sea life and the random submerged city or sunken oil tanker. You'll also find energy pods, weapons pods, and other goodies to recharge your sub's defenses. DeepTrouble has ten levels of increasing difficulty.

Sadly, DeepTrouble's creators don't hold to a tenet of good writing: *Show, don't tell.* The game gives away far too much at the outset rather than incorporating the premise into game play. What's left in the game gets repetitious quickly.

DeepTrouble has a solid game engine at its core. There's an undeniable challenge in piloting a submarine and using torpedoes—both require more strategy and planning than flying a lightning-quick jet fighter or racing a car. I hope that CodeBlender revisits DeepTrouble for a sequel—it's a great idea that deserves a fair shake.

The Bottom Line CodeBlender should apply what it's learned with DeepTrouble to future releases, because the company shows promise. But this game is more of a miss than a hit.

DEEPTROUBLE

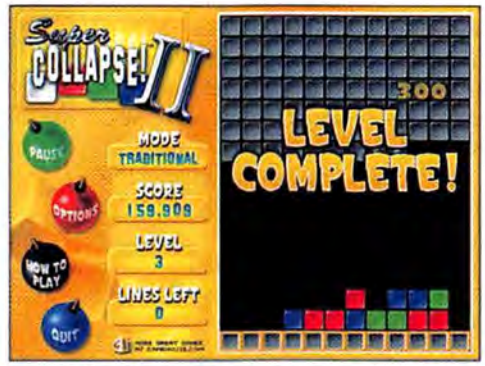
RATING: ◆◆
PROS: Sub hunting makes for unique challenge.
CONS: Hackneyed story; muddy graphics.
PRICE: $30
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: CodeBlender Software, www.codeblender.com

Tetris Meets Bubble Wrap

I could hear the undisguised snuff of contempt come from the occupant of the seat next to me. Waiting for a connecting flight in Chicago's O'Hare airport, I had my PowerBook open for a fast and furious round of GameHouse's Super Collapse II, a recent addition to the company's line of arcade puzzlers for Windows and Mac OS. Snuffy, after eyeing me sideways, started charging at hordes of bad guys as he played Half-Life on his obscenely large and ugly Wintel laptop.

"Figures," he probably thought. "The Mac user doesn't play *real* games. After all, there are no *real* games for the Mac."

I admit that I may be projecting a bit, but heaven knows I've heard this sort of dreck come from PC gamers often enough over the years. Shows you what they know: Super Collapse II is as real as computer games get. And while it may not have the sexiness of a 3-D shooter, it has the addictive quality of a controlled substance.



Tetris Offensive Like playing Tetris in reverse, popping the addictive Super Collapse II bubbles seems easy—but rapidly becomes insanely hard.

On the surface, Super Collapse II seems simple to the point of being mundane: rows of colored boxes emerge from the bottom of the screen. Click on three or more blocks to make them disappear. The more blocks that disappear at once, the higher your score. Bonuses are rewarded for clearing the playing field or keeping the number of rows to a minimum at the end of each round. Special bonus rounds can also reward you with huge points if you're able to clear all the blocks in a few seconds.

Super Collapse II combines the geometric calculation of Tetris with the sub-

continues

SUPER COLLAPSE II

RATING: ★★★★

PROS: Different and varied play modes; nice graphics and sound.

CONS: Slightly expensive for a puzzle game.

PRICE: $25

OS COMPATIBILITY: Mac OS X

COMPANY: GameHouse, www.gamehouse.com

lime tactile joy of popping sheets of Bubble Wrap. It does more, too. The latest in the Collapse series, Super Collapse II has been enhanced with four different play modes: the traditional form I've just described; Strategy, which eschews time-based play for a thinking player's game; Relapse, which sends boxes collapsing in from both the top and the bottom; and Puzzle, which tests your ability to completely clear the screen of carefully constructed layouts.

For a single puzzle game, $25 might be a bit more than some folks are willing to spend, but there's no question that Super Collapse II is a quality piece of work. The game incorporates nice music and sound effects, and it even has a few graphical embellishments, such as simple particle effects when the boxes break. If arcade-style puzzlers are your thing, check it out.

The Bottom Line Super Collapse II is a great diversion, especially if you're looking for something to keep you occupied at lunch or between flights—no matter what the PC user next door might think of you.

Toy Story

Phelios is a company that doesn't get a lot of exposure, but it's got some really great products in its library. One of the company's recent releases is a pleasant little side-scrolling arcade game called Helix. Its premise is simple but well executed.

All the green dolls in your factory have been taken by a mysterious force from another dimension. As the pilot of a remote-controlled helicopter, you must get them back. You can use your built-in teleportation device to get them back on board as you hover above them, blasting enemy installations and marauding monsters, and grabbing power-ups and diamonds (which give you extra lives) along the way.

Helix is tougher than it sounds, because just as in real life, gravity works against you, drawing you downward all the time. Hovering in place long enough for your transporter to beam aboard the wayward dolls is tricky, especially when enemy cannons are firing on you. You'll have to negotiate treacherous terrain, pass through tight caverns, and hover in tiny caves in your quest for the dolls, who are spread across four worlds and a total of 100 levels. Helix also sports a toe-tapping synthesizer-driven soundtrack and eye-catching graphics, including parallax-scrolling backgrounds.

I can find only one shortcoming, and it's that you have to download the game twice—once for the demo and again to download the full version after you've paid for your registration code. This can be a bit of a hassle for people on bandwidth-limited Internet connections—the full game clocks in at 24MB. Phelios offers a CD-ROM as an option, but that adds $10 to the cost of the game.

Helicopter Defender Pick up grateful green dolls and avoid enemies in the bright, retro-arcade–flavored Helix.

The world of Helix harks back to the glory days of 16-bit gaming on consoles such as the Sega Genesis and Super Nintendo. While I don't like to live in the past, I have fond memories of those days, so it's always a pleasure to take a trip down memory lane with a game like Helix, which executes the concept that made those older games so much fun to play.

The Bottom Line Helix is a sure-fire hit for gamers who remember the late eighties and early nineties as a golden age of gaming goodness. □

HELIX

RATING: ★★★★

PROS: Well-executed animation and graphics; good sound effects; old-school fun.

CONS: Double-download required.

PRICE: $15; CD-ROM version, $25

OS COMPATIBILITY: Mac OS 9, Mac OS X

COMPANY: Phelios, www.phelios.com

When he's not doing his duty, MacCentral.com Senior Editor PETER COHEN pushes the pedal to the metal every chance he gets.

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75 Essential Utilities That Won't Break the Bank

Last year, *Macworld* served up 60 of the best low-cost programs available for the Mac ("Mac Software Bargains," July 2002). This time around, we've tipped the scales with 75 more great apps that will help you get the most out of OS X, hone your creativity, and work better with the Internet and over networks.

And thanks to everyone on the Macworld.com forums who told us about their favorite low-cost apps—we appreciate the input, and we've reviewed many of those programs here.

MORE MAC SOFT

ILLUSTRATIONS BY BUD PEEN

SYSTEM UTILITIES

Alfred 1.4 X

★★★★½; Inferiis, alfred@inferiis.com, www.inferiis.com; $7

Alfred is a customizable add-on and plug-in manager for OS X; it lets you enable and disable (in the manner of OS 9's Extensions Manager) preference panes, contextual menus, kernel extensions, screen savers, Services, and many more system add-ons. In addition, you can drop a plug-in icon onto Alfred's icon, and Alfred will install the plug-in for you—no more digging through Library folders to figure out where it belongs. You can also create custom installation rules that automatically move files with certain extensions, types, and creators to specific folders (for example, one rule could move MP3s to your iTunes Music folder while another moved .dmg files to a software archive).—DAN FRAKES

AliasMenu 3.0 X

★★★★; Benoit Widemann, support@widemann.net, www.widemann.net; $25

The long-awaited update to the popular OS 9 utility AliasMenu generates hierarchical menu-bar menus for each folder or folder alias you drop into the AliasMenu folder. By editing the names of files or folders, you can create keyboard shortcuts to items and even make groups of items that will open all at once. Selecting a clipping file from an AliasMenu menu pastes its contents into the front-most application (and as a bonus, a Date clipping automatically pastes in the current date). You can also get information on any menu item, or reveal it in the Finder, instead of opening it.—DF

CandyBar 1.5 X

★★★½; Panic and The Iconfactory, 336/299-5251, www.iconfactory.com; $13

CandyBar makes it easy to change the Finder's toolbar icons, folder icons, clipping icons, and even the Trash icon. To change an icon, drag and drop a new icon onto the existing icon in CandyBar. Due to the changes the program makes, you'll be required to enter your administrator's password the first time you drag and drop an icon. If you want to restore things to normal, a Restore Default Icons button makes it easy to do so. The only real downside to CandyBar is that you must restart your Mac in order to see the effects of your changes.—ROB GRIFFITHS

Carbon Copy Cloner 2.1 X

★★★★½; Bombich Software, www.bombich.com; free (donations accepted)

Whether you're making a backup or transferring your data from one Mac to another, Carbon Copy Cloner is an essential utility. Under Mac OS 9, it was easy to move your system to a different drive or Mac: you just selected all your files and folders and dragged them to the new drive or Mac. Mac OS X can't be copied in that way, but Carbon Copy Cloner does the job. It puts a simple interface on a series of complex Unix-based scripts. Version 2.1 includes several slick new features, including the ability to synchronize files, schedule backups, and create bootable disk images of your drive.—JASON SNELL

ClearDock 1.2 X

★★★★½; Unsanity, unsanity@unsanity.com, www.unsanity.com; free

TransparentDock 2.0 X

★★★★½; Free Range Mac, kfk@freerangemac.com, www.freerangemac.com; $8

ClearDock is a system utility that removes (or changes) the semitransparent white background behind the Dock. ClearDock requires Unsanity's Application Enhancer, which provides the user interface for ClearDock through its System Preferences interface. In addition to removing the background,

Eye Candy With CandyBar 1.5, you can take control of your OS X icons.

WARE BARGAINS

thereby making it look as though your Dock icons were floating above your desktop picture, you can specify a color scheme and change the color of the active-application indicator triangles. Used with the proper background imagery, a clear Dock can be quite stunning.—RG

TransparentDock lets you customize the color and translucency of pretty much every aspect of the Dock and change the animation that occurs when you remove a Dock item. But it really shines at enhancing the Dock's functionality: you can choose the Dock minimizing effect and speed; change placement and pinning; show background-only apps; disable Dock floating (so the Dock no longer floats above other windows); enable Single Application mode (clicking on an application hides all others); enable unlimited hierarchical Dock menus; and add Hide/Hide Others items to application Dock menus and a Quit option to the Dock's own options menu. Finally, if you just can't decide which features to use, you can create preference themes and alternate between them.—DF

Cocoa Gestures 1.1 X

♦♦♦♦♦; bitart, gerti-cw@bitart.com, www.bitart.com; free

Cocoa Gestures is an amazing little application that allows you to use mouse movements to perform actions in all Cocoa applications, such as Mail, Safari, Text Edit, and many more. Once it's installed in your Library folder, you'll find a Cocoa Gestures item in each application's Application menu. Activate it, and a screen allows you to define mouse motions and associated actions for each Cocoa application. For example, you could assign a control-click and an up-down-right mouse motion to Safari's Show Bookmarks menu item, or use a control-click and a down mouse motion to close a window. The possibilities are endless.—RG

Coffee Break Pro X 2.1 9X

♦♦♦♦½; Thomas Reed, thomasareed@earthlink.net, http://home.earthlink.net/~thomasareed; $20

If you spend your workday at a computer, you may be familiar with sore wrists, tight shoulders, and neck pain—or worse. Even though we know we should take regular breaks, many of us forget. Coffee Break Pro lets you work for a set amount of time and then forces you to rest by blacking out the screen. The program displays some suggested stretches for the duration of your break. If you're in the middle of an amazing thought, don't worry—a snooze button allows for a delay (although the snooze time is taken out of your next work period).—DF

DocJector 1.0 X

♦♦♦♦; Monkey Food, feedback@diggory.net, www.monkeyfood.com; free

Unmounting removable media buried behind application and Finder windows has always been difficult in OS X. DocJector is the easy solution you've been waiting for: click on the DocJector icon in the Dock, and up pops a menu of all mounted media (CDs, DVDs, disk images, iPods, USB drives, and memory cards); select a volume, and it's immediately unmounted or ejected. DocJector is so simple and useful that we wonder why Apple didn't include this feature with the OS. The only thing keeping DocJector from getting a five-mouse rating is that it can't unmount network volumes.—DF

DockFun 3.7 X

♦♦♦½; Donelleschi, john@donelleschi.com, www.dockfun.com; $20

DockFun allows you to have multiple OS X docks, each of which can contain unique collections of apps and documents, and can be located at any of the standard dock window locations. A floating window identifies the active dock and makes it easy to switch between the docks in your collection. The interface can be confusing at first, but you'll quickly get the hang of adding and removing docks from your collection. DockFun can help you control the size and complexity of your OS X Dock by off-loading work to other docks that are called upon only when needed.—RG

DropObliter8 1.0 X

♦♦♦♦; Howard Oakley, howard@quercus.demon.co.uk, http://homepage.mac.com/howardoakley/; free

File-permission snafus in OS X can cause a host of mind-numbing problems, such as when your Mac informs you that you don't have permission to delete files from the Trash. Other times, the system says that a file you need to get rid of is in use, although it obviously isn't (aborted or incomplete FTP downloads, for example). In either case, simply drag problem files or folders to DropObliter8's icon, and those pesky rogues will be gone forever—without any command-line voodoo. It's a single-function app, to be sure, but a talented one.—JONATHAN L. SEFF

FileXaminer 1.5 X

♦♦♦♦½; Gideon Softworks, feedback@gideonsoftworks.com, www.gideonsoftworks.com; $10

Among the myriad utilities that help you edit file information and permissions, FileXaminer stands out. In addition to an easy-to-use interface for editing file permissions and attributes (including advanced settings such as *sticky bits*), it provides Super Delete and Force Empty Trash functions—accessible from the Dock, Finder contextual menus, or the application—for getting rid of

stubborn files. It also has a batch mode for working with multiple files simultaneously, Finder integration (⌘-option-I to get info or ⌘-option-C to copy a file path to the Clipboard), and systemwide support for contextual menus. FileXaminer even lets you create and delete user groups without making you delve into NetInfo Manager.—DF

Horse Menu 1.6 X

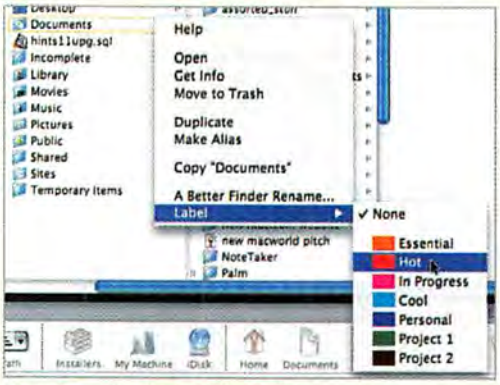
4½; nimatoad, nima@nimatoad.com, www.nimatoad.com; $8

If you need to know everything about your Mac at the touch of a button, Horse Menu is an amazingly informative utility. It provides a systemwide, customizable menu that includes detailed information about your Mac's hardware, network interfaces, memory use, graphics cards, USB and FireWire devices, mounted volumes, loaded kernel extensions, and even connected UPS devices. It also lets you control all running processes, including force-quitting misbehaving apps and setting application priorities. Finally, Horse Menu provides quick access to system logs, individual System Preference panes, and common system utilities. One of those utilities is Apple System Profiler, which, ironically, you may never need to open again.—DF

iAddressX 2.1 X

4; MibaSoft, info@mibasoft.dk, www.mibasoft.dk; $8

Need to quickly look up a phone number or get an address for a letter? iAddressX displays a list of your Address Book entries in the menu bar, providing a shortcut to this information from any application. It displays entries sorted by groups. You can choose which groups to include and specify what information to show in the menu. Copy phone numbers or addresses to the Clipboard or paste them directly into the front-most application with a single click.—ROBERT ELLIS



Blast from the Past With Labels X 1.1, you can once again create color-coded and labeled files and folders via an easy-to-use contextual menu. The Finder even gains a column view that contains the new label information, so it's easy to sort by label.

iPulse 1.0 X

4; The Iconfactory, ipulse@iconfactory.com, www.iconfactory.com; $10

iPulse is a life monitor for your Mac, displaying all of its vital system information in a colorful, compact (and resizable), multipurpose, and fully customizable gauge. iPulse displays CPU activity, system load, network activity, memory usage, disk usage, and the current time and date. You could get much of this information by typing the top command in Terminal, but that's like getting a computer printout to read the speedometer and fuel gauge in your car. iPulse displays all of your vital information at a glance. There are other system monitors, but excellent design gives iPulse the edge.—RE

jEdit 4.1 9X

4; Slava Pestov, slava@jedit.org, www.jedit.org; free

jEdit is a programmer's text editor written in Java. It has a number of great features for programmers, with syntax coloring for more than 50 languages (including Java, PHP, and HTML), unlimited undo and redo levels, auto-indenting of source code, and a fully customizable interface. Furthermore, an extensible architecture provides features such as alternative themes and tabs (as in Microsoft Excel) for opening multiple documents in one window through the use of third-party plug-ins. jEdit's feature set and the fact that's it's free make it an excellent alternative to commercial editors.—RG

Keyboard Maestro 1.2 X

4½; Michael Kamprath, info@keyboardmaestro.com, www.keyboardmaestro.com; $20; Lite version, free

Keyboard Maestro not only provides you with a great keyboard-based application switcher, but also gives you the ability to automate, via keystrokes, almost anything you can do on your computer. You can open files and folders, launch applications, select menu items, move and click the mouse, run AppleScripts and shell scripts, and even type frequently used text. A keystroke can also trigger any combination and/or sequence of actions. As a bonus, Keyboard Maestro provides unlimited clipboards, accessible via—you guessed it—keystrokes. (The free Lite version provides the same features but limits the number of hot keys, actions per hot key, and clipboards.)—DF

Labels X 1.1 X

4½; Unsanity, unsanity@unsanity.com, www.unsanity.com; $10

Labels X is the answer to the question "What happened to OS 9's file and folder labels?" Labels X brings back about 95 percent of OS 9's labeling functionality. Using the Labels X preferences panel, you can choose a color and label definition. Applying a label is a simple matter of selecting one from the contextual menu. Labels X will also show (and sort by) the label values in column-view Finder windows, giving you the ability to sort your Projects folder by priority, for example.—RG

LiteSwitch X 1.5 X

4½; Proteron, info@proteron.com, www.proteron.com; $15

LiteSwitch X is an application switcher for OS X. Instead of using ⌘-tab to switch apps in the Dock, use it (or another keyboard combo) to activate LiteSwitch X. Once activated, the program allows you to apply a number of actions to any open application. These actions can be applied via contextual menus or keyboard shortcuts. The switching window's colors, transparency, position, and size are all easy to customize, and you use the program to control how windows behave when switching applications (in other words, hide all, hide current, and so forth).—RG

MacJanitor 1.2 X

4½; Brian Hill, brianhill@mac.com, http://personalpages.tds.net/~brian_hill; free

MacJanitor carries out routine system-maintenance tasks according to your timeline, not your operating system's. OS X tries to run these tasks in the middle of the night; it assumes the system will always be on. But if you put your machine to sleep at night, these tasks will never execute. MacJanitor provides an easy-to-use interface with buttons for each task. Just launch MacJanitor when you have a few minutes of free time, and run the task of your choice (or all tasks) with a click of a button.—RG

people book 4.2 9X

●●●½; Amar Sagoo, asagoo@gmx.net, http://homepage.mac.com/asagoo; free

At first glance, people book looks very similar to Address Book, but people book includes some important features missing from Apple's application. It lets you print envelopes, custom labels, and lists. It also lets you use your modem to dial numbers—a great time-saver if you make a lot of work-related phone calls from home or need to round up your Little League team. Unfortunately, importing data requires that you drag your contacts from Address Book one at a time. If you have a large mailing list, use Snail Mail (see our review, elsewhere in this article), which accesses Address Book directly, instead.—RE

Print Window 2.0 X

●●●●½; SearchWare Solutions, info@swssoftware.com, www.swssoftware.com; free (donations accepted)

OS X is more advanced than OS 9 in many ways, but you still can't print a Finder window. You can drop a folder onto Print Center to get an ugly text listing, but that's about it. Print Window comes to the rescue by allowing you to print the contents of any Finder window via drag and drop, manual selection, a key combination, or the Finder's Services menu. It goes beyond the classic Mac OS by letting you print all file information, just file names, just the current window's contents, a hierarchical listing of all subfolders, or icons. You can even include your own custom headers.—DF

PTHClock 2.3 X

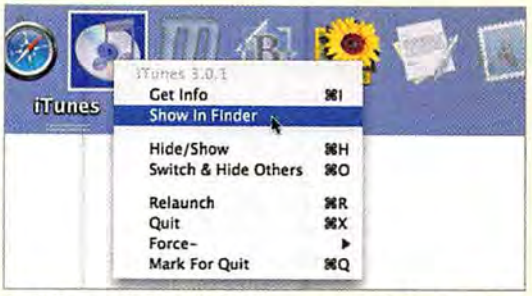
●●●●½; PTH Consulting, info@pth.com, www.pth.com; free (donations accepted)

PTHClock gives you everything Apple's menu-bar clock provides, but with a lot more control over time format; date format; and font size, color, and style. You also get a configurable, drop-down calendar, quarter-hourly chime settings, spoken alerts, and a date tool tip (pass the cursor over the time in the menu bar, and the date floats over the desktop). The calendar feature alone is worth a donation; with the clock options, this is the best menu-bar clock and calendar available. (If you don't want two clocks, turn off Apple's clock.)—DF

PTHPasteboard 3.1 X

●●●●●; PTH Consulting, info@pth.com, www.pth.com; free (donations accepted)

PTHPasteboard lets you manage an unlimited number of Clipboard entries, and it excels in making them easily accessible. You can paste the most-recent ten entries at any time, via keystrokes; the rest are available through the PTHPasteboard buffer (via a keystroke, the menu bar, or the Services menu in any Services-aware application). In addition to multiple clipboards, PTHPasteboard lets you create multiple customized pasteboards that store frequently used text or graphics. For example, you can create one for personal information (for pasting into correspondence, Web forms, and so forth), one for HTML tags, and one for e-mail signatures. Each can contain an unlimited number of items.—DF



Switcheroo LiteSwitch X 1.5's on-screen switcher contains useful contextual menus, as well as a user-definable activation key combination and a number of window-hiding modes.

QuickVoice X 1.7 9X

●●●●; nFinity, contact@quick-voice.com, www.quick-voice.com; $20

This voice recorder lets you quickly record notes, create stickies with voice notes attached, or send recordings as e-mail attachments. Files are saved in the QuickTime format, so they can be played on Macs and PCs. QuickVoice's interface is compact and comes with several attractive skins. You can create as many as ten channels, each containing as many as 99 messages of any length (provided you have the disk space). Audio files can be disk hogs, but QuickVoice lets you change the sample rate and choose from several compressors to adjust the size and quality of your files.—RE

SmallScreenX 2.2 X

●●●●; Loren Brichter, lorenb@mac.com, www.beaconschool.org/~lbrichte/lbsoftware; free

SmallScreenX displays resizable borders to simulate different screen resolutions—helpful for Web designers who want to get an idea of how a page will look on different monitors. You can drag a border to resize a page or type in exact dimensions; then you lock it in place. A menu lets you select any open application and automatically resize the application window to the SmallScreenX dimensions. You can save SmallScreenX borders as separate document files. This handy, stable utility is free. If you need more control over screen measurements, try charlieX Screen Rulers (see our review, elsewhere in this article).—RE

Snail Mail 0.2 X

●●●●; Nixanz, nixanz@nixanz.com, www.nixanz.com; free

Snail Mail is a program designed to do one thing: print envelopes from your Address Book. It reads the Address Book database directly, so you don't have to import your entries (as you must do with the more full-featured people book). You can display your contacts, sort them into groups, and filter them by typing a few letters into a search box. You can also print a single envelope or many envelopes for all of the entries in a group. Snail Mail lets you format the envelope to show or hide specific fields (such as title or company), and you can change the fonts and margins, or even paste in a custom logo.—RE

Snard 1.6 X

●●●●½; Gideon Softworks, feedback@gideonsoftworks.com, www.gideonsoftworks.com; $10

Snard combines the utility of OS 9's Apple menu with a launcher and Root Runner (the GUI equivalent of the Unix utility sudo) to provide a flexible do-it-all menu. Available from the Dock, the menu bar, and via a hot key, Snard allows you to use hierarchical menus to quickly access files, folders, and applications (for example, it lists System Preference panes individually, like the old Control Panels menu). It also includes submenus for accessing recently used items, mounting favorite and recent servers, and launching *worksets*—groups of items that open simultaneously with one click. Finally, you can easily open any application as root by option-selecting it from the Snard menu or by choosing the Open App As Root menu item.—DF

SwordfishExpress 1.0 X

●●●●; buyolympia.com, www.buyolympia.com/software; free

The United States Postal Service (USPS) Web site allows you to generate mailing labels, but it's a bit of a hassle. SwordfishExpress takes the mailing and return address you enter and generates USPS labels for Priority, First Class, or Media Mail. If you want

delivery or signature confirmation, the program also connects to the USPS Web site, obtains the appropriate tracking numbers, and then generates the required bar codes. Finally, if you highlight a USPS tracking number and select the Confirm In Browser item from the Services menu in any Services-aware app, your browser will provide the tracking information. SwordfishExpress saves you time and money—you don't have to fill out forms at a post office, and the USPS charges less for electronic labels. A nice feature addition would be the ability to save frequently used addresses; the developers promise Address Book integration in a future version.—DF

WindowShade X 2.1 X

♦♦♦♦♦; Unsanity, unsanity@unsanity.com, www.unsanity.com; $10

WindowShade X brings collapsible windows to OS X and adds punch, thanks to Aqua. Using WindowShade X, you can double-click on a window's title bar to collapse the window (as in OS 9), or you can have the window turn semitransparent (based on a transparency level you set). You can also replace the minimize button's behavior with window-shading behavior. If you use the semitransparent mode, you can even continue working in the window in its semi–see-through state.—RG

Xounds 1.4 X

♦♦♦♦; Unsanity, unsanity@unsanity.com, www.unsanity.com; $10

Xounds brings an end to the silent era for OS X. Xounds allows you to import old OS 9 sound sets (a link on the Unsanity Web page leads to a sizable collection). Once you import a sound set, you control which actions will generate sound effects, and at what volume level the sounds will play. You can also create an "exclude" list so that any listed applications will not have sound effects. While it doesn't give you all the options of OS 9's sound sets, Xounds does a great job of bringing back nearly the same functionality.—RG

Xupport 1.2 X

♦♦♦♦; Laurent Muller, laurentmuller@computer-support.ch, www.computer-support.ch; $20

Xupport incorporates functions found in dozens of shareware and freeware applications. It gives you the power to create bootable backups, optimize your network, browse hidden folders, change SWAP file locations, configure your firewall, set ports for file sharing, and much more—all via a straightforward interface. You might be intimidated by some of the features Xupport offers, and it does go into the nitty-gritty of OS X. Fortunately, Xupport also has a very helpful appendix section with a wealth of Unix and general Mac information.—ANTON LINECKER

BACKUP BARGAINS: 5 LOW-COST DATA-SAVING OPTIONS

With so many helpful utilities available, there's no excuse not to back up your files. For the casual Mac user with a .Mac account, backing up to iDisk might do the trick (see "What's .Mac Worth?" December 2002). But if you worry about gigabytes and you're on a budget, one of these bargain programs is sure to meet your needs.

All of these programs will back up and synchronize your files. In other words, they'll copy newer files from one volume to another and copy files in both directions. If you want to restore your entire system in the event of a crash, you need an application that can copy hidden system files, too.

Free and Easy If you're really on a shoestring budget, you may want to try **SilverKeeper 1.0** (9X; ♦♦♦½; LaCie, silverkeeper@lacie.com, www.silverkeeper.com; free) or **Synk X 4.0.1** (X; ♦♦♦½; Raja Software, rvoth@mac.com, http://mypage.uniserve.ca/~rvoth; free). Both programs reliably back up and synchronize files, both are easy to use, and both include full documentation.

Set It and Forget It Déjà Vu 2.3 is a preference pane, so there's no icon to clutter up your Dock. Create your backup schedules, and Déjà Vu will run in the background.

Synk is faster than SilverKeeper, and it will let you preview changes before running. It also has an option for archiving deleted files when you synchronize. SilverKeeper can save multiple copies of a backup. For example, you could set the program to keep five copies of a backup of your Home folder. If you back up every day, SilverKeeper will write over your first backup every fifth day. To do that with Synk, you'll need to create multiple Synk documents and alternate running them.

Automatic Protection While you must run SilverKeeper and Synk manually, many backup programs allow you to create schedules so they can run in the background. If you want to back up your files automatically, one of the easiest programs to use is **Déjà Vu 2.3** (X; ♦♦♦♦; Propaganda Productions, dejavu@propagandaprod.com, www.propagandaprod.com; $15), which installs as a preference pane (see "Set It and Forget It.") You can create multiple backup sets on different schedules. Déjà Vu will run in the background if your computer is on and awake, and if the backup volume is mounted. You don't even have to be logged in. Déjà Vu will back up, synchronize, and even clone your system disk to a bootable copy, but it won't archive deleted files.

ChronoSync 1.1 (X; ♦♦♦♦; Econ Technologies, 407/365-4209, www.econtechnologies.com; $20) is one of the most flexible programs, offering numerous options to give you complete control over your backups. You can create rules to filter files based on name, type, modification time, or OS type and creator codes. You can set ChronoSync to run when you launch or terminate the application or on a daily or weekly schedule, or you can run it manually.

Daily schedules can run on any interval. For example, you can back up critical customer data every five minutes during business hours. ChronoSync doesn't have to be running to perform scheduled backups, but it can't make bootable backups.

Peace of Mind If backup worries are keeping you awake at night, **ExecutiveSync 1.2** (X; ♦♦♦♦; Jason Weber, jason@executivesync.com, www.executivesync.com; $20) will have you sleeping soundly in no time. Most programs check modification dates to determine which file is newer during synchronization. ExecutiveSync uses TAS (Time And State) synchronization instead, which stores and compares CRC32-bit checksums, a complicated way of detecting any changes to a file. Since modification dates may change for a number of reasons, ExecutiveSync should provide you with the most accurate backup. It will also archive files deleted during synchronization. But be warned: ExecutiveSync is slower than the other programs in this roundup, by an order of magnitude. And it has no scheduling feature, so you can't run it unattended, when your computer is otherwise idle.—ROBERT ELLIS

CREATIVE/ FUN

Amadeus II 3.5 9X

$$$$½; HairerSoft, martin@hairersoft.com, www.hairersoft.com; $25

Need a low-cost two-track audio app for recording and cleaning up cassettes and LPs, or editing files you already have? Look no further than Amadeus II. It supports 16- and 24-bit audio in many formats (including AIFF, WAV, MP3, and Ogg Vorbis) at sample rates as high as 1,000kHz. You can easily split albums into tracks and even join several files. In addition to built-in effects such as normalization, fading, and sound repair, Amadeus II supports the VST plug-in format—and you can download more than 30 free plug-ins from the HairerSoft Web site.—JLS

Audion 3.0 9X

$$$½; Panic, audion@panic.com, www.panic.com; $30

Audion's pleasingly simple interface belies the robust program's many MP3 uses. Users can encode MP3s singly or in batches; switch between listening to CDs, MP3 playlists, and remote audio streams with the click of a button; expand audio searches to include the Web; and set a time for Audion to begin playing a specific playlist—handy for people who like their morning routines to be set to music. Managing playlists occasionally gets cumbersome, and OS X users may become frustrated when they try to install and shuffle Audion's applications and plug-ins to the proper folder, but this is a serviceable MP3 player for OS 9 users iTunes left behind.—LISA SCHMEISER

Baby Banger 1.1 X

$$$½; Paul Suh, plsuh@goodeast.com, www.goodeast.com; free

Parents of small children will appreciate Baby Banger, which provides an outlet for kids' natural predilection to smash keys on mommy's or daddy's keyboard at inopportune times. When Baby Banger is running, every key your child smashes causes colorful shapes to appear on screen; the program can either speak the name and color of the shape or just beep. You can choose from several different color schemes for the shapes, as well. Worried that your kids will figure out how to hit ⌘-Q and wreak havoc outside of Baby Banger? Fear not: to exit, you have to type a child-proof combination: ⌘-control-shift-option-P.—JS

BarWare Deluxe 2.5 9X

$$$$; Digital Fried Chicken, Mitch@digitalfriedchicken.com, www.digitalfriedchicken.com; $13

Throwing a cocktail party but can't remember how to mix up a Melon Ball? Confused when a friend asks for a Honolulu Hammer? Want to stump your favorite bartender by ordering a Pendennis? BarWare Deluxe comes to the rescue, with instructions for creating more than 750 mixed drinks. You can search by type of spirit, mixer, or even garnish (such as a lemon slice, twist, or wedge). BarWare Deluxe comes with a Bar Guide that includes common measurements, a glossary, and a drawing of different glass types. So the next time you need behind-the-bar advice, don't reach for a book—fire up your Mac.—JLS

BLT 0.2 X

$$$½; Braxtech, braxton@braxtech.com, www.braxtech.com/blt; free

Few things are as annoying as stumbling on the dreaded 404 Not Found error. Full-featured Web-authoring programs will search for broken links in your site, but if you rely on a shareware program for coding, BLT can spare your visitors unnecessary frustration. BLT will check files located on your hard drive or on the Web, and it will check all the objects on a page (including links embedded in comments—handy if your site contains Java scripts), not just hyperlinks or images. You can test a single file or recursively check all files linked to the starting file.—RE

charlieX Screen Rulers 3.1 X

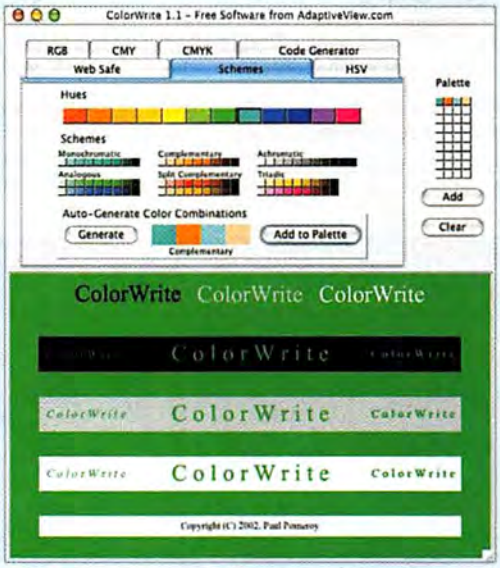
$$$$; charlieX software factory, charlie@charliex.co.uk, www.kotarac.freeuk.com; $15

charlieX Screen Rulers is indispensable for graphic artists, Web designers, and software developers who need help measuring or aligning screen objects. It includes five different on-screen rulers and measurement tools. Choose from a transparent screen-edge ruler (which you can set as the frontmost application so it's always visible), a dragging ruler with resizable vertical and horizontal rules, and screen-size templates (which display outlines of standard or custom screen sizes, so you can quickly preview how your work will appear at different resolutions). You can also display mouse *x*-*y* coordinates or vertical and horizontal guidelines directly on screen.—RE

ColorWrite 1.1 X

$$$$; AdaptiveView.com, support@adaptiveview.com, www.adaptiveview.com; free

If you've ever agonized over choosing colors for your Web site, ColorWrite can help. This tool allows you to select colors with several color models (Web Safe, HSV, RGB, CMY, and CMYK) and preview color combinations. Best of all, ColorWrite can generate color combinations based on several different kinds of color schemes, including Analogous, Complementary, and Monochromatic. After selecting your palette, you can copy CSS, HTML, or Java code to the Clipboard for use in other applications.—RE



Color Scheming You don't need an art degree to create a Web site that's easy on the eyes. Just use ColorWrite 1.1.

Discus 2.7 9X

●●●½; Magic Mouse Productions, 415/669-7010, http://magicmouse.com; $39

Discus helps you create professional-looking labels for everything from CDs and DVDs to business-card CDs, VHS tapes, and even audiocassettes (remember those?). Although it features a very nonstandard user interface, Discus makes the label-creation process painless. After selecting a label type, you choose the output template (an Avery label number, for example), which takes you to the main screen. Here you use five sections (Canvas, Paint, Photo, Text, and Print) to create and output your masterpiece. With more than 900 high-quality backgrounds available, you'll be amazed at the quality of the labels you can create.—RG

iSleep 2.3 X

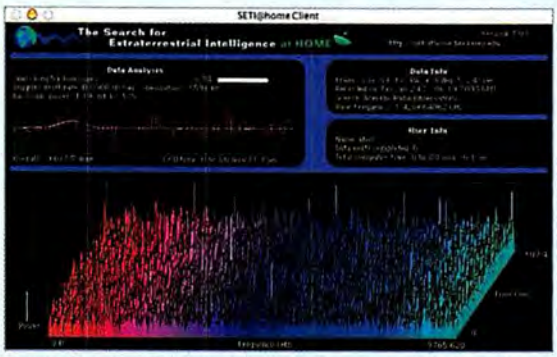
●●●●; FlyMac, flymac@ifrance.com, http://isleep.free.fr; $8

iSleep adds a sleep function to iTunes and Apple DVD Player—set a timer, and when the countdown reaches zero, your music or movie fades out and then stops. You can also choose to put your Mac to sleep, log out of your account, or shut down at the end of the timer. (In the case of a DVD, iSleep can wait until the movie is finished before it puts your Mac to sleep.) iSleep can even act as an alarm clock, waking up your Mac at a certain time and then playing your favorite music in iTunes. The interface is a bit quirky, but the functionality is top-notch.—DF

iStorm 2.0 X

●●●●; Math Game House Software, mathgamehouse@mac.com, www.mathgamehouse.com; $20

Need to brainstorm with someone in the next office or the next building? iStorm lets multiple users collaborate on documents simultaneously in real time (depending on their connections) over a local area network. iStorm uses Rendezvous, so no network configuration is required. Starting a collaboration session is easy: create a new document and click on Host, and everyone on your LAN can join in. Edit text documents (which can include pictures, QuickTime files, and links), draw on a chalkboard, and chat. The program also includes a calculator and a Tex equation interface for doing serious math. Export files to Rich Text Format or plain text.—RE



Phone Home SETI@home 3.0 uses the power of distributed computing to search the cosmos for life.

iWork 1.2 X

●●●●; IGG Software, ian@iggsoftware.com, www.iggsoftware.com; $20

iWork is a timing, billing, and invoicing application that's perfect for anyone who's self-employed. Use the built-in timer to track work hours with timed events, and add flat-rate and quantity-based items (such as expenses). iWork integrates with Address Book (just add your clients to an iWork group, and they automatically appear in iWork) and iCal (you can turn a deadline into a To Do). A Project Manager organizes all of your projects and lets you see whether they've been completed and paid. When you're finished with your project, create an invoice with your logo and custom formatting.—RE

iChatStatus 1.2 X

●●●½; David Remahl, david@ittpoi.com, www.ittpoi.com; free

Kung-Tunes 2.1 X

●●●½; Adriaan Tijsseling, ado@kung-foo.tv, www.kung-foo.tv; free

Some people are intensely private; others enjoy living their lives in public. If writing a Weblog of your personal thoughts isn't enough, consider these ingenious utilities. Kung-Tunes lets you update your Web site with the name of the track you're currently listening to in iTunes (as well as a list of recently played tracks). It features customizable templates and the ability to upload your files to a remote server via FTP. iChatStatus uses an undocumented OS X feature (the one Jaguar's iChat menu item uses) to constantly update the status bar of your iChat session. By default, all your buddies will see what song is playing in iTunes, but you can customize iChatStatus via AppleScript to display just about anything, including the application you're currently using or the temperature outside.—JS

MacJournal 2.1 X

●●●●½; Dan Schimpf Software, dschimpf@mac.com, http://homepage.mac.com/dschimpf; free

NoteTaker 1.1 X

●●●●½; AquaMinds, info@aquaminds.com, www.aquaminds.com; $70

NoteTaker creates a superenhanced electronic version of the old-fashioned spiral-bound notebook. Using an on-screen spiral notebook, you can create pages of text, sound (including voice notes), images, URLs, and anything else you'd care to categorize. Notebooks can have sections to help organize your thoughts, and you can work with a number of notebooks at once. You can assign categories to and prioritize items in each notebook, and you can create a special to-do section for task management. NoteTaker has many additional features for managing your random data streams, and its unique interface makes it easy to use.—RG

If you keep a journal—or a diary, log, notebook, or scrapbook—MacJournal can help you organize your thoughts. Sure, you *could* use TextEdit or Microsoft Word, but if you created many entries in one long document—or a new document for each entry—they would be unwieldy to edit, organize, and search. Create multiple journals in MacJournal, each with any number of entries that can be sorted by date, topic, or the first few words of text in a file. Encrypt and password-protect your work to keep it safe from snoops. You can export your entries as text, RTF, or HTML.—RE

Meteorologist 1.1 X

●●●●; Humongous Elephants and Tigers, fahrenba@mac.com, http://homepage.mac.com/fahrenba/; free

There are a surprising number of OS X programs that look up current weather data on the Web and place the results in your menu bar. Although we like Glucose Development's $8 WeatherPop (●●●½; November 2002), Meteorologist is about as good, offers a few unique features, and is free. In addition to displaying the current temperature and weather conditions in your menu bar (with a drop-down menu featuring an extended forecast), Meteorologist can display weather data in the Dock and display data for multiple cities at once. You can also customize Meteorologist to a remarkable extent, via a simple tabbed preference window.—JS

MorphX 2.5 X

●●●●; Martin Wennerberg, martin@orcsoftware.com, www.orcsoftware.com/~martin/; free

MorphX allows you to change one image (your cat, for example) into another (your dog) over time, via a series of blended images. The program uses a two-pane interface, with the start image in one pane and the end image in the other. After using lines to identify similar areas in each photo, you set MorphX to work. After a while (calculating the images can take some time), a series of intermediate transitional images is created. If you have QuickTime Pro, you can save the series of images as a QuickTime movie, thereby animating your morph and making it suitable for sharing with others.—RG

MovieHouse 3.4 X

●●●½; David Ahmed, davidahmed@mac.com, http://homepage.mac.com/davidahmed; $15

The MovieHouse movie player lets you organize QuickTime movies into multiple playlists, so you can arrange your own set of videos or preview clips before editing them in iMovie. You can play the movies in sequence, loop them, or click on the Jumble button to play them in random order. After creating your movie list, MovieHouse can burn your collection onto a CD. It boasts one unique feature not found in any other movie player: a simulated 3-D movie gallery. A frame from each movie is displayed on a wall of your virtual gallery, which you navigate with the arrow keys. As you approach a movie, it begins to play.—RG

PorDiBle 2.1 X

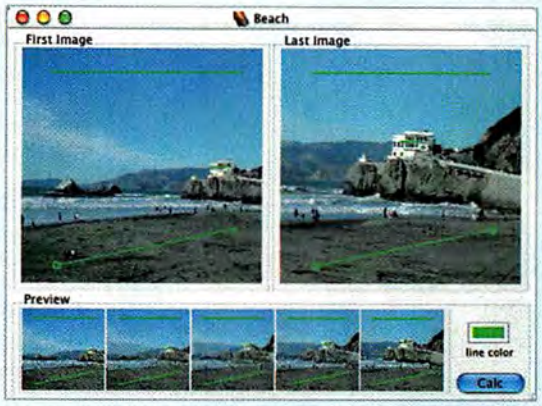
●●●●; Rura Penthe, rura@utterer.com, http://pordible.ethelthefrog.net; free

Palm handhelds can be pretty cool devices for reading documents when you're on the go. Unfortunately, converting files on your Mac into Palm-compatible DOC/PDB format can be a bear. PorDiBle converts text and HTML files to DOC files via an easy drag-and-drop operation; all you need to do is install the files on your Palm and use a DOC reader such as TealDoc or AportisDoc to read them. Likewise, you can convert a PDB file into a text file by dragging it onto PorDiBle's icon.—JS

RedrawClassic XTension 1.0 X

●●●●; InfoLogic, support@www.infologic.net, ftp://ftp.infologic.net/pub/others; free

If you use QuarkXPress (versions 3.3 through 4.1) in Classic mode, you've likely encountered its redraw problem. This annoying bug leaves ghost images in your document when you switch back and forth between OS X windows and XPress. You can fix the problem by collapsing or resizing the window each time it happens—or better yet, you can download Infologic's free RedrawClassic XTension. The installer for this XTension (which works for English, Japanese, and Korean versions of XPress, as well as Quark Passport) automatically locates and installs RedrawClassic in any version of XPress on your system. The XTension runs invisibly in the background, and in our tests, it eliminated the redraw problem once and for all.—KELLY LUNSFORD



Houses in Motion MorphX 2.5 takes two images and creates a QuickTime movie of the transition between them.

SETI@home 3.0 9X

●●●½; SETI@home Project, http://setiathome.ssl.berkeley.edu; free

SETI (Search for Extraterrestrial Intelligence) has been a trailblazer in the use of distributed-computing techniques. SETI@home, which is available in both screen-saver and command-line versions, uses your Mac's spare processing power to search a vast collection of radio-telescope data for signs of alien intelligence. Once your computer has processed a batch of data, it sends that information back to the SETI servers and picks up a new batch. The idea is that, by pooling the processing power of millions of computers, SETI will be able to process data quickly and maybe, just maybe, figure out whether there's someone else out there. Clever OS X add-on SETI Menu 4.5 (http://perso.wanadoo.fr/vigan/aksoft/) lets you control the command-line version unobtrusively from the menu bar.—JS

Synergy 0.9 X

●●●●½; Wincent Colaiuta, win@wincent.org, http://synergy.wincent.org; $5

There are many iTunes controllers and information displays out there, but none do it all as well as Synergy, which integrates the best features of other utilities and adds a few of its own. It places playback controls in the menu bar (including a menu listing recent tracks and playlists), provides systemwide hot keys for playback and volume control, and adds a snazzy, translucent informational display that fades in and out at the start of each track (or at your command). You get full control of iTunes no matter what you're doing.—DF

VLC media player 0.5 X

●●●●; VideoLAN, vlc@videolan.org, http://videolan.org; free

VLC media player, which picks up where Apple's built-in multimedia technology leaves off, will be especially welcome if you've ever had problems playing files your PC friends handle with ease. VLC is the most versatile video player available on the Mac, allowing you to watch files such as DivX and MPEG-1, -2, and -4 movies without a hitch—something QuickTime can't easily do. And unlike Apple's DVD Player, VLC supports multichannel output, meaning that with the right hardware, you can use a Mac to experience the full audio glory of surround sound DVDs. Although the interface leaves a bit to be desired, VLC is a godsend for anyone who wants to play many of today's popular video formats.—JLS

X-Tunes 1.2 X

●●●●½; Pierre-Olivier Latour, info@pol-online.net, www.pol-online.net; free

X-Tunes is a "remote" controller for iTunes that allows you to control the program without resorting to finding its window or using the Dock. X-Tunes installs as a preference pane and activates with a user-definable key combination. When you press and hold down that key combination, a semitransparent window appears on screen, listing the current song information, and providing controls for things such as fast forward, previous/next song, and volume. Make changes with your mouse, release the key combination, and return to what you were working on without ever having to hunt for the iTunes window.—RG

INTERNET/ NETWORKING

Bookit 3.1 X

●●●●½; Everyday Software, support@everydaysoftware.net, www.everydaysoftware.net; $12

If you're a Web developer, you undoubtedly use more than one browser to test your sites. And Web developer or not, many of us use more than one *computer*. Either way, keeping bookmarks organized is a major hassle. Bookit provides an excellent solution to the problem. Import bookmarks from eight of the most popular Mac browsers (including Safari, Chimera, and OmniWeb), arrange them, and edit them. Bookit synchronizes them by writing identical bookmark files for each browser. It will also synchronize bookmarks on multiple computers. Bookit includes a System menu that lists all of your bookmarks. Select an item from the Bookit menu to open the link in your default browser.—RE

CaminoKnight 2.0 X

●●●●½; Reinhold Penner, rpenner@hawaii.edu, http://homepage.mac.com/reinholdpenner; free

ChimerIcon 0.6 X

●●●●●; Reinhold Penner, rpenner@hawaii.edu, http://homepage.mac.com/reinholdpenner; free

SpeedChimera 2.0 X

●●●●; Reed Martin, reedm@mac.com, http://homepage.mac.com/reedm/SpeedChimera.html; free

If you're a fan of the Camino Web browser, you'll love these three free utilities (some names may have changed by the time you read this). SpeedChimera unlocks many hidden Camino features, including the ability to block images from servers other than the current Web page's, Favicons, HTTP pipelining (which can increase performance), browser history, and custom browser identification. In addition, you can edit any Camino preference, and even add custom preference entries (such as those at www.efritz.net/chimeratricks.html). ChimerIcon lets you customize Camino's appearance by previewing and installing new splash screens, icon themes, and preference panes. You can create your own interface elements, and ChimerIcon will check the Internet for—and download—new themes created by others. CaminoKnight is another winning utility. The Camino browser is updated almost nightly, but it can be a hassle to constantly download and install the latest version. CaminoKnight automates the process by finding the most recent build and then downloading and installing it. It even creates a backup of your existing version (and has a restore command in case you experience problems and want to go back). As a nice bonus, if you've already installed ChimerIcon themes, CaminoKnight will automatically install them in the new version.—DF

Customized Camino ChimerIcon 0.6 allows you to browse through and install appearance themes.

ICeCoffEE 1.3 X

●●●●; Nicholas Riley, http://web.sabi.net/nriley/software/; free

ICeCoffEE, modeled after the OS 9 extension ICeTEe, is an OS X plug-in that lets you ⌘-click on a URL in most OS X–native applications—in an e-mail message, a Read Me file, or even a dialog box—to automatically open the site in your preferred Web browser. ⌘-option-click, and you can choose another browser or add the URL to a bookmark manager such as URL Manager Pro. It even works in many Carbon apps. In addition, ICeCoffEE adds a Services submenu to contextual menus, and it allows you to add a Services menu to the menu bar—no more digging through the Application menu to access Services.—DF

NetNewsWire Lite 1.0 X

●●●●½; Ranchero Software, brent@ranchero.com, www.ranchero.com; free

If you're tired of surfing multiple sites and blogs each morning to collect the news, NetNewsWire Lite may be for you. This newsreader will collect content from multiple sites into a three-paned browser window, similar to Mail, with sites on the left, headlines at the top, and summaries at the bottom. (You can also access headlines from the Dock icon menu.) NetNewsWire comes configured with several popular sites and includes a directory of others you can add with a single click. (If you know the RSS URL for a site, you can add a site manually.) NetNewsWire Lite can help you scan a lot of news sites or blogs quickly, and the $30 full version even includes a Weblog editor.—RE

Pop-Up Zapper 2.2 9X

●●●; Batista.org, zap@batista.org, www.batista.org; $20

Pop-Up Zapper was up and running on our computer in the time it takes for an advertisement window to open in a browser—and it works hard to get rid of those pesky pop-up windows with ads for products you'll never use. Users have the option of keeping a counter window open to see how many pop-ups the software has intercepted. It's satisfying to watch the number tick upward, although the window does not list the offending parties, which would be useful in helping users tweak their preferences and surfing habits. The only complaint is browser support—the OS 9 version works only with Internet Explorer 5 and Netscape 7, while the OS X version works only with IE.—LS

Proteus 2.0 X

; Justin Wood, proteus@indigofield.com, www.indigofield.com; $10

If one of your biggest instant-message bugbears is trying to remember which pals are on what specific message service and whether or not you can use your instant-message application to talk to them, Proteus comes to the rescue with a slimmed-down app that lets you connect to AOL Instant Messenger, ICQ, Jabber, MSN, and Yahoo Messenger. Even better, Proteus lets you group your contacts by message service type, which comes in handy for sorting who's available and how. Getting up and running is easy and intuitive. The only downside is that there's no out-of-the-box support for .Mac iChat accounts yet.—LS

Searchling 1.1 X

; Michael Thole, mthole@purdue.edu, http://web.ics.purdue.edu/~mthole/; free

Searchling is the ultimate use-anywhere Google search tool. It lives in your menu bar and presents a small one-line search box when clicked on—for Google, Slashdot, eBay, and more. Enter your search terms and press return, and your default browser opens up with the results. You can make Searchling even more powerful by defining a hot key to launch it, and setting the entry box to appear next to the mouse cursor. Now you can search with a quick keyboard combination and no mouse movement.—RG

Spam Vaccine 1.3 9X

; Matterform Media; 505/747-1220, www.matterform.com; lite version, $9; pro version, $19

This utility can save you a lot of heartache if you've got a Web site with a lot of pages containing e-mail addresses—the kind of pages that are harvested frequently by spammers looking for new victims for their evil deeds. When you set Spam Vaccine on individual pages or entire Web sites, it rewrites all your e-mail addresses as JavaScript code that's not easily processed by spammers. The Lite version can inoculate one page at a time; the Pro version lets you convert entire sites at once.—JS

Fact Finder Searchling 1.1 allows you to start a Web search of select sites from any location. Here the Searchling input box has been called up on top of Apple's iMovie page.

Share My Desktop 1.2 X

; Mike Bombich, dair@webthing.net, www.bombich.com; free

VNCThing 2.2 X

; www.webthing.net; free

The Virtual Network Computing (VNC) protocol was developed by AT&T Laboratories as a way to view and control a computer's display remotely, across platforms. Any computer running a VNC server can share its desktop with any other connected computer (over the Internet or on a local network) running a VNC client. Share My Desktop is an OS X–native VNC server that's easy to set up. If you want the server to run continually (useful for tech support, or just supporting less computer-savvy family members), it can even be configured as an OS X Startup Item (so it will run in the background). VNCThing is a free client that allows you to view and control the desktop of any computer running a VNC server. You can use it in full-screen mode or view the remote computer in a resizable window. You can even create bookmarks to frequently accessed servers. The combination of Share My Desktop and VNCThing is similar to commercial utilities such as Timbuktu Pro, but with fewer features and a much lower price (free). The combination works surprisingly well—so well that this review was written "on" a desktop Mac, but the typing was actually done on an iBook.—DF

SharePoints 3.0 X

; HornWare, hornware@hornware.com, www.hornware.com; free (donations accepted)

Like version 2.0 (; "Mac Software Bargains," July 2002), SharePoints 3.0 lets you create additional Personal File Sharing share points, create and manage OS X groups, and customize the File Sharing server in OS X. However, version 3.0 adds the ability to easily set share permissions, create additional Windows File Sharing shares, and customize OS X's built-in Samba (Windows File Sharing) server. You can edit your Mac's workgroup and NetBios names, chose specific files to conceal from Windows users, and even force Home directories to show up in Windows share browsers (usually, Windows users must know the exact name of your shares).—DF

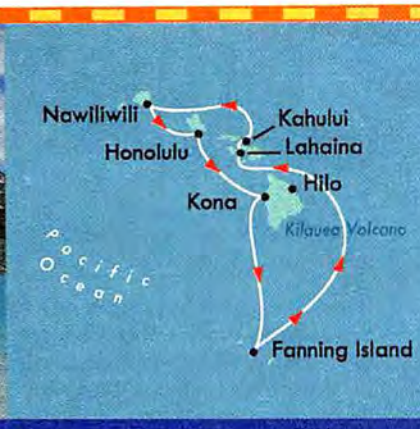
Extra, Extra NetNewsWire Lite 1.0 collects all the news from your favorite Web sites in one convenient three-paned window.

Snak 4.9 9X

; Kent Sorensen, kents@snak.com, www.snak.com; $20

Long before iChat and AOL Instant Messenger, there was Internet Relay Chat (IRC), a series of networks that allowed tens of thousands of people worldwide to chat (and even exchange files) in any number of themed channels. And one of the best ways to participate in IRC on the Mac is with Snak, which offers a clean interface with docking windows, AppleScript and ircII scripting support, automated actions to respond to a wide variety of events (such as joining a channel or accepting a specific file type), and best of all for those new to IRC, a great HTML manual. Search, logging, and address-book functions add to the program's ease of use, and a channel-list window makes quick work of finding topics. And since chat is a global pursuit, Snak is available in 12 languages.—JLS

ROBERT ELLIS is the author of *Handpicked Software for Mac OS X* (Futurosity, 2002), and he runs the Handpicked Software Web site (http://handpicked.futurosity.com). DAN FRAKES is the author of *Mac OS X Power Tools* (Sybex, 2003); find him online at www.danfrakes.com. ROB GRIFFITHS is the author of the forthcoming *Mac OS X Hints—500 All-Time Best Tips, Tricks, and Secrets of Jaguar 10.2* (O'Reilly 2003) and the founder of Mac OS X Hints (www.macosxhints.com). ANTON LINECKER is a video technical advisor and writer. JASON SNELL is *Macworld*'s editor, and KELLY LUNSFORD, LISA SCHMEISER, and JONATHAN L. SEFF are *Macworld*'s senior associate editors.



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Laptop of Luxury

Despite some traditions of Chinese culture—which claim that this year, the 4,700th, belongs to the sheep—Steve Jobs has declared 2003 "the Year of the Notebook." Given my occidental roots, I've chosen to eschew questions related to cud chompers in favor of some issues associated with syncing portable and desktop Macs, keeping disparate Safari bookmark files in line, and logging in to a desktop Mac from the road. In addition, I address envelope creation in Apple's Address Book, HTML e-mail, files that won't die, and library patrons who won't behave.

Sync or Sunk?

I've owned a PowerBook for three years, and I'm finally getting a Power Mac. I'd like to synchronize the data between my two computers (both of which are running OS X). Can you recommend some synchronization software?

Dale Mericle, *Reno, Nevada*

If you have a .Mac account and intend to synchronize only contacts, calendars, and to-do items, Apple's free iSync will fill the bill. If you need to synchronize a greater variety of items—the contents of your user's folder, for example—you must turn to a third-party application.

ILLUSTRATION BY LEO ESPINOSA

VersionTracker (www.versiontracker.com) lists a wealth of OS X–compatible synchronization applications. From that bounty, I've selected a few utilities that should serve you well.

The first is Econ Technologies' (407/365-4209, www.econtechnologies.com) $20 ChronoSync. ChronoSync allows you to coordinate the contents of folders on your host and remote computers. For example, you can synchronize the Documents folders on your Power Mac and PowerBook.

ChronoSync offers a number of ways to determine whether files have changed—including comparing file sizes, attributes, and creation and modification dates. The program also lets you choose between one-way and bidirectional synchronization. (One-way synchronization updates your PowerBook's Documents folder, for example, when you've made changes to the contents of your Power Mac's Documents folder. The Power Mac's Documents folder won't be updated to reflect changes you've made on your PowerBook. Bidirectional synchronization updates each Mac to reflect changes made on the other computer.) And ChronoSync includes a scheduling function so you can automatically synchronize your computers at a time of your choosing.

Jason Weber's ExecutiveSync (which can be found at www.versiontracker.com) is another worthwhile $20 synchronization utility. Like ChronoSync, it allows you to synchronize a folder between a local and a remote Mac. Unlike ChronoSync, ExecutiveSync doesn't have a scheduling feature, and it finds changed files by comparing checksum information. This method makes accidentally overwriting or discarding the wrong file difficult to do, but it also makes the program slower than ChronoSync. The speed difference between the two programs is negligible when you're synchronizing a small number of files, but when those files number in the thousands, prepare to wait a long time for ExecutiveSync to do its job.

Qdea's $30 Synchronize X Plus (800/933-9558, www.qdea.com) is also a good choice. It includes a scheduling option and—a feature I particularly like—the ability to automatically mount a remote volume when you begin synchronization. Synchronize X Plus compares files only by modification time, however. If you want your synchronization utility to be more discerning about changes to documents, consider the $100 sibling of Synchronize X Plus, Synchronize X Pro, a program that can also create bootable backups.

Safari So Goody

What's the best way for me to sync my Safari bookmarks between my PowerBook and desktop Mac?

Jim Tipton, *Gilbert, Arizona*

Climb aboard the Mac whose bookmarks are the most up-to-date, and follow this path: *your user's folder*: Library: Safari. Make a copy of the Bookmarks.plist file inside the Safari folder. Replace the other Mac's Bookmarks.plist file with this copy. The bookmarks on each Mac will now match.

Taking the Road Home

I'd like to log in to my home Mac from my PowerBook. I understand that OS X allows me to do this if I enter the home Mac's IP address in the Connect To Server window on my laptop. The problem is that my Mac at home has a dynamic IP address that's constantly changing. How can I access it if I don't know its IP address?

Charlie Mars, *Tempe, Arizona*

It's true that when you have a dynamic IP address, the address will change from time to time—particularly if you have a cable or dial-up connection. To connect to a remote Mac, you must know its IP address. The means for learning the current IP address and providing access to your Mac is a dynamic Domain Name System (DNS) service.

A dynamic DNS service acts as a kind of office manager for your IP address. With the help of a client application installed on your Mac, the service is sent your current IP address whenever your computer is connected to the Internet. You (and others) reach your computer remotely by typing in an address assigned to your computer by the service. This address will take the form of *yourmac.dynamicdnsservice.com*, where *yourmac* is the name you've chosen for your Mac and *dynamicdnsservice.com* is the address of the service—bagobolts.no-ip.com, for example.

When you want to log on to your Mac from a remote location, simply select Connect To Server from OS X's Go menu, enter the address assigned by the dynamic DNS service, and click on Connect. If you have File Sharing switched on in the Sharing system preference, you should be able to move files on and off your Mac remotely. Likewise, if Personal Web Sharing is switched on in this system preference, others can log on to your Mac and view Web pages stored in the Sites folders on your computer.

Visit this Google directory to view a list of dynamic DNS services: http://directory.google.com/Top/Computers/Software/Internet/Servers/Address_Management/Dynamic_DNS_Services. Most offer a free account and provide access to Mac-compatible client software.

Getting iDressed
Eric Hanson's iDress lets you print batches of envelopes using the groups found in Apple's Address Book.

Pushing the Envelopes

With the release of iSync, I've moved from Palm Desktop to Apple's Address Book and iCal. I miss Palm Desktop's ability to select a group of addresses and print envelopes. Is there some way to do this with Address Book?

Lewis Hofmann, *Crofton, Maryland*

With the help of a third-party utility, yes. If you'd like to print a group of addresses in one shot, look at Eric Hanson's $15 iDress 1.2 (415/474-3332, www.incarna.com). This utility can create envelopes and Avery labels from the information contained in an Address Book group (see "Getting iDressed"). Just select the group of addresses you want to print (from iDress's Address Book Group pop-up menu), choose the medium you want to print to (envelope or label, for example), and choose a size (a standard number-ten business envelope, for instance). Click on the Go button, and iDress will create a template for your envelopes or labels within Adobe's Acrobat Reader (you must have Acrobat Reader configured as the default application for PDF files).

If you need to print only one envelope at a time, download Nik Sands's free Snail Mail (www.nixanz.com). This easy-to-use utility presents a list of all the names in your Address Book. Just set the margins of the envelope you want to print, choose a recipient from the list of addresses (your return address is taken from the information entered in My Card), configure your printer to print an envelope, and click on Print Envelope Immediately to, well, print your envelope immediately.

continues

TIP OF THE MONTH

Apple's Address Book contains a limited number of fields. To avoid having to create additional fields in each card you create, make a template card that contains all the fields you desire and give it a name such as A, Blank. When you need to create a new contact, copy and paste this card and press ⌘-L to edit it.

Charles S. Saunders, *Skokie, Illinois*

UNSOLICITED ADVICE

If you happen to install the Palm component of iSync—the Install iSync Palm Conduits package—and, just for old times' sake, later attempt to synchronize your Palm Computing device with Palm Desktop, you'll discover that iSync has a tendency to throw its weight around in regard to other conduits. Evidence of this tendency is that you will be unable to synchronize your Palm device with Palm Desktop, Microsoft Entourage, or Now Software's Now Up-to-Date & Contact.

When you install the iSync Palm conduits, the installer moves any conduits it considers incompatible to this directory: Library: Application Support: Palm HotSync: Disabled Conduits. If you decide that you gained greater syncing satisfaction from an application you used previously, you must move the disabled conduits from this directory to Library: Application Support: Palm HotSync: Conduits, and then configure the conduits with Palm's HotSync Manager.

Live Links

How can I send a message that contains live Web links from Apple's Mail application?

Frank Christel, *Tulsa, Oklahoma*

If you intend to make a habit of sending messages formatted in this way, select Preferences from Mail's Mail menu, click on the Composing button in the resulting window, and choose Rich Text from the Format pop-up menu. If you normally send messages as plain text (the other option in the aforementioned Format pop-up menu), open a new message and select Make Rich Text (shift-⌘-T). Once your message is formatted in such fashion, feel free to type in URLs (which your recipients will view as clickable Web links) and drag pictures into the body of the message (which, depending on how your recipients have configured their e-mail client, may be viewable from within the body of the message).

A word of warning: For the love of all that's sacred in Saskatoon, use Rich Text formatting sparingly. Many people prefer plain text because they find it easier to read and messages formatted as plain text open more quickly. Also, many newslists choke on messages formatted as Rich Text (usually earning you a sharp—and public—rebuke from the list monitor).

Inflexible File

There is a StuffIt file on my OS X Desktop that cannot be trashed. It appears as a file with a rip through the middle. The warning "Item is being used by another task right now" appears when I attempt to trash the file. Is there a way to get rid of it?

Daniel Fishbein, *Davis, California*

If you intend to trash only a single file, open Terminal (found in the Utilities folder), type `rm -f` followed by a space, drag the problem file into Terminal to enter its path, and press return. Your file will be deleted, and you won't be asked for confirmation.

To trash a folder (or, in Unix-speak, *directory*), type `rm -R` followed by a space, drag the problem folder into Terminal to enter its path, and press return. Be very careful with `rm -R`. That `-R` means "recursive" and indicates that the directory and all its contents will be deleted (not just placed in the Trash—*vaporized*) without warning. Should you drag the wrong folder into Terminal and press return, it's gone. Worse yet, if you type `rm -R *`, all the contents of the currently selected directory (which is likely your user's folder) will be deleted.

Reject Eject

I work in a children's library with four snow iMacs that provide CD-ROM–based games for children. Because these games don't work in OS X, we use OS 9.2. The children and parents love to eject the discs by dragging their icons to the Trash. How can I keep them from doing this?

Laurie Strommen, *Glen Head, New York*

The first option is to rid the iMacs of discs altogether. Simply launch Disk Copy—found inside the Utilities folder inside the Applications (Mac OS 9) folder at the root level of the hard drive—and drag your disc to the Disk Copy window. When the Save Disk Image As dialog box appears, select Read Only from the Format pop-up menu and 663,000K (CD-ROM 12cm, Full) from the Size pop-up menu. Click on Save, and your disc will be converted to a disk image.

Now move that disk image into a folder tucked way down inside those iMacs—somewhere a kid or parent is unlikely to venture. Open Apple's Launcher application and drag the disk image into it. Clicking on the image will mount it just as if it were a CD. Although the "disc" can still be dragged to the Trash, it's available again with a single click in Launcher.

OK, OK, so this won't keep them from dragging the disc to the Trash. If you want to get tough, turn to a third-party utility that severely limits the options of those using your computers.

One such utility is Power On Software's On Guard (800/344-9160, www.poweronsoftware.com). Among its many features, On Guard allows you to bar users from ejecting removable discs. When you're ready to swap discs, just enter a password to regain control of the computer. The downloadable version of On Guard costs $60; the CD-ROM version, $70. On Guard is compatible with OS 7.X through 9.X, but not with OS X. □

Contributing Editor CHRISTOPHER BREEN was born in the Year of the Monkey. His Peachpit Press books, *Secrets of the iPod*, second edition, and *Mac 911*, were published in the Year of the Horse.

Share tips and discuss Mac problems with other Mac users in the Mac 911 forum (www.macworld.com/subject/mac911). Also send tips by e-mail to mac911@macworld.com. We pay $50 for tips selected for publication in *Macworld*. All published submissions become the sole property of *Macworld*. Shareware and freeware mentioned in *Mac 911* are available at www.versiontracker.com.

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ANDY IHNATKO

The 17-Inch PowerBook Is Hot! No, I Mean Literally.

The Lunch-Lady Laptop

SO NOW WE HAVE A NEW TOP-OF-THE-LINE POWERBOOK, a hugely stylish—and stylishly huge—hunk of aluminum that competes with the rest of the line in terms of the ability to inspire sensations of deep longing. And that's really saying something, given that Mac laptops have included one that's made out of the same material as 39 percent of the F-22 Raptor fighter jet and another that looks like a toilet seat you'd encounter in one of Norway's finer hotels.

My first impression, of course, was that this new PowerBook should go over like gangbusters with prisoners and college students: when an Apple official first slid a closed 17-inch PowerBook across a table to me, I was immediately seized by an impulse to adjust my hair net, pick up a ladle, and start slapping portions of creamed corn and Salisbury steak onto the thing. There's just something about this PowerBook's metallic finish and sheer size that makes me look for the rounded depression into which an individual-size peach cobbler can be deposited. Finding none, I still want to peel back a corner to expose the Tater Tots before sliding it into the oven.

It wasn't until I started writing this very column that I finally understood the brilliance of this PowerBook's design. When it comes to expanding Apple's market share, every bit counts. According to 2000 census data, what's the fastest-growing segment of the population? People who want to be contestants on reality TV shows. If Apple can attract more of these folks to the Mac OS way of life, the Mac's market share could soon be solidly back in the double digits.

Think about it. The heat output of the Titanium PowerBook is already a reality-TV–style test of the opposing forces of common sense and dumb macho fortitude. I've got a bald patch on my right thigh. And the grade of aluminum used in the new PowerBook conducts heat 2.1 times more efficiently than titanium.

I don't have a new PowerBook yet, so I couldn't test this out for myself. I do, however, have a steam iron and a rectangular aluminum baking platter that is nearly the exact same size and shape. So I popped a tape of *The West Wing* into the VCR and plopped the platter in my lap with the iron on top of it, to simulate the 40 to 50 minutes I usually spend Googling for pictures of Stockard Channing.

Ten minutes in, the Nylon/Silk setting had provoked nothing more than a cozy, sleeping-kitty-cat sensation. By the time the president was belittling someone's interpretation of the Lend-Lease Act, I had it cranked up to Polyester, and I found myself reflecting optimistically on the similarities between the sensations of extreme heat and extreme cold.

I did reach my intended goal of simulating the experience of working with a 1GHz 17-inch PowerBook in my lap (Cotton Blend/Wool). All I'll say is that I'm glad the Black & Decker Pro XPress Multi-Steam is, compared with the PowerBook, both one-hundredth as costly and several hundred times less likely to suffer any ill effects if its user should choose to suddenly knock it off his lap and frantically run into the shower.

Brilliant. Absolutely brilliant. Anyone even remotely interested in being buried alive with 3,000 scorpions or sitting in a car while it's crushed by a monster truck will absolutely eat these new PowerBooks *up*.

The list of potential new markets for the new 17-inch PowerBook is nearly as enormous as the computer itself: Former smokers who are subconsciously drawn to anything that looks even remotely like a cigarette case, particularly one that could hold two cartons' worth. Space buffs who can half close their eyes and imagine that the bluish illuminated keys are actually the keypad of the Apollo command module's guidance computer and that they're about to initiate a 142-second trans-Earth injection burn, instead of merely checking up on this week's sales of toner in Fargo, North Dakota. *Sex and the City* property masters who need a laptop big enough to cover up those regions of Kim Cattrall that might be deemed unsuitable for in-flight viewing. . . .

> PowerBook heat output is a reality-TV–style test of macho fortitude.

That's part of the genius of the modern Apple Computer. Gone is the arrogance of the dark days when it would foist any boring, ordinary design upon us, counting on selling to the Mac's existing buyers, who whipped out their Visas as a matter of dull and automatic routine.

Bearing a PowerBook with a radical new look and a bare-metal finish, Steve Jobs is forging ahead; he's finally done for the laptop what John DeLorean did for cars. Well, no one ever said that this Industry Visionary business was a safe proposition. □

Contributing Editor ANDY IHNATKO also writes about technology for the *Chicago Sun-Times*.

MACWORLD MINIFINDERS

This is a list of products reviewed in *Macworld* from May 2002 through April 2003—complete with mouse ratings and brief synopses of the original reviews. To read the complete reviews of most of these products, visit Macworld.com (www.macworld.com/reviews/minifinders/).

3-D

Carrara Studio 2, from Eovia (www.eovia.com): Carrara Studio 2 is a good, low-cost, easy-to-use 3-D solution for creating a wide variety of graphics and fairly modest animations. However, its interface needs improvement (November 2002).

Cinema 4D XL 7.3, from Maxon Computer (www.maxon.net): Veteran 3-D artists looking for modeling, animation, and rendering tools in a single package will appreciate Cinema 4D XL's workflow. Novice 3-D–software users may find the expansive collection of tools daunting, but the manuals and tutorials are well done (June 2002).

Lightwave 3D 7.5, from NewTek (www.newtek.com): Version 7.5 doesn't address one of the program's major shortcomings—poor integration between layout and animation modules—but it does offer some worthwhile enhancements, including better rendering and improvements to the Motion Mixer and Virtual Darkroom features (October 2002).

Maya Complete 4.5, from Alias|Wavefront (www.aw.sgi.com): Although Maya's rendering features and performance need some work, this version is a must-have program for graphic artists or animators who are serious about 3-D animation (January 2003).

Swift 3D 3, from Electric Rain (www.swift3d.com): Swift 3D is good for rendering 3-D animations and graphics into Flash format, but it falls short in creating those items, with limited tools for modeling, animation, and scene creation. And lack of OS X compatibility doesn't help (March 2003).

Universe 5.0, from Electric Image (www.electricimage.com): Although it's not the ultimate 3-D tool, Universe 5.0 provides a fast, efficient way for average users to do the type of 3-D animation they do most often: place animated items in a real-world setting, move ships through space, and make logos fly through commercials (March 2003).

Audio

Cubase SX 1.051, from Steinberg (www.steinberg.de): Cubase SX is one substantial bug fix away from being a solid contender for your digital-audio–production dollars. When a more stable version ships, people with earlier Cubase iterations should upgrade in a hurry (March 2003).

Deck 3.5.1, from BIAS (www.bias-inc.com): Deck 3.5 is a fine choice for musicians who want a reasonably priced application for audio recording and production. Those who want to work with higher resolutions or need to create MIDI tracks will have to look to other programs (February 2003).

DS-330, from Olympus (www.olympusamerica.com): Though this digital-audio recorder has limitations, you can stop cataloging cassettes and start transferring audio files to your Mac with ease. It's an excellent choice for taking voice notes and light dictation (October 2002).

iListen 1.5, from MacSpeech (www.macspeech.com): iListen is still a work in progress. Although IBM's ViaVoice has its own flaws, it's a better choice for most. The primary benefit of iListen is its ability to transcribe recorded dictation (January 2003).

Live 1.5, from Ableton (www.ableton.com): This sample sequencer is an easy-to-use performance tool that's as at home in the studio as on the stage. Musicians and DJs looking for a new groove should give it a try (August 2002).

Logic Platinum 5.3, from Emagic (www.emagicusa.com): Logic Platinum 5.3 offers a comprehensive set of tools for digital-audio production, and it's the first professional digital-audio–production application to work in OS X (January 2003).

Mbox, from Digidesign (www.digidesign.com): This USB-based Mbox analog-to-digital converter is a very nice way to start your digital-recording career; it provides portability and easy-to-use software at a decent price (August 2002).

MP3 Rage 5.4, from Chaotic Software (www.chaoticsoftware.com): MP3 Rage is the Swiss Army Knife of MP3 utilities. It helps you look up and fix improper ID3 tag data, rename files based on that data, look up lyrics and album covers, find duplicates, create a catalog file, and even convert MP3 files to other audio formats (April 2003).

Peak 3, from BIAS (www.bias-inc.com): This audio-editing program is fast and powerful, but it's hampered by a cumbersome interface (July 2002).

Plex, from Steinberg (www.steinberg.de): If you love the sound of a trumpet combined with an electric guitar, and you want the notes to decrescendo like a gong, look to Plex, which can create this in a snap. The VST plug-in isn't an essential item, but it's a decent luxury (February 2003).

Pluggo 3.0, from Cycling 74 (www.cycling74.com): For an affordable package of audio plug-ins compatible with a host of formats, look no further. Pluggo offers tremendous bang for the buck, with 80 audio plug-ins and 20 virtual instruments (September 2002).

ProTools Free 5.0, from Digidesign (www.digidesign.com): This excellent audio application lets you edit and mix your audio, but it runs only in OS 9 (July 2002).

Reason 2.0, from Propellerhead Software (www.propellerheads.se): Version 2.0 provides a good opportunity for musicians—from studio professionals to enthusiasts—to become better acquainted with a great music-sampling and -synthesis program. It may be just what you need if you're finally ready to retire your hardware-based system (November 2002).

SliMP3, from Slim Devices (www.slimdevices.com): The SliMP3 can read MP3 files from an OS X Mac (or a Unix computer or PC) via an Ethernet network and play them through a stereo. It integrates elegantly with other audio-visual equipment, and sets up easily (April 2003).

SmartSound Movie Maestro, from Sonic Desktop Software (www.smartsound.com): SmartSound Movie Maestro does what it promises: it creates professional-sounding scores for your videos and requires little effort on your part (December 2002).

Sonica, from M-Audio (www.m-audio.com): Sonica's digital output greatly improves the sound quality you can get from your Mac, even in higher-end setups (January 2003).

Sound Studio 2.0, from Felt Tip Software (www.felttip.com): Sound Studio 2 is an effective two-channel audio editor, has an intuitive user interface, and provides a healthy set of effects and filters (July 2002).

Spark ME, from TC Works (www.tcworks.de): This free introduction to the Spark line of audio applications allows direct recording and provides the ability to import and manipulate any QuickTime-compatible audio file (July 2002).

Spark XL 2.5, from TC Works (www.tcworks.de): Elegantly designed and responsive, Spark XL 2.5 and Spark 2.5 (a version without all the plug-ins) have claimed the top spot among Mac audio editors. If you're on a tight budget, there's the Spark LE family and the free Spark ME (October 2002).

StreamCatcher, from Bombich Software (www.bombich.com): StreamCatcher helps you record streaming audio to your hard drive, and it integrates well with iTunes (July 2002).

Toast with Jam 5, from Roxio (www.roxio.com): Jam is an easy-to-use program fit for novices, hobbyists, and audio professionals, and it offers audio-mastering features that other apps lack. Coupled with the full version of Toast Titanium, it lets you burn in every CD, DVD, or VCD format. But its burning process is more time-consuming than that of previous versions (June 2002).

CAD

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

VectorWorks 10, from Nemetschek (www.nemetschek.net): VectorWorks 10 is a full-featured, mature product that successfully integrates 2-D anc 3-D design, allowing CAD users to have their cake and eat it, too. It's an excellent value (February 2003).

Camcorders

AG-DVX100, from Panasonic (www.panasonic.com): With the Panasonic AG-DVX100, a fast Mac, and software—such as Apple's Cinema Tools—that supports 24p Advanced mode, you have a production facility at your fingertips (February 2003).

DCR-PC120BT, from Sony (www.sel.sony.com): Sony's DCR-PC120BT camcorder provides good image quality, but the color is slightly oversaturated and the images are oversharpened (November 2002).

DCR-TRV50, from Sony (www.sel.sony.com): The DCR-TRV50's image quality is very good, and the camcorder has a large, 3.5-inch LCD screen. Like the other camcorders we reviewed here, it oversharpens images (November 2002).

GR-DVM96U, from JVC (www.jvc-america.com): JVC's DV camcorder has good image quality and a very small form factor. However, there are no jacks for an external microphone or for dubbing analog to DV (November 2002).

Optura 200MC, from Canon (www.canon.com): Canon's compact DV camcorder provides very good color tone, quality, and accuracy. Image stabilization is excellent, but the Optura 200MC does oversharpen images (November 2002).

PV-VM202, from Panasonic (www.panasonic.com): If you need both a video and a still camera and don't have high still-image standards, the PV-VM202 offers great flexibility and a good value. If you want the best video quality and you can spend more, you'd be better served by a three-CCD camcorder (January 2003).

Computers

800MHz iBook, 12.1-inch, from Apple Computer (www.apple.com): With a bright screen, decent speed, small size, and light weight, the 12.1-inch 800MHz iBook remains one of the best values in the Mac product line, though we wish the iBook would finally get the G4 processor (February 2003).

800MHz iBook, 14.1-inch, from Apple Computer (www.apple.com): It costs $300 more, weighs a pound more, has twice the RAM, and offers the same resolution as the 12.1-inch model, so the 14.1-inch 800MHz iBook will appeal only to people looking for a "large-print edition" of the iBook (February 2003).

Dual-1.25GHz Power Mac G4, from Apple Computer (www.apple.com): With the dual-1.25GHz Power Mac G4's impressive overall performance, you really do get what you pay for. If you simply must have the world's fastest Mac, or you do a lot of video and graphics work, this is the ultimate Mac (December 2002).

Dual-867MHz Power Mac G4, from Apple Computer (www.apple.com): The new dual-processor Power Macs are a good value, especially for people upgrading from Sawtooth G4s. For a little more money than corresponding previous models cost, you get two G4 processors, more expansion, and better graphics support (November 2002).

700MHz eMac, from Apple Computer (www.apple.com): The eMac is a fast, low-cost computer in a rugged enclosure. The hardware isn't easily upgradable, but a beautiful flat CRT and surprising speed make it a remarkable value (September 2002).

800MHz iMac G4, from Apple Computer (www.apple.com): The new pivoting two-piece flat-panel iMac is a triumph in terms of design, computing power, and value. Its G4 processor is fast, and it features a built-in SuperDrive. But it is not as fast as a Power Mac G4 with the same processor speed (May 2002).

867MHz PowerBook G4, 12-inch, from Apple Computer (www.apple.com): The 12-inch PowerBook G4, at $1,799, effectively straddles the PowerBook and iBook lines. Users who care more about performance than size will likely prefer the 15-inch Titanium or the 17-inch PowerBook. On the other hand, this model will answer the prayers of mobile professionals who need a small, light laptop (April 2003).

1GHz Titanium PowerBook G4, from Apple Computer (www.apple.com): The new Titanium PowerBook G4s are excellent and reasonably priced laptops. The 1GHz model is the most fully developed portable experience you can buy (February 2003).

800MHz Titanium PowerBook G4, from Apple Computer (www.apple.com): The new Titanium PowerBook G4

may look the same on the outside, but inside is a dramatically different—and much faster—machine. However, its AirPort reception is still not as strong as that of other Apple portables (July 2002).

867MHz Titanium PowerBook G4, from Apple Computer (www.apple.com): The new Titanium PowerBook G4s are excellent and reasonably priced laptops. The 867MHz model is an especially good buy if you don't need AirPort or DVD-burning capabilities (February 2003).

Xserve, from Apple Computer (www.apple.com): The Xserve packs intense G4 processing power in a small form factor, so if your setup demands server-side processing, the Xserve is for you. As a storage server, it delivers mixed results (November 2002).

Contact and Calendar Management

DayLite Business Edition 1.2, from Marketcircle (www.marketcircle.com): DayLite Business Edition is a well-designed and amazingly customizable program that gives you all the tools you need to manage every aspect of your sales, from start to finish. However, it lacks the necessary security and basic administration tools that most businesses require in a centralized application (February 2003).

DayLite Personal Edition 1.2, from Marketcircle (www.marketcircle.com): DayLite Personal Edition is a well-designed and amazingly customizable program that gives you all the tools you need to manage every aspect of your sales from start to finish (February 2003).

iCal 1.0, from Apple Computer (www.apple.com): Like Mail 1.0 and Address Book 1.0 before it, iCal 1.0 shows potential but lacks many of the features and refinements found in its competitors. Although not exactly half-baked, iCal 1.0 is certainly underdone (December 2002).

Meetingmaker 7.1, from Meetingmaker (www.meetingmaker.com): Version 7.1's instant access to a range of calendaring information makes it an excellent scheduling package for any office environment. It could use a livelier interface, better print and administration functions, and import capability, but easy setup, cross-platform capacity, and nearly infinite scalability more than make up for those shortcomings (September 2002).

Now Up-to-Date & Contact 4.2, from Power On Software (www.poweronsw.com): The latest version is almost equivalent to past versions running in OS 9, so if you're a Now user about to jump to OS X, there's one less reason to hesitate. Palm synchronization adds to a solid package (August 2002).

Palm Desktop 4.0, from Palm (www.palm.com): This program lets you sync your Palm handheld with your OS X Mac, but synchronization sometimes fails to begin (July 2002).

Database

4th Dimension 6.8, from 4D (www.4d.com): For simple database projects, 4D is overkill. But if you're willing to do a little programming, if you want to create professional database applications, and if you need to run them on multiple Windows and Mac platforms, 4D should be just the ticket (December 2002).

FileMaker Mobile 2, from FileMaker (www.filemaker.com): The average businessperson will find plenty to work with in FileMaker Mobile 2; its ease of use makes it possible to set up a database on your Palm. Developers looking to deploy an extensive system of offline databases may find this upgrade wanting, however (October 2002).

FileMaker Pro 6, from FileMaker (www.filemaker.com): FileMaker Pro has been part of the Mac's history since 1985, and version 6 retains the program's legendary ease of use. Users will appreciate what may likely prove to be this release's best feature: extending and constraining found sets. However, this version may leave you wanting more when it comes to security enhancements, multithreading, and innovation (November 2002).

MySQL 3.2, from MySQL AB (www.mysql.com): It's the most widely used open-source database server and runs on OS X. But it doesn't include documentation (July 2002).

phpMyAdmin 2.2, from phpWizard.net (phpwizard.net): phpMyAdmin is a browser-based tool for creating and managing MySQL databases. It performs well, but it won't help you learn MySQL (July 2002).

SQL4X Manager 2.0 Basic (MySQL Edition), from MacOS Guru (www.macosguru.de/us): This OS X–native MySQL database manager performs as a solid database-management tool (July 2002).

Development and Scripting

Omnis Studio 3.1, from Raining Data (www.rainingdata.com): Omnis Studio fills the need for a powerful database-application–development environment that's deployable across a wide range of platforms and servers (September 2002).

Revolution 1.1.1, from Runtime Revolution (www.runrev.com): While it provides a cross-platform way to build a GUI-based application, this development tool has an imperfect user interface (July 2002).

SuperCard 4.0, from Solutions Etcetera (www.supercard.com): SuperCard arrives in an arena already populated by RealBasic and Revolution, but so far it's the easiest to use, and it delivers extremely professional-looking Mac applications (April 2003).

Digital Cameras

C-4040 Zoom, from Olympus (www.olympusamerica.com): This digital camera delivers very good image quality and full manual controls, but it lacks an autofocus illuminator, and some images display purple fringing (May 2002).

C-50 Zoom, from Olympus (www.olympusamerica.com): The 5-megapixel C-50 is a well designed camera with a metal body and a 3× zoom lens. It works well in point-and-shoot mode and has a good set of manual controls. Photo quality is very good, although images were a little on the noisy side, and edges often displayed purple fringing (April 2003).

C-5050 Zoom, from Olympus (www.olympusamerica.com): The C-5050 supports external flash, conversion lenses, and three media types: CompactFlash, SmartMedia, and xD Picture Card. Although there is noticeable purple fringing in many shots and a bit too much noise at the ISO 64 setting, the overall photo quality is very good (April 2003).

C-730 Ultra Zoom, from Olympus (www.olympusamerica.com): Olympus's C-730 sports a powerful zoom lens and full manual controls. Its images are noisier than those of other 3-megapixel cameras, and purple fringing can sometimes be a problem (February 2003).

Coolpix 2500, from Nikon (www.nikonusa.com): The Coolpix takes very good pictures in most situations, although flash shots tend to produce red-eye. It's a good 2-megapixel buy (August 2002).

Coolpix 3500, from Nikon (www.nikonusa.com): The Coolpix 3500, a 3.2-megapixel update to the Coolpix 2500, inherits the shortcomings of its predecessor: red-eye problems, the absence of an optical viewfinder, and noisy images in low light. Outdoor picture quality is good, but the 3500 doesn't have much to raise it above the competition (April 2003).

Coolpix 4300, from Nikon (www.nikonusa.com): The Coolpix 4300 provides very good photo quality and lots of features for a point-and-shoot camera. The available shooting speeds are just average, and the camera doesn't support CF Type II cards (January 2003).

Coolpix 5000, from Nikon (www.nikonusa.com): This Nikon 5-megapixel camera offers a whole new body style, a flip-out LCD screen, powerful controls, and white-balance bracketing. But it suffers from bad flash-sensor placement, the lens is slow at maximum zoom, and there are occasional chromatic aberrations (May 2002).

Coolpix 5700, from Nikon (www.nikonusa.com): The Coolpix 5700 features great photo quality, a top-notch lens, superb macro capability, and support for external flash. A larger LCD would be nice, and the bundled 16MB card is anemic (January 2003).

Cyber-shot DSC-F717, from Sony (www.sel.sony.com): The Cyber-shot has a fast, sharp lens, excellent photo quality, external flash support, a laser-focusing system, and long battery life (January 2003).

D-40 Zoom, from Olympus (www.olympusamerica.com): This camera offers very good image quality and it's small and light, but its manual is CD only, and the included battery is not rechargeable (May 2002).

D100, from Nikon (www.nikonusa.com): The D100 is a solid, light, easy-to-use camera that offers excellent controls and long battery life, supports a range of lenses, and takes great pictures (January 2003).

Dimage 7Hi, from Minolta (www.minolta.com): The Dimage 7Hi can be a little intimidating, but it has great performance and an excellent lens. It does produce noisier images than the competition, however (January 2003).

Dimage X, from Minolta (www.minolta.com): The Dimage X falls short of other 2-megapixel cameras in photo quality, and a poor bundle and a dearth of features leave it trailing the competition (August 2002).

E20N, from Olympus (www.olympusamerica.com): With the E20N, Olympus has simultaneously upgraded its top-of-the-line digital SLR, the E10, and introduced its first 5-megapixel camera, but the device's painfully slow performance makes it feel like a low-end prosumer camera (May 2002).

EasyShare LS443, from Kodak (www.kodak.com): The Easyshare LS443 has some interesting features, such as an AF illuminator and the ability to mark pictures for printing or e-mail. However, its photo quality is not as good as that of other 4-megapixel cameras (January 2003).

Exilim EX-S2, from Casio (www.casio.com): The Casio Exilim EX-S2 is the smallest digital camera available. It offers very good performance with many features. However, it's expensive, and its photo quality is not as good as that of non-compact cameras (February 2003).

FinePix 2800 Zoom, from Fuji (www.fujifilm.com): A great value for people who want a little more zoom in their 2-megapixel camera. The only complaint is its lack of rechargeable batteries (August 2002).

FinePix 3800, from Fuji (www.fujifilm.com): The FinePix 3800 is inexpensive for a 6× zoom, and it supports wide and telephoto-conversion lenses. On the downside, it locks at wide angles in macro and movie modes (February 2003).

FinePix F401, from Fuji (www.fujifilm.com): The FinePix F401 has a small, stylish body and produces good photo quality at its native 2.1-megapixel resolution. However, the controls are very limited, the images are noisy, and it's expensive compared with other 2.1-megapixel cameras (January 2003).

Photosmart 850, from Hewlett-Packard (www.hp.com): HP's Photosmart 850 is a great value and very easy to use; image quality is not as good as that of the best 4-megapixel cameras, though (February 2003).

PowerShot G2, from Canon (www.canon.com): At four megapixels, this digital camera delivers excellent photo quality, extensive manual controls, and support for an external flash or lens. Its only drawback is its proprietary battery (May 2002).

PowerShot G3, from Canon (www.canon.com): The PowerShot G3, an updated version of the successful PowerShot G2, is a 4-megapixel camera with a longer 4× zoom lens, better image-processing performance, a built-in neutral-density filter, and support for wireless flashes (January 2003).

PowerShot S230 Digital Elph, from Canon (www.canon.com): The PowerShot S230 Digital Elph offers very good performance in a small, stylish metal body. Red-eye is a problem, though, and the 2× optical zoom lens is small (February 2003).

PowerShot S40, from Canon (www.canon.com): This camera captures excellent photo quality and offers full manual controls and a good bundle, including a 16MB CompactFlash card. But its LCD lacks an information display, and the controls feel cluttered (May 2002).

PowerShot S45, from Canon (www.canon.com): The PowerShot S45 has the same CCD and image-processing chip as Canon's flagship PowerShot G3, but it's smaller and has only a 3× zoom lens. Its movie mode is very good, and it sports an AF illuminator. Red-eye is sometimes a problem, though (April 2003).

Displays

Artisan Color Reference System, from Sony (www.sel.sony.com): If you need accurate, predictable color from your display, day in and day out, and you're willing to pay a premium price for it, the Sony Artisan Color Reference System—a CRT display and calibrator—will give you your money's worth (January 2003).

Cinema 17SF, from Boxlight (www.boxlight.com): The DLP-based Cinema 17SF impressed us with its stunning contrast and color cuality. It includes a DVI connector and displays sharp text with no jitter, even up close, as well as believable blacks. Overall, it displays very accurate color without needing any adjustments (October 2002).

DVIator for ADC, from Dr. Bott (www.drbott.com): This device's cluster of cables can make connection confusing, but setup is simple and display quality is just as crisp as with an ADC video card (June 2002).

Ex-tend-it DVI to ADC, from Gefen (www.gefen.com): The small conversion box with USB and DVI inputs along one side and ADC and power inputs on the opposite side keeps

continues

things tidy, and display quality is just as clear as with an ADC video card (June 2002).

Ex-tend-it VGA to ADC, from Gefen (www.gefen.com): This converter box enables owners of VGA-only PowerBook G4s to extend, but not mirror, their desktops on Apple's LCD displays. The solution is a bit pricey and hardware intensive, so unless you're a die-hard fan of Apple's display designs, you may prefer to spend the money on a larger analog display instead (October 2002).

Gallery 2010, from Formac (www.formac.com): If you're looking for an impressive replacement for a big CRT, the Gallery 2010 is definitely a great display (February 2003).

LV-X1, from Canon (www.canon.com): This LCD projector displays sharp text with no jitter—even when viewed up close. It comes with a small remote that does double duty as a pointing device (October 2002).

PJ550, from ViewSonic (www.viewsonic.com): This LCD projector displays sharp text with no jitter—even when viewed up close—and comes with a small, thin remote (October 2002).

PowerLite 720c, from Epson (www.epson.com/northamerica.html): The superbright PowerLite 720c, which features an ample 1,500 ANSI lumens, impressed us. The extra brightness will come in handy should you need to project a large image that an audience will view from many feet away. It displays sharp text with no jitter and has several other nice, Mac-savvy features (October 2002).

SL705X, from BenQ (www.benq.com): This DLP-based projector comes with a thin, small remote. Small text in our Excel spreadsheet was slightly smeared and a small amount of jitter was noticeable up close; however, from a normal viewing distance of six feet or more, even the smallest text was clear and readable. It also projected too-dark reds and undersaturated greens (October 2002).

E-mail

Entourage X 10.1, from Microsoft (www.microsoft.com): Entourage has a full-featured, good interface, and it handles HTML and text well. The program includes a PIM. Searching and filtering is flexible, although performance is poor (October 2002).

Eudora 5.1.1, from Qualcomm (www.qualcomm.com): Eudora is full-featured, with fast searching, an in-line spelling checker, extreme flexibility for power users, and a unique workgroup file-sharing capability. Plus it's available in free configurations. It's not all good, though. The interface is ugly; the filters, mediocre; and the HTML rendering, poor (October 2002).

Magellan 3.3, from MAKI Enterprise (www.makienterprise.com): Mageilan provides innovative views for managing e-mail and multilingual support. You may need the latter, as the documentation is poorly translated. It doesn't support HTML or graphics (October 2002).

Mail 1.1, from Apple Computer (www.apple.com): Apple's Mail is easy to use and comes bundled with OS X. Its searching is poor, however, and it has lousy integration with OS X's Address Book. Attachment formats are a problem, too, as you have no control over them (October 2002).

MailfilterX 0.2.0, from Frank Blome (www.frankblome.de/mailfilterx): MailfilterX deletes spam from your server's mailbox while downloading as little as possible. It's not for those wary of OS X's Terminal application; you'll need Unix and regular-expressions skills to get MailfilterX running and configured meaningfully (April 2003).

Mailsmith 1.5.3, from Bare Bones Software (www.barebones.com): Mailsmith has extensive AppleScript support to go with its powerful text editing, searching, and filtering. It's a bit expensive, though, and has no support for HTML, IMAP, or in-line graphics (October 2002).

MaxBulk Mailer 2.6, from Max Programming (www.maxprog.com): This affordable and helpful application handles high-volume e-mail tasks with ease (July 2002).

Musashi 3.4, from Sono Software (www.sonosoft.com): Musashi 3.4 has built-in support for multiple users, but it lacks HTML and graphics support. More cons: It has no spelling checker, limited searching, limited filtering, and poorly translated documentation (October 2002).

Nisus Email 1.6.1, from Nisus Software (www.nisus-soft.com): Nisus Email allows for easy sending of mail from any word processor, and that's about where the pluses end. The interface is awkward, there is no APOP support, performance is poor, HTML is not supported, text-editing tools are absent, and filters and searching are poor (October 2002).

PostArmor 1.2, from P. Manna (www.postarmor.com): PostArmor is a Java-based application that connects to POP and IMAP servers to help you cut down on spam. It works well in OS X, and its accuracy is good (April 2003).

PowerMail 3.1, from CTM Development (www.ctmdev.com): PowerMail provides an attractive interface with Sherlock-style searching and a variety of import formats. There is no traditional searching, however, and there is no in-line spelling checker (October 2002).

QuickMail Pro 3.1, from CE Software (www.cesoft.com): QuickMail Pro has multiple-user features when used with QuickMail Pro Server. The cons include lack of IMAP support and mediocre filters (October 2002).

Spamfire 1.3.2, from Matterform Media (www.matterform.com): Spamfire is an anti-spam utility that takes over the job of checking your e-mail. It logs in to your mail server and applies its point-based rules to mail stored there. Its accuracy is good, but you'll take a hit on your bandwidth and storage (April 2003).

SpamSieve 1.2.2, from Michael Tsai (http://c-command.com/spamsieve): SpamSieve works as an add-on to Entourage, MailSmith, PowerMail, and Eudora to cut down on unwanted e-mail. Its accuracy is very good, but it can be hard to train, and it's not very configurable (April 2003).

SweetMail, from Sugiura (www2.ttcn.ne.jp/~sweet/mail): SweetMail is easy to use, and it has a cool message-size indicator for sending to cell phones. However, the feature set is shallow and the filters are poor (October 2002).

Education

Britannica 2003 Ultimate Reference Suite, from Britannica (www.britannica.com): Britannica 2003 delivers on its promise of providing a complete home-reference library on your desktop. It might not be an exemplary Mac application, but it's an exemplary reference application (January 2003).

Finance

AccountEdge 3, from MYOB (www.myob.com): AccountEdge 3 is an excellent application for small businesses that need powerful inventory, invoicing, and accounting features in an easy-to-use package (February 2003).

AtWork 2.4, from IGG Software (www.iggsoftware.com): A solution for designers, consultants, and others who need to track and bill for projects and time. It works well, though documentation is light (July 2002).

FirstEdge, from MYOB (www.myob.com): This intuitive financial-management package for small businesses outputs excellent reports, but importing sales data is clumsy and requires special formatting (July 2002).

PTHStockTicker 1.0, from PTH Consulting (www.pth.com): This is not only one of the best stock tickers available but also free (July 2002).

QuickBooks Pro 5.0, from Intuit (www.quicken.com): The latest version of this accounting application doesn't add much to previous iterations, save for the fact that it's finally OS X native. If you're looking for your first Mac accounting app, nothing is as easy to master as QuickBooks, but there are other choices that are more mature, compatible across platforms, and better integrated with many of the Mac's key programs (April 2003).

Quicken 2003, from Intuit (www.quicken.com): Quicken is fairly priced for new users and remains a very good product, but new versions have too few compelling added features to justify yearly upgrades. If you're using Quicken 2001 or earlier, though, Quicken 2003 provides enough improvements to make an upgrade a good investment (December 2002).

Sambucus 2.0, from Logiciels Malus Softwares (www3.sympatico.ca/fuzzies): This project-tracking program is for anyone who bills by the hour, and it works excellently (July 2002).

Fonts and Typography

Font Reserve 3.1.1, from DiamondSoft (www.fontreserve.com): Version 3.1 can keep current Font Reserve users working at peak efficiency, and its useful management of the OS X System Fonts folder may even make it an attractive option for people using other font-management tools (February 2003).

FontAgent Pro, from Insider Software (www.insidersoftware.com): FontAgent Pro's new activation and preview features, combined with its excellent font-organization and -repair capabilities, put it squarely in competition with the established font heavyweights, Font Reserve and Suitcase (March 2003).

Typeset 1.1.1, from VizSpring Software (www.vizspring.com): This inexpensive and speedy utility is helpful for previewing fonts for home or office projects (September 2002).

X Font Info 1.0, from Vincent Software (http://homepage.mac.com/vjalby): It efficiently brings OS 9 capabilities to OS X when dealing with the contents of a suitcase (July 2002).

Games

4x4 Evolution 2, from Aspyr Media (www.aspyr.com): Time for some rough-and-tumble off-road racing, but there's no damage modeling on the vehicles. Oops (June 2002).

Adaptoid, from Wish Technologies (www.wishtech.com): This product works as an effective bridge between USB and Nintendo 64 controllers. But it is not as well equipped on a Mac as it is on a Windows PC (July 2002).

BattleChair, from Interactive Seating (www.battlechair.com): Sure, you could spend less by buying a modest office chair, a decent pair of speakers, and a subwoofer. But the results wouldn't look as cool as the BattleChair (August 2002).

Beach Head 2002, from MacSoft (www.wizworks.com/macsoft): Beach Head 2002 offers mindless, arcade-style shooter fun, but it gets old fast (November 2002).

Bejeweled and Alchemy, from MacPlay (www.macplay.com): This two-game package is great for a quick pickup game. Both are challenging, addictive, and a nice break for those looking for something other than shoot-'em-ups. One warning: Similar games are free online (October 2002).

Bubble Trouble, from Ambrosia Software (www.ambrosiasw.com): A cute "squish the fish" game makes the jump to OS X. Sure, it's been around since the mid-1990s, but now a whole new generation of Mac gamers can become addicted to this arcade-style classic (October 2002).

Bugdom 2, from Pangea Software (www.pangeasoft.net): Bugdom 2 is proof that good ideas can be improved upon. This 3-D action game has beautiful graphics and varied game play. It will keep fans of the original and new players alike challenged and interested for hours (February 2003).

Cave Dig 3, from Foxchange Software (www.foxchange.com): Cave Dig 3 is a well-crafted retro-style puzzle game suitable for the whole family. Unfortunately, spelling errors and bad punctuation spoil the otherwise professional presentation (December 2002).

Civilization III, from MacSoft (www.wizworks.com/macsoft): Although it's a huge strategy game, the learning curve is easy, so new players can jump right in and start to build, expand, and conquer. But you're on your own, as the game lacks a multiplayer mode (June 2002).

Clive Barker's Undying, from Aspyr Media (www.aspyr.com): Undying is another first-person shooter, but it's a frightening one. If you're fond of Barker's macabre visions, you'll love Undying. An old graphics engine and occasional crashes hurt the experience a bit (November 2002).

Coldstone Game Engine, from Ambrosia Software (www.ambrosiasw.com): This application enables you to make your own adventure game without having to learn how to program. But its learning curve is difficult (July 2002).

Dora the Explorer: Backpack Adventure, from Infogrames (www.funkidsgames.com): Irrepressible and exuberant, Dora the Explorer: Backpack Adventure offers preschoolers friendly encouragement as they learn shapes, numbers, and basic reasoning skills (April 2003).

Escape Velocity: Nova, from Ambrosia Software (www.ambrosiasw.com): This game mixes futuristic combat and adventure. But some story lines are dead ends that make you start over (July 2002).

F1 Championship Season 2000, from MacPlay (www.macplay.com): F1 Championship Season 2000 is a lot of fun to play, even three years later. It's a challenging and great-looking racing simulator (April 2003).

Fallout, from MacPlay (www.macplay.com): An odd 1950s bit of "duck and cover" set in an alternate universe, Fallout is a postapocalyptic role-playing game. Originally released in 1997, it's finally on the Mac (January 2003).

Fallout 2, from MacPlay (www.macplay.com): An odd 1950s bit of "duck and cover" set in an alternate universe, Fallout 2 is the sequel to 1997's postapocalyptic role-playing game. It's taken that long for the two games to make it to the Mac (January 2003).

Fisher Price Little People Discovery Airport, from Knowledge Adventure (www.knowledgeadventure.com): If you don't mind running a Classic app, you'll find a delightful and fun game for toddlers and preschoolers. Don't count on capturing the attention of kids who already know shapes, colors, and numbers (October 2002).

Geneforge, from Spiderweb Software (www.spiderweb software.com): This adventure lacks the spit and polish of more-mainstream releases. Geneforge is an immersive experience, however, and delivers great game play. Too bad it's not OS X native (August 2002).

Harry Potter and the Sorcerer's Stone, from Aspyr Media (www.aspyr.com): Easy game play for the inexperienced and an all-around fun time for all, with great graphics and an excellent re-creation of Quidditch. But it may not offer enough challenges for gaming experts (May 2002).

Heretic II, from MacPlay (www.macplay.com): Although it's a bit old (it was released on the PC five years ago), Heretic II is a ridiculously fun 3-D action game at a bargain price (October 2002).

Heroes of Might and Magic IV, from 3DO (www.3do .com): Expanded roles for heroes, broader specialization options, and detailed stories make Heroes of Might and Magic IV an interesting, albeit flawed, addition to the turn-based strategy series (April 2003).

Icewind Dale, from MacPlay (www.macplay.com): This role-playing game is difficult at first, but it includes a huge dungeon crawl and a lot to see and kill (June 2002).

iPoker 2.0, from Scenario Software (www.ouzts.net/ ipoker): iPoker is an admirable OS X–native version of one of the most popular casino games around. Sadly, there is no multiplayer support, so you'll have to be satisfied with taking the chips of digital shills (October 2002).

Jedi Knight II: Jedi Outcast, from Aspyr Media (www .aspyr.com): Jedi Knight II is one of the best games to come from LucasArts and Aspyr. It's a first-person shooter set in the *Star Wars* galaxy, with a twist—you have Force powers and get to wield a light saber (February 2003).

JewelToy, from Giles Williams (http://homepage.mac .com/aegidian/jeweltoy): Just what the doctor ordered when you're looking for a quick diversion in your spare moments. JewelToy is easy to learn and addictive, although its sound effects are lame (September 2002).

Jinni Zeala, from MacPlay (www.macplay.com): Pinball may be a niche market for Mac gamers, but you can't do better than what this game has to offer. Jinni Zeala is a nearly flawless execution of the challenging solid-state pinball game for your Mac (August 2002).

Links Championship Edition, from Bold (www.bold games.com): Links Championship Edition is a startlingly realistic simulation of golfing, but its complex interface may make it daunting for casual duffers (February 2003).

MacXword 1.0.1, from Advenio Software (www .macxword.com): MacXword can read and solve crossword puzzles based on the Across Lite format (used by the *New York Times* and the *Washington Post*). It offers quick puzzle navigation, printing, hints, and a clue-lookup feature hooked to the OneAcross Web service (April 2003).

Max Payne, from MacSoft (www.wizworks.com/ macsoft): This innovative first-person shooter shines with Bullet Time (think *The Matrix*) and its noir atmosphere, but there's no replay value and the cheesy dialogue can be off-putting (September 2002).

Medal of Honor: Allied Assault, from Aspyr Media (www.aspyr.com): Great graphics, detailed and challenging real-life World War II missions, and varied multiplayer modes keep Medal of Honor interesting for hours. The lack of 3-D audio is a drawback, especially in multiplayer mode (November 2002).

Moop & Dreadly in The Treasure on Bing Bong Island, from Plaid Banana Entertainment (www.plaidbanana games.com): If you're looking for some fine adventure entertainment for a youngster in your house, you can't go wrong with this game (August 2002).

Mutant Storm, from PomPom Games (www.pompom .org.uk): Mutant Storm puts you in a ship armed to the teeth, and then unleashes enemies from all directions. If you're looking for a game evocative of Robotron: 2084 that's been thoroughly updated for the new millennium, look no further (March 2003).

Myth III: The Wolf Age, from MacSoft (www.wizworks .com/macsoft): This game features a new 3-D engine, making it easier on the eye than ever before. Its muddied story line may confuse Myth newcomers, however (May 2002).

Ollo in the Sunny Valley Fair, from Plaid Banana Entertainment (www.plaidbananagames.com): Ollo combines learning and fun in an approachable game that has excellent production values. It's probably not challenging enough for children in elementary school, but younger kids will love it (September 2002).

pop-pop, from Ambrosia Software (www.ambrosiasw .com): A trippy mix of Street Fighter and Breakout somehow works as an ingenious action game (November 2002).

RealMyst, from MacPlay (www.macplay.com): This game has many puzzles to explore and solve, but the 3-D engine is slow and clunky (June 2002).

Rescue Heroes Tremor Trouble, from Knowledge Adventure (www.knowledgeadventure.com): If your preschooler or early learner loves all things Rescue Heroes, this game might be worth the trouble. Otherwise, look for games with more activities and tougher challenges than this one has to offer (December 2002).

Return to Castle Wolfenstein, from Aspyr Media (www.aspyr.com): This first-person shooter delivers gorgeous graphics, compelling online play, and loads of nasty monsters and bad guys. If the steep system requirements don't put you off, this is definitely a good take (August 2002).

Sheep, from GraphSim Entertainment (www.graphsim .com): Sheep is challenging and cute at the same time, not a combination you find in every game (May 2002).

Soldier of Fortune II: Double Helix, from MacPlay (www.macplay.com): Soldier of Fortune II, an impressive multiplayer shooter, offers nearly infinite replay value, thanks to its random mission generator. However, it's a system hog that may tax even fast Macs to the breaking point (February 2003).

Stronghold, from MacSoft (www.wizworks.com/ macsoft): Stronghold is a standout in the medieval strategy genre. With multiplayer gaming, free play, and a variety of modes, there's something for everyone (September 2002).

The Operative: No One Lives Forever, from MacPlay (www.macplay.com): First-person shooters are a dime a dozen, but No One Lives Forever's style (think 1960s spy flicks with a female lead) and sense of humor put it in a class by itself. It's a bit old and a bit pricey, but it's still a fun romp (March 2003).

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

Warcraft III: Reign of Chaos, from Blizzard Entertainment (www.blizzard.com): Warcraft III is an absolute must-have. A natural evolution of the real-time strategy genre, it adds some new technologies and embellishments to a powerful formula. The result is an exciting and challenging game (December 2002).

Wipeout 2097, from Freeverse Software (www.free soft.be): This game features fast and frantic arcade-style fun. It requires low-latency network connections, however (July 2002).

Zoombinis Island Odyssey, from The Learning Company (www.zoombinis.com): Challenging and fun, Zoombinis Island Odyssey may help your youngsters develop math and logic skills—without their even realizing it (March 2003).

Graphics

360 One VR, from Kaidan (www.kaidan.com): The 360 One VR is a camera attachment combined with software for creating QuickTime VR images. It provides very good image quality, although the software lacks image-adjustment features. On the bad side, it's big, bulky, and much more expensive than the SurroundPhoto (October 2002).

Art Directors Toolkit 3, from Code Line Communications (www.code-line.com): Art Directors Toolkit 3 combines eight of the most practical production utilities for print or Web artists—including a color tester and font viewer—with an intuitive interface. If it's not a must-have, it's at least a should-have for every designer (March 2003).

ArtMatic Pro 2.5, from U&I Software (www.uisoftware .com): This easy-to-use art generator includes many templates and a helpful animation preview, but it cannot perform multiple undos (June 2002).

Color Cue, from Pantone (www.pantone.com): The Color Cue is a cordless spectrocolorimeter designed to determine the closest Pantone equivalent to a physical sample's color. The device was accurate only nine times out of ten, and the size of the measurement aperture makes it nearly impossible to get an accurate reading on a small sample (November 2002).

Color Efex Pro Complete Collection, from Nik Multimedia (www.nikmultimedia.com): Nik's collection includes a lot of everyday filters that all Photoshop users will turn to again and again. Pros who need to perform complex color correction regularly will benefit in a big way from this set (February 2003).

CorelDraw Graphics Suite 11, from Corel (www .corel.com): CorelDraw Graphics Suite 11 combines almost every aspect of digital design into a neat, affordable package of good programs and extras. Each application has something to offer even professional designers and artists (December 2002).

DeBabelizer Pro 5, from Equilibrium (www.equilibrium .com): This is a major upgrade with several methods of creating and executing scripts and full OS X compatibility. While improved, however, the interface can still prove cumbersome (May 2002).

Eye-One Pro with Eye-One Match, from GretagMacbeth (www.i1color.com): The Eye-One line of spectrophotometer-based products may not be inexpensive, but it offers affordable color-measurement and device-profiling capabilities. And the device offers no control over black generation and ink limits for CMYK profiles (May 2002).

GraphicConverter 4.3, from Lemke Software (www .lemkesoft.com/us_index.html): GraphicConverter is an excellent tool for people who work with different image formats and want high-powered automation features that speed up work on multiple images, but its interface can be a bit dense (July 2002).

iDraw 1.1, from MacPowerUser (www.macpoweruser .com): iDraw can create illustrations and animations, but it has many quirks and problems. Considering the dearth of OS X alternatives, it might still be an option for those with modest budgets and needs (September 2002).

Image Doctor, from Alien Skin Software (www.alien skin.com): Image Doctor's simple interface and intelligent sampling make removing flaws a piece of cake. Although Photoshop 7 users will likely be satisfied with that program's Patch tool, those who spend a lot of time restoring or touching up photos may find Image Doctor's added flexibility worth the extra money (February 2003).

ImageRodeo 1.2, from Clyde McQueen (www.image rodeo.com): It efficiently and automatically generates Web sites from image collections. Some of its templates include a link to Shutterfly.com's online print service (July 2002).

iPhoto 2, from Apple Computer (www.apple.com): If you're an iPhoto user, iPhoto 2 is a shoo-in; you'll appreciate the new editing tools and enhanced integration. If you currently use other photo-editing and -cataloging applications, you may not find enough to warrant a change (April 2003).

MonacoEZcolor 2.5.1, from Monaco Systems (www .monacosys.com): If you're ready to adopt color management but you're unwilling to shell out thousands of dollars for a spectrophotometer and a high-end profiling package, MonacoEZcolor is a cost-effective way to improve color accuracy visibly (February 2003).

penPalette, from Nik Multimedia (www.nikmultimedia .com): penPalette makes it easy to work with layers and layer masks in Photoshop via your pressure-sensitive tablet. People who are uncomfortable with layers will appreciate the intuitive interface and helpful functions (February 2003).

PhotoFix 3.4, from Microspot (www.electricfish.com): It looks and feels like a miniature version of Photoshop. It's nowhere near as fast or complete, but it will do the trick for many image-manipulation needs—it also makes a nice complement to iPhoto (July 2002).

PhotoRetouch Pro, from Binuscan (www.binuscan .com): This program offers smart, accurate color-management and -improvement tools, but it's sluggish in OS 9 (June 2002).

Photoshop 7, from Adobe Systems (www.adobe.com): Version 7 is the best version of Photoshop ever. With the File Browser, the Healing brush, and the Painting Engine, it provides something useful for just about every user (August 2002).

Photoshop Elements 2.0, from Adobe Systems (www.adobe.com): Elements 2.0 provides excellent, time-tested tools, making it easy for newcomers to correct images. Even those who have Photoshop experience may find that

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Elements has all the digital-imaging power they need at a much lower price (December 2002).

●●●● **PixelNhance 1.5,** from Caffeine Software (www.caffeinesoft.com): PixelNhance performs basic image enhancement well, making it the perfect complement to iPhoto for the occasional editor (July 2002).

●●●● **Portraits & Prints 1.1,** from Econ Technologies (www.econtechnologies.com): This package can make quick work of printing large groups of photos, offering 12 built-in layouts and tools for cropping, sharpening, removing red-eye, and adjusting saturation and brightness (July 2002).

●●●½ **ScatterLight Lenses,** from Andromeda Software (www.andromeda.com): This filter provides a way to give your photos a dreamy soft-focus look in Photoshop 5 or later. It's not OS X–compatible, however, so Photoshop 7 users will have to work in OS 9 or Classic (September 2002).

●●● **SpinImage DV Pro,** from Autolycus (www.autolycus.com): If you need to knock out VR-object movies quickly, this is a remarkably simple solution, even if its editing controls do come up a little bit short (September 2002).

●●●½ **Splat 1.0,** from Alien Skin Software (www.alienskin.com): With six fun filters for Photoshop 5.0 and later and Fireworks 3.0 and later, the effects look sharp and the interface is designed thoughtfully. But the effects tend to run slower than those supplied by Adobe (July 2002).

●●½ **Studio Artist 2.0,** from Synthetik Software (www.synthetik.com): This program is a conflicting blend of innovative, realistic natural-media tools and a not-so-brilliant interface. It also suffers from frequent crashes (June 2002).

●●●● **SurroundPhoto,** from Sunpak (www.sunpak.com): The SurroundPhoto is a camera attachment and software for creating QuickTime VR images. It's small, portable, and easy to use, but the image quality is not quite as good as the 360 One VR's (October 2002).

●●●● **TIFFany3 Professional 3.5.3,** from Caffeine Software (www.caffeinesoft.com): For strong batch-processing capabilities, this program is real powerhouse, and its straightforward interface belies a surprising amount of depth. But it lacks an interactive image preview (June 2002).

●●●● **Toon Boom Studio 1.1,** from Toon Boom Technologies (www.toonboomstudio.com): This free upgrade delivers beefed-up pixel power for creating vector-based Flash animations. Many improvements have been made on version 1.0, and the program has been further integrated into OS X (June 2002).

Input Devices

●●●●½ **Cintiq 18SX,** from Wacom (www.wacom.com): If you're looking for the most natural painting interface for your computer, you won't find anything better than the Cintiq series, and this larger version (18 inches) is a treat (August 2002).

●●●½ **Nostromo n50 SpeedPad,** from Belkin (www.belkin.com): The Nostromo n50 SpeedPad will keep your left hand stationary, improving your performance and accuracy in 3-D games. But its Mac support isn't all there yet (April 2003).

●●●½ **ProScope,** from Scalar (www.drbott.com): This handheld USB microscope is not OS X compatible and requires a separate application to capture images, but it's easy to use and sports interchangeable lenses (June 2002).

●●●● **StudioMouse,** from Kensington (www.kensington.com): The StudioMouse's simple configuration—three buttons and a scroll sensor—is suitable if you want to make a few productivity or ergonomic improvements but don't want an everything-but-the-kitchen-sink input device (November 2002).

MP3 Player

●●●●½ **iPod 20GB,** from Apple Computer (www.apple.com): The pocket-size iPod is at the top of the digital-music–player market, and with Apple's addition of a 20GB model, its lead is widening. This model costs only $100 more than the 5GB iPod did when it was first announced, so it's a bargain by comparison, especially given the cool extras included (November 2002).

Multimedia

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

●●●●½ **QuickTime 6 Pro,** from Apple Computer (www.apple.com): The latest iteration of this venerable multimedia technology lets you create audio files smaller—and of higher quality—than those encoded in the ubiquitous MP3 format, and it offers MPEG-4 video encoding (November 2002).

Network Hardware

●●●½ **Air DI-714 Wireless Gateway,** from D-Link (www.dlink.com): Featuring a well-designed setup wizard that will have you connected wirelessly in no time, this wireless broadband router performs fine, but although it supports encryption, any mention of it is missing from documentation (July 2002).

●● **AirStation WLAR-L11G-L,** from Buffalo (www.buffalotech.com): This broadband router includes Mac-specific documentation, but it has a poorly organized admin interface and lacks any tech-support information (July 2002).

●●●½ **EtherFast Wireless AP + Cable/DSL Router BEFW11S4,** from Linksys (www.linksys.com): This wireless broadband router doesn't support AppleTalk, but it makes basic online help accessible via a Web admin interface (July 2002).

●●● **HomePlug Ethernet Bridge,** from GigaFast (www.gigafast.com): GigaFast's power-line adapter supports only two units; plus, it has no Mac security software (December 2002).

●●● **Instant PowerLine EtherFast 10/100 Bridge,** from Linksys (www.linksys.com): This Linksys adapter has a status light indicating a 100BaseT connection, but has no included cables and no Mac encryption software (December 2002).

●●●● **MR-314 Cable/DSL Wireless Router,** from Netgear (www.netgear.com): Netgear's wireless broadband router features excellent value and AppleTalk support, but it lacks Mac wireless-driver setup instructions (July 2002).

●●●● **NeverWire 14 QX-201,** from Phonex Broadband (www.phonex.com): The Neverwire 14 QX-201, which turns your power lines into an Ethernet network, supplies 56-bit DES encryption via a button on the adapter. However, it's more expensive than similar products (December 2002).

●●●½ **Orinoco BG-2000,** from Agere Systems (www.wavelan.com): This wireless broadband router offers excellent access and admin control features, but only one Ethernet LAN port (July 2002).

●●●½ **PlugLink Ethernet Bridge,** from Asoka (www.asokausa.com): Like almost all other power-line Ethernet adapters, the PlugLink Ethernet Bridge has no Mac encryption software. It does have an uplink switch, however (December 2002).

●●●½ **Powerline Ethernet Adapter,** from Netgear (www.netgear.com): Netgear's adapter turns your power lines into an Ethernet network, and it features an uplink switch. However, it doesn't include Mac encryption software (December 2002).

●●½ **Wireless Cable/DSL Gateway Router FSD6230-3,** from Belkin (www.belkin.com): The setup wizard is well designed, but the router is somewhat unreliable, and it lacks Mac documentation (July 2002).

●●●● **ZoomAir IG-4165,** from Zoom (www.zoom.com): This wireless broadband router is expensive, but it's worth the investment for its stellar performance, dial-up modem, AppleTalk support, and fast admin interface (July 2002).

Network Management

●●●● **Etherpeek 4.1,** from WildPackets (www.wildpackets.com): Now available for OS X networks, this is a world-class troubleshooting tool for LANs. But it's missing some of the previous version's utilities (July 2002).

●●●● **InterMapper X 4.0,** from Dartware (www.dartware.com): Whether you're responsible for managing several networks or a large multisite network for a single enterprise, InterMapper's submapping feature will give you quick visual cues to network issues, wherever the problems may lie. It's mature, scalable, and cost-effective (April 2003).

●●●● **LANsurveyor 7.0.1,** from Neon Software (www.neon.com): Despite a few minor shortcomings, LANsurveyor 7 is invaluable for network managers. OS X support and new reports and map topologies increase its usefulness (January 2003).

●●●●½ **NetMinder Ethernet 5.0,** from Neon Software (www.neon.com): Whether you're troubleshooting a problem or performing a baseline study of your network traffic, NetMinder Ethernet's depth and ease of use make it ideal for any Mac network administrator (November 2002).

●●●● **NetOctopus 4.0,** from Netopia (www.netopia.com): NetOctopus 4.0 is a must for troubleshooting or network upgrades, despite the frustrations of trial-and-error planning and lengthy documentation (October 2002).

●●½ **NetWare Client for Mac OS X, IP Edition,** from Prosoft Engineering (www.prosofteng.com): Prosoft's NetWare Client lets Mac users access Novell NetWare servers. It makes sense for a single Mac user or a handful of them, but a large group of users would do well to to convince their administrator to install Novell's Native File Access instead (April 2003).

●●½ **Remote Desktop,** from Apple Computer (www.apple.com): Remote Desktop provides remote control of client Macs, the ability to distribute files over a network, and some well-conceived tools for classrooms—but it's got problems with installation, limited software-management capabilities, and imperfect reporting features (August 2002).

●●●● **Who's There Firewall Advisor 1.2,** from Open Door Networks (www.opendoor.com): Version 1.2 of this tool for firewall-log analysis adds support for OS X's built-in ipfw Unix firewall (November 2002).

Organizational Tools

●●½ **Boswell 2.0,** from Copernican Technologies (www.copernican-tech.com): Although laudable improvements have been made since version 1.0 (for example, rewritten documentation), Boswell 2.0 has further to go before it can become the "personal librarian" it claims to be (August 2002).

●●●½ **chartConstructor 1.0,** from headshack (www.headshack.com): This simple program lets you construct PERT and Gantt charts, but its features don't compare with those of high-end project-management packages (July 2002).

●●●● **Consistency 1.0,** from Sciral (www.sciral.com): Consistency is an innovative approach to making sure the recurring tasks in your life get done. Although you'll need to keep Consistency up and running if you want to stay on track, a well-designed tool that keeps us on top of things is worth $20 to us any day (January 2003).

●●●●½ **FastTrack Schedule 8,** from AEC Software (www.aecsoft.com): FastTrack Schedule 8 is a fusion of simplicity and power. Its graphical timelines are perfect for beginning project managers, while new features make it an ideal choice for project-management pros (December 2002).

●●●●½ **Inspiration 7,** from Inspiration Software (www.inspiration.com): If you've ever lost a great idea in a brainstorming-session tsunami, Inspiration 7 will blow you away. It handles the diagramming, so you can concentrate on being inspired. The program earns high marks for its ease of use and excellent visual-representation and chart-drawing features (March 2003).

●●●● **OmniGraffle 2.0.2,** from The Omni Group (www.omnigroup.com): If you have a diagram to draw in OS X, OmniGraffle 2.0 is for you. You may invest some time in learning the program, but you'll be more than compensated (August 2002).

●●●● **OmniOutliner 2.0,** from The Omni Group (www.omnigroup.com): This free-form outliner can track projects and more, and it does its job excellently (July 2002).

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

●●●●½ **StickyBrain 2.0,** from Chronos (http://chronos.iserver.net): A massive, searchable database of Sticky Notes, StickyBrain does an excellent job of keeping track of your data. However, the interface takes a bit of getting used to (July 2002).

Presentation Tools

●●½ **ConceptDraw Presenter 1.0.1,** from Computer Systems Odessa (www.conceptdraw.com): It's refreshing to see a new presentation package on the market, but this program's missing features put it out of the running for most professional work (September 2002).

●●●● **eBeam System 3,** from Electronics for Imaging (www.efi.com): The eBeam System provides the invaluable function of saving whiteboard scribbles to disk. Its built-in remote-conferencing capability and markup tools make it stand out from the competition (March 2003).

●●½ **Keynote 1.0,** from Apple Computer (www.apple.com): Keynote can design presentations that put PowerPoint's best aesthetic efforts to shame. If you deliver your presentations only on Macs and don't mind the lack of timing and navigation controls, Keynote merits consideration, especially at one-quarter the cost of PowerPoint. If you need self-running presentations or use Windows PCs, you probably should wait (April 2003).

●●●● **LiveSlideShow 2.0,** from Totally Hip Software (www.totallyhip.com): This full-featured slide-show application is compatible with OS 9 and OS X, but it would be better if it gave users tools for creating their own themes (July 2002).

●●● **mimio,** from Virtual Ink (www.mimio.com): mimio performs the invaluable function of saving whiteboard brain-

storming to disk, and it does fine work as long as everyone is in the same room. If you want to share ideas remotely, you'll have to buy a Windows-only plug-in or buy a Windows-only monthly service (March 2003).

Printers

C750n, from Lexmark (www.lexmark.com): This color laser printer prints good-quality output, but it does so slowly. It includes only 64MB of RAM (September 2002).

Color LaserJet 2500L, from Hewlett-Packard (www.hp.com): The LaserJet 2500L's reasonable price tag and combination of crisp, clean laser output and PostScript support means that small workgroups with big printing needs can get the benefits of color laser technology without putting too large a dent in their budgets (March 2003).

Color LaserJet 4600, from Hewlett-Packard (www.hp.com): This printer is fast and inexpensive, and it has very good color laser output. However, the color quality suffers due to missing ICC profiles, and the OS X driver has some problems (September 2002).

DeskJet 5550, from Hewlett-Packard (www.hp.com): The DeskJet 5550 is a great all-around document printer that produces heavy but clean and legible text, as well as good photos. An optional $25 photo cartridge transforms the 5550 into a six-color photo printer (March 2003).

HL-4000CN, from Brother (www.brother.com/usa/index.html): This color laser printer comes with a built-in duplexer, but it needs more RAM than it ships with to print larger files, and it has mediocre output quality (September 2002).

i850, from Canon (www.canon.com): The Canon i850 is the best all-around ink-jet we've ever seen. Although other printers in its class might print slightly crisper text or cleaner graphics, the i850 was good at printing both types of documents, and it produces amazing photo prints (March 2003).

Magicolor 3100DN, from Minolta-QMS (www.qms.com): This inexpensive color laser printer has a built-in duplexer. In our tests, Photoshop images printed very slowly (September 2002).

Phaser 6200N, from Xerox (www.xerox.com): This fast color laser printer has mediocre output, particularly when printing text, and the color is unstable (September 2002).

Photosmart 1315, from Hewlett-Packard (www.hp.com): While this printer features a built-in LCD screen, its prints suffer from poor tonal graduation and color fidelity due to its four-color ink system (June 2002).

Photosmart 7550, from Hewlett-Packard (www.hp.com): The only reason we'd consider buying the HP Photosmart 7550 would be its duplexing capability. In all other respects, other six-color ink-jet photo printers simply outclass it (February 2003).

S530D, from Canon (www.canon.com): The Canon S530D offers speedy prints of very good quality, but its distinguishing feature is the built-in media-card reader, which allows you to transfer photos from a digital camera to your Mac for editing, or print directly from the camera. The S530D's text was very clear, and its photo output, though a little dark, was also very good (March 2003).

S820D, from Canon (www.canon.com): The S820D is speedy, and it delivers excellent print quality, but it has some OS X driver issues (June 2002).

S830D, from Canon (www.canon.com): If computerless printing appeals to you, the Canon S830D may be just what you need. It also delivers high-quality images fast, though getting extremely accurate color may be a challenge (February 2003).

S900, from Canon (www.canon.com): This printer is expensive, but it offers fast print times and borderless, high-quality printing (June 2002).

Stylus C82, from Epson (www.epson.com/northamerica.html): The Stylus C82's long-lived and waterproof inks make it great for printing high-mileage documents, such as restaurant menus. It doesn't claim to be a photo printer, but it does a fine job if you print on matte paper (March 2003).

Stylus Photo 2200, from Epson (www.epson.com/northamerica.html): Despite the limitations OS X places on the print driver, the Stylus Photo 2200 is the best photo ink-jet printer Epson has produced. If you've been waiting for a stable, long-lasting, large-gamut ink set, your wait is over (October 2002).

Stylus Photo 785EPX, from Epson (www.epson.com/northamerica.html): It's inexpensive and it prints well, but it performs slowly and has OS X driver issues (June 2002).

Stylus Photo 820, from Epson (www.epson.com/northamerica.html): This printer sports an appealingly low price and excellent print quality. But it's slow and its ink tanks are small (June 2002).

Stylus Photo 960, from Epson (www.epson.com/northamerica.html): If you place a high priority on getting the best images you possibly can, consider the Epson Stylus Photo 960. It offers excellent image quality with the widest dynamic range, best highlight detail, and biggest variety of paper options, but at a somewhat lower speed (February 2003).

Stylus Pro 7600, from Epson (www.epson.com/northamerica.html): The Epson Stylus Pro 7600 offers the best and most efficient output for photographers or artists looking to sell their work in quantity, especially at larger print sizes. With excellent quality, a color gamut rivaling that of dye-based printers, and true archival print life, it's a great buy (February 2003).

Z65 Color Jetprinter, from Lexmark (www.lexmark.com): The Z65 is a great printer for black or color text; it produced the cleanest, sharpest text we saw from any of the printers we tested. However, it produced noticeable dots in light areas of printed images (March 2003).

Publishing

Cumulus 5.5, from Canto Software (www.canto.com): It helps locate the files you need right when you need them, saving you endless amounts of time and frustration, but it isn't OS X native (July 2002).

FrameMaker 7.0, from Adobe Systems (www.adobe.com): If you maintain documents that are both long and long-living, such as books or technical manuals you want to repurpose, you owe it to yourself to check out FrameMaker 7.0—and for authoring structured documents, it's the only game in town (October 2002).

InDesign 2.0, from Adobe Systems (www.adobe.com): This program has a decided edge over QuarkXPress 5.0, with fewer limitations and more control, especially for those using OS X. However, it has limited HTML support (May 2002).

MediaPro 1.5, from iView Multimedia (www.iview-multimedia.com): This is one of the best low-cost image-cataloging utilities available (July 2002).

Portfolio 6, from Extensis (www.extensis.com): This digital-asset manager allows file management from within Portfolio, but it supports fewer metadata types than the competition (July 2002).

PrintReady, from Extensis (www.extensis.com): This online preflighting package is a bit behind the times, as it supports only PDF, QuarkXPress 3 or 4, and EPS files. Some people can benefit from PrintReady, but most should choose more-versatile preflighting software or wait until the service expands its support (April 2003).

QuarkXPress 5.0, from Quark (www.quark.com): It's been the number-one program for years, but QuarkXPress 5.0, despite its major improvements, doesn't offer as much as the competition. It's expensive and it's not OS X native. For those familiar with the interface, it still holds appeal (May 2002).

QX-Tools Pro, from Extensis (www.extensis.com): This product is beneficial for QuarkXPress 4 users who don't already use QX-Tools 4, and first-time QuarkXPress users starting out with XPress 5 will find that most of the Xtensions are useful. But the program doesn't convert files to editable Quark tables (July 2002).

XPert Tools Pro, from A Lowly Apprentice Production (www.alap.com): XPert Tools Pro—a collection of 11 QuarkXPress XTensions—is a must-have upgrade for XPress 5 users. Five of the XTensions also work in XPress 4. All XPress users will find this product an excellent way to increase productivity and avoid tedious formatting (March 2003).

Scanners and Scanner Software

Business Card Reader II, from IRIS (www.irislink.com): If every business card had a straightforward, black-and-white design, the IRIS reader would fare better. Because it failed to read so many of our cards, we have a hard time recommending this scanner as a time-saver (December 2002).

CanoScan 5000F, from Canon (www.canon.com): The CanoScan 5000F has very good line-art detail and moderately fast scan speed. On the downside is poor color matching and mediocre photo detail (March 2003).

CanoScan LiDE 30, from Canon (www.canon.com): The CanoScan LiDE 30 is inexpensive, has very good color fidelity, and boasts a portable design that doesn't require an AC power cord. It is a bit slow, however (March 2003).

FineReader Pro 5, from Abbyy (www.abbyyusa.com): This OCR software efficiently converts simple documents, but it lacks PDF-import support, and its spelling checker is clunky (June 2002).

IRISPen II, from IRIS (www.irislink.com): With its intuitive, customizable software and data-reading abilities, the IRISPen II can be used in countless ways. If you need to do line-by-line text scanning or many other types of data-entry work, it's the tool to have (August 2002).

OmniPage Pro X, from ScanSoft (www.scansoft.com): This OCR program delivers flexible recognition options, imports PDF files, and has a superior spelling-checker interface. Its exported files have line-break problems, however, and its list price is inflated (June 2002).

Perfection 1260, from Epson (www.epson.com/northamerica.html): The slow Perfection 1260 has poor line-art detail, and its one-touch buttons aren't supported in OS X. It does use a TWAIN driver, however (March 2003).

Perfection 2400 Photo, from Epson (www.epson.com/northamerica.html): The Perfection 2400 Photo is excellent at capturing line-art detail. Its color accuracy and photo detail are very good, and it's fast. The one shortcoming is that the one-touch buttons aren't supported in OS X (March 2003).

Readiris Pro 7, from IRIS (www.irislink.com): Readiris Pro 7 may be fast and easy, but it's not so good at its most important function, character recognition. Only users with very meager OCR requirements will be satisfied by this program (October 2002).

Scanjet 3500c, from Hewlett-Packard (www.hp.com): The Scanjet 3500c comes with OCR software for OS X and provides very good line-art detail. The driver is flawed, however, and the color matching is mediocre (March 2003).

Scanjet 5500c, from Hewlett-Packard (www.hp.com): The Scanjet 5500c is fast and provides very good photo and line-art detail. Like its sibling, it comes with OCR software for OS X, and it has a flawed driver. The document feeder needs work, too (March 2003).

SilverFast Ai 6, from LaserSoft Imaging (www.silverfast.com): SilverFast Ai 6 is a full-featured scanner driver that provides precise color matching and powerful image-editing tools. Our only gripe is that some of the program's features aren't obvious without checking the manual (March 2003).

VueScan 7.5, from Hamrick Software (www.hamrick.com): If you need your unsupported scanner to work with OS X, VueScan may make it happen. Although it's got some clunky file-saving issues, it provides good image quality at a hard-to-beat price (March 2003).

Science and Engineering

A New Kind of Science Explorer, from Wolfram Research (www.wolfram.com): Explorer provides an easy, animated introduction to the book *A New Kind of Science*. Its delightful form-based interface does all the work of generating models from your input values. It's doubtful that the general user has enough experience to evaluate the author's grander claims, but expect to see fairly exotic science-fair projects based on this program in the next few years (January 2003).

CalculationCenter 2, from Wolfram Research (www.wolfram.com): CalculationCenter 2 has enough power to solve any problem you'll find in either a textbook or the real world, and it will give you usable results within 15 minutes of installation (September 2002).

CrystalMaker 6.0.2, from CrystalMaker (www.crystalmaker.com): If you're a crystallographer, it's time to upgrade to CrystalMaker 6.0.2. If you're a science instructor, this program alone would justify buying a Mac to produce materials for chemistry or physics lessons. It handles all crystal-display tasks with grace (February 2003).

Mathematica 4.2, from Wolfram Research (www.wolfram.com): Mathematica 4.2 offers full XML support and Java capabilities, with its own Java run-time engine. If you're looking for the highest level of functionality, industrial and academic acceptance, and Mac support, Mathematica 4.2 is what you want (November 2002).

Matlab 6.5, from The MathWorks (www.mathworks.com): Matlab 6.5 provides a much-improved programming environment and state-of-the-art execution speed on all matrix math functions. Mathematica users may just shrug, but longtime Matlabbers should be ecstatic to see this product's Mac comeback (December 2002).

Simulink 5, from The MathWorks (www.mathworks.com): Simulink 5 is the best tool available for simulation of

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mechanical control systems and digital signal processing. This version really targets the university market rather than working engineers, and as a tool for teaching, it is uniquely effective (December 2002).

Server Software

Mac OS X Server 10.2, from Apple Computer (www.apple.com): Organizations that need to set up a new server will clearly get their money's worth from Mac OS X Server 10.2. What's less clear is whether anyone who already owns it should bother upgrading. Any way you look at it, the performance enhancements and new features make version 10.2 a compelling product (December 2002).

WebStar V 5.1.1, from 4D (www.4d.com): It makes OS X Web-server configuration much more palatable—for experienced administrators and novices alike (July 2002).

Storage

120GB External FireWire Hard Drive, from Acomdata (www.acomdata.com): The Acomdata FireWire hard drive performs fast and features a flat-topped case, but its documentation fails to mention OS X (July 2002).

120GB FireWire Hard Drive 7200 Clear, from ClubMac (www.clubmac.com): This FireWire hard drive is very affordable and has a solid case, but it fails to mention OS X in its documentation (July 2002).

120GB Mercury Elite FireWire Hard Drive, from Other World Computing (www.macsales.com): This FireWire drive has a small case but lacks documentation (July 2002).

40×12×48 CD Burner, from Ikebana (www.ikebanadrive.com): Ikebana provides a carrying case with this FireWire CD-RW drive, which performs well overall. It lacks OS X software, however, and it's relatively expensive (December 2002).

48×12×48 d2 CD-RW, from LaCie (www.lacie.com): LaCie's FireWire CD-RW features the fastest write speed of the drives we tested, has an attractive design, and comes with a backup software bundle (December 2002).

ABSplus, from CMS Peripherals (www.cmsproducts.com): ABSplus, a hard-drive backup package, generally worked well for us, and it compares favorably with other backup programs used in concert with a FireWire drive (January 2003).

Advantage 100GB FireWire Hard Drive, from MicroNet (www.micronet.com): This hard drive is small, but it neglects to mention OS X in its documentation (July 2002).

AEC-6880M, from Acard (www.acard.com): This ATA RAID card adds storage capability to your Power Mac and includes phone support, but the trade-off is a skimpy manual (June 2002).

Alchemy ATA 133 RAID PCI, from Miglia (www.miglia.com): This ATA RAID card's manual includes drive installation for older Macs, but it offers technical support through e-mail only and is relatively expensive (June 2002).

Boa CD-RW 48×12×48 FireWire External, from EZQuest (www.ezq.com): The Boa has the second-fastest write speed of the FireWire CD-RW drives we tested. Its size is a drawback, with a bulky case and large footprint (December 2002).

CD-RW 40, from Formac (www.firewiredirect.com): Formac's CD-RW drive sure looks good, but it has slow Toast burn times. Considering its slowness, the drive is expensive (December 2002).

CD-RW 40×12×48× FireWire Drive, from Iomega (www.iomega.com): Iomega's FireWire CD-RW drive features good performance at an inexpensive price. The software bundle is outdated, however, and the company has no plans to update it (December 2002).

Cobra+ 120GB FireWire Hard Drive, from EZQuest (www.ezq.com): Though this FireWire hard drive has no technical-support documentation, it does have audio ports, and it's a solid drive (July 2002).

CRW-F1ZDX, from Yamaha (www.yamaha.com): Yamaha's FireWire CD-RW is attractive, has fast write speeds, and includes a generous software bundle (December 2002).

DesktopGB, from WiebeTech (www.wiebetech.com): This FireWire hard drive suffers from software bugs, but it includes OS X instructions and a USB 2.0 port (July 2002).

FireWire 120GB, from Western Digital (www.westerndigital.com): This FireWire hard drive is equipped with OS X instructions, but it lacks a power switch on its case (July 2002).

FireWire DriveDock, from WiebeTech (www.wiebetech.com): The DriveDock makes quick work of converting an internal IDE hard drive into a portable FireWire device, but it doesn't include a power supply (July 2002).

FireWire Hard Drive 120GB, from Fantom (www.fantomdrives.com): This FireWire hard drive is solid, and its case has audio ports (July 2002).

FireWire Keychain, from WiebeTech (www.wiebetech.com): It's ultraportable and possibly the smallest FireWire drive around, but it ships without a memory card (June 2002).

HDD Portable Hard Drive, from Iomega (www.iomega.com): Available in 20GB and 30GB sizes in FireWire or USB configurations (if you want both in one box, that'll cost you $50 more), Iomega's entry in the portable-drive market works as expected. Its data-transfer rates are up to par, and it mounts easily in OS 9 and OS X (August 2002).

Mercury CD-RW Teac 40×12×48 External, from Other World Computing (www.macsales.com): OWC's FireWire CD-RW drive offers good performance overall, but it's relatively expensive compared to the competition (December 2002).

Personal Storage 5000, from Maxtor (www.maxtor.com): The Personal Storage 5000 performed well in our backup and restore tests, but installation was sticky in Jaguar. However, these deficiencies are more than compensated for by the product's high storage capacity and reasonable price (March 2003).

Pro XL 44, from FirewireDirect (www.firewiredirect.com): The Pro XL 44 CD-RW has very fast rewrite speeds; however, it is not compatible with iTunes, and it's pricey (December 2002).

Pro XL 48, from FirewireDirect (www.firewiredirect.com): The Pro XL 48 CD-RW offers very good performance; however, it is not compatible with iTunes (December 2002).

Que M3 120GB FireWire Drive, from QPS (www.qps-inc.com): This FireWire hard drive performs fast, with no major drawbacks (July 2002).

Tempo RAID133, from Sonnet Technologies (www.sonnettech.com): This ATA RAID card is relatively expensive, but its handy manual and tech support are great resources for those new to adding storage capabilities (June 2002).

UltraATA 133/100 RAID, from SIIG (www.siig.com): This bargain ATA RAID card delivers a long warranty at a low price, adding excellent storage capability to your Power Mac (June 2002).

XV FireWire CDR-W 40×/12×/48×, from GVP (www.gvpco.com): GVP's drive provides good performance at a good price. The drive door does seem a bit flimsy, though (December 2002).

Zip 750MB FireWire External Drive, from Iomega (www.iomega.com): If you have a substantial investment in Zip disks, this drive is a natural upgrade. Otherwise, it can't really compete with a CD-RW drive (January 2003).

Upgrade Cards

Encore/ST G4 1GHz, from Sonnet Technologies (www.sonnettech.com): The Encore/ST G4 1GHz upgrade card works in AGP graphics, Gigabit Ethernet, and digital-audio Power Mac G4s. It has good documentation and is easy to install. It's not as fast as a new Mac, however (March 2003).

Encore/ST G4 800, from Sonnet Technologies (www.sonnettech.com): The Encore/ST G4 800 upgrade card works in AGP graphics, Gigabit Ethernet, and digital-audio Power Mac G4s, as well as the G4 Cube. It has good documentation and is easy to install. It's not as fast as a new Mac, however (March 2003).

Encore/ZIF G4 500, from Sonnet Technologies (www.sonnettech.com): The Encore/ZIF G4 500 upgrade card works with beige G3, blue-and-white G3, and Yikes G4 Macs. It has good documentation and is easy to install. It's not as fast as a new Mac, however (March 2003).

Harmoni G3, from Sonnet Technologies (www.sonnettech.com): This G3 Processor Upgrade/FireWire Card Combo for your iMac speeds things up and is well designed. But less-technical users may require professional installation (May 2002).

MaxPowr G4, from Newer Technology (www.newertech.com): The MaxPowr G4 upgrade card works with beige G3, blue-and-white G3, and Yikes G4 Macs. The documentation is good, and it's affordable. DIP switches on the board are a drawback (March 2003).

MercuryZA G4/450 ZIF, from Other World Computing (www.macsales.com): The MercuryZA G4/450 upgrade card works with beige G3, blue-and-white G3, and Yikes G4 Macs. It's an affordable upgrade, but you must set jumpers (March 2003).

MercuryZA G4/550 ZIF, from Other World Computing (www.macsales.com): The MercuryZA G4/550 upgrade card works with beige G3, blue-and-white G3, and Yikes G4 Macs. It's an affordable upgrade, but you must set jumpers (March 2003).

PowerForce Dual G4 1GHz, from PowerLogix (www.powerlogix.com): The PowerForce Dual G4 1GHz upgrade card works with AGP graphics and Gigabit Ethernet Power Mac G4s, as well as the G4 Cube. It's fast, but it had some initial stability issues, and it's pricey (March 2003).

PowerForce Dual G4 800MHz, from PowerLogix (www.powerlogix.com): The PowerForce Dual G4 1GHz upgrade card works with AGP graphics and Gigabit Ethernet Power Mac G4s, as well as the G4 Cube. It has a good price:performance ratio, but it had some initial stability issues and it's a tight fit in the box (March 2003).

PowerForce G4 Series 100 1GHz, from PowerLogix (www.powerlogix.com): The PowerForce G4 Series 100 1GHz upgrade card works with AGP graphics and Gigabit Ethernet Power Mac G4s, as well as the G4 Cube. It was stable in our test systems, but you must download software to make it work (March 2003).

PowerForce G4 ZIF 550/220, from PowerLogix (www.powerlogix.com): The PowerForce G4 ZIF 550/220 upgrade card works with beige G3, blue-and-white G3, and Yikes G4 Macs. It was stable in our test systems, but you must download software to make it work (March 2003).

Utilities

ASM 2.0, from Frank Vercruesse (http://asm.vercruesse.de): ASM 2 brings OS 9's Applications menu to the right side of OS X's menu bar and also allows you to show or hide applications. It's a hands-down great Finder enhancement (July 2002).

Backup Toolkit 3.0.5, from FWB Software (www.fwb.com): Backup Toolkit works well enough for OS 9 and OS X users who need to save a few critical files to a file server, a backup hard drive, or an iDisk. But you must log on as root to back up and restore everything on an OS X hard drive (May 2002).

BatChmod 1.3, from Arbysoft (http://macchampion.com/arbysoft): BatChmod gives you drag-and-drop control over single files and entire folders, but be sure to take the program's warnings seriously (July 2002).

Boot CD 0.2, from CharlesSoft (www.charlessoft.com): Boot CD is ideal for creating a customized emergency startup CD, but it provides little documentation (July 2002).

CelView 3.0.1, from Celcorp (www.celcorp.com): CelView's custom toolbars, file transfer to and from your connected system, and ability to use an older Mac OS make it an appealing terminal emulator for anyone who needs to connect to legacy systems, albeit at a premium price (September 2002).

Computer Cuisine Deluxe 3.1, from Inaka Software (home.pacbell.net/inaka): Computer Cuisine Deluxe lets you catalog recipes with ease, but it's no joy to use. The recipe cards are larger, improving readability, but the interface is hard to navigate, the default font is tough to read, and the e-mail feature works only with Qualcomm's Eudora (October 2002).

CookWare 7.9, from Digital Fried Chicken (www.digitalfriedchicken.com): CookWare 7.9's interface is right at home in the Aqua environment, with large, clearly marked buttons for quick navigation of your recipes. It has a field for entering a rating after you've tried a recipe, and extra recipes are available via the company's Web site at an additional cost (October 2002).

Dave 4.0, from Thursby Software (www.thursby.com): Dave 4.0 offers great functionality for Mac users on Windows networks who just want to blend in. Smaller, cost-conscious businesses that already use OS X 10.2 may have a tough time justifying its purchase, however (February 2003).

Default Folder 1.5, from St. Clair Software (www.stclairsw.com): This application maintains lists of recently visited and favorite folders, and there is nothing else that compares to it in OS X (July 2002).

Discribe 5.0, from Charismac Engineering (www.charismac.com): The newest version of CD-burning program Discribe has many improvements—including support for OS X and many more drives—but it lacks VCD encoding, and installation in OS 9 is somewhat complicated (May 2002).

DiskTracker 2.2.2, from Portents (www.disktracker.com): DiskTracker catalogs removable media connected to your Mac. Catalogs are searchable by name, date, label, file type, and more. Double-clicking on a file in the results window will deliver a prompt for the disc or disk containing the file. DiskTracker can even print labels for almost all removable media (April 2003).

DragThing 4.5.2, from TLA Systems (www.dragthing.com): The new version of our favorite shareware file launcher is even more OS X savvy than its predecessors. For those who find their desktops littered with aliases or whose Docks are bursting with icons, DragThing can be a great space saver (March 2003).

eTraquer 1.5, from Network 23 Canada (www.network23.ca): eTraquer works as an office in-out board for Mac users, but this is all the program does (July 2002).

Faxstf X, from Smith Micro (www.smithmicro.com): Although it's easy to use, this program's limited feature set and unreliable performance make it no replacement for a dedicated fax machine (May 2002).

File Buddy 7.1, from SkyTag Software (www.skytag.com): Some may balk at the price, but for what File Buddy does—provide a more efficient way to manipulate files than through the Finder—it's a good value (September 2002).

FruitMenu 1.5, from Unsanity (www.unsanity.com): This thoughtful application fulfills the needs of those dissatisfied with the choices in OS X's Apple menu (July 2002).

Gemini UDS 1.1.6, from Snowtide Informatics Systems (www.snowtide.com): The sophisticated capabilities of this Internet search utility aren't for everyone. If you're a casual user, free services like Google are enough, but if your work demands wide-ranging Web-based research, Gemini merits strong consideration (September 2002).

Gimp-Print 4.3.5, open source (http://sourceforge.net/projects/gimp-print): Gimp-Print is a free, open-source print driver for OS X 10.2 that supports hundreds of older, non-PostScript printers, including most ink-jets from Epson, Canon, Hewlett-Packard, and Lexmark. The driver works best when printing text and business graphics, but it won't necessarily support all of a printer's features (April 2003).

IOXperts 802.11b Driver 1.0.1, from IOXperts (www.ioxperts.com): IOXperts' driver lets older PowerBooks join the wireless crowd. It's especially ideal if you already have a third-party wireless card (December 2002).

iPhoto Librarian 1.0, from Scott Schroeder (www.elgato.com/toastexport): This plug-in specializes in burning photos onto a CD, and it does so very well (July 2002).

iPhoto Toast Export Plugin 1.0, from El Gato Software (www.elgato.com/toastexport): If you want to get your pictures from iPhoto onto a CD and you own Roxio's Toast Titanium, you should download iPhoto Toast Export Plugin. Burning photos onto a CD is all this plug-in does, and it does the job well (July 2002).

Kick-Off 1.5, from Sophisticated Circuits (www.sophisticated.com): The Kick-Off is not a casual purchase, but it will bring your computer back online after a power failure and help keep it running (August 2002).

LaunchBar 3.2, from Objective Development (www.obdev.at): LaunchBar can find any file almost instantly, even if you don't remember its exact name. It undoubtedly saves you time and sanity (July 2002).

MacBreakZ 3.2, from Publicspace.net (www.publicspace.net): If you just can't force yourself away from your Mac, MacBreakZ could be your answer. This utility unobtrusively tracks your keyboard and mouse activity, and then reminds you to take breaks (September 2002).

MacJournal 2.1, from Dan Schimpf Software (http://homepage.mac.com/dschimpf): MacJournal lets you create and modify virtual journals. It's a model of utility and excellent application design, but printed or exported journals won't include graphics, and e-mailed entries are buggy (November 2002).

MacReporter 1.1, from Inferiis (www.inferiis.com): This utility compiles headlines from the Web and places them at your disposal in OS X's Dock, and it's easy to use (July 2002).

MaxMenus 1.1, from Proteron (www.proteron.com): MaxMenus installs customizable menus in the four corners of your Mac's screen, a smart idea that brings power to your interface (July 2002).

Move2Mac, from Detto Technologies (www.Detto.com): Move2Mac is an unusual program because it's meant to be used only once—to transfer files and settings from a PC to a Mac. For most people, $60 is a small price to pay for the assistance of this automated computer consultant (February 2003).

MOX Optimize 1.7, from InfoSoft (http://fly.to/infosoft): This utility efficiently speeds up your network connection, disables startup files, and deletes unnecessary language-support files to save hard drive space (July 2002).

Norton AntiVirus 8.0.2, from Symantec (www.symantec.com): Norton AntiVirus provides the tools necessary to keep your Mac free of viruses, with the exception of PC virus detection. The responsibility for keeping your definitions up-to-date still rests with you, however (November 2002).

Norton Utilities 7.0, from Symantec (www.symantec.com): Norton Utilities 7 is a worthwhile addition to a conscientious OS X user's tool box. There are some shortcomings, though. This version is noticeably slower than version 6 in OS 9, and it installs kernel extensions, which may provoke conflicts (October 2002).

Perfboard 1.2, from Pepsan and Associates (www.pepsan.com): Perfboard efficiently monitors system performance and keeps you informed via a continually updated readout (July 2002).

PGP Personal 8.0, from PGP Corporation (www.pgp.com): PGP Personal 8.0 is an excellent and inexpensive solution for those who need to send and receive secure documents or simply protect the contents of files. The rewards for mastering the system are peace of mind and industrial-grade protection (April 2003).

PhotoPress 1.0, from ElectricFish (www.electricfish.com): This handy application prints as many as 36 photos per page and has worthwhile and effective tools for cropping and renaming images and building Finder thumbnails (July 2002).

Pic2Icon 1.3, from Sugar Cube Software (www.sugarcubesoftware.com): This imaging application makes great 128-by-128-pixel icons for image files so you can browse a folder of images in OS X and see photo-realistic representations of your pictures (July 2002).

PowerKey Pro USB 650, from Sophisticated Circuits (www.sophisticated.com): This programmable power strip is reliable and flexible. Due to its price, the PowerKey may not make sense for home users, but it's worth every penny to people who manage unattended Macs (August 2002).

PowerTerm 1.0, from Ericom (www.ericom.com): Offering more than a dozen terminal-emulation types, snappy response times, and one-click access to many commands, PowerTerm is an attractive package for a low price, but its lack of file-transfer capabilities and its file-saving quirks weigh against it (September 2002).

Pseudo 1.2, from Brian Hill (personalpages.tds.net/~brian_hill): Pseudo saves you time when you want to modify a file owned by the root server, and it's free (July 2002).

Retrospect Backup 5.0, from Dantz Development (www.dantz.com): This OS X–compatible version of the Retrospect backup utility is compatible with many types of drives (July 2002).

Reunion 8, from Leister Productions (www.leisterpro.com): Reunion 8 is superb. If you're a novice family historian, you'll be able to learn the program in a matter of minutes. For current users, OS X compatibility and first-class charting features make it a compelling upgrade. There is no easier way to track your family's history (March 2003).

SharePoints 2.0, from Michael Horn Software (www.obdev.at): This utility enhances OS X's file sharing by letting you set the sharing status of individual folders. You can give a guest access to just your Music or Pictures folder, for example (July 2002).

Sharity 2.6, from Objective Development (www.obdev.at): Sharity provides a CIFS browser in the Finder, making browsing and using shared volumes from most versions of Windows easy, but it lacks support within the Classic environment (July 2002).

SnapTalk 2.0, from Glass Bead Software (www.glassbead.com): This instant-messaging program, designed to improve your company's internal communications, does its job well (July 2002).

Snapz Pro 2.0 and 1.0, from Ambrosia Software (www.ambrosiasw.com): These utilities, essential for users who frequently need to capture screens, render further editing in another application almost completely unnecessary (July 2002).

Speed Download 1.8, from YazSoft (www.yazsoft.com): This program efficiently accelerates your downloads by opening multiple connections to the download site and then joining the resulting pieces (July 2002).

Spring Cleaning 5.0, from Aladdin Systems (www.aladdinsys.com): Aladdin's uninstaller is helpful, but if you get a little reckless, you'll lose files your Mac needs. The program can be useful, but proceed with caution (September 2002).

StuffIt Deluxe 7, from Aladdin Systems (www.aladdinsys.com): StuffIt Deluxe 7 provides highly secure data encryption, better compression, and terabyte archive sizes, making it a good update. However, if you're not compressing huge files or making sure your data is secure, the latest StuffIt Expander may suffice (January 2003).

Ten for X 1.0.2, from Aladdin Systems (www.aladdinsys.com): Ten for X is actually 12 utilities for OS X. Some provide features that disappeared in OS X (WindowShade X, for example), others make it easier to work under the OS X hood. You probably don't need all 12, but if you use OS X for more than an hour a day, you'll find three or four must-have utilities (April 2003).

ThinkFree Office 2.0, from ThinkFree (www.thinkfree.com): If you're looking for an inexpensive program that lets you tweak Microsoft Office documents, ThinkFree Office is your answer. But if you use MS Office regularly and need most of its features, skip ThinkFree and cough up the additional money (October 2002).

TinkerTool 2.1, from Marcel Bresink Software-Systeme (www.bresink.com/en/): This handy application is an excellent key to accessing an assortment of OS X's hidden preferences (July 2002).

Virtual PC 6, from Connectix (www.connectix.com): This release doesn't make Windows emulation on the Mac much faster, just a little better. Integration with the OS X Dock and desktop mounting of disk images are nice additions. The performance of ACT, AvantGo, and Microsoft Visio Enterprise was perfectly acceptable on our Quicksilver G4 (April 2003).

VisualRoute 7.0, from Visualware (www.visualware.com): VisualRoute combines three proven analysis tools—ping, whois, and traceroute—to help you track down invaders and spammers. It can save you time and provides information in easy-to-read tabular and map formats. (March 2003).

Watson 1.5, from Karelia Software (www.karelia.com): Watson efficiently looks up zip codes, airline schedules, stock prices, and TV listings, and it saves you time (July 2002).

WeatherPop Advance 1.5, from Glucose Development (www.glu.com): WeatherPop puts weather information in your OS X menu bar. It connects to the Internet to retrieve the latest data; however, the data sources can be unreliable. Still, for those interested in what's going on outside, WeatherPop is addictive (November 2002).

WindowShade X 2.0, from Unsanity (www.unsanity.com): This one-trick pony performs its great trick well: bringing Windowshade functionality to OS X (July 2002).

WorkStrip X, from SoftChaos (www.softchaos.com): Designed to replace the Dock in OS X, WorkStrip X promises simplicity and efficiency. Before it can deliver, you'll need to spend a significant amount of time setting it up and experimenting with its features (November 2002).

XRay 1.0, from Rainer Brockerhoff (www.brockerhoff.net): This souped-up version of OS X's Show Info command has features that make it an excellent utility (July 2002).

Zingg 1.1, from Rainer Brockerhoff (www.brockerhoff.net): This utility adds a contextual menu item that lists every application the Mac OS thinks can open your document—a great shortcut (July 2002).

Video

16×9 Converter, from Virtix (www.virtix.com): Virtix's 16×9 Converter lets you shoot in 16:9, import the footage into iMovie, and work in letterbox format. You can also convert 4:3 footage to 16:9. It's straightforward and works extremely well (October 2002).

ADVC-100, from Canopus (www.justedit.com): The ADVC-100 DV converter delivers high-quality DV output and a nice feature set at a low price. However, if all you need to do is convert video from analog to digital (and not digital to analog), it's worth looking at the company's lower-priced ADVC-50 instead (September 2002).

After Effects 5.5, from Adobe Systems (www.adobe.com): This important upgrade adds OS X compatibility and improvements to the 3-D facility, as well as workflow enhancements and cool effects. However, some interface elements are a bit cumbersome and the program lacks good rotoscoping and motion-tracking tools (May 2002).

Automatic Sequence Export Pro, from Automatic Duck (www.automaticduck.com): For professional video editors who often finish their Final Cut Pro projects on high-end Avid systems, ASE Pro can be a lifesaver. Although it can't transfer most of your effects and text, it can significantly streamline your workflow and add a great deal of flexibility (February 2003).

Avid Xpress DV 3.5, from Avid (www.avid.com): Avid Xpress DV 3.5 will meet the expectations of video edi-

continues

tors seeking a reliable, feature-rich DV-editing solution. But if you want expandability or low-resolution offline capabilities, consider Final Cut Pro or Avid's higher-end products (November 2002).

Bravo Effects and Echo Transitions, from Virtix (www.virtix.com): Virtix's two packages of plug-ins for iMovie can add some sparkle to your productions. All the effects end up rendering well, even in cases where the iMovie previews look cheesy (November 2002).

BTV Pro 5.4, from Ben Software (www.bensoftware.com): A fully Carbonized video-capture, video-editing, and stop-motion–animation application, BTV Pro works well with any Mac-compatible video-input source (July 2002).

CatDV 2.5, from Squarebox Software (www.squarebox.co.uk): CatDV provides video producers with an effective new way to catalog and work with video (July 2002).

Cellulo, from Atvaark (www.cellulo.info): This useful and effective program lets you create a list of video files to play full-screen on your computer (July 2002).

Cinema Tools 1.0, from Apple Computer (www.apple.com): Cinema Tools brings 24-frame film editing to Final Cut Pro. Mastering the combination may take time, but it's time well spent. The vague user manual doesn't help (October 2002).

CinéWave Classic, from Pinnacle Systems (www.pinnaclesys.com): The CinéWave Classic video-capture card features excellent real-time effects and can be upgraded to high definition. However, the codec could be better and the cost of options adds up (September 2002).

Combustion 2, from Discreet (www.discreet.com): The first major upgrade to Discreet's low-end compositing and rotoscoping system for video and film delivers the power of a high-end compositing system (July 2002).

CommandPost, from Focus Enhancements (www.focusinfo.com): Its internally illuminated base helps you see buttons, and its fader arm lets you control volume, but this USB video-editing controller is bulky (June 2002).

Composer 1.4, from Onadime (www.onadime.com): Onadime Composer is easy to use and has a solid collection of input sources and destinations, making it immediately useful for VJs and other live performers. But it stutters with CD and DVD input, and support of QuickTime export is imperfect (May 2002).

D1 64AV, from Digital Voodoo (www.digitalvoodoo.net): Although it needs an analog-to-digital converter and has very limited real-time effects, the D1 64AV video-capture card has a fantastic codec for online work and supports 10-bit input. As a bonus, it runs in OS 9 and OS X (September 2002).

DVD Studio Pro 1.5, from Apple Computer (www.apple.com): This program remains the only viable choice for pro DVD authoring on the Mac. Version 1.5 adds improvements like OS X compatibility and better MPEG-2 compression, but usability and documentation still need some work (August 2002).

EyeTV, from El Gato Software (www.elgato.com/toast export): EyeTV brings the concept of the personal DV recorder to the Mac. It's not a direct replacement for a set-top DVR like TiVo, but for anyone who travels often with a laptop, EyeTV is a very creative solution (November 2002).

eZediaMX 3.0, from eZedia (www.ezedia.com): eZediaMX runs in OS 9 and OS X, and its drag-and-drop environment is both practical and intuitive. However, the dialog box that's supposed to let you apply transitional effects doesn't load in OS X, and the program is expensive (June 2002).

eZeScreen 1.0.1, from eZedia (www.ezedia.com): eZeScreen lets you add blue-screen effects to your iMovie productions. It has intuitive controls, but the tolerance settings are imprecise, sometimes making it difficult to mask out backgrounds (October 2002).

Final Cut Pro 3, from Apple Computer (www.apple.com): This version is a first-rate sequel, with an exceptionally capable and efficient interface, real-time effects, and many helpful workflow improvements. But it has some minor bugs, particularly in OS X (May 2002).

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

Graffiti 2.1, from Boris FX (www.borisfx.com): If your motion-graphics needs are limited to titles and animated 3-D text, Boris Graffiti 2.1 may have all the power you need. Graffiti is basically Boris Red's vector-titling engine packaged separately (December 2002).

IgniterRT, from Aurora Video Systems (www.auroravideosys.com): The IgniterRT video-capture card has 8-bit input only and still doesn't have OS X drivers, but it's easy to upgrade and offers great offline capabilities. Another plus is a film-option upgrade for converting telecined video footage from its 30-frame sequence to the film's original 24 fps (September 2002).

iMovie 3.0.1, from Apple Computer (www.apple.com): iMovie 3 is a significant upgrade to Apple's video-editing program, benefiting greatly from integration with iPhoto, iTunes, and iDVD (April 2003).

Joe's Filters 3.0 for Final Cut Pro, from Joe Maller (www.joemaller.com): This set of 24 plug-ins created with Final Cut Pro's FXScript work excellently in both OS 9 and OS X (July 2002).

Kona SD, from AJA Video Systems (www.aja.com): This video-capture card offers 10-bit input, mirroring for graphics programs, and free real-time upgrades. The downside is that it requires a converter to handle analog video, has poor offline quality, and doesn't support OS 9 (September 2002).

Magic Bullet Suite 1.0, from Red Giant Software (www.redgiantsoftware.com): Magic Bullet Suite 1.0 Standard Definition edition gives video pros a real option when it comes to creating true film-like quality. They'll need some patience, though, as render times are long (April 2003).

Pan & Scan, from Virtix (www.virtix.com): Pan & Scan's effects move the camera's viewpoint from one area of an image to another. It's very useful for incorporating still photos into iMovie. However, the controls are not intuitive, and the documentation isn't helpful (October 2002).

Premiere 6.5, from Adobe Systems (www.adobe.com): Premiere 6.5 satisfies some critical needs, particularly for people who produce DVDs or edit video in OS X. While Premiere has its limitations, it's quite capable of handling straightforward, shorter projects (December 2002).

QTBatchExporter 1.0, from Channel D (www.channld.com/software.html): This QuickTime helper application enables batch compression of sets of video files, saving lots of time (July 2002).

Red 2.5, from Boris FX (www.borisfx.com): For 90 percent of the effects that broadcast professionals create, Boris Red 2.5 delivers the necessary power. If you regularly create titles of motion-graphics effects, Red's feature set and nonlinear editor integration make it indispensable (December 2002).

ShuttlePro, from Contour Design (www.contourdesign.com): ShuttlePro 4.5, a USB video-editing controller, features an elegant design that's easy to use, but it lacks an internally illuminated base for buttons (June 2002).

Slick Transitions and Effects, Collections 1 and 2, from GeeThree (www.geethree.com): This application offers roughly 50 transition and effect plug-ins (per collection) to expand iMovie's editing capabilities (July 2002).

Slick Transitions and Effects, Volume 3, from GeeThree (www.geethree.com): This iMovie plug-in package offers 30 new title effects, as well as a host of useful transitions and effects that won't bust your budget (November 2002).

Tattoo 1.1, from Feelorium (www.feelorium.com): QuickTime media-skin editor allows customization of your audience's viewing experience, and it's much less expensive than comparable programs (July 2002).

Zoom 1.1, from Virtix (www.virtix.com): Zoom replicates your camcorder's telephoto and wide-angle controls, letting you zoom in on or away from a specific area of an image in iMovie. It provides smooth motion and multiple options, but zoomed images can look blurry due to interpolation and low original resolution (October 2002).

Web Browsers

Internet Explorer 5.2.1, from Microsoft (www.microsoft.com): Microsoft's Web browser offers the most reliable renderer and great standards support. On the downside, it has sporadic cache and redraw problems, and doesn't take advantage of new technologies like tabbed windows (December 2002).

Mozilla 1.1, from Mozilla.org (www.mozilla.org): Mozilla features the Gecko engine and gives good performance and rendering. It does pause when drawing new windows (December 2002).

Netscape 7.0, from Netscape (www.netscape.com): Version 7 is much improved over version 6 in terms of performance. However, nonbrowser add-ons make it feel clunky and encumbered (December 2002).

OmniWeb 4.1, from The Omni Group (www.omnigroup.com): OmniWeb offers good rendering speed and flexible privacy options, but it doesn't support Cascading Style Sheets positioning (December 2002).

Web Design

Axel 1.5, from MindAvenue (www.mindavenue.com): For 3-D artists seeking a new medium and for Web-content developers looking to expand their repertoires, Axel offers an intuitive interface for creating interactivity. But installing a browser plug-in is inconvenient for site visitors (May 2002).

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

BetterHTMLExport 1.6, from Drooling Cat Software (www.droolingcat.com): This is a fine tool that provides added control over your Web-based image libraries, but learning to use it to build templates can be a little frustrating (July 2002).

Dreamweaver MX, from Macromedia (www.macromedia.com): With its sophisticated visual-editing environment, adherence to good coding practices, and powerful site-management tools, Macromedia's Dreamweaver MX is a sophisticated visual HTML editor. If you want to move to database work or take advantage of XHTML, this is the Dreamweaver version for you (October 2002).

Fireworks MX, from Macromedia (www.macromedia.com): Fireworks MX's integration with other Macromedia apps makes it a worthwhile upgrade if you build sites and applications with Dreamweaver MX. If you're a designer who creates lots of Web graphics, you'll appreciate Fireworks' automation features. But if you create just a few images, you may want to stick with Photoshop (October 2002).

Flash MX, from Macromedia (www.macromedia.com): As the first program to emerge from Macromedia's new, tightly integrated MX product line, Flash MX offers an improved interface, new video support, OS X compatibility, and a host of powerful scripting tools that, when used in conjunction with the new Flash Player 6, produce leaner—and significantly meaner—Web sites (July 2002).

GoLive 6.0, from Adobe Systems (www.adobe.com): This program proves that it has matured from a somewhat incomplete feature set to a powerful suite of tools for creating and managing increasingly complex Web sites. It lacks JavaScript debugging tools, however (June 2002).

Lasso Professional 5, from Blue World Communications (www.blueworld.com): Version 5 is an excellent choice and offers a manageable migration path to other platforms if you're already using Web-enabled FileMaker Pro databases. If you're just getting started with data-driven Web sites, Lasso's power and flexibility merit serious consideration (August 2002).

LiveMotion 2.0, from Adobe Systems (www.adobe.com): LiveMotion provides a viable alternative to Flash, especially for users who approach building interactive Web content with trepidation. While Flash does offer integration with other Macromedia apps, LiveMotion works well with Adobe siblings such as Photoshop and Illustrator (July 2002).

PageSpinner 4.0, from Optima System (www.optima-system.com): This program delivers a low-cost, alternative Web-design program that will satisfy users who simply want to create Web pages (July 2002).

WebMerge 2.1, from Fourth World Media (www.fourthworld.com): WebMerge 2.1 lets you quickly generate dozens, hundreds, even thousands of Web pages from the contents of a Filemaker Pro database, Excel spreadsheet, or just about any other delimited text file. It's an easy, low-cost way to create a database-derived Web site that doesn't require any complex Web-database infrastructure (March 2003).

Word Processing

EndNote 6, from ISI ResearchSoft (www.endnote.com): Despite its minor limitations, EndNote 6's ability to import and organize text references and figures will save hours of frustrating work (January 2003).

Final Draft 6, from Final Draft (www.finaldraft.com): OS X–native Final Draft 6.0 delivers timesaving scriptwriting tools without any major drawbacks. Its enhanced interface and Ask The Expert feature make it a worthwhile upgrade (June 2002).

SmartWrap 2.1, from Selznick Scientific Software (www.selznick.com): SmartWrap efficiently cleans up e-mail text, taking out angle-bracket characters and hard returns. It's a real time-saver (July 2002).

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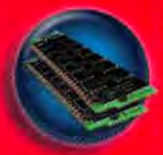

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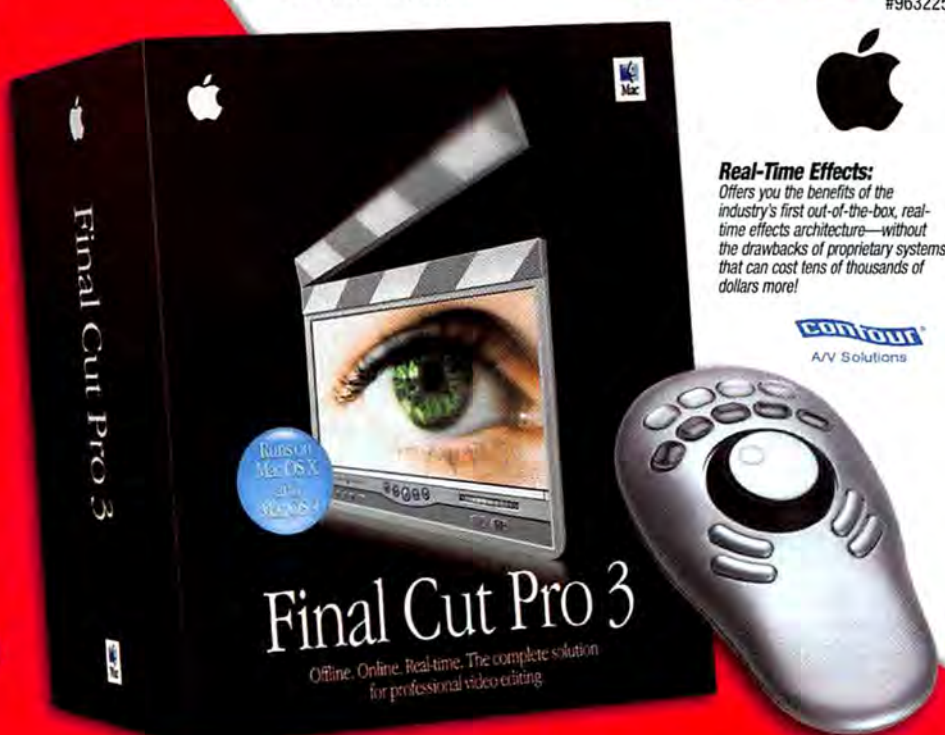

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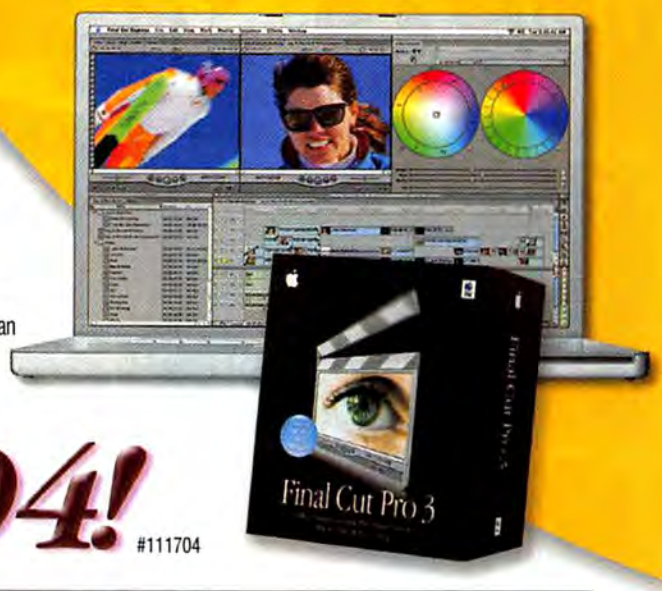

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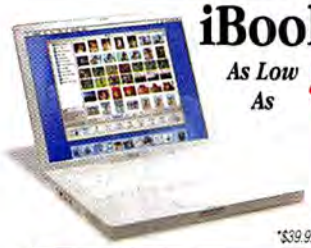

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- Power Mac G4 with **Dual 1.25GHz**
- 80GB Hard Drive • Total of 1GB memory
- DVD-R/CD-RW SuperDrive
- 240GB (2x120) of IBM ATA/100 storage
- **Matrox RTMac Realtime Capture Card**
- Final Cut Pro 3.0 Professional Editing Software
- Apple DVD Studio Pro DVD authoring software
- 2 Mitsubishi Diamond Pro 930 19" Monitors
- Sonnet Tempo Raid Controller
- Artel Boris FX 6.0 Software • Post-Op iMedia Keyboard
- Artel Boris Graffiti Character Generator Software
- Final Cut Pro Tutorial CD
- Apple Care-three year warranty

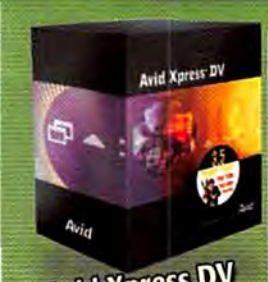
$7,299.95

Uncompressed System Includes:

- G4 w/**Dual 1.42GHz** Processors,
- 120GB Hard Drive.• Total 1GB memory
- DVD-R/CD-RW SuperDrive • ATTO Express PCI Dual SCSI Contorller • RoukeData 144GB (4x36) Removeable 10k Dual Channel Array • Final Cut Pro 3.0 Editing Software
- **Pinnacle CineWave Uncompressed Capture Card**
- Sony PVM 14N6U NTSC Monitor
- 2 Mitsubishi Diamond Pro 930 19" Monitors
- Post-Op iMedia Keyboard • Apple Care-three year warranty
- Choice of Digital (SDI) or Analog Breakout Box

Upgrade to CineWave RealTime $1500 ($2199 value)

$12,794.95



PowerBook G4 Portable Xpress DV Editing system

- Apple PowerBook G4 with 1GHz Precessor
- 15.2" Wide Screen TFT LCD Monitor
- 60GB System Drive • 512MB Memory
- SuperDrive DVD/CD-RW writer • Microsoft Office X
- Lacie Firewire 120GB External Drive • Computer Case
- Boris Graffiti Character Generator software
- **Avid Xpress DV v.3.5 editing software**
- AppleCare-Three year warranty

$4,999.95

Same system with **PowerBook G4 with 17" Wide TFT Screen** **$5,499.95**

Power Mac G4 1GHz Xpress DV Editing System

- Apple Power Mac G4/1GHz Computer
- **Avid Xpress DV v.3.5 editing software**
- 512MB of memory • 60GB System Drive
- 120GB of ATA/100 storage
- Combo Drive DVD/CD-RW CD writer
- AppleCare-Three year warranty
- Complete System integration & testing

$3,599.95

Upgrade above system to: • Apple Power Mac G4 Dual 1.25GHz and 80GB System Drive
• 1GB Memory • SuperDrive DVD/CD-RW **Add $1299**

Power Mac G4 Dual (1.42GHz) Xpress DV Editing system Includes

- Apple Power Mac G4 with Dual 1.42GHz Processors
- 120GB System Drive • **Avid Xpress DV v.3.5 Power Pack**
- 240GB (2x120) of ATA/100 storage
- Sonnet Raid 133 Controller Card
- Total of 1GB of memory • Post-Op EZ Keyboard
- SuperDrive DVD/CD-RW
- Artel Motion Graphics Pack with Boris Red, FX, Graffiti Pro and Continuum
- **23" Wide HD Cinema Display**
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- AppleCare-Three year warranty

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Digital Voodoo D1 64RT SDI 10 Bit Card for Final-Cut **$2,995.00**

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Pinnacle RT Option **$1,999.95**

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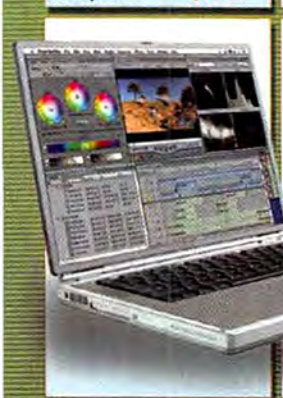

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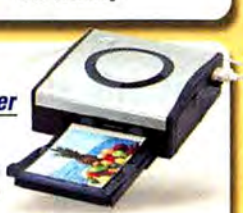

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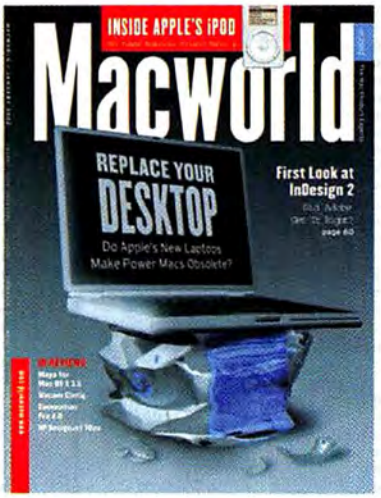

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Low Profile 256MB will install in lower memory slot of all listed models allowing a new max memory of up to 512MBs!

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iMac G4/1GHz, PowerBook G4 12/17"

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Note: Above ATA Drives are fully compatible with all versions of vanilla ATA/IDE, ATA/33, ATA/66, ATA/100, ATA/133, EIDE, UDMA, Etc. Drives may be used with any Mac that has built in IDE/ATA or an added ATA/IDE controller (such as by SIIG, Acard, VST, or Sonnet).

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All PowerMac G4 Sawtooth / Graphics / Gigabit / Digital Audio/ Quick Silver I&II Models including Dual Processor Equipped; iMac G3/350-700MHz Models, All eMac G4 Models

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iBooks, PowerBook G3/G4, iMac G4

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All OWC Mercury FireWire Hard Drives include Intech's SpeedTools Utility for Mac

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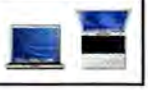

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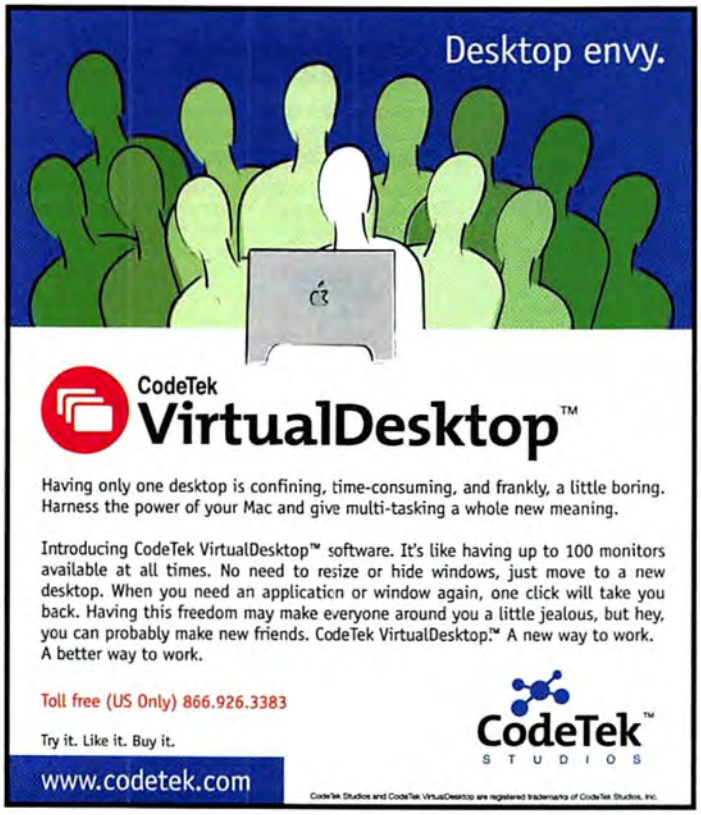

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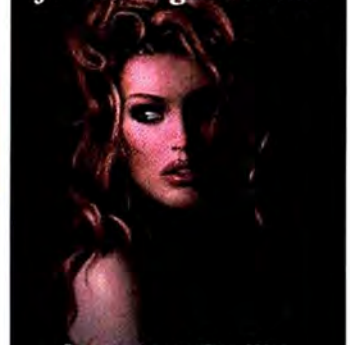

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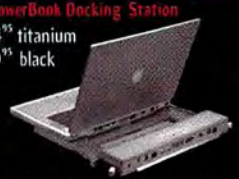

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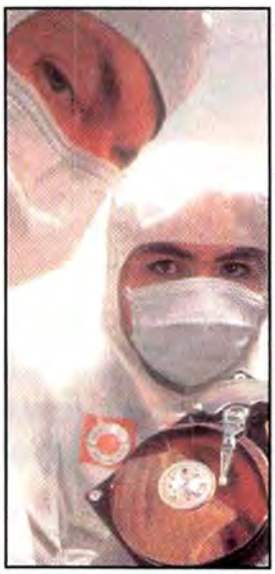

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earlier to great reviews. Apple had certainly seen Watson long before Sherlock 3 appeared and still chose to make its product look and act almost exactly like Karelia's product. I don't know whether Apple was at work on a Web-services client before December 2001, but the finished product used Watson's award-winning ideas while Apple's management pretended it had innovated something. It's a step up from appropriating a bad design, but not much of one.

Endgame?

Watson, now the oppressed underdog, has retained fans, in part because it's much faster than Sherlock 3—but that may be its undoing. It was created with Cocoa, Apple's rapid-application-development system for OS X.

Sherlock 3, on the other hand, uses channels written in JavaScript and XQuery, an XML-based query language for Web services. Remember that Sherlock's multisite searching originally took off because *anyone* with a working knowledge of HTML could make a Sherlock plug-in. Only Cocoa developers can write Watson plug-ins, but anyone with advanced Web-site–building skills can write a Sherlock 3 channel.

There were more third-party Sherlock 3 channels a month after Apple had released the specification than there were third-party Watson plug-ins after Watson had been around for a *year*; and the number is still growing. Watson generally gets new tools because Karelia writes them in-house, but third parties are all over Sherlock 3's channels.

> Pioneers often lose out, but Karelia is far from doomed.

Watson will always be faster than Sherlock 3, but that won't make much difference if there are hundreds more Sherlock 3 channels available. Also, since both Watson and Sherlock 3 plug-ins have complete control over what they display, there's no more ad filtering. With Mac OS X, controlling access is easier anyway: if you don't want some users seeing some tools, you simply don't install them for those users.

Pioneers often lose in the marketplace, but Karelia is far from doomed: there's nothing stopping some future version of Watson from using Sherlock 3 channels, as well as its own binary tools. That may be Watson's best bet. Sherlock 3 is included with Jaguar and bundled on all new Macs. It includes most of Watson's features out of the box, and it's growing far more rapidly. Not many people will pay $29 for a program that does less, faster.

A new Watson that's a superset of Sherlock 3 could remain a must-have utility. Otherwise, Sherlock 3 wins. No good code goes unpunished. □

MATT DEATHERAGE is the publisher of MDJ and MWJ, Macintosh newsletters available through www.macjournals.com. He likes both Watson and Sherlock 3 but often forgets to use them.

BY MATT DEATHERAGE

Apple Resurrects Sherlock—and Does It the Right Way

The Web in a Window

KARELIA'S WATSON ($29; WWW.KARELIA.COM) WAS THE FIRST Mac OS X application to transform Web services from a toy on the playground of nerd recess into something useful for real people. Watson's clean and powerful presentation immediately earned the application legions of fans, who were aghast when Apple announced the remarkably similar Sherlock 3.

But if you're expecting a lengthy battle for the Web-services crown, stand down. It was over before it began, and Sherlock 3 won.

The Rise and Fall of Sherlock

Sherlock 3 is the revival of an idea that Apple birthed, and then nearly killed with incompetence. The original Sherlock, way back in Mac OS 8.5, queried multiple search engines for you simultaneously; it then combined the results, sorted them by relevance, and displayed them in one handy platinum list instead of in six or thirteen ad-filled Web-browser windows. Its Internet Search Sites were simple, formatted text files. People quickly figured out how to alter those files to add support for other search engines.

It was a smashing success. Webmasters got their sites included in the hot new Macintosh utility of the year, complete with advertisements in the Sherlock window to help pay the bills. You, in return, got to search lots of sites at once. Within months, hundreds of Sherlock plug-ins were available, leading to new utilities just to manage them. The search engine was conquered.

Too Clever by Half

At first, Sherlock 2 looked like another hit. New types of plug-ins searched shopping sites, sorting results by price or availability, or news sites, sorting results by date. Sherlock 2 grouped sites into channels, so you could search for books or car parts, for example, without wasting time on irrelevant sites.

Unfortunately, Apple made at least one big mistake in Sherlock 2, aside from a brushed-metal design that made it look like a reject from a metal-shop production of *Star Trek*. The program would display only plug-in ads specifically approved by Apple.

It seems that some plug-ins displayed ads that were inappropriate for smaller humans. Rather than take on the difficult task of limiting what plug-ins curious youngsters could drop into the System Folder, Apple dropped the ads from third-party plug-ins, replacing them with ads for Apple's own products.

Suddenly Sherlock 2 became a *bad* idea for Web-site managers. Its results window no longer displayed the ads that paid for the search engines' operation, an important counterbalance to the traffic those sites were losing because users were searching with Sherlock instead of a Web browser capable of displaying ads. Within the space of a few months, the thriving Sherlock community all but vanished, and several existing plug-ins stopped working as Webmasters disabled special Sherlock support. Sherlock 2 wound up crippling the original version, and the technology languished for three years. Apple nearly killed its own award-winning technology in the name of censorship.

Third Time's the Charm

Meanwhile, the Web evolved. Parsing HTML from Web pages became passé. The new model is the Web service: an application sends a small XML-formatted request to a Web server, and the server returns the requested data, also in XML format. Instead of receiving and discarding pounds of unwanted HTML, a Web-services client gets exactly what it wants with little overhead.

It took Watson to show why this mind-numbing detail matters. Using Watson, you don't have to click through dozens of Web pages to find movie listings—instead, Watson displays them for you in hierarchical lists, complete with plot summaries and QuickTime movie trailers. All that information is available from movie-oriented Web sites, but not in a single convenient window custom-built for the purpose. Web servers include lots of HTML to make pretty Web pages that surround the information you want. Watson gets the raw information and displays it in a standard Aqua interface. The program won many awards, including a *Macworld* Editors' Choice Award (February 2003).

> Apple nearly killed its own technology in the name of censorship.

However, the same week that Apple presented Watson with a 2002 Apple Design Award, the company announced Sherlock 3. By the most improbable of coincidences, it *also* displayed the results of Web services in an OS X window, complete with a nearly identical toolbar and most of the same services.

Apple has lamely protested innocence from time to time, arguing that Web services were a logical evolution for Sherlock, but Watson had debuted six months

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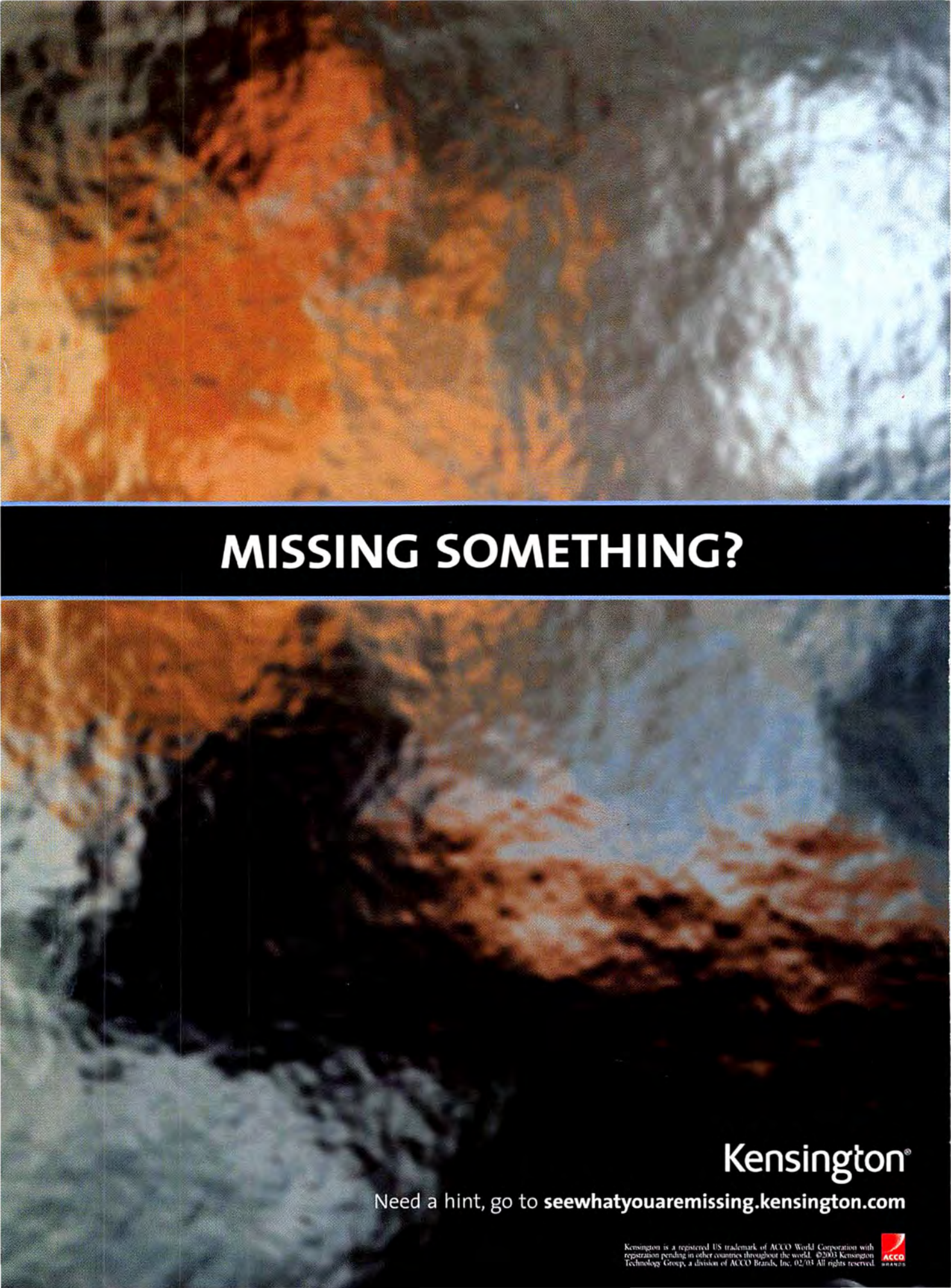

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