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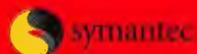


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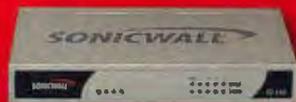
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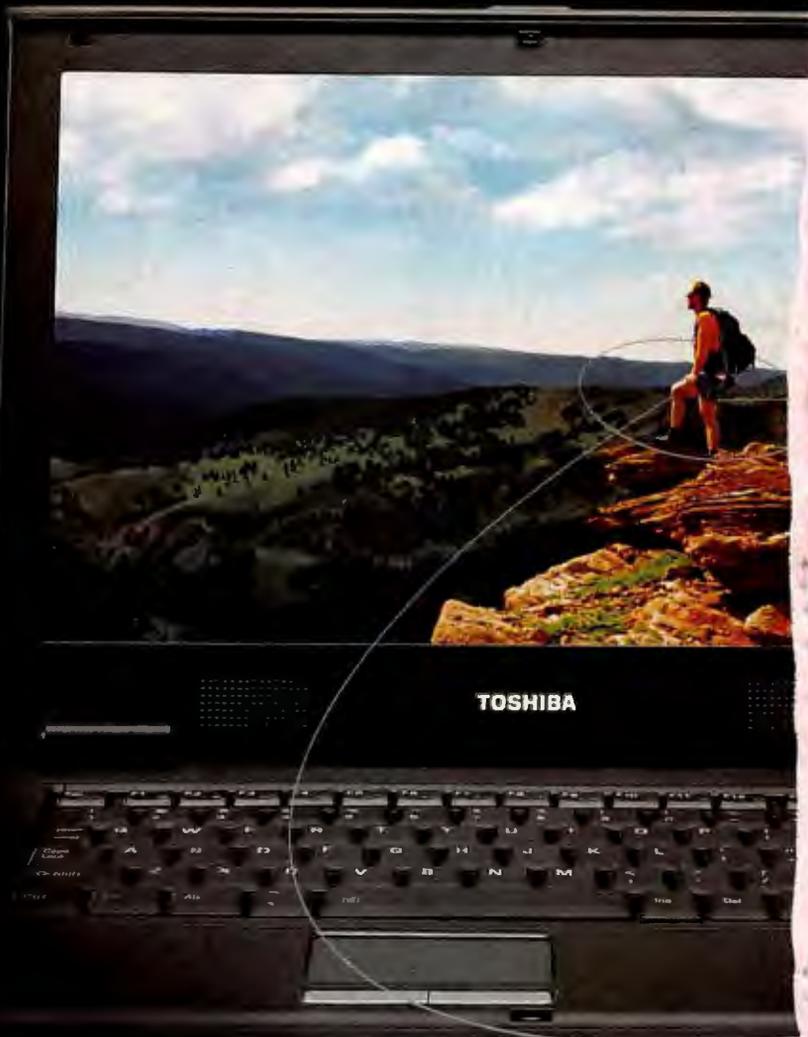


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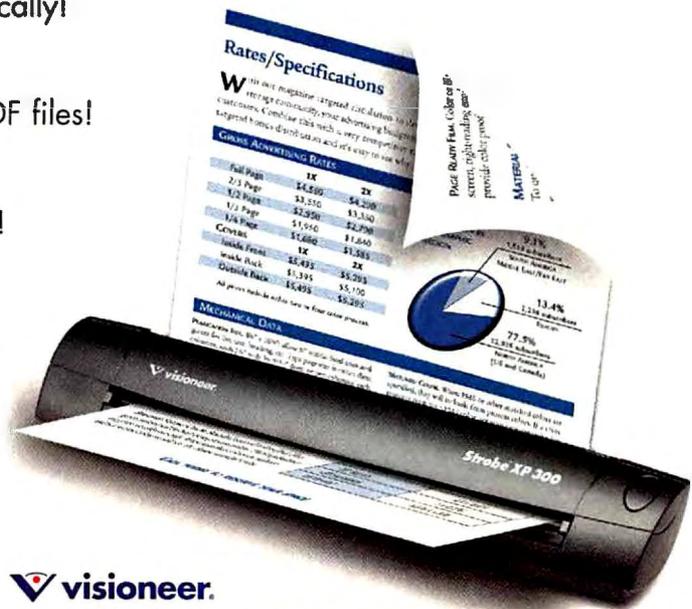
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## FEATURES

### DIGITAL PHOTOGRAPHY

#### 84 Digital Photo Superguide

This month we don't just list today's best point-and-shoot digital cameras on our Top 10 chart (see page 87); we also discuss features to look for and appraise a dozen accessories and services designed to enhance your digital photography experience—from a beanbag that replaces your tripod to photo sharing sites—plus shooting tips and tricks.

### RELIABILITY & SERVICE

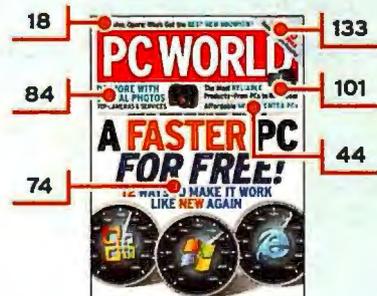
#### 101 The Best Companies to Buy From

We surveyed 35,000 readers to see which companies offer the most reliable tech products as well as the best (and worst) service and support.

Not one seller stood out for reliability or service performance this year. Also, some long-favored vendors are losing their shine, and phone support continues to frustrate users.



### ON THE COVER



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### 74 Gunk Busters!

Bogged down with excess software, unnecessary temporary files, and inefficient settings, your PC isn't as peppy as it was when you first took it out of the box. Learn how to wipe away the junk and restore your machine to its spiffy old self. Plus: Read battery-saving tips for your notebook, and get advice on cleaning out the real dirt and dust that clog up your system and peripherals.

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84



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TO ACCESS INFORMATION about any item in *PC World* with an accompanying Find-It URL, enter [find.pcworld.com/xxxxx](http://find.pcworld.com/xxxxx) (where *xxxxx* is the appropriate five-digit number) into your browser's location field. You'll jump to a Web page containing the information you want.

## COMING UP IN FEBRUARY

**Brave New Web:** Inventive new sites can replace desktop apps and connect you with like-minded folks.

**Innovative CE Gear of 2006:** We pick the consumer electronics products that may change your world.

**Counterfeit Products:** These bogus goods may look real and sell for a song, but often they're no bargain.

**USB Memory Key Drives:** New uses include portable desktops, application kits, books on the go, and more.



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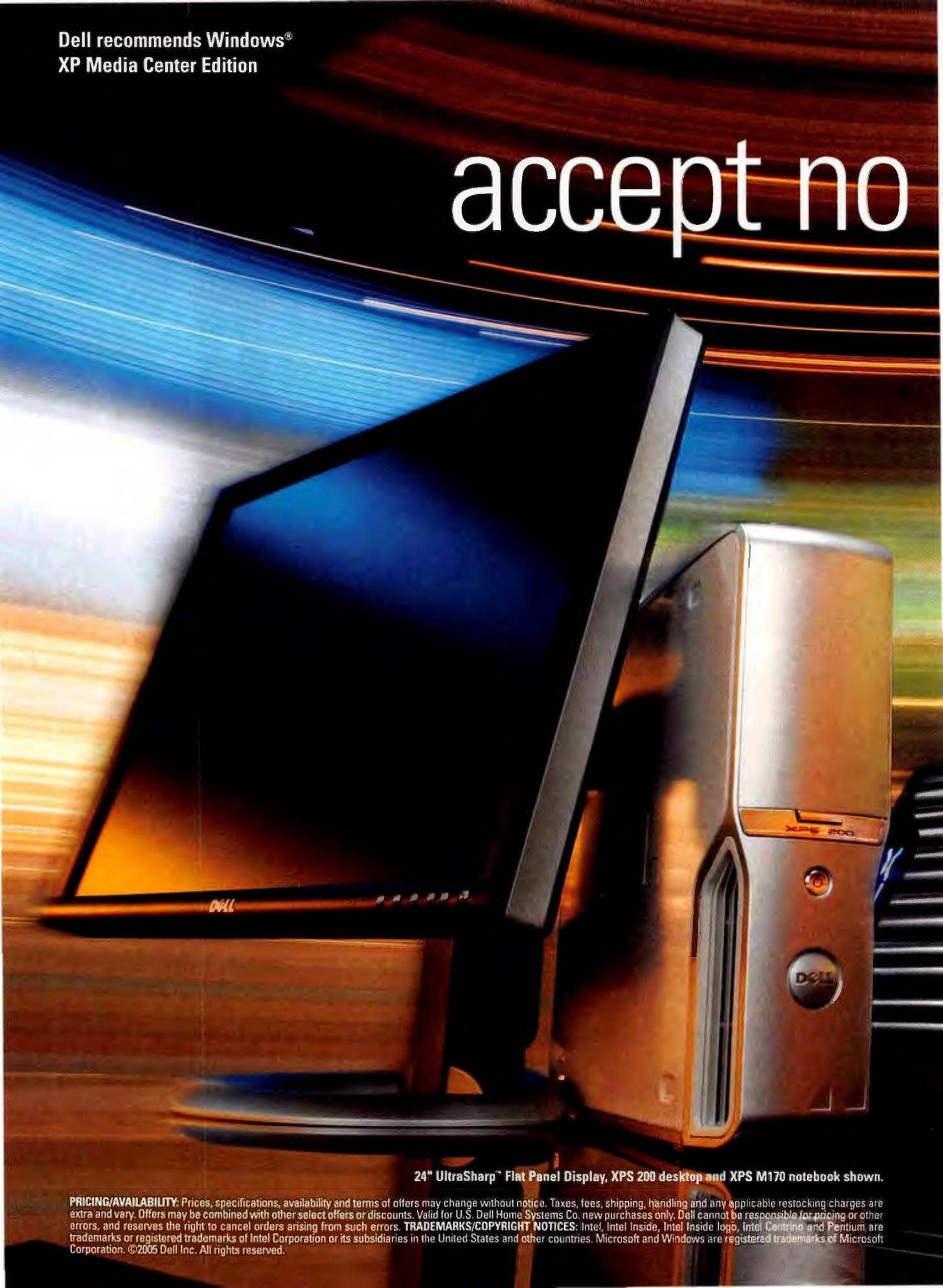
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24" UltraSharp™ Flat Panel Display, XPS 200 desktop and XPS M170 notebook shown.

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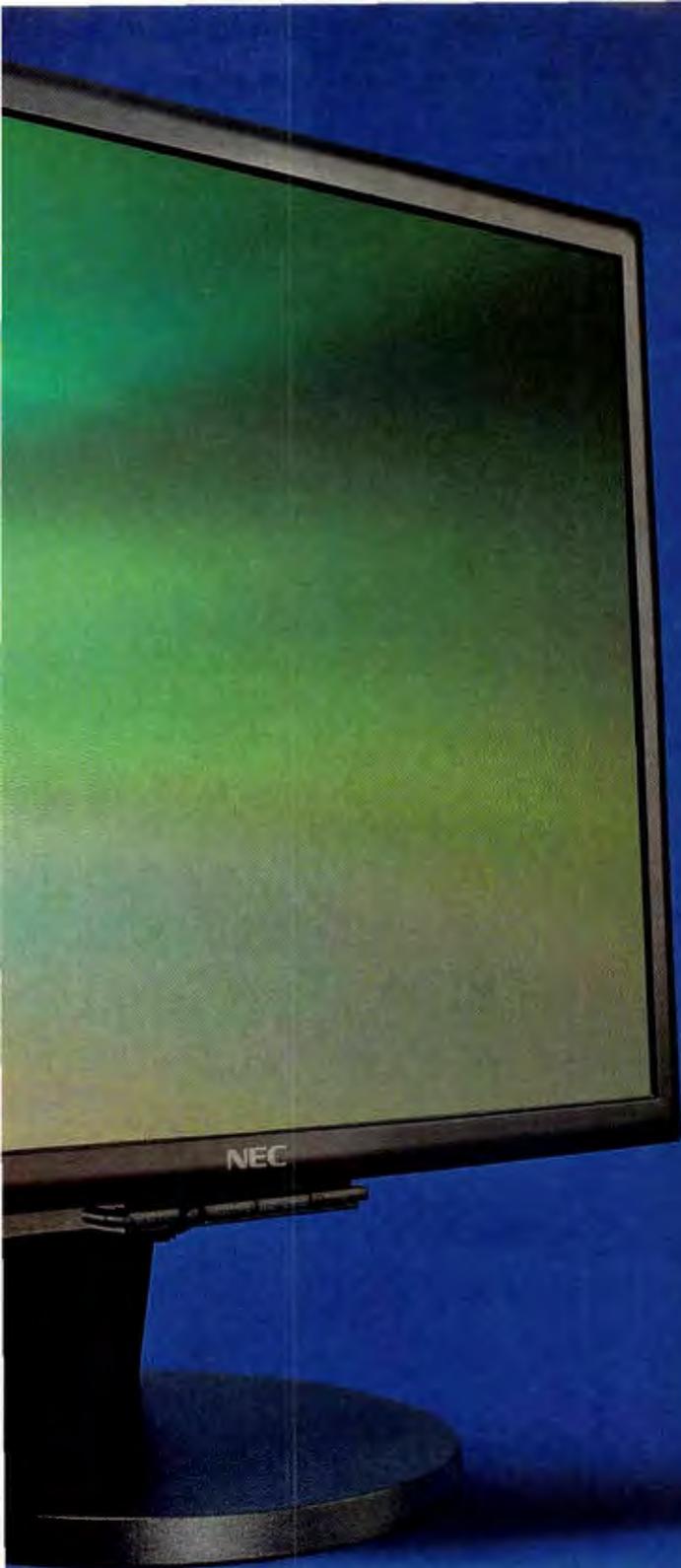


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## Why Isn't Tech Support Getting Better?

The reliability of tech products is improving, but the quality of service isn't.

WHILE IT MAY NOT SEEM like it when your PC won't boot or your digital camera's lens stops zooming, the reliability of technology devices has improved over the past year. But when it comes to fixing dead desktops, technology companies haven't made much progress in the last 12 months.

That's what 35,000 of you told us in our annual reader survey about the reliability of tech products and the service their manufacturers provide. The results form the backbone of our story "The Best Companies to Buy From," on page 101.

You told us that PCs and peripherals are getting more dependable in virtually every category. They are more likely to work when they arrive, and less likely to stop working later.

You saw no corresponding uptick, however, in the quality of service for desktops and notebooks. (So few consumers seek support for peripherals that we're unable to reliably rate service for those products.) You waited on hold a little less; but once you talked to a rep, the help was less satisfying. Companies were slightly more likely to solve notebook problems, but a bit less likely to fix desktops to your satisfaction.

The results made me wonder: If vendors can build a better machine, why can't they do a better job fixing it? Though mediocre service isn't a scandal, in answering this question the advice from Watergate still applies: Follow the money.

### SERVICE ECONOMICS

RELIABILITY IMPROVES because reliable devices save manufacturers money. Every time you call the maker of a system or device for tech support, it costs the com-



PC WORLD Senior Associate Editors Andrew Brandt (left) and Grace Aquino and Senior Editor Anush Yeghazarian (back) produced this year's report on reliability and service.

pany about \$25. Most manufacturers will spend a few extra bucks on more dependable parts to prevent service calls.

The economics of tech support are more complicated, though. Having a reputation for lousy tech support, of course, can sink a company. But service that's too good can bankrupt a manufacturer as well. One house call to fix a balky CD drive could eat up the thin profit on a \$500 notebook, for instance.

Companies don't like to say this, but I believe they calibrate their service in much the same way they do their prices. Just as they don't want their products' price tags to be out of whack with the rest of the market, they also want to provide service that's good enough in comparison with other companies, but not so expensive that it pushes them into the red.

How do you keep devices going in an

era of bottom-line service? Try these tips.

**Prevent problems:** Don't dismiss all the software that came preloaded on your PC as marketing fluff. Manufacturers are including more programs that do a good job of diagnosing and fixing glitches. After years of struggling with Wi-Fi connectivity issues, I installed the Wi-Fi management application that came with my IBM ThinkPad and was amazed to see my problems nearly disappear.

**Try the Web first:** According to our survey, four out of ten people who went to a company's Web site for help found the information they needed to solve their problem.

**Call on Friday:** Okay, this obviously won't work if it's Monday and you need your computer

healthy now. But waiting can be worth it. Fewer people call at the end of the week, so you'll probably be on hold for a shorter time and talk to a less harried rep.

**Demand someone you can understand:** Many readers complained about overseas tech support reps whom they couldn't understand or who couldn't understand them. If this happens to you, politely insist on speaking to a manager. And tell the supervisor about the problem.

As tech devices get cheaper, some companies will be tempted to skimp on service and support. One of the reasons we do our annual survey is to keep companies honest. You can help by telling us about your experiences when the next survey launches in the spring. ■

Contact Executive Features Editor Edward N. Albro at [ed\\_albro@pcworld.com](mailto:ed_albro@pcworld.com).

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# NEWS & TRENDS

EDITED BY EDWARD N. ALBRO

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# Browser Face-Off

INTERNET EXPLORER FINALLY RECEIVES AN OVERHAUL THAT HELPS IT MATCH ITS RIVAL'S FEATURES—BUT FIREFOX AND OPERA AREN'T STANDING STILL. **BY ERIK LARKIN**

BROWSER competition hasn't been this fierce since the mid-1990s, and the fight is becoming even more intense as Microsoft, Mozilla, and Opera ready new versions of their software for release.

With version 7 of Internet Explorer, Microsoft's developers have seriously overhauled the browser, giving it popular features such as tabbed browsing, as well as improved security, thus closing the gap between it and its rivals. But even though the new iterations of both Firefox and Opera bring mostly incremental changes, that's still enough to keep them ahead of IE.

We took Internet Explorer 7 Beta 1, Firefox 1.5 Release Candidate 1, and Opera 9 Pre-



view 1 out for a spin. Both the Firefox beta ([find.pcworld.com/50408](http://find.pcworld.com/50408)) and the Opera beta ([find.pcworld.com/50410](http://find.pcworld.com/50410)) are available for download, although Opera isn't publicizing this early testing version; the browsers' final editions should be out around the time you read this. On the

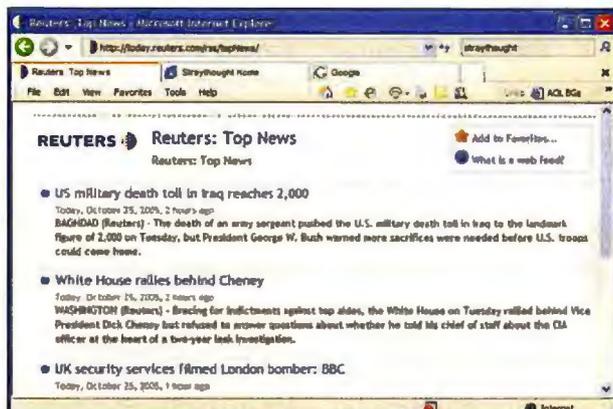
other hand, the IE 7 beta will not be available for downloading until early next year.

## IE'S MAKEOVER

IE'S CHANGES are long overdue, and the browser remains a work in progress, with final code not slated until sometime in 2006. But as it stands, many

of its new features still don't match functionality already present in the other browsers.

The new version of IE will finally allow you to open multiple Web pages on tabs in the same window, a capability that Firefox and Opera have offered for a while. But the feature works in only a basic way for now. Microsoft says more is in store, including an option to view all tabs in a one-page thumbnail layout (absent in both Firefox and Opera). However, the ability to drag and drop tabs to rearrange them, now included in Firefox and already available in Opera 8.5, likely won't make it into IE, says Gary Schare, head of IE 7's project management team.



**IE (TOP) ADDS RSS FEED SUPPORT**, but only lets you bookmark an individual feed as you would any other page. Opera, on the other hand, has a full-featured feed aggregator that pulls all the headlines for all your feeds into one tab and offers previews of selected entries.

IE 7 lets you easily find and bookmark an RSS feed on any given Web page, but once subscribed you have no way to get a quick preview of that feed's headlines—as you can with Firefox's Live Bookmarks—so you lose a significant part of RSS's usefulness.

IE's layout is changing too, making it look more like its rivals. Included is an integrated search box similar to that in Firefox and Opera, and the toolbar and button arrangement in IE 7 is more compact.

In addition, IE 7 and the new version of Firefox each offer an easy method for deleting personal browsing data—including the cache, history, and saved data from online

forms you've filled out—via one menu option. The feature already exists in Opera 8.5.

Microsoft has tightened IE's security in other ways, too. For example, an added antiphishing filter aims to warn users if they visit a known or potential phishing site—a function previously available only via third-party toolbars. You also get an add-on manager that leaves some ActiveX controls enabled but can disable IE's access to other ActiveX controls, like those within the Windows operating system, which criminals could manipulate to gain control of your computer. In addition, the company says it has modified IE's code to make it harder for hackers to exploit.

The changes sound promising, but the real test will come when consumers use IE 7—and the new browser becomes a target for malware authors.

## FIREFOX GETS AUTO-UPDATES

**FIREFOX MADE A big splash** with its initial 1.0 release in November 2004. With more than 100 million downloads since, the Mozilla Foundation is now trying to build on that success with version 1.5, which includes no radical changes to the open-source browser but does have some incremental upgrades, such as drag-and-drop tab reordering.

Automatic updates for the browser will probably prove the most welcome change for users. Firefox's old update procedure was more like a full reinstall; the new process is streamlined and smooth.

Aside from convenience, making updates easier and faster can help security, which has become more of an issue for Firefox. With the new approach, more people will likely obtain and install updates, helping to minimize the number of vulnerable systems. Critical flaws discovered in 2005 have demonstrated Firefox's vulnerabilities, though the browser still beats IE in that regard. In a recent study, security analysis and software company Secunia found that Firefox had 3 unpatched security risks out of 25 discovered problems, compared with 20 unpatched risks for IE out of 86 found. Opera had them both beat, with no unpatched holes out of 8 detected. Of course, as browsers become more popular, they also become more attractive targets.

Many browser exten- ▶

## IN BRIEF

### Product Pipeline



#### SPLIT PERSONALITY:

Creative Technology's new ProDikeys PC-MIDI performs double duty as a standard 104-key QWERTY PC keyboard and a 37-key piano-style keyboard. The PC-MIDI features multimedia shortcuts, customizable hot-keys, and a detachable wrist rest to cover the music keys when not in use. The device plugs into your PC via a USB port and comes with software for learning to play the piano and record music. The PC-MIDI is due in January with a retail price of \$50. [find.pcworld.com/50416](http://find.pcworld.com/50416)

#### SONY'S FLASHY CAR STEREO:

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sions (add-ons that incorporate new functionality) already have updates for the new release, which automatically checks for new versions of out-of-date add-ons when you start the browser. But quite a few don't yet work with version 1.5. Current scripts for the popular Greasemonkey add-on might not work in version 1.5, for example, and users will have to wait to see which authors will update their scripts and when.

Tools for subscribing to RSS feeds remain unchanged. If sites are not coded for Firefox, you must go through a clunky mechanism to add feeds to your favorites, or use one of the many extensions available to simplify the process.

## OPERA SURGES

THE MOST significant change for Opera happened in September, when the company eliminated ads in the interface of its free browser. More than 3 million new users downloaded the browser in the three weeks following, according to the company, quadruple the usual rate. But Opera still has just a fraction of the user base Firefox has.

The upcoming version 9 does serve up a few tasty tidbits for the Opera aficionado, however. Although we were unable to test these features, the company says the final version will include support for widgets, small external programs that use Opera's engine and can run on the desktop. Existing widgets for other programs can display the weather, show Webcams, and much more. Users will also be able



**FIREFOX LISTS THE headlines for each of your RSS feeds, but you get no further story preview.**

to choose which Web sites can run JavaScript or display images. And the impressive built-in RSS feed handler, which we tried in the beta, now supports Atom 1.0 (a newer protocol similar to RSS).

Most remaining changes involve page display and layout. That may be because Opera, a suite with an integrated e-mail client, already has many of the goodies being added to IE and Firefox. But because many Web pages are exclusively tested with—or written for—Internet Explorer, which tends to disregard Web consortium guidelines, the standards-loving Opera programmers have to work hard to ensure pages display properly in their browser. The company will continue the practice of “site patching,” in which it automatically distributes custom JavaScript to its browsers to fix layouts for sites that it knows display improperly.

## BROWSING TO COME

THE RENEWED browser wars are still in their early stages, and though IE has been losing market share over the past year, it remains dominant. As

of late October 2005 almost 81 percent of Americans used IE, and 14 percent favored Firefox, according to Web analytics company OneStat.com. Only a small percentage of people used Opera, Netscape, and all other browsers combined.

The number of users jumping to Firefox has slowed recently after its Cinderella-like de-

but, leading some experts to suggest only a finite number of people are willing or able to try an alternate browser. “For many people, Internet Explorer is just not broken,” Geoff Johnston, an analyst with research firm WebSideStory, said in a press release.

Those users may have even less reason to switch when IE 7 launches. At that point, IE, Firefox, and Opera will all have similar features and similar, tight interfaces.

To enjoy more-distinctive features, you have to turn to smaller browsers. Flock, a Firefox-based browser, just hit the Net with a pre-beta offer-

ing that is still rough but contains a number of nice features in the new realm of social browsing. This growing trend puts heavy emphasis on sharing information via blogs, swapping photos and bookmarks, and interacting with

people, as opposed to consuming static Web content and keeping your preferences and opinions to yourself.

Flock ties available services directly into its browser. The Deli.cio.us site already lets users store and share bookmarks; Flock bookmarks synchronize with the site automatically. A blog editor is built in, as is a Flickr toolbar that lets you easily upload pictures to that photo-sharing site. Whether Flock will become anything more than a niche browser remains to be seen, but it's worth tracking.

## CONSUMER CHOICE

IN THE END, it's the perfect war: No one loses. If you use IE and don't want to bother with one of the richer options, you'll finally get some of the features that fans of other browsers have crowed about, with added security to boot.

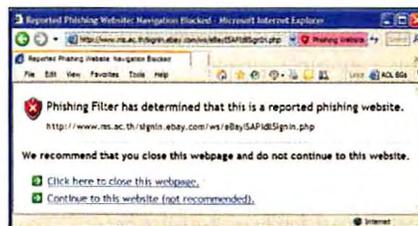
If you want more out of your browser, choosing Firefox or Opera comes down to whether you like to tinker.

Firefox's huge laundry list of add-ons let you poke and play until you have a browser heavily customized to your personal tastes. That's a seductive idea, but in practice it requires a fair amount of time and effort.

Opera is different. It comes with several advanced features that you can get in Firefox only with add-ons, and

that IE lacks entirely. However, Opera has no plans to introduce Firefox-like extensions, so if you don't like the way it does something, you're stuck.

Regardless, just having a choice is a great thing for consumers. *Vive la difference.*



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## INTERNET

# New Web Mail: More Polished, Powerful

MICROSOFT, YAHOO, AND ZIMBRA BETAS PREVIEW WEB MAIL'S NEW DESKTOP-LIKE INTERFACE.

MICROSOFT AND YAHOO are poised to make Web-based e-mail more powerful than ever with updates that bring a desktop-style interface to their respective Web mail offerings.

We tested betas (currently invitation-only) of Windows Live Mail and Yahoo Mail, and also looked at an open-source newcomer called Zimbra. All three apps use an increasingly popular programming technique called Ajax (Asynchronous JavaScript and XML) to improve on standard Web mail and even Google's Gmail.

As Ajax applications, the mail clients we tested can preload information and update their displays on the fly. So when you open up an e-mail message, you'll see it immediately, rather than having to wait for it to download. And when you delete a message, the application can update instantly, even though the delete request is still being processed in the background.

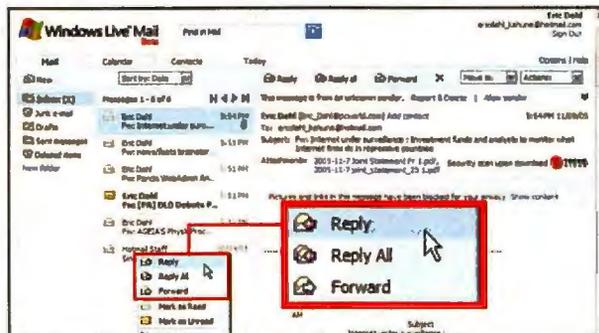
## YAHOO MAIL

YAHOO MAIL offers desktop-like features such as a full complement of familiar hotkeys and the ability to use the <Ctrl> and <Shift> keys to select multiple messages. Although it's only a beta, the application is graceful, powerful, and nuanced. Its three-pane layout mirrors that of desktop apps such as Microsoft's Outlook Express and Mozilla's Thunderbird.

Yahoo Mail also mimics the handy tab feature included in



DRAG-AND-DROP functionality makes it easy to quickly organize messages in the Yahoo Mail beta and other Ajax-based e-mail apps.



MICROSOFT'S Windows Live Mail works just like Outlook in your browser, right down to the keyboard shortcuts and right-click menus.

many Web browsers, allowing you to open multiple messages in a single window and switch between them without loading a new page. Thanks to some intricate coding, you can quickly delve deep into your inbox, using the familiar scroll bar or the <Page Down> key.

Yahoo Mail's search shines, reaching into attachments as well as e-mail messages, and showing the document snippet where the search term was found. Yahoo Mail also interacts logically with your browser's back button—often a trouble spot for Ajax apps that continually update one "page"

in the browser. In contrast, Gmail disables the back button, while Zimbra warns you that using it will log you out.

## WINDOWS LIVE MAIL

IF YOU'RE not familiar with desktop mail apps, Microsoft's Windows Live Mail, which feels more like a tweak to Hotmail than a total rethinking of Web mail, may be a better fit. Like Yahoo Mail, Live Mail lets you drag and drop messages, and right-click to print, forward, and answer messages without opening them first. Live Mail puts its weight on tools that let users add emoti-

cons and formatting to e-mail, and it also integrates powerful calendar, antispam, and anti-phishing functions.

The Live Mail service we tested, which Microsoft emphasizes is still a very early beta, uses a three-column layout similar to Microsoft Outlook's. A scrollable inbox, on-the-fly spelling checking, and enhanced right-click menus are on tap for the next beta.

## ZIMBRA

THE BETA OF Zimbra's open-source offering was rougher around the edges, marred by small, cryptic interface icons and some bugs in the version we tested. But its search and virus protection are good, and Zimbra sports some nifty calendar integration—users can mouse over dates in e-mail to see what activities they have scheduled that day.

But Zimbra's real strength is as a full-fledged communication server, allowing a company to integrate its databases so users can, say, jump from a message with an order number to the order database itself.

Zimbra doesn't offer individual accounts, but broadband providers such as Speak-easy are looking at using it to replace their current Web mail offerings.

Zimbra is available to enterprises right now, and Yahoo and Microsoft each hope to introduce their new interface to their millions of users in the first half of 2006.

—Ryan Singel

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## TELEVISIONS

# High Def, Low Cost: HDTV Prices Plunge

**FIERCE COMPETITION AND A SUPPLY BOOM SEND COSTS TUMBLING FOR LCD, PLASMA TVs.**

THE MOST CASUAL of HDTV shoppers know that prices fall each year, but price cuts over the past 12 months have finally brought large LCD and plasma models within reach for mainstream shoppers as the holiday-buying season gets into full swing.

Prices for LCD TVs have declined in part because of heavy competition from such budget brands as Syntax and Westinghouse, says Riddhi Patel, senior analyst for market research company iSuppli. In addition, LCD panel manufacturers are able to turn out more screens per day. David Naranjo, vice president at research firm DisplaySearch, says that new factories can output glass sheets large enough to make eight 32-inch panels, compared with the

three-panel sheets previous-generation facilities produced.

This combination of efficiency and competition has roughly halved the average street prices of 32-inch LCDs in the past year, according to DisplaySearch. Still, prices continue to vary a good deal between brand-name and budget offerings. For example, U.S. market leader Sharp's LC-32GA5U model has a street price of about \$1700, while the Olevia LT32HVE from relative newcomer Syntax goes for about \$1100.

## GOOD STARTERS

THESE 32-INCH models make good HD starter sets for U.S. customers, Naranjo says, because images on their wide, 16:9-aspect-ratio screens are roughly the same height as



**BIG SCREEN, SHRINKING PRICE TAG:** Syntax's 32-inch Olevia LT32HVE LCD TV has a street price of approximately \$1100.

those on a conventional 27-inch, 4:3-aspect-ratio CRT—today's most popular TV type.

As usual, shoppers willing to wait longer will likely save even more money. However, DisplaySearch predicts a more modest 38 percent price drop for 32-inch LCD TVs in 2006.

While LCD vendors are upping production of 40-inch-plus panels, plasma displays remain far better deals in that size range, with average prices of 42-inch high-definition panels falling by about 35 percent in 2005, DisplaySearch reports. Some price cuts have been greater: In 2004 Panasonic's TH-42PX25 listed at \$6000; its current successor, the TH-42PX50, has a list price of \$3000. In comparison, LG's 42-inch LCD, the 42LP1D, sells for \$4800.

As with LCDs, efficiency gains have contributed to falling plasma prices. Panasonic's newest plasma-glass factory produces six 42-inch panels per sheet, compared with two panels per sheet at the previous-generation facility. Discount brands such as Akai, Maxx, and Norcent have not pushed prices down as much as their LCD counterparts have, but they're starting

to. "I think they are getting more attention now that value brands in LCD have caught on," says iSuppli's Patel.

## PLASMA CLOSES IN

MEANWHILE, prices for digital rear-projection sets—DLP, LCD, and LCoS (liquid crystal on silicon) models—haven't dropped as much as prices for flat panels. For example, 50-inch digital rear-projection sets have dropped just 27 percent over the last year. As a result, plasma sets are starting to attract people who in years past might have opted for a rear projection model.

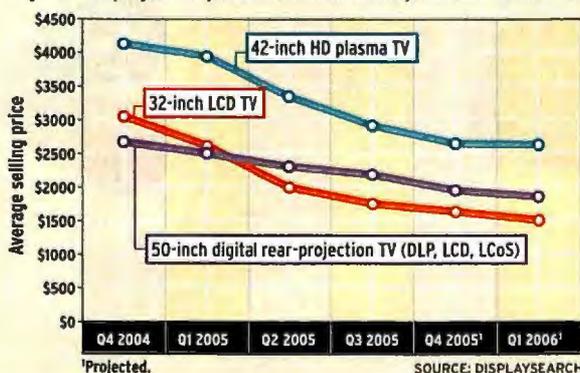
LG Electronics spokesperson John Taylor says that the company is focusing its rear-projection efforts on 50-inch or larger sets. But even here, rear projection is no longer markedly less expensive than plasma. For example, Panasonic's 56-inch DLP model, the PT-56DLX75, lists for \$3300, while its 50-inch TH-50PX50 plasma set sells for just \$700 more. In contrast, Panasonic's 50-inch DLP set, the PT-50DLD64, last year sold for \$4000—half the list price of the company's 50-inch TH-50PX25 plasma set.

—Seán Captain

## HDTV PRICES

### FLAT PANELS DROP THE MOST

LCD AND PLASMA PRICES HAVE fallen furthest in the past year; digital rear-projection price declines are now predicted to flatten.



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## GPS DEVICES

# Cruise Controllers

**NEW MODELS MAKE GETTING WHERE YOU WANT TO GO EASIER AND LESS EXPENSIVE.**

GPS NAVIGATION DEVICES designed with drivers in mind are proliferating—and the latest models cost less and are easier to use than their predecessors of a year or two ago. We tried three recent offerings and found that their maps and turn-by-turn voice directions are great for reaching unfamiliar locations.

## PALM GPS NAVIGATOR →

**WHAT'S NEW:** Use Bluetooth-enabled Treo and Tungsten handhelds as handy navigation devices by adding a compact Bluetooth GPS receiver and TomTom's fine software and maps (stored, typically, on an SD Card). The Bluetooth GPS-to-PDA communication can cause a lag, but at \$250 this kit is a great way to make the most of computing power you may already own—and the clever automatic charging kit includes lines to both the GPS receiver and the PDA, so it helps keep your handheld charged. [find.pcworld.com/50390](http://find.pcworld.com/50390). —Yardena Arar



## ← MAPQUEST PND

**WHAT'S NEW:** Online mapping giant MapQuest stamps its brand on TomTom's GO 300 compact in-car GPS. Like the Palm and Garmin products, the \$699 MapQuest Personal Navigation Device stores its maps and data on an SD Card. TomTom's voice directions (available in over 30 languages and in 50 voices) are easy to hear over radios and road noise, and the bright touch screen is almost as wide and tall as the 4.5-by-3.6-inch device itself. The MapQuest GPS may be almost twice the size of the Garmin StreetPilot i3 (shown below, not to scale), but it's easier to use; and, at just 11 ounces (without the 12-volt power cord), it's easy to tote. [find.pcworld.com/50394](http://find.pcworld.com/50394) —Dennis O'Reilly



## GARMIN STREETPILOT I3 →

**WHAT'S NEW:** Color maps and turn-by-turn voice directions for \$400. However, the StreetPilot i3 depends on a jog wheel and two buttons to handle all input, making data entry less convenient than it is with a touch-screen-based device. Also, the software offers relatively few options (such as different voices), and the GPS itself was slightly less accurate than that of the other products we tested. Still, this 3-by-2.7-by-2.2-inch, 5.3-ounce TV-shaped unit gets the job done, and it's the least expensive color-screen navigation device of its type we've seen. [find.pcworld.com/50392](http://find.pcworld.com/50392) —Yardena Arar



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# PLUGGED IN

ERIC DAHL

## Phishers' Latest Evil E-Mail Trick

PLUS: WILL TELCOS BLOCK VOIP, AND WILL YOUR NEXT PC HAVE A PPU?

### DON'T TRUST THE PADLOCK

**The Buzz:** Phishing schemes are all about deception, and recently some clever phishers have added a new layer of subterfuge called the secure phish. It uses the padlock icon indicating that your browser has established a secure connection to a Web site to lull you into a false sense of security. According to Internet security company SurfControl, phishers have begun to outfit their counterfeit sites with self-generated Secure Sockets Layer certificates. To distinguish an imposter from the genuine article, you should carefully scan the security certificate prompt for a reference to either "a self-



issued certificate" or "an unknown certificate authority."

**Bottom Line:** I've long worried that phishers weren't doing more to secure my stolen personal information. Seriously, though, most standard tips still apply: Don't click links in unsolicited e-mail or IM, enter URLs by hand, and use countermeasures such as Netcraft's free Anti-Phishing Toolbar ([toolbar.netcraft.com](http://toolbar.netcraft.com)).

### TELCOS GET THE TOOLS TO BLOCK VOIP

**The Buzz:** If you can't beat 'em, block 'em. Increasing competition from Internet phone providers like Vonage and from services such as Skype is causing traditional telephone carriers around the world to look at methods to slow or stop IP-based calls that cross their networks. The key technology, from a firm called Narus, can detect VoIP packets and either block them or deprioritize them to reduce call quality. A number of foreign telephone carriers have already enlisted the company's services.

**Bottom Line:** Domestic telcos are legally prohibited from completely blocking competing VoIP services, but there's no rule against prioritizing other traffic. And filtering software could put a serious damper on international-call savings if more countries begin to say *nein* to VoIP.

### ADD-IN CARD ACES PHYSICS EXAM

**The Buzz:** You're familiar with CPUs and GPUs; now get ready for PPU's (physics processing units). Aegia's upcoming PhysX chip will accelerate physics calculations used in games and 3D simulations, allowing for ultrarealistic-looking materials

### HERE\NOW

**1 VIDEOEGG:** Browser plug-in simplifies the job of converting video to more Web-friendly formats. [typepad.videoegg.com](http://typepad.videoegg.com)

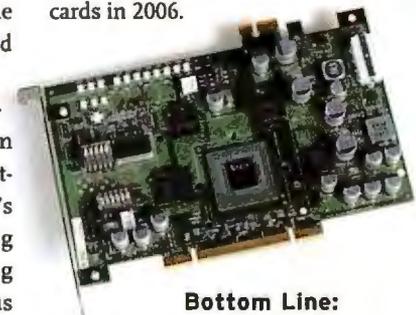
**2 NING.COM:** This free service lets you easily build superspecialized versions of social-networking sites like Craigslist, Flickr, Hot or Not, and Zagats.

**3 INFORM.COM:** Beta site helps you collect, organize, and read tons of news.

**4 CIVILIZATION 4:** Sid Meier's latest installment of this turn-based strategy game can eat up your life. [civ4.com](http://civ4.com)

**5 ONTOUR:** Downloadable app searches your music library to alert you when artists are coming to town. [find.pcworld.com/50480](http://find.pcworld.com/50480)

and more interactive environments. Board vendors are set to begin selling add-in PCI cards in 2006.



### Bottom Line:

Interesting idea, but it's still too early to tell if physics processors will take off. One positive sign: Game developers are already using Aegia's tool kit to code games for the PlayStation 3 and Xbox 360, so PC-based video games may not be far behind. ■

You can contact PC World Senior Editor Eric Dahl at [eric\\_dahl@pcworld.com](mailto:eric_dahl@pcworld.com); visit [find.pcworld.com/31643](http://find.pcworld.com/31643) to read additional Plugged In columns.

### PRICE CHECK

## Flash Memory Prices Drop

EVEN BEFORE APPLE LAUNCHED its iPod Nano with an impressive 4GB of flash memory, flash storage was getting less expensive. Here's a look at how falling flash prices may soon make Samsung's planned 16GB flash-based notebook drive affordable.



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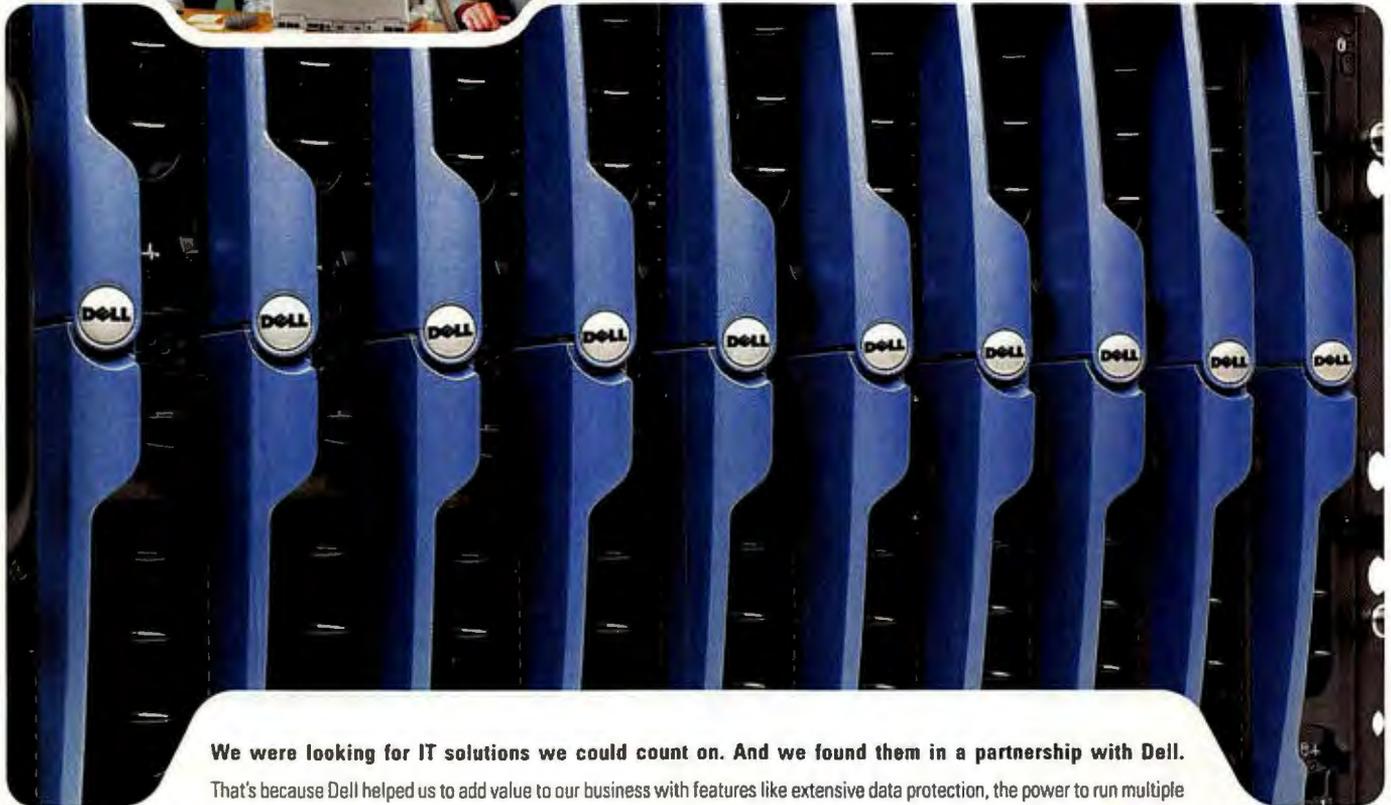
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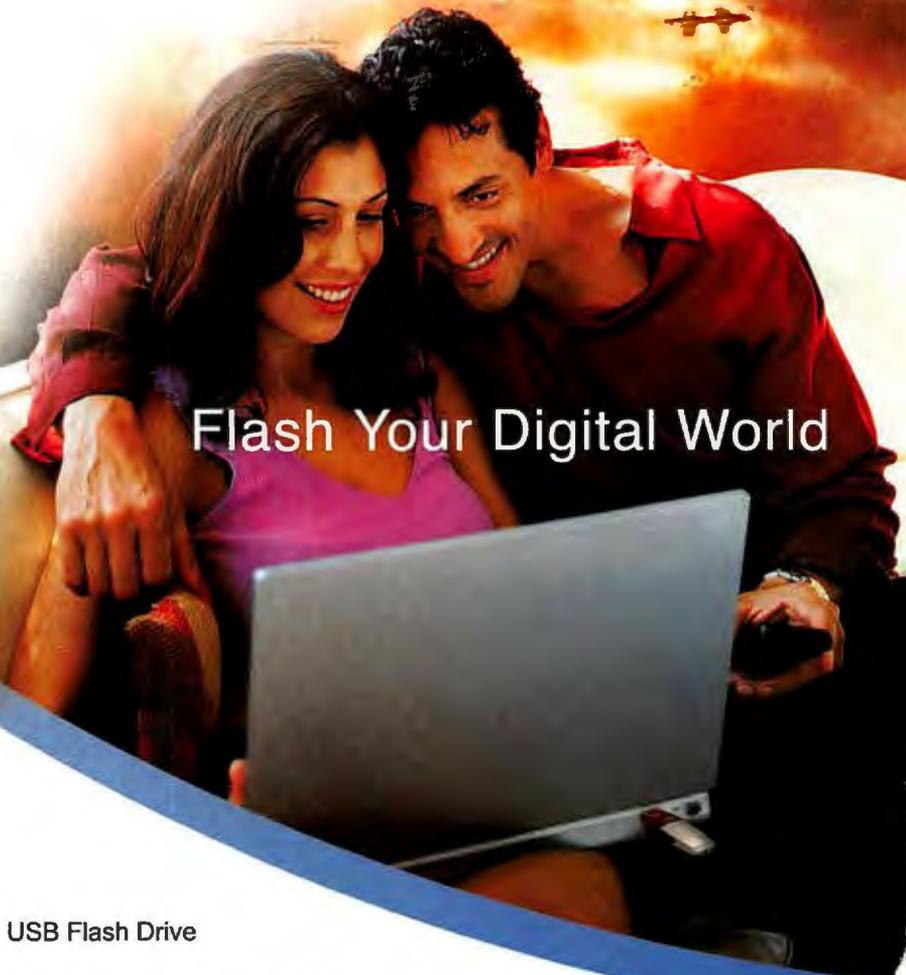
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# LETTERS

LETTERS@PCWORLD.COM

**READERS' ADWARE SOLUTIONS**

**HD ANTICOPY PLAN IS 'LAST STRAW'**

**USB HASSLES—MYTH OR REALITY?**



## READERS FIRE SHOTS IN 'THE NEW SECURITY WAR'

REGARDING November's "The New Security War" articles: I, among millions of other people, hate (with a passion) adware, spyware, and any other "ware" that negatively affects my computer. In "The Hidden Money Trail," Kelly Ford, speaking for adware-using advertisers, comments, "We wouldn't do it if it wasn't effective."

Unfortunately, I have to agree. Advertising companies spend millions each year on such ads. For them to continue, they have to be making back what they put in, and at only a couple cents per click, millions of people have to be clicking. We, the users, must stop clicking.

*Michael Fricano II, via the Internet*

I WAS SORRY to read that someone had to spend \$5000 to clean out pesky adware. I too have had adware taking over my PC, more than once. I found a simple and free solution, though: I use the System Restore utility in Windows to reset the OS to a time and date point prior to the infection. It has worked for me, and it's free.

*B. Chris Brewster, via the Internet*

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BEFORE CASTING blanket accusations on the entire affiliate marketing industry, you should consider that not all affiliate marketers are spyware or adware perpetrators.

While I appreciate your taking on the whole spyware and adware issue,

please assure your readers that 98 percent of sites using affiliate marketing are legitimate and are also ardently opposed to spyware and adware applications, as these applications are responsible for stealing commissions as well as giving the industry in general a black eye.

*Scott Hazard, via the Internet*

ADWARE AND SPYWARE can be dealt with, to a large extent, by the common law—no special legislation is necessary. Placing un-asked-for programs on a computer is a trespass and a nuisance that can attract damages under the law. Copying or taking information that is stored on a computer, without the permission of the system's owner, may breach copyright laws, but it is also theft.

Federal laws are not needed to pursue consumers' rights, but maybe class-action suits would dissuade adware and spyware purveyors from their illegal activities.

*Ken Lancaster, via the Internet*

**Author's response:** At least one class-action suit—in Illinois—is pending against an adware vendor (Direct Revenue), and it may become a national class action. See [find.pcworld.com/50336](http://find.pcworld.com/50336) for more.

*—Dan Tynan*

## 'THEY'RE OUR MACHINES'

KUDOS TO YOU for your *Up Front* editorial ["Rule One: They're Our Machines," November]. For years I've been hollering (alienating friends and family in the process) about the blatant invasions of our computers by ads, spyware, and worse.

And it's not just the bad guys taking possession and making use of our computers without our permission; many "legitimate" software publishers insert that spy crap upon installation of their programs.

*Tom Tillander, via the Internet*

I AM APPALLED at the lack of understanding in the user community of the security issues we face every day—or every minute, for that matter. The use of PCs by the masses has made it so easy for crooks to take advantage of people.

But my wife and I don't see the problems most people do: I use Linux mostly, and my wife uses it exclusively; she has no problems at all doing anything she wants on the Internet with full confidence in her security and privacy.

*Matthew McHarnes, via the Internet*

STRESSED OUT AFTER reading your articles on spyware and adware resource thieves, I thought I'd relax by listening to some Beatles on Windows Media Player.

A few minutes in, up pops a message from the taskbar saying a new version of Macromedia Flash Player is available. Never having seen the pop-up message or the taskbar icon before, I thought, "How do I know this is really from Macromedia? Maybe it's a virus or spyware." At the very least, it was Macromedia adware.

Here is a legitimate company placing memory-robbing programs that I didn't ask for on my PC. Where is the line?

*Harry Cowan, Toronto* ▶

DOES ANYONE really believe Congress will, as your editorial suggests, put together an antispymware bill that will work? It seems far more likely it will cave in to commercial interests and pass something about as effective as the CAN-SPAM Act.

*Jim Penrose, Los Angeles*

**HD COPY PROTECTION**

YOUR ARTICLE "Most Monitors Won't Play New HD Video" [*News and Trends*, November]—about a new content protection scheme for high-def DVD—was the last straw. I will *not* buy another movie on DVD. I will rent my movies from NetFlix. When they can no longer provide DVDs that will play on my setup, I will just go back to waiting for films to appear on TV.

*Robert C. Taubert, via the Internet*

SONY AND OTHER entertainment companies want to make sure they don't lose money to pirates? Fine—let's not steal their music or movies. But let's not jump

through their hoops. Let's tell them why we're not spending a dime on their vaunted HD content, or on new monitors and TVs, or on new hardware and operating systems to watch it with! In short, let's tell them to sell us what we want the way we want it—or we just won't buy.

*Edwin Stovall, via the Internet*

**USB HASSLES**

IN NOVEMBER'S *Hassle-Free PC*, Steve Bass writes, "But half the time, [USB is] as flaky as Boston Red Sox slugger Manny Ramirez." Where do you guys get this stuff? I have had a USB scanner and a USB printer since Windows 95 OSR 2.1. Now I have three scanners, two printers, and a digital camera, all of them on USB 1.1, and have never had a problem.

*Richard S. Mitnick*

*Highland Park, New Jersey*

THE ARTICLE ON USB hassles was a godsend. I was unable to upload some med-

ical data from my FastTrack PDA into my PC using the USB port, and the vendor had discontinued supporting the device. After reading your piece, I unplugged my Microsoft Intellimouse from the USB port, moved it to a serial port, rebooted, and voilà—I was able to upload my data.

*Dennis Spencer*

*Aberdeen, South Dakota*

PC World welcomes letters to the editor. We reserve the right to edit for length and clarity. Send e-mail to [letters@pcworld.com](mailto:letters@pcworld.com). ■

**CORRECTIONS**

IN DECEMBER'S *Top 10 Digital Cameras*, the Find-It URL for the Canon PowerShot S2IS should have been [find.pcworld.com/50104](http://find.pcworld.com/50104).

December's *Gadget Freak* should have said that Sling Media's Slingbox does not record television programs.

PC World regrets the errors.

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ANNE KANDRA

**GET READY FOR A WAVE OF SUBSCRIPTION APPS**

**PRIVACY WATCH: LOOK OUT FOR KEYLOGGERS**

**ON YOUR SIDE: DELL WARRANTY DATE ERROR**

## Upgrade That Application—Or Else!

More software vendors are forcing users to buy upgrades they don't want.

LIKE ALL RESPONSIBLE computer users these days, Dennis McGuire is careful about keeping his PC virus-free. Until recently, the Minneapolis-based statistician used Norton Anti-Virus to ward off cyberscourges, and he never had a problem.

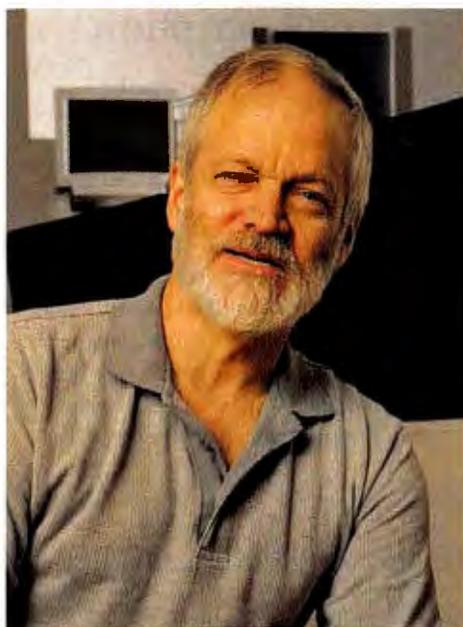
But last spring, when McGuire tried to download the latest virus definitions from Symantec, he received a message saying that they couldn't be found. Perplexed, McGuire called Symantec's support department—and promptly ran into another brick wall.

The problem? McGuire was using Norton AntiVirus 2002, which Symantec no longer supports. "The rep I spoke with was polite but firm," McGuire says. "He told me that if I wanted my subscription to work, I'd have to buy a new version of Norton Anti-Virus." The upgrade cost about \$40, on top of the \$20 he'd paid only six months earlier for a one-year renewal of his subscription for virus definition updates.

McGuire says that he respects the company's decision to discontinue support for its older products, a practice known as sunseting. Nevertheless, he counters, "I did pay for my current subscription, and [Symantec] knew that I had an older version of NAV. They should live up to the terms of our original agreement, without requiring an additional purchase."

### UPGRADE CONFUSION

SYMANTEC'S SENIOR director of product management Laura Garcia-Manrique explains that historically Symantec has provided only up to 12 months of support following each version release; after that, the



**DENNIS MCGUIRE** paid for virus definitions, then had to buy a new version of his software.

company offers limited support, if any. She concedes that the difference between application upgrades and virus definition updates confuses many consumers.

This ambiguity is one reason, Garcia-Manrique says, that the company has moved away from traditional user licenses to a subscription-based model, in which customers pay an annual fee in return for continuous automatic updates. For example, Symantec sells its Norton AntiVirus 2006 two ways: for \$40, including one year of protection, or for \$60, with two years of coverage. "Now our customers who pay an annual fee can expect full protection all the time, without worrying about different levels of support," she says.

Of course, Symantec is hardly the only

champion of planned obsolescence. We heard from dozens of unhappy Quicken users last year when Intuit phased out support for Quicken 2001 and 2002 and, by doing so, disabled those programs' online features (see [find.pcworld.com/50010](http://find.pcworld.com/50010)). A number of affronted Quicken users turned to Microsoft's rival product, Money, only to find themselves facing an even more stringent upgrade mandate. Microsoft requires users of its popular financial application to purchase an upgrade every two years to continue using key online features (see [find.pcworld.com/50012](http://find.pcworld.com/50012)).

We have also received complaints about vendor-imposed limitations on older versions of Corel's Jasc Photo Album, Mathsoft's MathCAD, and other apps. Meanwhile, any Microsoft corporate customer that wants to upgrade to Windows Vista must sign up for the company's controversial Software Assurance licensing program, which entails paying an annual fee to use software rather than buying a user license.

Intuit representative Chris Repetto defends his company's decision to stop supporting older versions of Quicken: "Retirement of older versions allows us to focus our resources on supporting our more recent products, which are used by the vast majority of Quicken customers." Repetto also says that Intuit gave users of its software whose support was due to expire a full five months during which they could buy the upgrade for about \$40—\$20 less than the product's retail price.

Representatives I spoke to at different companies cited additional features ►

and enhancements as other incentives for users to upgrade. For many upgraders the greater functionality may well be worth the additional cost. But too often, users say, they are being forced to pay for frilleries that they neither need nor want.

**PRESSURE TO UPGRADE**

SHERYL CLARK, a financial advisor based in Tucson, Arizona, has used Quicken since 1991 and continues to recommend it to her clients—but even so, she is critical of the pressure to upgrade. “At first, I found the upgrades to be worth the time and money,” she says. “But within a few years, it had all the features most people need. Now it’s becoming cluttered and less intuitive. I don’t know the economic answer for the software companies; but as a user, I find it frustrating.”

For many software companies, the economic answer may be to follow Symantec’s example and move to subscription-based services, in which customers agree to pay a recurring fee in exchange for a consistently up-to-date application.

Noel Kuriakos, a product manager at

Macrovision, points out the advantage of this approach: Customers can choose the updates and features they want instead of having to purchase a whole new application simply because the vendor says it’s time. “You can unbundle features and select the ones you need,” he explains.

In fact, several vendors besides Syman-

Several vendors have already moved to subscription pricing models.

tec have already adopted the subscription model. Rhapsody and many other content services are subscription based, as are online bill-payment services such as Paytrust; security apps like Lavasoft’s Ad-Aware and Webroot’s Spy Sweeper; mobile applications like Intellisync VeriChat; and some Web-based e-mail services such as SpamArrest. A study released last

fall at the SoftSummit software industry trends conference reported that 60 percent of software vendors are likely to offer subscription-based applications by 2007.

**PERPETUAL PAYMENTS**

OF COURSE, VALID concerns about a subscription software world remain. For starters, you’re likely to pay more in the long run, since payments are regular and ongoing. And some analysts predict that a subscription-based consumer software market could squelch innovation because small startup companies may not be able to afford the tools needed to develop and maintain such services. (However, others say subscription models might encourage experimentation since customers need commit only to a year’s cost, as opposed to making a major purchase intended to work for several years.)

To avoid—or at least be prepared for—pricey forced upgrades the next time you need to buy a new software package, start by researching the product’s life cycle. How often and how recently has the company released major upgrades? If you

**PRIVACY WATCH**

More Criminals Use Keystroke Loggers



KEYSTROKE LOGGERS—programs that secretly record every character you type—are getting much more common, security analysts say, as criminals use them to steal user names and passwords for financial and other accounts.

Websense, a computer security firm,

reports that for stealing passwords many cyberpickpockets prefer keystroke loggers (keyloggers for short) to phishing. Unlike phishers, bad guys who use keyloggers don’t have to create elaborate fake Web sites to trick people into divulging their bank passwords, for instance. Instead, the crooks just wait until the unsuspecting victim visits the real site. The keylogger records the keys the person types to log in and then it uploads the data to the criminals.

Websense says that the number of unique keylogger programs in use by criminals more than doubled between April 2005, when there were 77 of them, and July 2005, when the company saw 179.

Early in 2005 criminals used a keylogger to discover the password for accessing a computer that performs electronic money transfers at the Sumitomo Mitsui bank in London. Police learned of the plot to steal \$420 million just before the bad guys could execute the transfer. Arcot Systems, which develops software used to

thwart keylogging and phishing, says crimes involving stolen passwords result in \$2.75 billion in losses each year.

To combat the threat, many online banks have started using software keyboards on their Web site log-in pages. Because you enter your password or PIN by clicking on-screen buttons rather than by typing the numbers or letters on your keyboard, this arrangement can defeat a simple keylogger. And because the Arcot software keyboard constantly changes the labels on its virtual keys, the bad guys can’t tell what number you’re clicking by recording the mouse pointer’s location on screen every time you click.

Of course, crooks always counterattack. Some aim keyloggers at sites of financial institutions that don’t use software PIN pads or other advanced security features. Others are beefing up their malware arsenal with software that can capture an image of your screen every time you click a number on an on-screen PIN pad.

Still, if you use a software firewall, keep your antivirus software up-to-date, and avoid running programs that you receive via e-mail or instant messaging, your chances of stopping a keylogger before it can harm you are good. The best way to determine whether a keylogger is running on your PC is to scan the system regularly with a good antispysware tool, such as Webroot Software’s Spy Sweeper.

—Andrew Brandt

## Dell Warranty Surprise

 MY FRIEND HAS a Dell PC that won't boot. We tried for a week to get tech support through normal Dell channels. Dell told us the warranty had run out, yet the online documentation says it remains in effect for three more months. We even spoke to a manager, who told us he could see that the Web documentation showed the warranty was still good, gave us a case number, and said he'd call back—but never did. We contacted Dell's corporate office, leaving messages and faxing a letter, all with no result.

*Barry Dansky, Melbourne, Florida*

**On Your Side responds:** Dell officials say the balky system is a refurbished model Dell sent to replace a PC that malfunctioned more than a year into a three-year warranty that expired nine months ago. The original warranty should have applied, but Dell erroneously extended its term by a year when the exchange occurred.

Dell says such errors are rare; and as an act of good faith, it said it would work to extend the warranty protection to the date promised online. However, Dansky says his friend has since purchased a Mac.

*—Amber Bauman*

suspect that a product is nearing the end of an upgrade cycle, consider waiting for the new release or look into comparable products. Also, what is the company's history of support for older product versions?

Read the end user license agreement (EULA) before you decide, even if doing so means brewing an extra pot or two of coffee. Most reputable software companies post EULAs on their Web site so you

can read them before buying; if you can't find one, ask the company for a copy.

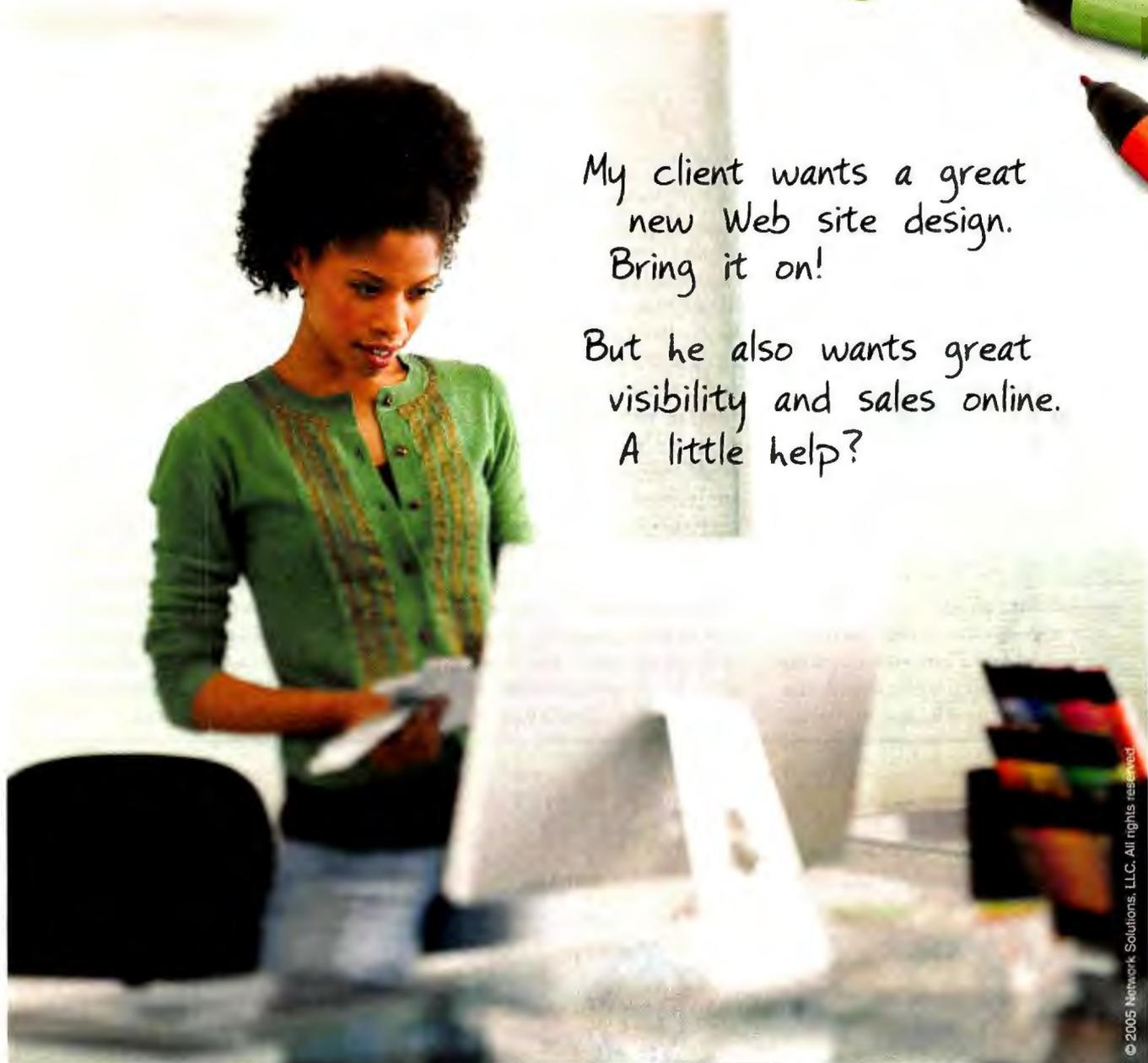
Make sure you understand the details of the vendor's service and support policy, especially if the product is a security application. If you have questions, call the vendor and ask for clarification. Finally, check online user forums, help groups, and resources such as this magazine for other comments and user feedback.

After all, you're the customer. Software vendors' sunset policies shouldn't leave you in the dark. ■

*Anne Kandra is a contributing editor, Andrew Brandt is a senior associate editor, and Amber Bauman is an editorial assistant for PC World. E-mail them at [consumerwatch@pcworld.com](mailto:consumerwatch@pcworld.com), [privacywatch@pcworld.com](mailto:privacywatch@pcworld.com), or [onyourside@pcworld.com](mailto:onyourside@pcworld.com). To read previously published Consumer Watch, Privacy Watch, or On Your Side columns, visit [find.pcworld.com/31703](http://find.pcworld.com/31703), [find.pcworld.com/31706](http://find.pcworld.com/31706), or [find.pcworld.com/31709](http://find.pcworld.com/31709), respectively.*

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STEVE BASS

## Notebook Thieves? Bring Them On!

Stop computer kleptos with these seven hardware and software tricks.

YOU HAVE ALL the data security tools you need—a firewall, an antivirus program, and antispyware protection. But what if a thief walks into your office—or breaks into the trunk of your car—and tries to walk away with your trusty computer?

**The Hassle:** I have a desktop PC at the office, use a notebook when I travel, and have confidential client financial files. How can I protect my computers?

**The Fixes:** When Windows crashes, I sometimes wish that someone would steal my PC. I'm being facetious, of course. To guard my computers, and the data inside, I use several tricks.

**Lock and key:** My first experience successfully foiling a theft came in 1991 when a burglar broke into our home. We lost some valuables, but my PC was safe because I had secured it with a Kablit Security Package kit, still available for \$50 ([find.pcworld.com/49760](http://find.pcworld.com/49760)). The thief had just a few minutes to grab the easy stuff; the PC, wrapped in steel cables, apparently looked like too much of a hassle. If you're really worried, get Kablit's \$145 enclosure for your entire tower ([find.pcworld.com/49761](http://find.pcworld.com/49761)).

In those days, I kept my laptop locked to my desk with an AnchorPad Security

plate. The same plate is available today for about \$75 ([find.pcworld.com/49762](http://find.pcworld.com/49762)).

**Notebooks on the road:** Because I don't want my notebook stolen when I take it on a trip, I keep my eyes on it. But for



added security—say, when I'm at the airport and I doze off while waiting to board a delayed flight—I use a \$50 Targus Def-Con Ultra ([find.pcworld.com/49763](http://find.pcworld.com/49763)). The thin, steel cable isn't terribly secure (I'm guessing that wire clippers would slice through it), but the locking device sets off a piercing tone if the cable is touched.

If my notebook does sprout wings, perhaps from a hotel room, the thief is in for a big surprise. Without a special key from SecuriKey inserted into the USB port, my notebook just won't boot. The CD-ROM drive is locked down, too, so booting from it is impossible. SecuriKey also frustrates computer-savvy crooks who try to boot with a floppy or external drive. Check out the \$120 SecuriKey at [find.pcworld.com/49766](http://find.pcworld.com/49766).

**Storage tricks:** When traveling, you can keep your notebook's data safe by removing the hard drive and stashing it in another location. If the data it contains is critical, keep it on a flash thumb drive and then load it on your notebook when you need it. A second option is biometrically protected storage, which uses your fingerprint as a password equivalent. ThinkCP's 1GB biometric flash drive costs \$289 ([find.pcworld.com/49768](http://find.pcworld.com/49768)).

**Cover yourself:** If your notebook or PC is stolen, you'll want to replace it, so think insurance. My homeowner's insurance covers me at the offices of Bass International, as well as when I'm on the road. Check your coverage; you may need a business policy at the office. The alternative is a policy from an insurer that specializes in covering PCs. One choice is Safeware ([find.pcworld.com/49770](http://find.pcworld.com/49770)); with no deductible, the premium on a new \$1500 notebook is \$90 per year. ■

### TOOL OF THE MONTH

## Passwords: Safe and Secure

THERE ARE A FEW PASSWORD management programs around. RoboForm, the one I use, saves user IDs and passwords, generates hard-to-guess passwords, automatically logs me on to sites, and can fill in online forms. But besides making my surfing life easier, it has a wealth of security

features. For instance, I'm protected from keyloggers because the program enters my passwords itself, so I don't need to type them from the keyboard. The trial version reverts to a limited-use, free version after 30 days; the Pro version costs \$30 ([find.pcworld.com/49772](http://find.pcworld.com/49772)).

*Contributing Editor Steve Bass writes the Bass Blog (see [find.pcworld.com/50264](http://find.pcworld.com/50264)) and is the author of PC Annoyances, published by O'Reilly (see [find.pcworld.com/43818](http://find.pcworld.com/43818)). Contact him at [hasslefreepc@pcworld.com](mailto:hasslefreepc@pcworld.com). To read his previous columns and newsletters, go to [find.pcworld.com/50268](http://find.pcworld.com/50268).*

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# BUGS & FIXES

STUART J. JOHNSTON

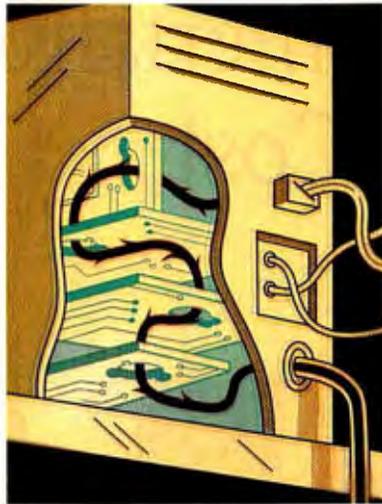
## Defend Your PC Against Video Attacks

Plus: Fix iTunes installation woes, and patch an Internet Explorer 6 security flaw.

THE POPULARITY OF high-speed Internet connections and increasingly fast processors has made streaming video and audio a reality for most people. Nearly every news Web site features links to video of current events. Sometimes such videos are cued to play automatically when you visit a particular page. But our growing reliance on the Web to provide news and entertainment in this format also raises our odds of being tricked into triggering an attack through such streamed files.

Case in point: Microsoft just patched a hole in the way that Windows Media Player handles AVI videos, a flaw that could permit an attack program to infiltrate your PC. To display the AVI files, WMP uses a playback technology called DirectShow, a component of Windows DirectX that enables hardware

acceleration features and allows applications to display graphics. Without the patch, DirectX versions 7 through 9.0c running under Windows



98 through XP Service Pack 2 are vulnerable to the flaw.

A researcher at eEye Digital Security identified a way that a bad guy could booby-trap a seemingly benign AVI. The attacker could then embed the poisoned file in a Web page

and set it to autoplay in the background, or send it to unsuspecting users as an attachment or a link in an e-mail message. To get you to click, the file could have a title intended to pique your curiosity (say, "Funny Beer Commercial"). But if you clicked, the joke would be on you.

As the poisoned file runs, it purposely sends too much data to the software responsible for playing AVIs in Windows (usually WMP), causing the program to crash and in the process enabling the attacker's hijack code to take over your computer. Play it safe and download the update at [find.pcworld.com/50248](http://find.pcworld.com/50248).

### DANGER IN IE 6

MICROSOFT ALSO patched a hole in Internet Explorer 6 affecting Windows 98 through XP SP2. The problem has to do with IE mistakenly running certain special communications programs, called COM objects, that Windows uses to swap data between applications, often on different systems. Some COM objects can run in IE, but others should run only in Windows.

A crook could lure you to a Web page rigged with code that tricks IE into running a specially crafted COM object.

### IN BRIEF

#### Skype Patch

SKYPE HAS PLUGGED a hole in its Voice-over-IP software (which lets you make free or low-cost phone calls worldwide over the Internet) that could let an attacker control your PC. Attackers gain entry into your computer if you click the wrong link on a Web page or in an e-mail, or if you open a booby-trapped electronic business card called a vCard (a file format standard for exchanging address book information through e-mail). Locate the patch at [find.pcworld.com/50254](http://find.pcworld.com/50254).

This could cause IE to crash and begin running code that could take over your PC.

Microsoft says real-world exploits that take advantage of this flaw already exist. Head to [find.pcworld.com/50250](http://find.pcworld.com/50250) and download the patch. It is also a cumulative IE update that contains all security patches ever released for IE 6. ■

*Stuart J. Johnston is a contributing editor for PC World. Visit [find.pcworld.com/31580](http://find.pcworld.com/31580) to see more Bugs and Fixes columns.*

### BUGGED?

FOUND A hardware or software bug? Send us an e-mail on it to [bugs@pcworld.com](mailto:bugs@pcworld.com).

### PROBLEMS WITH ITUNES MEDIA PLAYER

MANY ITUNES USERS are encountering problems when they install version 6 on PCs running Norton Internet Security. Apple's support page ([find.pcworld.com/50252](http://find.pcworld.com/50252)) indicates that you may need to temporarily disable your antivirus software to install iTunes—but disconnect your PC from the Web first. Meanwhile, some customers are having issues with iTunes 6 and QuickTime 7. One solution, several users say, is to uninstall and then reinstall both programs.

However, these fixes only sometimes repair the glitch. Apple says it is still investigating the problems. Symantec reports no clashes between NIS and iTunes. Send errors to [bugs@pcworld.com](mailto:bugs@pcworld.com).

ILLUSTRATION: HARRY CAMPBELL

# REVIEWS & RANKINGS

EDITED BY KALPANA ETTENSON AND TOM MAINELLI

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**We test four affordable Media Center PCs and tell you how to get the most multimedia power for your buck.**

**MULTIMEDIA**  
 MEDIA CENTER PCs were made for the holidays. With a single remote control, you can orchestrate all the music for your parties, quickly create and play back slide shows, and program your PC to record your favorite TV show while

you're out ringing in the new year. And, they're affordable. We tested four systems, each with a discrete graphics card and TV tuner and costing around \$2000 (including an LCD monitor and speakers): HP's \$1700 Media Center m7260n Photosmart PC, Polywell's \$1888 MiniBox 939NX-MCE, Shuttle's \$2181 XPC

### PCW RATINGS



VISIT [find.pcworld.com/49902](http://find.pcworld.com/49902) for a complete explanation of our new rating system, as well as information about our test methodology. Read more on page 72.

G5 8300mc, and Sony's \$1900 VAIO VGC-RC110G. After we hooked each of them up to a big-screen TV set in the PC World Test Center's "digital living room," we watched TV programs and DVD movies and listened to music on CD. All four of the systems handled audio and video playback with little trouble; computing

THE HP M7260N (LEFT) has a traditional midsize-tower case; the compact Polywell MiniBox 939NX-MCE could fit in a living-room entertainment center.

horsepower didn't seem to matter. The Polywell PC, with its dual-core Athlon 64 X2 CPU, was much faster than the other systems on World-Bench 5, but wasn't any better at Media Center tasks. What did differ significantly was the systems' features—and those are what matter most when you buy a Media Center PC.

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**Living-room looks:** Media Center PCs come in a variety of shapes and sizes, ranging from sleek designs for the entertainment center to conventional PC cases. Which system is right for you may ultimately depend on where you plan to put it. The HP and Sony systems have ordinary-looking midsize-tower cases, while the Polywell and Shuttle PCs are stylish, toaster-size boxes that would look at home in an office or a living room (though the slick black-and-chrome case of the tiny Shuttle PC would be a better fit with living-room decor). But remember that small cases mean less space for expansion; the Shuttle has no room for more hardware and has only two open USB ports.

**TV tuner and remote control:** The Shuttle XPC G5 8300mc was pricier than the other PCs, which lowered its overall rating. One bright spot: Its dual TV tuners let you watch one program while recording another. If you're planning to record video using Windows XP Media Center Edition, a dual-TV-tuner system is worth the extra money up front. HP, for example, charges \$70 to upgrade from a single TV

	MEDIA CENTER PC	PCW Rating	Performance	Features and specifications
1	<b>HP Media Center m7260n Photosmart PC</b> <b>Best BUY \$1700</b> <a href="http://find.pcworld.com/49994">find.pcworld.com/49994</a>	<b>77</b> Good	<ul style="list-style-type: none"> <li>WorldBench 5 score: 88 Very Good</li> <li>Overall design: Very Good</li> <li>Graphics: Fair</li> </ul>	<ul style="list-style-type: none"> <li>3-GHz Pentium D 830</li> <li>300GB drive space</li> <li>19-inch HP f1905 LCD</li> <li>128MB Asus AX300SE graphics</li> </ul>
▶ <b>Bottom line:</b> Well-designed PC comes with helpful software, has a bay for an optional removable hard drive, and burns labels on DVDs.				
2	<b>Polywell MiniBox 939NX-MCE</b> <b>\$1888</b> <a href="http://find.pcworld.com/49998">find.pcworld.com/49998</a>	<b>76</b> Good	<ul style="list-style-type: none"> <li>WorldBench 5 score: 102 Superior</li> <li>Overall design: Good</li> <li>Graphics: Superior</li> </ul>	<ul style="list-style-type: none"> <li>2-GHz Athlon 64 X2 3800+</li> <li>500GB (RAID) drive space</li> <li>19-inch Hyundai L90D+ LCD</li> <li>256MB EVGA E-GeForce 6600 graphics</li> </ul>
▶ <b>Bottom line:</b> Provides loads of hard-drive space in a compact case. Fast CPU is well suited for processor-intensive tasks.				
3	<b>Sony VAIO VGC-RC110G</b> <b>\$1900</b> <a href="http://find.pcworld.com/50001">find.pcworld.com/50001</a>	<b>74</b> Good	<ul style="list-style-type: none"> <li>WorldBench 5 score: 87 Very Good</li> <li>Overall design: Very Good</li> <li>Graphics: Good</li> </ul>	<ul style="list-style-type: none"> <li>3-GHz Pentium D 830</li> <li>250GB drive space</li> <li>17-inch Sony MFM-HT75W LCD</li> <li>128MB Asus EAX300LE graphics</li> </ul>
▶ <b>Bottom line:</b> Includes the best LCD for watching TV, and has room for expansion. Generous software bundle for multimedia beginners.				
4	<b>Shuttle Computer XPC G5 8300mc</b> <b>\$2181</b> <a href="http://find.pcworld.com/50000">find.pcworld.com/50000</a>	<b>66</b> Fair	<ul style="list-style-type: none"> <li>WorldBench 5 score: 84 Very Good</li> <li>Overall design: Good</li> <li>Graphics: Superior</li> </ul>	<ul style="list-style-type: none"> <li>3-GHz Pentium 4 531</li> <li>200GB drive space</li> <li>17-inch Shuttle XP17 Lite LCD</li> <li>128MB EVGA E-GeForce 6600GT graphics</li> </ul>
▶ <b>Bottom line:</b> Stylish and compact, this PC offers dual TV tuners, but its features overall are limited given the high price.				

**CHART NOTES:** Ratings are as of 11/28/05. Drive space (hard-drive capacity) may represent multiple drives.

tuner to a dual tuner on its configure-to-order machines.

All four of our test systems came with a remote control. Don't buy a Media Center PC without one: Remote control is the heart of Windows XP Media Center, even for systems that are lacking a TV tuner. Without a remote, the Media Center OS is just another software program for playing multimedia. Adding a remote costs about \$20 to \$30.

**Ins and outs:** All four PCs offered various analog and digital connectors. However,

the HP lacked a DVI output for showing digital video on our large DLP TV. That limitation forced us to view TV programs and DVD movies over an S-Video analog connection, and the resulting picture was noticeably blurry. Be sure to use a digital video connection when you can, especially on large-screen digital TVs or displays. (If you have a TV set or display with only analog inputs, you should look for a system with the higher-quality component analog connector, which none of the four sys-

tems we tested had.) See [find.pcworld.com/50088](http://find.pcworld.com/50088) for an overview of video connections.

The audio connections on Media Center PCs also differ. All of our test systems except the Polywell had an S/PDIF digital audio port; the HP had only an RCA connector, although the Shuttle and Sony systems accepted the more common optical cable with a Toslink connector.

**Storage:** Music, photo, and video collections can take up a lot of space. All four review systems provided at least a ▶

200GB hard drive. HP's Media Center m7260n offered a generous 300GB hard drive plus a bay for plugging in an HP Personal Media Drive, an external USB hard drive; the prices range from \$150 for a 120GB model to \$350 for a 400GB unit.

Also impressive was the Polywell system, which, despite its small case, had two 250GB hard drives striped in a RAID 0 array for faster performance. All four of the systems provided a multiple-format media card reader, as well as a DVD±RW drive that can write up to 8.5GB per DVD disc.

**A smooth start:** Making sense of a Media Center PC's many audio and video connections requires good documentation, especially for the uninitiated. Here, the HP m7260n was far and away the top dog: Two startup manuals were packed with clear, useful dia-



THE SHUTTLE XPC G5 8300MC (left) is stylish, but it's short on ports and expansion options; the larger Sony VAIO VGC-RC110G is best suited for the office or bedroom, and its LCD was tops for watching TV.

grams, and all the ports on the back and front were clearly labeled and color-coded. By contrast, the Shuttle XPC G5 8300mc came with a very thin setup pamphlet whose diagrams and instructions confused as much as they helped.

**Rattle and hum:** In a silent living room, the constant hum of a PC can be like Chinese water torture. In an informal listening test in our "digital living room," all of the PCs produced a quiet buzz that

was inaudible while a movie or music was playing, but loud enough to be annoying while a person was reading. The smaller Polywell and Shuttle mini-box systems sounded a bit louder than the midsize-tower systems.

**What you see and hear:** If you're planning to get a display and speakers with a Media Center PC instead of connecting it to a TV set and sound system, choose carefully. We liked watching TV on

Sony's \$600 17-inch wide-screen MFM-HT75W display, which produced crisp, clear images; the garden-variety 17- or 19-inch LCDs of the other systems produced acceptable but unexciting pictures. As for audio, the Logitech 5.1 speakers that came with the Polywell and Shuttle PCs sounded very good for a sub-\$100 set, while the cheap pair of Sony speakers that accompanied the VAIO sounded terrible.

—Kirk Steers

POWER SYSTEM

# High-End Multimedia for a High Price

IF YOU'RE WILLING TO PAY big bucks, you can get a computer that pulls out all the multimedia stops. The HP Pavilion d4100e we evaluated supplies 660GB of hard-drive space, a 21-inch flat-panel monitor, and dual TV tuners. And it costs a whopping \$3648—nearly \$1500 more than the Shuttle XPC G5 8300mc.

So what do you get for your extra dough? For one, higher frame rates on video games. The d4100e we tested came with an Asus Extreme N6800 graphics card, and of our five Media Center PCs it consistently generated the highest frame rates; on the game Unreal Tournament, frame rates were significantly higher. However, both the Polywell and the Shuttle came in very close behind the HP d4100e on Return to Castle Wolfenstein.

The midsize-tower d4100e is quite expandable. It has six external drive bays and three internal drive bays, and two of each are open.

All but one of the bargain PCs we tested lacked open bays; the Sony VGC-RC110G was the sole exception, offering four of them, one external. A nice touch on the d4100e is its 160GB removable hard drive, which slides into a bay on the front panel and gives the d4100e a total hard-drive capacity of 660GB. For \$190 you can add this same removable drive to the HP m7260n, which has the same type of bay.

On everyday tasks, the d4100e performed well, earning a WorldBench 5 score of 102—but so did the \$1888 Polywell, and both systems are Athlon-based.

If you don't need the d4100e's extras—such as its 21-inch LCD—a more affordable system should fit the bill.

—Eric Butterfield



THE HP PAVILION D4100E PULLS out all the stops for multimedia, but costs \$3648.

At **2 MILLISECONDS** blurs vanish.



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# Wi-Fi-Enabled Digital Camera Disappoints

**DIGITAL PHOTOGRAPHY**

**TEST CENTER** MY SNAPSHOTS are very time-sensitive. Well, not really. If you think it takes too long, however, to upload your photos to a computer and then e-mail them, print them, or transfer them to a blog, Kodak's **EasyShare-One**—a consumer digital camera with Wi-Fi—could speed things up. But you'll make sacrifices for the convenience.

**WI-FI FOR WHAT?**

LIKE MODELS FROM Canon and Nikon, the \$599 Wi-Fi-equipped EasyShare-One allows you to send pictures and videos wirelessly to a computer or printer connected to your

network. The EasyShare-One can also upload these files to Kodak's online photo site, and, according to the company, e-mail them to friends.

However, the camera does not let you e-mail images directly to recipients. Instead, it uploads them to your Kodak EasyShare Gallery and e-mails people a notification that they can view your images there. Also, the Gallery limited online viewing of my 4-megapixel pictures to 22KB, 448-by-336-pixel images, so Kodak could sell prints. If you want to send friends and family the full-size files, you'll still need to involve a PC. At least the camera has plenty of capacity, with



KODAK'S EASYSHARE-ONE includes Wi-Fi and an SD Card slot.

256MB of internal memory (185MB available for image storage) and an SD Card slot.

To activate Wi-Fi, you must switch to playback mode and press the included 802.11b card, located at the top of the camera, so that it pops up halfway. It will then search for available networks. Setting up the wireless feature and transmitting pictures were easy enough. But the camera often dropped connections in between transfers with networks at home and the office.

Even with wireless off, my shipping unit did poorly in the PC World Test Center's battery tests, lasting only 100 minutes and 183 shots; just one other camera we've tested took fewer pictures. The EasyShare-One provides no battery-level gauge, either. Kodak does include two rechargeable lithium ion batteries, so you can charge one while you are using the other.

**MIXED RESULTS**

IN IMAGE-QUALITY tests, the EasyShare-One earned a score of Very Good. Thanks to its bright, attractive pictures of our test mannequin, the camera received nice marks for color and exposure. But the average megapixel rating of

cameras competing for our Top 10 chart is 6.3; with only 4 megapixels, the EasyShare-One fared poorly in sharpness tests. Our test pattern looked particularly fuzzy.

Because the camera lacks manual modes, and even manual focus, it has few buttons and shallow menus. The 3-inch touch screen on the back requires you to press firmly with a tiny included stylus, which slips into a slot on the side. Because you often have to move between touch screen and buttons, navigation can be difficult, although the stylus does speed entry of WEP keys and e-mail addresses.

I might pay extra cash for a wireless-equipped camera, but only if it let me upload my full-resolution pictures to a blog or a better photo site. Even if the EasyShare-One were less restrictive, its price would still be steep for a 4-megapixel camera with few controls.

—Alan Stafford

**EasyShare-One**

Kodak

PCW Rating **64 Fair**

Wait for Wi-Fi on a camera with higher resolution, more controls, and a better price.

Street: \$599

find.pcworld.com/50246

**ASK OUR EXPERTS**

## Camera-Free Phones

MY EMPLOYER WON'T ALLOW a camera on site. Are there any mobile phones with Bluetooth but without a camera?

*Julle O'Malley, Los Angeles*

**Senior Associate Editor Grace Aquino responds:** At the moment, your choices are mostly PDA phones such as the noncamera version of Palm's Treo 650 (\$400, Verizon); Nokia's 9300 smart phone with a QWERTY keyboard (\$299, Cingular); RIM's BlackBerry 7290 (\$300, Cingular or T-Mobile), 7105t (\$300, T-Mobile), and 7100g/t (\$250, Cingular or T-Mobile); and Samsung's i730 Pocket PC phone (\$600, Verizon). Another possibility is Cingular's new keyboard-enabled d307 from Samsung for \$250. (Prices for T-Mobile require a one-year contract; all other prices are based on a two-year agreement.) If you want a standard, candy bar-style phone, consider waiting for Motorola's L2 or Nokia's E60—both GSM models are expected to ship this spring, though price and carrier partnerships for both phones have not yet been announced.



Need information or advice about a buying decision? Drop us a line at askourexperts@pcworld.com.

PHOTOGRAPHS: MARC SIMON (TOP), RICK RIZNER (BOTTOM)



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\*Migo minimum requirements: Microsoft Outlook 2000 (POPS/IMAP), Internet Explorer 5.0. Microsoft Outlook Express and Exchange Server NOT supported. Please note: Some of the listed capacity is used for formatting and other functions and thus is not available for data storage. For more information, please consult Kingston's Digital Media Guide at [kingston.com/Digital\\_Media\\_Guide](http://kingston.com/Digital_Media_Guide). ©2005 Kingston Technology Company, Inc. 17600 Newhope Street, Fountain Valley, CA 92708 USA. All rights reserved. All trademarks and registered trademarks are the property of their respective owners.

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TOP 10 NOTEBOOK PCs

# Latest Luxury Laptops Storm Into Contention

**TEST CENTER** THIS MONTH the number two Asus W2U00VB desktop replacement is the chart's only newcomer, but its roomy 17-inch screen and built-in TV tuner may raise your notebook expectations. Elegant (if pricey), this \$2599, 7.4-pound Asus boasts further luxuries including a slot-fed DVD burner and a 100GB hard drive.

The ABS Mayhem G4 Revolution fell just short of our all-purpose list. This gaming notebook's ability to flip between an nVidia GeForce Go 6600 graphics chip and its Intel integrated graphics is unique, but its battery life of



THE ASUS W2U00VB is an elegant machine despite its size.

2.5 hours was less than stellar. We also looked at Gateway's new tablet PC, the CX200X. Although this model was too slow and heavy to make our rankings, we found its 14-inch wide screen impressive.

—Carla Thornton

ONLINE

FOR MORE information on the notebooks reviewed in this chart, including details of how we tested them, go to [find.pcworld.com/50444](http://find.pcworld.com/50444).

	DESKTOP REPLACEMENT	PCW Rating	Performance	Features and specifications
1	<b>Acer TravelMate 8100</b> Best BUY \$1699 <a href="http://find.pcworld.com/48221">find.pcworld.com/48221</a>	86 Very Good	<ul style="list-style-type: none"> <li>WorldBench 5 score: 94 Superior</li> <li>Overall design: Very Good</li> <li>Tested battery life: 4:04</li> </ul>	<ul style="list-style-type: none"> <li>2-GHz Pentium M 760</li> <li>15.4-inch wide screen</li> <li>6.4 pounds</li> <li>DVD±R DL/DVD±RW</li> </ul>
▶ Bottom line: The chic, wide-screen TravelMate 8100 has a DVI port and a five-in-one media card reader.				
2	<b>Asus W2U00VB</b> \$2599 <a href="http://find.pcworld.com/50076">find.pcworld.com/50076</a>	84 Very Good	<ul style="list-style-type: none"> <li>WorldBench 5 score: 97 Superior</li> <li>Overall design: Very Good</li> <li>Tested battery life: 2:23</li> </ul>	<ul style="list-style-type: none"> <li>2.13-GHz Pentium M 770</li> <li>17.0-inch wide screen</li> <li>7.4 pounds</li> <li>DVD±R DL/DVD±RW</li> </ul>
▶ Bottom line: A pricey but lavishly equipped Windows Media Center Edition 2005 notebook that includes a built-in TV tuner.				
3	<b>Dell Inspiron 6000</b> \$1760 <a href="http://find.pcworld.com/47230">find.pcworld.com/47230</a>	83 Very Good	<ul style="list-style-type: none"> <li>WorldBench 5 score: 89 Very Good</li> <li>Overall design: Very Good</li> <li>Tested battery life: 5:07</li> </ul>	<ul style="list-style-type: none"> <li>2-GHz Pentium M 760</li> <li>15.4-inch wide screen</li> <li>7.5 pounds</li> <li>DVD±RW</li> </ul>
▶ Bottom line: Big laptop combines strong performance, a superhigh resolution (1920 by 1200), and great speakers.				
4	<b>Toshiba Qosmio G25-AV513</b> \$2499 <a href="http://find.pcworld.com/48975">find.pcworld.com/48975</a>	82 Very Good	<ul style="list-style-type: none"> <li>WorldBench 5 score: 86 Very Good</li> <li>Overall design: Very Good</li> <li>Tested battery life: 2:01</li> </ul>	<ul style="list-style-type: none"> <li>2-GHz Pentium M 760</li> <li>17.0-inch wide screen</li> <li>9.6 pounds</li> <li>DVD±RW/-RAM</li> </ul>
▶ Bottom line: Thoughtful design makes playing media a pleasure, though the unit could use a higher-resolution screen.				
5	<b>Sys Technology Freestyle M7500</b> \$1345 <a href="http://find.pcworld.com/49658">find.pcworld.com/49658</a>	81 Very Good	<ul style="list-style-type: none"> <li>WorldBench 5 score: 85 Very Good</li> <li>Overall design: Good</li> <li>Tested battery life: 2:37</li> </ul>	<ul style="list-style-type: none"> <li>1.86-GHz Pentium M 750</li> <li>15.4-inch wide screen</li> <li>6.8 pounds</li> <li>DVD±R DL/DVD±RW</li> </ul>
▶ Bottom line: Budget entertainment notebook includes a Windows Media Center look-alike application and a remote control.				
ALL-PURPOSE NOTEBOOK				
1	<b>Compaq Presario M2000Z</b> Best BUY \$1144 <a href="http://find.pcworld.com/49497">find.pcworld.com/49497</a>	81 Very Good	<ul style="list-style-type: none"> <li>WorldBench 5 score: 73 Good</li> <li>Overall design: Good</li> <li>Tested battery life: 4:48</li> </ul>	<ul style="list-style-type: none"> <li>1.8-GHz Turion 64 ML-34</li> <li>15.0-inch screen</li> <li>7.2 pounds</li> <li>DVD±RW</li> </ul>
▶ Bottom line: Nicely priced, boxy laptop has great sound and impressive battery life, but it's on the heavy side.				
2	<b>Lenovo ThinkPad R52</b> Best BUY \$1149 <a href="http://find.pcworld.com/47828">find.pcworld.com/47828</a>	81 Very Good	<ul style="list-style-type: none"> <li>WorldBench 5 score: 77 Good</li> <li>Overall design: Very Good</li> <li>Tested battery life: 3:30</li> </ul>	<ul style="list-style-type: none"> <li>1.73-GHz Pentium M 740</li> <li>14.1-inch screen</li> <li>6.1 pounds</li> <li>DVD-ROM/CD-RW</li> </ul>
▶ Bottom line: The R52 has a comfortable keyboard, and its modular bay accepts many optional drives.				
3	<b>HP Compaq nx6125</b> \$1499 <a href="http://find.pcworld.com/49660">find.pcworld.com/49660</a>	80 Very Good	<ul style="list-style-type: none"> <li>WorldBench 5 score: 81 Very Good</li> <li>Overall design: Very Good</li> <li>Tested battery life: 3:25</li> </ul>	<ul style="list-style-type: none"> <li>2.2-GHz Turion 64 ML-40</li> <li>15.0-inch screen</li> <li>6.3 pounds</li> <li>DVD±RW</li> </ul>
▶ Bottom line: Business unit overcomes slightly dull screen by doing everything else right. A six-in-one card reader sits up front.				
4	<b>Micro Express 259iA1</b> \$1499 <a href="http://find.pcworld.com/47238">find.pcworld.com/47238</a>	79 Good	<ul style="list-style-type: none"> <li>WorldBench 5 score: 99 Superior</li> <li>Overall design: Good</li> <li>Tested battery life: 2:50</li> </ul>	<ul style="list-style-type: none"> <li>2.13-GHz Pentium M 765</li> <li>15.4-inch wide screen</li> <li>7.0 pounds</li> <li>DVD±RW</li> </ul>
▶ Bottom line: Sleek, wedge-shaped wide-screen model has a stark-looking design; however, its cranky touchpad disappoints.				
5	<b>Toshiba Satellite M55-S325</b> \$1349 <a href="http://find.pcworld.com/49652">find.pcworld.com/49652</a>	79 Good	<ul style="list-style-type: none"> <li>WorldBench 5 score: 78 Good</li> <li>Overall design: Good</li> <li>Tested battery life: 3:08</li> </ul>	<ul style="list-style-type: none"> <li>2.13-GHz Pentium M 765</li> <li>15.4-inch wide screen</li> <li>7.0 pounds</li> <li>DVD±RW</li> </ul>
▶ Bottom line: Handsome 14-inch wide-screen notebook boasts a peacock-blue lid but has cramped mouse buttons.				

CHART NOTES: Ratings are as of 11/28/05. Weight is of the notebook on its own, not including the AC adapter, power cord, and optical drive.

# Palm PDA Swaps Storage for Wi-Fi

## MOBILE COMPUTING

PALM'S NEW TX sacrifices some of the storage and processing power of its predecessor, the Tungsten T5, in exchange for Wi-Fi and a lower price. The end result: more features for the buck.

Aside from its darker case and slightly brighter screen, the TX looks and feels like the

### TX

Palm

PCW Rating  Good

Stylish PDA has a beautiful screen, Wi-Fi, and ample storage, though not as much as its predecessor.

List: \$299

[find.pcworld.com/50303](http://find.pcworld.com/50303)

T5. The \$299 TX has 128MB of total memory, half that of the T5, and only about 100MB of it is user accessible. Unlike the T5, the TX comes with memory that can store only Palm-supported files and Microsoft Office documents.

In my tests the TX's integrated 802.11b Wi-Fi functioned very well. I connected to *PC World's* Wi-Fi network, pressed the browser button, and surfed the Web at a reasonable speed, and I also sent e-mail using the preinstalled Palm VersaMail 3.1c.

Though the TX allows you to use Bluetooth to send SMS text messages via your mobile phone, I had mixed results

with this capability: I successfully sent a text message via an unlocked Palm Treo 650 using T-Mobile, but I failed when I tried using a Cingular-enabled Motorola unit.

I used the preinstalled Pocket Tunes application for transferring and playing MP3 (but not WMA) files on the TX. When I transferred music from Windows Media Player 10, Pocket Tunes worked seamlessly. When I tried to sync Pocket Tunes with Rhapsody Jukebox, I experienced some bugs. The easiest way to transfer music, though, is by using Palm's Quick Install to drag files onto an SD Card.

With the TX, Palm offers

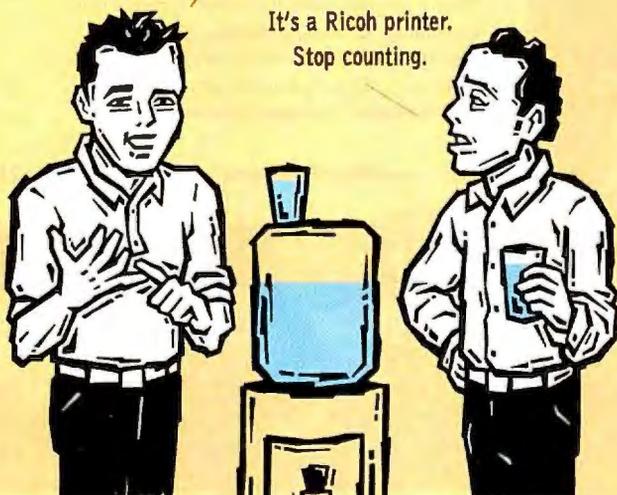


THE PALM TX has a 320-by-480-pixel screen resolution.

Wi-Fi and a lower price in return for reduced power and less storage. For people who don't mind that compromise, the trade-off is worth it.

—Narasu Rebbapragada

It's been 1,356 days without a network problem.



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# Now Playing: Video on the iPod

## MEDIA PLAYER

GIVEN THE BROUHAHA surrounding Apple's latest player, one might assume its name is the Video iPod. Think again: It's an iPod that can do video, not a dedicated video player.

Don't get me wrong: The 2.5-inch screen on my \$299, 30GB, black shipping model

(the company also has a white 30GB version, plus \$399, black and white 60GB versions) is absolutely beautiful. The 320-by-240-pixel screen is bright and sharp, and videos look great on it. In my hands-on tests it offered crisp playback with smooth movement. The unit ran videos at roughly 30 frames per second, the same as a broadcast TV signal.

My only complaint with the image quality is that details in shadows were often hard to see. Other nits to pick: The glossy surface of the player's faceplate tends to reflect lights, and although the unit weighs under 5 ounces, holding it up close for long periods

can get a bit uncomfortable.

Videos appear as a new item on the top menu and are divided by category below that (including TV shows, video podcasts, and a rather tantalizing movies category). The new iPod supports downloading videos from iTunes 6, as well as video encoded as H.264 or MPEG-4 (in my experience, however, not all third-party encoders worked). iTunes' inability to convert existing video into an iPod-friendly format is its biggest failing.

The battery life of the new iPod is reasonable. When I played back my videos, the device lasted around 2.5 hours.

If you're looking for a player



**YOU CAN WATCH** downloaded TV shows on the Apple iPod.

mostly for audio use but also for occasional video viewing, this is a great choice. If video playback is your main focus, though, look elsewhere.

—Richard Baguley

### iPod

Apple

PCW Rating **85 Very Good**

The new iPod adds video capabilities, but its great-looking screen is a bit too small for extended viewing.

Street: \$299 (30GB version), \$399 (60GB version)

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PHOTOGRAPH: MARC SIMON



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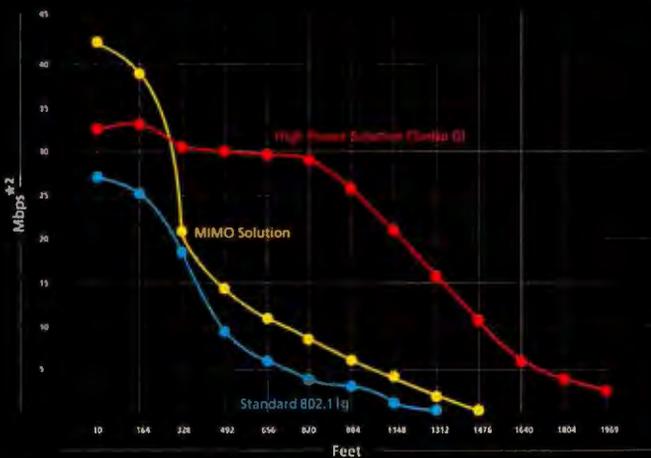
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 \*1 Based on Buffalo Technology internal testing results. Products tested: High Power solution (WHR-HP-G54, WLI-CB-G54HP), MIMO Solution (WZR-G108, WLI-CB-G108), Standard 802.11g (WBR2-G54, WLI-CB-G54S).  
 \*2 Wireless networking speed and distance will vary depending on environment.

Go to [find.pcworld.com/50137](http://find.pcworld.com/50137)

# Pinnacle's Video Editor Handles HD

**VIDEO EDITING**  
 YOU OUGHT TO be able to run an application without its locking up your computer more often than you change your shirt. Unfortunately, you can't ask that of **Studio Plus 10**, Pinnacle Systems' latest video editing application.

That's too bad, because this new \$99 software program adds several unique and interesting features, including compatibility with high-definition recordings and the ability to import movies from non-copy-protected DVDs.

**HIGH-DEF EDITING**  
 YOU CAN USE Studio Plus 10 to import footage from camcorders that record in the high-definition HDV format. I imported previously captured HDV footage into the pro-

**TECH TREND**

## Got 796 Quarters Handy? Get Yourself an iPod

YOU WANT AN IPOD? It's over there—in the vending machine next to the Gatorade. Since debuting in Atlanta's Hartsfield-Jackson



International Airport last April, iPod vending machines have been popping up in malls, hotels, and grocery stores across the country.

The vending machines are built by San Francisco's Zoom Systems, which sells many other products through the units, including digital cameras and snacks. But the iPod has quickly become the number one seller, says Rick Cusick, Zoom Systems' executive vice president of merchandising. "It seems to unleash an incredible impulse opportunity," he says. "You can walk up and buy an iPod in 20 seconds." —Robert McMillan

gram, and could manipulate it almost as easily as standard-definition DV footage. You can also import the video object (VOB) files of DVD movies, as long as they aren't copy-protected, even preserving chapters. The application has the ability to import MPEG footage from DVD-based camcorders, as well.

Studio Plus 10 adds keyframing capability to all effects, letting you apply them over time. For example, you can implement a blur gradually and then dissipate it gradually. You can also apply keyframing to multiple effects independently. And this new version has a check box that tells the application to hide most—though not all—of its extra-cost effects, transitions, and codecs. In Studio Plus 9,



**PINNACLE STUDIO PLUS 10** lets you use keyframing on almost all effects, including the useful pan-and-zoom utility shown here.

it was too easy to click on one of these components accidentally, which would force you to wait while a browser window opened and tried to sell you an activation key for it.

The application creates a DVD pretty quickly from standard DV footage. I created similar 20-minute projects using Adobe Premiere Elements 2 and Studio Plus 10; Studio Plus took roughly an hour and a half to finish, about half the time that Premiere Elements needed.

A neat new feature lets you slow the playback of an audio track but maintain its pitch; this can help you match the length of the audio to a too-short video clip. But other audio features don't work as well: If you apply fades to bring the volume up and take it back down gradually, and then adjust the length of the clip, Studio will delete the fades, requiring you to redo them. Pinnacle says it may change this in an update.

**WHO SAID 'CUT'?**

I TRIED STUDIO Plus 10 on two different PCs and had major stability problems with

it on both of them. Once, the program reported it had run out of memory (on a computer with 1GB of RAM), but hey, no worries—it said it would save my project. (It didn't.)

Adding insult to injury: Every time Studio Plus crashes, it plants a dialog box in the middle of your screen that stays for 30 to 45 seconds, after which you must click a button to send or not send a crash report to Pinnacle. You can't dismiss the nagging dialog box any earlier, you can't prevent it from showing up, and you can't restart the application until this routine is thoroughly completed.

Pinnacle Studio Plus 10 is very easy to use, and you'd hardly wish for much more in features, especially given the low price. But it crashes far too often, even for a demanding video editing application.

—Alan Stafford

**Studio Plus 10**

Pinnacle Systems

PCW Rating **79** Good

This video editor would be top-notch, if only it were more stable.

List: \$99

[find.pcworld.com/50300](http://find.pcworld.com/50300)

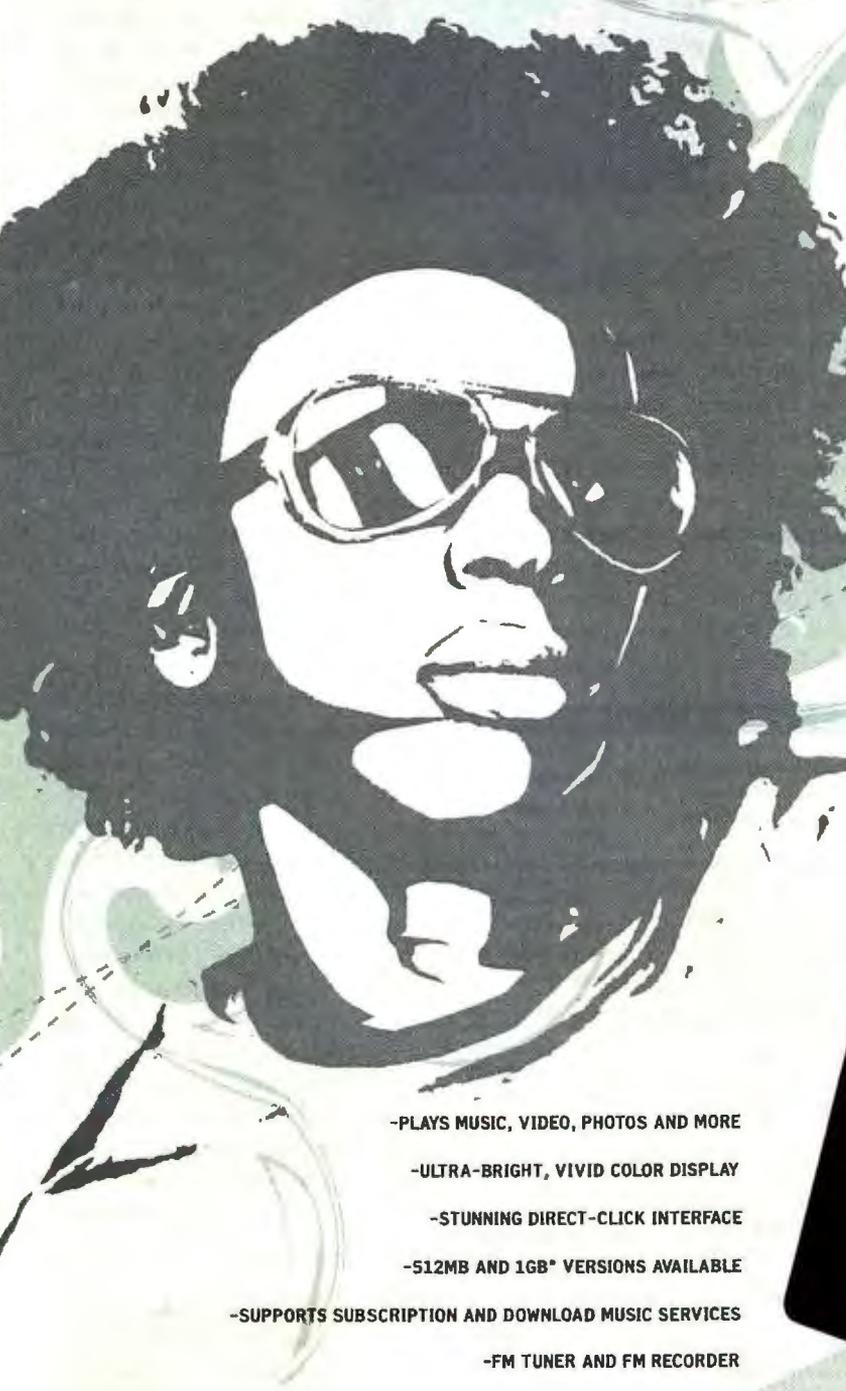
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23- AND 24-INCH WIDE-SCREEN MONITORS

# Big Wide-Screen LCDs Are Better Than Ever

**TEST CENTER** THIS MONTH, WE tested four large wide-screen LCDs: three new ones and an old favorite for its first go-round under current protocols. As often happens with 23- and 24-inch wide-screen LCDs—especially ones that have a native resolution of 1920 by 1200, as these do—we found a lot to like.

The pro-oriented 24-inch Eizo FlexScan S2410W displayed superb color and contrast. Besides looking great at default settings, the screen provides controls for advanced settings such as gain, gamma, hue, and saturation, so you can fine-tune your picture. Less exacting users will like the faster adjustments of the five screen modes. The

S2410W's large, flat, electrostatic switches are far more comfortable than the usual tiny buttons. The two DVI ports can accept analog input through an included adapter.

Samsung's 24-inch SyncMaster 242mp achieved the best score on our test screen of a Web page, helping it set the bar for overall graphics performance. With its TV tuner, remote control, large speakers, and multiple inputs for entertainment devices, the 242mp clearly aspires to be an exceptional monitor.

Tested for the first time under our present lighting protocols, the Apple 23-inch



**THE EIZO FLEXSCAN S2410W** impresses with a great screen and numerous useful features.

Cinema HD Display handily won the text category, posting the highest scores in our real-world Microsoft Word and Excel tests. No weakling at graphics, it set our current high score on the important

group portrait photo test. As sleek and glamorous as a fashion model, this beauty keeps things simple with a three-in-one power/FireWire/USB cord and only three buttons. Unfortunately, all screen settings except brightness reside in the Mac OS, where Windows users can't reach them.

Two longtime favorites, Dell's 24-inch UltraSharp 2405FPW and ViewSonic's 23-inch VP231wb, remain strong contenders. They are the only models on our chart that offer a full complement of physical adjustments, including height, pivot, swivel, and the usual tilt. These extras—especially helpful for ergonomic health and work efficiency—stand out among large wide-screen LCDs, which are often too heavy or unwieldy to offer much in the way of physical adjustments. The top-ranked Eizo provides three of these, but no pivot.

Despite its icy-cold color default, the Acer AL2416Wd performed well on our tests. Even though its dearth of features kept it off the chart, its low price of \$919 could earn it a place on many a desk.

—Laura Blackwell

**ONLINE**

FOR MORE information about the monitors reviewed in this chart, including details on how we tested them, please go to [find.pcworld.com/50106](http://find.pcworld.com/50106).

	23-/24-INCH WIDE-SCREEN LCD	PCW Rating	Performance	Features and specifications
1	<b>Eizo FlexScan S2410W</b> <b>Best BUY</b> \$1700 <a href="http://find.pcworld.com/50092">find.pcworld.com/50092</a>	<b>83</b> Very Good	<ul style="list-style-type: none"> <li>Graphics quality: 87.7 Very Good</li> <li>Text quality: 89.9 Very Good</li> <li>DVD motion quality: Average</li> </ul>	<ul style="list-style-type: none"> <li>Inputs: Analog and digital</li> <li>Adjustments: Multiple</li> <li>16ms response time</li> <li>Response type: Rise-and-fall</li> </ul>
<b>▶ Bottom line:</b> On this professional 24-incher, touch-sensitive controls replace tiny buttons for tweaking the numerous screen settings.				
2	<b>Dell UltraSharp 2405FPW</b> \$1199 <a href="http://find.pcworld.com/47564">find.pcworld.com/47564</a>	<b>81</b> Very Good	<ul style="list-style-type: none"> <li>Graphics quality: 76.0 Good</li> <li>Text quality: 75.6 Good</li> <li>DVD motion quality: Average</li> </ul>	<ul style="list-style-type: none"> <li>Inputs: Analog and digital</li> <li>Adjustments: Multiple</li> <li>12ms response time</li> <li>Response type: Gray-to-gray</li> </ul>
<b>▶ Bottom line:</b> Well-designed 24-inch model includes fluid physical adjustments and an easily accessible 9-in-1 media card reader.				
3	<b>Samsung SyncMaster 242mp</b> \$1599 <a href="http://find.pcworld.com/47842">find.pcworld.com/47842</a>	<b>80</b> Very Good	<ul style="list-style-type: none"> <li>Graphics quality: 88.6 Very Good</li> <li>Text quality: 87.8 Very Good</li> <li>DVD motion quality: Average</li> </ul>	<ul style="list-style-type: none"> <li>Inputs: Analog and digital</li> <li>Adjustments: Tilt only</li> <li>16ms response time</li> <li>Response type: Gray-to-gray</li> </ul>
<b>▶ Bottom line:</b> Entertainment model sports a 24-inch screen and a TV tuner, plus inputs for component, composite, and S-Video devices.				
4	<b>Apple 23-inch Cinema HD Display</b> \$1299 <a href="http://find.pcworld.com/44032">find.pcworld.com/44032</a>	<b>77</b> Good	<ul style="list-style-type: none"> <li>Graphics quality: 87.9 Very Good</li> <li>Text quality: 93.4 Superior</li> <li>DVD motion quality: Average</li> </ul>	<ul style="list-style-type: none"> <li>Inputs: Digital only</li> <li>Adjustments: Tilt only</li> <li>16ms response time</li> <li>Response type: Gray-to-gray</li> </ul>
<b>▶ Bottom line:</b> Elegant design places USB 2.0 and FireWire ports on power cable. Has great image quality, but just one screen adjustment.				
5	<b>ViewSonic VP231wb</b> \$1399 <a href="http://find.pcworld.com/47562">find.pcworld.com/47562</a>	<b>77</b> Good	<ul style="list-style-type: none"> <li>Graphics quality: 76.3 Good</li> <li>Text quality: 77.0 Good</li> <li>DVD motion quality: Average</li> </ul>	<ul style="list-style-type: none"> <li>Inputs: Analog and digital</li> <li>Adjustments: Multiple</li> <li>12ms response time</li> <li>Response type: Gray-to-gray</li> </ul>
<b>▶ Bottom line:</b> Businesslike 23-inch unit includes the full range of physical adjustments and pivot software for viewing in portrait mode.				

**CHART NOTES:** Ratings and prices as of 11/28/05. Data based on tests designed and conducted by the PC World Test Center. All rights reserved.

# Pricey Little Shuttle Delivers High-Performance Punch

## DESKTOP PC

**TEST Center** DON'T LET the small size fool you: Shuttle's **XPC P 2600** is one serious, high-performance desktop PC. But its high price tag and limited expandability may reduce its desirability for some.

Using nVidia's nForce 4 chip

### XPC P 2600

Shuttle Computer

PCW Rating **7.5** Good

Compact PC packs a serious performance punch, but expansion is impossible.

Street: \$4635 (Including 17-inch LCD monitor)

find.pcworld.com/50274

set and SLI technology, the P 2600 is Shuttle's first dual-graphics-card PC. The design is mighty impressive. Two full-size EVGA 7800GTX cards fit side by side in the 12.6-by-8.3-by-8.7-inch case. Also elegantly stowed inside are an AMD X2 4800+ CPU, 2GB of memory, two 400GB hard drives, and a DVD burner.

The P 2600 notched a World-Bench 5 score of 123 (placing near the top of our power desktop category). Predictably, the machine also scored very well in our graphics tests. Despite its high-performance pedigree—and its seven inter-



**IN SPITE OF ITS SMALL size, the Shuttle XPC P 2600 manages to pack loads of high-end components, but at \$4635 it's not cheap.**

nal fans—the system is quiet.

If the P 2600 has any weakness, it's zero expandability. The system has no open PCI or PCI Express slots, no unused bays to add hard drives, and no free memory sockets.

And then there's the steep price. My loaded shipping

model—including a 17-inch LCD (complete with carrying handle)—sells for \$4635.

Nevertheless, I found this fast, well-designed system a blast to use. It should certainly please anyone who wants power in a small package.

—Tom Mainelli

PHOTOGRAPH: MARC SIMON

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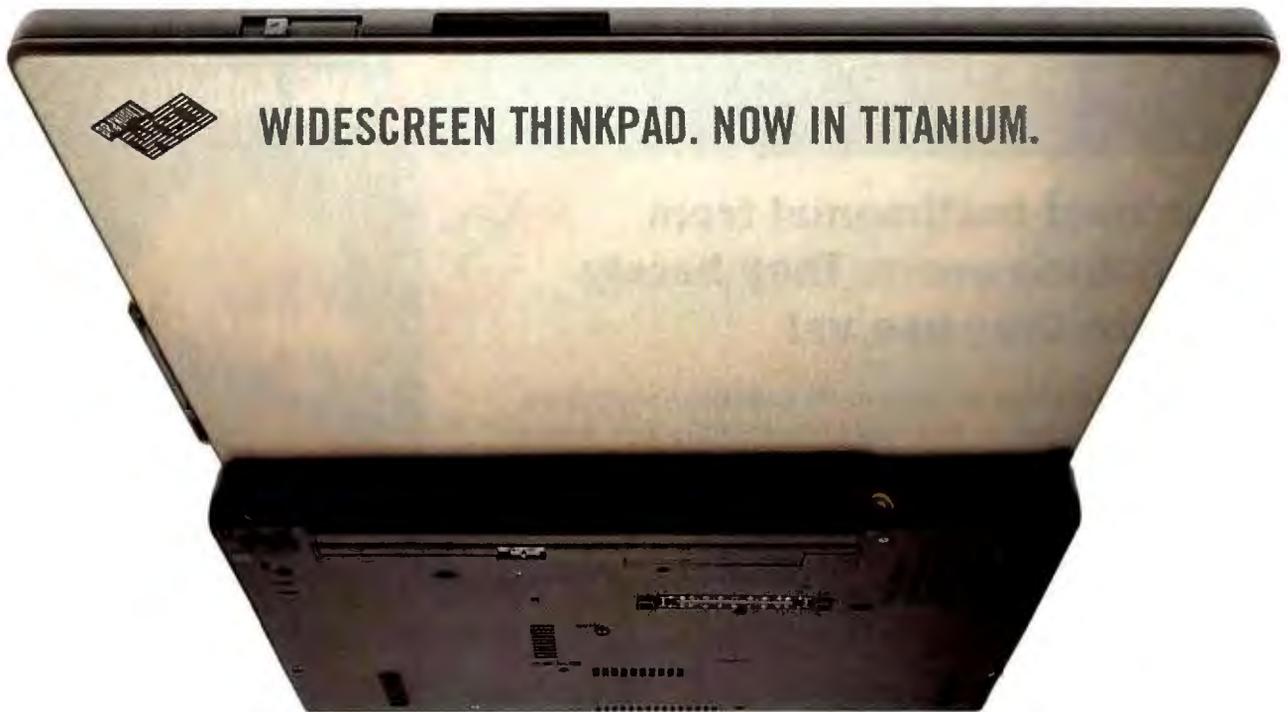
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### ThinkPad Z60m

#### DISTINCTIVE INNOVATIONS

ThinkVantage Rescue and Recovery – one-button recovery and restore solution

#### SYSTEM FEATURES

Intel® Centrino™ Mobile Technology  
Intel® Pentium® M Processor 740 (1.73GHz)  
Intel® PRO/Wireless 2915ABG (802.11a/b/g)<sup>1</sup>

Microsoft® Windows® XP Home<sup>2</sup>

15.4" Wide XGA TFT Display

256MB DDR2 SDRAM\*, 40GB Hard Drive<sup>3</sup>

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#### THINK EXPRESS MODEL

**\$1049\*** (P/N 2529F5U)

ThinkPad Carrying Case Expander

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ThinkPad Women's Executive Red Leather Tote<sup>4</sup>

**\$134** (P/N 22P8858)

### ThinkPad Z60t with Fingerprint Reader

#### DISTINCTIVE INNOVATIONS

ThinkVantage Client Security Solution 6.0<sup>10</sup> – Strong security as a standard feature

#### SYSTEM FEATURES

Intel® Centrino™ Mobile Technology  
Intel® Pentium® M Processor 740 (1.73GHz)  
Intel® PRO/Wireless 2915ABG (802.11a/b/g)

Microsoft® Windows® XP Professional

14" Wide XGA TFT Display

512MB DDR2 SDRAM, 80GB Hard Drive

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**ThinkVantage Client Security Solution 6.0** Help protect data and keep it private with our combined hardware and software solution<sup>10</sup> (preloaded on select models).



ThinkPad X41

### ThinkPad X41 Tablet

#### DISTINCTIVE INNOVATIONS

ThinkVantage Client Security Solution 6.0 – Strong security as a standard feature

#### SYSTEM FEATURES

Intel® Centrino™ Mobile Technology  
Intel® Pentium® M Processor LV 758 (1.50GHz)  
Intel® PRO/Wireless 2200BG (802.11b/g)<sup>2</sup>

Microsoft® Windows® XP Tablet

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#### THINK EXPRESS MODEL

**\$1899** (P/N 18695CU)



ThinkPad R50e

### ThinkPad R50e

Mainstream performance and features.

#### SYSTEM FEATURES

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CD-ROM

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#### THINK EXPRESS MODEL

**\$699** (P/N 1842T4U)

ThinkPad 72W Slim  
AC/DC Combo Adapter

**\$99** (P/N 73P4485)



### ThinkPad R50e

Mainstream performance and features.

#### SYSTEM FEATURES

Intel® Centrino™ Mobile Technology  
Intel® Pentium® M Processor 725 (1.60GHz)  
Intel® PRO/Wireless 2200BG (802.11b/g)<sup>2</sup>

Microsoft® Windows® XP Professional<sup>3</sup>

15" XGA TFT Display (1024x768)

512MB DDR SDRAM; 60GB Hard Drive<sup>4</sup>

Multiburner Plus with DVD burner

1-yr limited warranty<sup>11</sup>

#### THINK EXPRESS MODEL

**\$1199** (P/N 1842SUU)

### ThinkPad T43 with Integrated Fingerprint Reader

Perfect balance of performance and portability.

#### DISTINCTIVE INNOVATIONS

ThinkVantage Client Security Solution 6.0<sup>10</sup> – Strong security as a standard feature

#### SYSTEM FEATURES

Intel® Centrino™ Mobile Technology  
Intel® Pentium® M Processor 750 (1.86GHz)  
Intel® PRO/Wireless 2200BG (802.11b/g)

Microsoft® Windows® XP Professional

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with DVD Burner

Only 1" thin and 4.7-lb. travel weight

1-yr battery limited warranty<sup>11</sup>

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**\$79** (P/N 73P5186)



ThinkPad T43

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ThinkCentre A51  
(monitor not included)

**ThinkCentre A51 Tower**

PCI Express technology.

**SYSTEM FEATURES**

Intel® Celeron® D Processor 331 (2.66GHz)

Microsoft® Windows® XP Home

256MB DDR2 memory at 533MHz

40GB 7200 rpm serial Hard Disk Drive,  
CD-ROM Drive

6 USB 2.0 Ports (2 frontside)

1-yr limited warranty with onsite service<sup>11</sup>

**THINK EXPRESS MODEL**

**\$439** (P/N 8131AKU)

**ThinkCentre A51 Tower**

PCI Express technology.

**SYSTEM FEATURES**

Intel® Pentium® 4 Processor 531 with  
HT Technology (3GHz)

Microsoft® Windows® XP Professional

256MB DDR2 memory at 533MHz

40GB 7200 rpm Serial ATA Hard Disk Drive,  
CD-ROM Drive

6 USB 2.0 Ports (2 frontside)

1-yr limited warranty with onsite service<sup>11</sup>

**THINK EXPRESS MODEL**

**\$649** (P/N 813138U)

**ThinkVision C400 Wireless Projector**

Projects a bright, quality image for professional presentations using 802.11b/g wireless technology.



**\$2500** (P/N 0039WAL)

**ThinkCentre A51**

Ultra small form factor.

**SYSTEM FEATURES**

Intel® Pentium® 4 Processor 531 with  
HT Technology (3GHz)

Microsoft® Windows® XP Professional

256MB DDR2 memory at 533MHz

40GB 7200 rpm Serial ATA Hard Disk Drive,  
CD-ROM Drive

6 USB 2.0 Ports (2 frontside)

1-yr limited warranty with onsite service<sup>11</sup>

**THINK EXPRESS MODEL**

**\$749** (P/N 810524U)



**15" ThinkVision L151p Monitor**

With an ultra-thin frame design, this monitor is ideal for use in multi-monitor environments.

**\$279** (P/N 9205H82)



ThinkCentre A51  
(monitor not included)



ThinkCentre A51  
(monitor not included)

**ThinkCentre A51 Tower**

PCI Express technology.

**SYSTEM FEATURES**

Intel® Pentium® 4 Processor 630 with  
HT Technology (3GHz)

Microsoft® Windows® XP Professional

512MB DDR2 memory at 533MHz

80GB 7200 rpm serial Hard Disk Drive,  
CD-RW/DVD Combo

6 USB 2.0 Ports (2 frontside)

1-yr limited warranty with onsite service<sup>11</sup>

**THINK EXPRESS MODEL**

**\$839** (P/N 8131D3U)

**ThinkPlus USB Fingerprint Reader**

Integrated fingerprint swipe sensor puts your passwords at the tip of your fingers.

**\$69** (P/N 73P4774)

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# PhotoImpact 11: Cool but Unpolished Tools

## IMAGE EDITING

ULEAD'S PHOTOIMPACT has always been more than just a photo editor, offering graphics and Web design tools as well. The result: a handy program marred by a dramatically overstuffed interface. **PhotoImpact 11** addresses this problem by providing specific workspaces for different tasks. It's a good idea and a big step forward, but in the end this \$90 application remains a bit rougher around the edges than I'd like.

In this edition, PhotoImpact finally supports RAW images and 48-bit color depth for advanced editing. Though the package does include a few single-click tools for automatically optimizing photos, you will get better results overall by using PhotoImpact's interactive, optometrist-inspired

## GOTCHA!

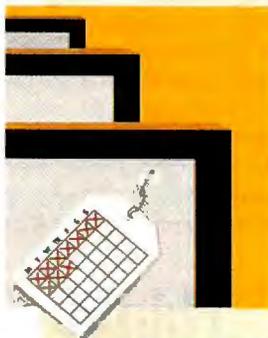
## Skip EDTV, Get HDTV

BUYING A BUDGET-FRIENDLY plasma EDTV set may seem like a good deal now, but hold off a bit and you'll be able to get a true high-definition plasma TV for about the same price. Today, a 42-

inch plasma EDTV (enhanced-definition television) costs about \$700 less on average than a high-definition television of comparable size. What's the difference? EDTV offers a maximum resolution of 852 by 480 pixels—good for watching DVDs, but far below the 1920 by 1080 pixels required for a true 1080i high-definition picture. As HDTV production revs up, prices will plummet. By next spring, you should

be able to find a high-quality 42-inch plasma HDTV set for about \$2000, says Pete Putman, creator of HDTVExpert.com. So skip the EDTV today; you'll be glad that you did tomorrow.

—Narasu Rebbapragada

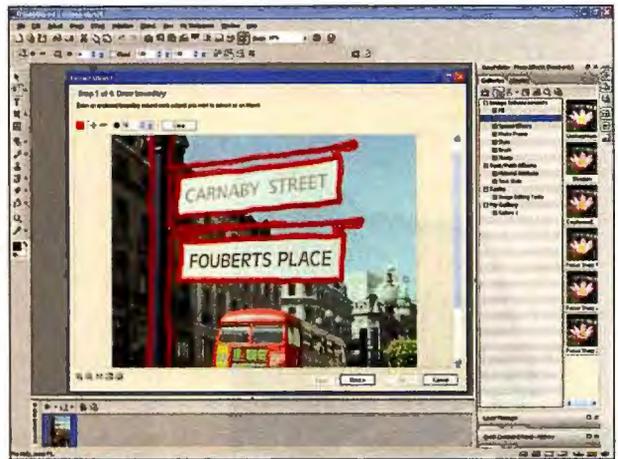


“which preset looks better?” fixes for exposure, color cast, saturation, and sharpening.

## EDITING INNOVATIONS

ULEAD INCLUDES several innovative tools that make Adobe's Photoshop Elements look positively old school in comparison. Thanks to the program's updated object extraction wizard, you may never go back to lasso tools again. Just highlight an object, and PhotoImpact will remove it from the background with a level of precision previously unattainable outside professional-level editing software.

Have you ever tried taking a picture only to find your subject repeatedly blocked by a passerby? SmartRemove lets you collect a series of photos of the same scene, mark ele-



PHOTOIMPACT 11 MAKES it easy to remove an object from a photo.

ments for removal, and then deftly combine them to create a final image that reveals obscured objects. Depending on the quality of your source material, evidence of the erasure varies from almost invisible to awkwardly noticeable.

The High Dynamic Range feature returns in this version with a simpler interface and better performance. With it you can combine several photos of a scene that has tricky lighting to create a properly exposed shot free of regions of over- and underexposure.

## WEB SAVVY

ON THE GRAPHICS side, PhotoImpact is chock-full of Web-friendly design features, including image maps and rollover effects. You also get Web page templates and a slew of clip art, stamps, and effects such as object deformation and warping (useful for a broad range of special effects, logo design, and other graphical applications).

Despite improvements to the interface, though, the shipping edition of PhotoImpact 11 that I tested still exhibited a number of annoying rough spots. For one thing, it lacks a logical layout; some relatively

common tasks, like one-touch correction and image straightening, are buried in menus.

I also experienced a recurring glitch when using the app's Enhance Lighting tool (it's a known bug that Ulead is working to correct) and a frustrating incompatibility with my Minolta-QMS MagiColor 2300 printer (Ulead confirms that a known problem exists between PhotoImpact and a handful of printers).

Ulead supplies two separate photo-organizing apps in the box: Photo Explorer 8.6 and PhotoImpact Album 11. Unfortunately, both badly need updating. Each has a clumsy, dated feel, and the two offer overlapping organizing and viewing features.

If Ulead can make all of PhotoImpact's tools feel as fresh and exciting as the handful of new flagship features, it will have a true winner.

—Dave Johnson

## PhotoImpact 11

Ulead Systems

PCW Rating **79** Good

This software's powerful creative features can't quite compensate for its annoying interface.

Street: \$90

[find.pcworld.com/50306](http://find.pcworld.com/50306)



## OKI Printing Solutions offers cutting-edge versatility in a color multifunctional system

A complete range of tools that lets you print, copy and scan faster and easier than ever before.

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- Standard scan-to-email/network/FTP capability
- Toll-free technical support 24/7, 365 days a year with agents based in North America

**Bottom line:** OKI Printing Solutions offers the best value for business color.



ES3640e MFP  
July 2005  
&  
ES1624n MFP  
August 2005

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**OKI**  
PRINTING SOLUTIONS

TOP 10 HARD DRIVES

# External SATA Drives Provide Top-Notch Speed

**TEST Center** SOME SPEEDY newcomers grace this month's chart, which is split between internal-SATA and external hard drives.

Both newly tested internal drives made the list. Western Digital's 400GB WD Caviar SE16 was the top performer. CMS's 400GB Velocity Series Removable SATA Backup System (a rebranded Western Digital drive) comes with removable guide rails, which allow you to place it in a 5.25-inch externally accessible drive bay for security and disaster recovery purposes.

The two top performers in the external list are CMS and LaCie external SATA drives. Iomega's 400GB Triple Interface has the most versatile connection options (USB 2.0



CMS'S VELOCITY Automatic Backup System is fast.

and FireWire 400 and 800). Our test methodology differs for internal and external models, so test times are not comparable between categories.

—Narasu Rebbapragada

**ONLINE**

FOR ADDITIONAL information about the hard drives reviewed in this month's chart, including details on how we tested them, visit [find.pcworld.com/50378](http://find.pcworld.com/50378).

	INTERNAL SATA DRIVE	PCW Rating	Features and specifications	Performance
1	<b>Seagate Barracuda 7200.8 ST3400832AS</b> <b>Best BUY \$252</b> <a href="http://find.pcworld.com/46340">find.pcworld.com/46340</a>	<b>87</b> Very Good	• 400GB • 7200 rpm • SATA-150 • Cost per gigabyte: \$0.63	Overall performance: Superior Copy files: 155 seconds File search: 133 seconds
▶ <b>Bottom line:</b> Capacious hard drive shone on our copy files test. Includes CMS's excellent BounceBack Express backup software.				
2	<b>Western Digital WD Caviar SE16 \$250</b> <a href="http://find.pcworld.com/50060">find.pcworld.com/50060</a>	<b>86</b> Very Good	• 400GB • 7200 rpm • SATA-150 • Cost per gigabyte: \$0.63	Overall performance: Superior Copy files: 161 seconds File search: 124 seconds
▶ <b>Bottom line:</b> Drive offers high capacity and the best overall performance among our current batch of internal SATA drives.				
3	<b>Maxtor DiamondMax 10 6B300S0 \$180</b> <a href="http://find.pcworld.com/46358">find.pcworld.com/46358</a>	<b>83</b> Very Good	• 300GB • 7200 rpm • SATA-150 • Cost per gigabyte: \$0.60	Overall performance: Superior Copy files: 178 seconds File search: 142 seconds
▶ <b>Bottom line:</b> Economical SATA model provides high performance and plenty of storage capacity at a low cost per gigabyte.				
4	<b>CMS Velocity Series Removable SATA Backup System \$529</b> <a href="http://find.pcworld.com/50072">find.pcworld.com/50072</a>	<b>82</b> Very Good	• 400GB • 7200 rpm • SATA-150 • Cost per gigabyte: \$1.32	Overall performance: Superior Copy files: 162 seconds File search: 124 seconds
▶ <b>Bottom line:</b> Fast and expensive unit installs in a standard 5.25-inch external bay and serves as a removable, bootable drive.				
5	<b>Maxtor DiamondMax 10 6B250S0 \$150</b> <a href="http://find.pcworld.com/46360">find.pcworld.com/46360</a>	<b>82</b> Very Good	• 250GB • 7200 rpm • SATA-150 • Cost per gigabyte: \$0.60	Overall performance: Superior Copy files: 177 seconds File search: 135 seconds
▶ <b>Bottom line:</b> Model provides strong performance, but for just a little extra cash you can buy the 300GB version.				
EXTERNAL DRIVE				
1	<b>CMS 400GB Velocity Automatic Backup System</b> <b>Best BUY \$299</b> <a href="http://find.pcworld.com/50056">find.pcworld.com/50056</a>	<b>85</b> Very Good	• 400GB • 7200 rpm • External SATA-150 • Cost per gigabyte: \$0.75	Overall performance: Superior Copy files: 74 seconds File search: 80 seconds
▶ <b>Bottom line:</b> A new lower price on this top-performing external SATA drive makes it an excellent value.				
2	<b>Iomega 400GB Triple Interface \$380</b> <a href="http://find.pcworld.com/48642">find.pcworld.com/48642</a>	<b>77</b> Good	• 400GB • 7200 rpm • USB 2.0, FireWire 400/800 • Cost per gigabyte: \$0.95	Overall performance: Good Copy files: 115 seconds File search: 81 seconds
▶ <b>Bottom line:</b> Unit has a spiffy black case and comes with backup, music-jukebox, and photo-sharing software.				
3	<b>LaCie d2 SATA \$429</b> <a href="http://find.pcworld.com/50058">find.pcworld.com/50058</a>	<b>77</b> Good	• 400GB • 7200 rpm • External SATA-150 • Cost per gigabyte: \$1.07	Overall performance: Very Good Copy files: 98 seconds File search: 81 seconds
▶ <b>Bottom line:</b> Fast and cleanly designed SATA drive comes with a PCI controller that provides external SATA connections.				
4	<b>Apricorn EZ Bus DTC \$399</b> <a href="http://find.pcworld.com/50054">find.pcworld.com/50054</a>	<b>76</b> Good	• 400GB • 7200 rpm • USB 2.0, FireWire 400 • Cost per gigabyte: \$1.00	Overall performance: Good Copy files: 122 seconds File search: 83 seconds
▶ <b>Bottom line:</b> Solid model includes backup, sync, and encryption software and has middle-of-the-road pricing.				
5	<b>Seagate External Hard Drive \$350</b> <a href="http://find.pcworld.com/48640">find.pcworld.com/48640</a>	<b>72</b> Good	• 400GB • 7200 rpm • USB 2.0, FireWire 400 • Cost per gigabyte: \$0.88	Overall performance: Fair Copy files: 217 seconds File search: 77 seconds
▶ <b>Bottom line:</b> Bulky drive performed the worst of the externals but has backup software and is reasonably cheap.				

CHART NOTES: Ratings are as of 11/28/2005. Features listings are not exhaustive. See [find.pcworld.com/49974](http://find.pcworld.com/49974) for more testing information.

# Storage Savvy.

## Store

Images, Music or Videos

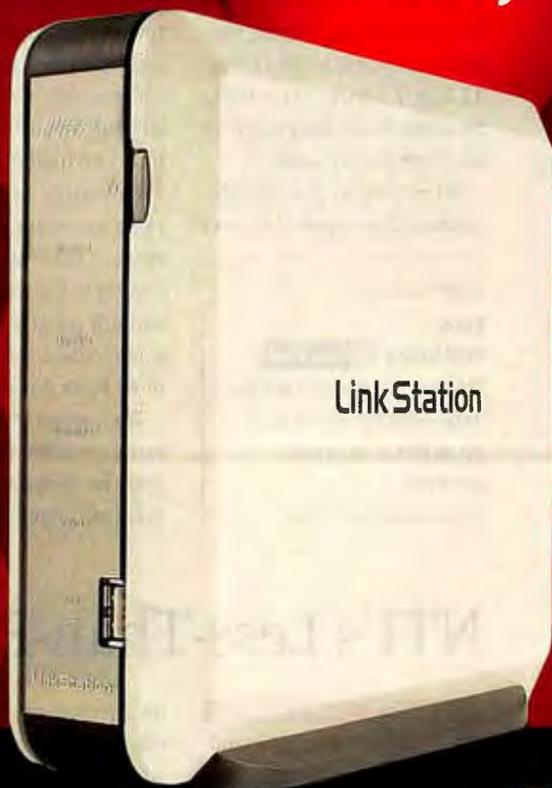
## Access

Files from Multiple Computers

## Share

Digital Files Easily Over Your Network

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Available at  
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\* Values used for video, photos, and mp3s are approximates based on typical length, compression and resolution, based on 250 GB model. \*\* Contact resellers for availability of specific models.  
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Go to [find.pcworld.com/50138](http://find.pcworld.com/50138)

# Extras Boost Epson's Projector/DVD Combo

**HOME THEATER**

EPSON HAS UPPED the ante for DVD-equipped projectors with its **MovieMate 25**. The product features excellent image quality, tons of great extras, and an astonishingly low \$1199 price tag. The only negative is its substantial 13.4-by-12.2-by-7.1-inch size—bulky for a unit that's designed to sit on a living-room table.

Other than in size, the MovieMate 25 is superior in every

way to rival Optoma's impressive MovieTime DV10 (see [find.pcworld.com/50400](http://find.pcworld.com/50400)). The extras start with an 80-inch, floor-standing, pull-up, 16:9 wide screen. A 40-watt subwoofer works with the projector's integrated speakers to produce deep, natural sound.

Epson has also added lens shifting, an attribute normally found on high-end projectors. This feature enables you to raise an image, lower it, or move it sideways without resorting to the typical keystone controls (used to square up an image when the projector is tilted up or down).

The projector's native resolution is 480p (854 by 480), ideal for playing DVDs. The product is rated at 1200 ANSI



THE EPSON MOVIEMATE 25 offers a high-quality image and robust audio, but its large size makes it a poor choice for tight living spaces.

lumens—plenty of brightness for presentations in smaller rooms or for movie viewing at home. I customized settings effortlessly using an easy-to-navigate menu system, though I never managed to attain quite enough detail in black areas. Still, the unit's smooth, brilliant color impressed me.

Rated at 26 decibels, the projector performed very quietly during my tests. In fact, except with regard to its lack of compactness—an admittedly important consideration for a tabletop projector—the MovieMate 25 was a joy to use, and ranks at the top of its class.

—Ramon G. McLeod

**MovieMate 25**

Epson

PCW Rating **BB** Very Good

This projector is a great buy for its tempting extras—if you can put up with its large size.

List: \$1199

[find.pcworld.com/50342](http://find.pcworld.com/50342)

# NTI's Less-Than-Reliable Backup

**BACKUP SOFTWARE**

THE PROMISE OF set-it-and-forget-it data backup is appealing. Unfortunately, I found that NTI's **Shadow 2** did not always work as advertised.

Shadow 2 functions in the background to maintain a copy of your main drive's data

on a second drive (internal or external). You can mirror specific folders, select your backup location, maintain multiple file revisions, and retain copies of deleted files.

I set my shipping version to watch the My Documents folder, maintain five revisions for

each file, and detect changes as they occurred. In this real-time mode, the program detected all my additions, deletions, and revisions—until I edited and resaved some bitmap files in Windows Paint.

At that point, alarmingly, Shadow 2 failed to back up my modified bitmap files. When I reset the program to check at 1-minute intervals instead of in real time, it had no problem with the Paint files. (NTI says it will have corrected the bug by the time you read this.)

Given the program's inability to guarantee a backup, my willingness to rely on it evaporated. Some additional, minor usability problems hardly helped its cause. For instance, Shadow 2 won't prompt you to

make an initial backup. Also, when any file first changes, all unchanged files get resaved as revisions, wasting time and space. And finally, it provides no log to tell you which files have changed or been added.

Shadow 2 shows signs of real potential, offering an easy setup with straightforward instructions and an affordable price. But until NTI takes care of the aforementioned bug—and addresses some of my other criticisms—I can't recommend this program.

—Jon L. Jacobi

**Shadow 2**

NTI

PCW Rating **67** Fair

Backup tool would be highly useful for mirroring your vital data—if it worked consistently. List: \$30

[find.pcworld.com/50338](http://find.pcworld.com/50338)



NTI'S SHADOW 2 makes it easy to choose when to backup your files.

- CAN IT HELP CONTROL COSTS AS WE GROW
- CAN WE DEPLOY IT QUICKLY
- HOW RELIABLE IS IT
- ARE THERE HIDDEN COSTS
- IS IT LINUX
- OR WINDOWS SERVER

BAGGAGE  
CLAIM



## GET THE FACTS.

RAYOVAC CHOSE WINDOWS SERVER SYSTEM AND EXPECTS TO SAVE NEARLY ONE MILLION DOLLARS.

"By choosing Windows Server™ over Linux for our new SAP APO solution, we'll save an estimated one million dollars in software, staffing, and support costs over the first four years. We needed performance, security enhancements, and reliability at a reasonable price, and Linux would have presented additional risks in all of those areas. It may be the new thing from a technical perspective, but Linux doesn't cut it from a business perspective—I need a proven IT environment that I'm sure we can support."

—Rick Dempsey, Chief Information Officer, Rayovac



For these and other third-party findings, go to [microsoft.com/getthefacts](http://microsoft.com/getthefacts)



# Abbyy OCR Pushes Paper Proficiently

**PRODUCTIVITY**

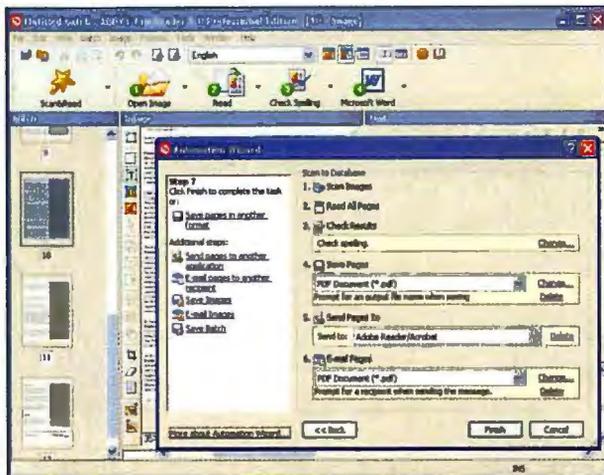
IF YOU'RE LOOKING for a fast, reliable optical character recognition application that can convert a range of paper documents into editable and searchable text, Abbyy's \$400 **FineReader 8.0 Professional Edition** won't let you down.

The shipping version of FineReader 8.0 Pro I tested

converted a variety of scanned documents—including complex layouts with graphics—with high accuracy. In several tests it read both serif and sans serif fonts as small as 8 points, without error.

Like previous editions, FineReader 8.0 Pro is adept at retaining the layout and formatting of the original document.

Version 8.0 Pro also introduces several impressive new features. I used one of these, the Automation Manager and Automation Wizard, to set up a series of OCR steps that I could then activate repeatedly, with a single click, to process similar document batches. I applied the new 'Straighten



**CONVERTING PAPER** documents into digital ones is easy thanks to Abbyy FineReader 8.0 Professional Version's straightforward wizard.

**FineReader 8.0 Professional Edition**

Abbyy USA

PCW Rating **93** Superior

This production-oriented OCR tool is versatile, easy to use, and highly accurate.

Street: \$400, upgrade \$180

find.pcworld.com/50302

text line' option to correct distorted text in a digital camera photo of a library reference volume, and I used the handy new Screenshot Reader utility to capture images and convert the text (such as error messages and other Windows dia-

log boxes) displayed within them into editable text.

At \$400 this is not an inexpensive application, but most paper-pushing businesses will find that the productivity benefits justify the investment.

—Richard Jantz

# Surround Sound Sans the Wires

**SPEAKERS**

LOGITECH'S LATEST high-end speakers should appeal to anyone who has ever tripped over cables or labored to hide the wires connecting a surround-sound setup.

The company's **Z-5450 Digital Speakers** system features wireless rear satellites.

That convenience comes at a \$499 price, however. And although the shipping set I tested sounded great, the speakers couldn't quite match the output of less-expensive, more-

powerful wired surround setups, including Logitech's own \$399 Z-5500 package.

Both music and DVD movies sounded clear and crisp through the system's five satellite speakers and generous 200-watt subwoofer, though deeper-bass soundtracks—such as the one for *The Fifth Element*, with its rumbling starships—lacked a bit of detail. According to Logitech, the rear satellites are capable of switching among 38 channels in the 2.4-GHz band to avoid interference with cordless phones and other wireless devices. Throughout my tests, I never detected any distortion or dropped connections from the rear-channel speakers.

Setup was easy (each of the

rear speakers requires a power outlet), and the system produced remarkably transparent sound with minimal tweaking of speaker placement.

The Z-5450 speakers are a sensible choice if your room would benefit greatly from going wireless. But in my experience, wired systems from Logitech and Klipsch offer better sound and slightly more solid construction for around \$100 less. If wireless isn't a priority for you, one of those options may be the way to go.

—Eric Dahl



LOGITECH'S Z-5450 Digital Speakers offer clear and crisp audio.

**Z-5450 Digital Speakers**

Logitech

PCW Rating **82** Very Good

Wireless surround speakers sound great, but the convenience will cost you.

List: \$499

find.pcworld.com/50340

PHOTOGRAPH: MARC SIMON

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# New Software Makes Video Blogging Easy

**VIDEO EDITING**

PODCASTS ARE old news—the latest trend is video blogs. In the past, though, creating online videos has required knowledge of codecs, compression settings, and other technical stuff. Serious Magic's \$50 **Vlog It** aims to strip away the complexity in a manner that more-advanced video editing packages can't, and in

my tests of a beta version the application did exactly that.

**Vlog It** lets you create news-cast-like blog entries via a simple, drag-and-drop interface. You insert elements (such as music or video clips) into a vertically scrolling timeline, and then use a camcorder or Webcam to record your video and a microphone to add your voiceover. The timeline has an integrated teleprompter for displaying your narration.

If you have a green background, you can use composites to add a video or animated backdrop of your choice. However, though you can add video clips, **Vlog It's** editing tools are rudimentary at best.

**Vlog It**

Serious Magic

Preproduction product, not rated

Simplifies video blog creation, but you'll need a dedicated editing program for complex projects.

Street: \$50

[find.pcworld.com/50374](http://find.pcworld.com/50374)



**VLOG IT IS A POWERFUL** but easy-to-use application for creating video blogs, but it can't replace a full-fledged video editing program.

Once you've created your video blog, the software automatically adjusts the compression and codec settings based on your output choice, and it can even upload the file to your video-hosting service.

The software's teleprompter

and compositing features make creating a good-looking video easy. If you want a full-featured video editor, however, you'll be better served by turning to a product such as Adobe Premiere Elements.

—Richard Baguley

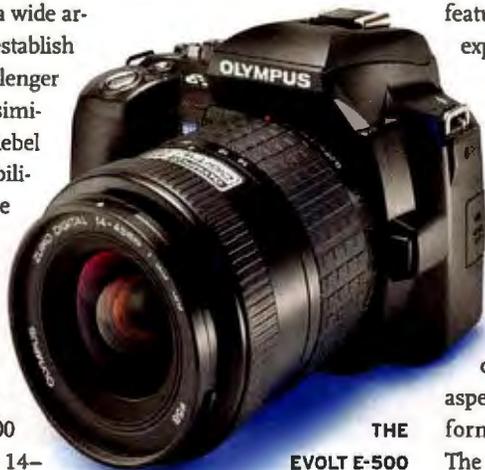
# E-500 Is Very Good, but Not Great

**DIGITAL CAMERA**

THE OLYMPUS **Evolt E-500** is a well-equipped and reasonably priced entry-level digital SLR that produces high-quality images. The 8-megapixel camera comes with a wide array of features that establish it as a legitimate challenger to Canon's popular, similarly priced Digital Rebel XT. Regrettably, usability issues prevent me from wholeheartedly recommending it over the XT.

Olympus markets the E-500 in three versions: \$700 for the body only, \$800 for the body plus a 14–45mm lens (the kit I tested), and \$900 for that combination

plus a 40–155mm lens. The E-500's body felt sturdy, the rubber grip fit snugly in my hand, and the 2.5-inch color LCD was eye-catching. By contrast, the Canon Digital Rebel XT



THE **EVOLT E-500** digital SLR offers up to 8-megapixel images.

seems somewhat less rugged, its hand grip is too skinny, and the color LCD is smaller.

For beginners, the E-500 offers 15 scene modes, but its true strength lies in its deep feature set. For example, the exposure lock and autofocus lock functions are highly customizable. And it offers plenty of choices for automatic exposure bracketing, white balance, and in-camera processing. Plus, the E-500 has a dust filter.

I enjoyed using the camera, but I found some aspects of its design and performance a bit frustrating. The camera's response to the control wheel is sluggish, and I struggled a bit when trying

to focus the lens manually. Also, images shot at high ISO settings of 800 and 1600 were less than stellar, despite using the noise reduction feature.

The price and quality of the E-500's kits are hard to beat. But old-school photographers who like shooting in manual mode might find this camera a bit too slow to respond, and if you expect to shoot using high ISO settings, the Digital Rebel XT may be a better bet.

—Eric Butterfield

**Evolt E-500**

Olympus

PCW Rating **86** Very Good

A large LCD, extensive menus, and a nice price make this camera compelling, but it has a few usability issues.

Street: \$800 (body and single-lens kit)

[find.pcworld.com/50350](http://find.pcworld.com/50350)

# Mini Computing Without a Mac

## DESKTOP PC

IF YOU LOVE the cool looks and diminutive size of Apple's Mac Mini but are unwilling to move from Windows or Linux to Mac OS, check out AOpen's stylish and capable **MiniPC**.

Like its Mac counterpart, the MiniPC measures 6.5 inches square and 2 inches tall. But instead of white, AOpen uses

### MiniPC

AOpen

Preproduction product, not rated

A fine choice if you want a small, sexy Windows or Linux machine.

List: \$700

[find.pcworld.com/50102](http://find.pcworld.com/50102)

a silver finish featuring a grid of small dots on top and a blue-lit power button in front.

Powered by a quiet 1.73-GHz Pentium M 740 processor, my \$700 test system came with 512MB of DDR2 RAM, a 40GB hard drive, and a slot-fed SuperMulti DVD burner.

Because this was a preproduction unit, we did not run it through our WorldBench 5 suite, but in my informal tests the MiniPC seemed perky.

Like Apple's Mac Mini, the MiniPC offers ethernet, DVI/VGA outputs, a pair of USB 2.0 ports, one FireWire port, and one headphone jack, to-



**AOPEN'S MINIPC TAKES AIM** at Apple's Mac Mini, offering a similar form factor but running either Windows XP or Linspire Five O Linux.

gether with 802.11(a/b/g) and Bluetooth support. Although AOpen's machine lacks a modem port, it compensates with a few other features—namely, an S-Video-out port, a microphone connector, and a mini PCI x1 slot inside.

Still, this is not a system to grow with. You can't expand the machine internally, apart

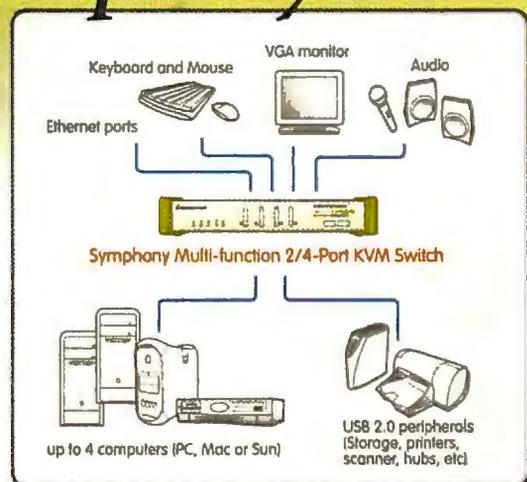
from the single PCI slot, and if you add much external hardware you'll destroy the appeal of the tiny footprint.

Available from AOpen's partners with either Windows XP or Linspire Five O Linux, the MiniPC should suit users who have limited desk space or a penchant for novel PCs.

—Dan Sommer

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## SHORT LIST: HOME OFFICE

### Print, Scan, Archive for Less



**BUSINESS EQUIPMENT** keeps getting better and cheaper. Skip the trip to Kinko's—these peripherals help you create color documents and presentations. As always, don't forget to back up. —Eric Butterfield, Associate Editor



**COLOR LASER PRINTER**  
Dell 3000cn, street: \$399  
[find.pcworld.com/45974](http://find.pcworld.com/45974)

Though slightly bulky, this budget find aced our print-quality tests and generated black-and-white prints speedily.



**SCANNER**  
Epson Perfection 3490 Photo, street: \$95  
[find.pcworld.com/50262](http://find.pcworld.com/50262)

A bargain among recent scanners, the 3490 Photo scans photographs, paper documents, and 35mm slides and negatives.



**BACKUP DRIVE**  
Western Digital Dual-Option Media Center, street: \$273  
[find.pcworld.com/48638](http://find.pcworld.com/48638)

More than just a hard drive, this 320GB unit with backup button packs an eight-in-one media-card reader and a USB hub.

## SHORT LIST: NETWORKING

### Do-It-Yourself Wi-Fi

**LOSE THE WIRES.** These three products invite you to set up and manage your own wireless network, which you're free to access while at home on the couch or away on business.

—Narasu Rebbapragada, Associate Editor



**WIRELESS ROUTER**  
Belkin Wireless G Plus MIMO, street: \$90  
[find.pcworld.com/50266](http://find.pcworld.com/50266)

This budget MIMO router has two antennas (Belkin's full MIMO router has three), but it provides good range and easy setup.



**HOME NETWORKING SOFTWARE**  
Network Magic 2.0, street: \$50  
[find.pcworld.com/50270](http://find.pcworld.com/50270)

Version 2.0 helps users configure their network, set Wi-Fi security, and remotely access files through the NetToGo service.



**ULTRAPORTABLE NOTEBOOK**  
Fujitsu LifeBook B6110D, street: \$1699  
[find.pcworld.com/50402](http://find.pcworld.com/50402)

Despite its lack of an integrated optical drive, I'm partial to this tiny 4-pounder with a touch screen and good battery life.

## ONLINE EXTRAS

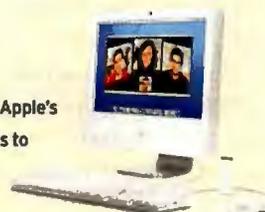
### Great, Big Screens

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**Apple iMac**  
Street: \$1699

[find.pcworld.com/50273](http://find.pcworld.com/50273)

The revamped 20-inch iMac might be Apple's answer to the Media Center PC, thanks to its built-in Webcam, multimedia software, and bundled remote control.



**OpenOffice.org 2.0**

Free  
[find.pcworld.com/50244](http://find.pcworld.com/50244)

Despite some quibbles about speed, PC World Executive Editor Edward N. Albro calls OpenOffice.org 2.0 a solid alternative to Microsoft's Office productivity suite.



**Acer AL2416Wd**

Street: \$1000  
[find.pcworld.com/50090](http://find.pcworld.com/50090)

This 24-inch wide-screen LCD lacks extras, but it produces good image quality at a great price.



## BEHIND THE RATINGS



**PC World Ratings** are based on a 0-100 scale that represents our overall assessment of a product's or service's performance, design, features, and price. Ratings fall into five categories. **Superior (90-100):** The product is innovative, easy to use, useful, and fairly priced. It is among the very best in its category.

**Very Good (80-89):** The product is better than most others of its type and is highly recommended. **Good (70-79):** The product is solid and does what it's supposed to do, but it doesn't go beyond the typical characteristics of its category. **Fair (60-69):** The product performs adequately but is somewhat flawed. **Poor (59 and lower):** The product is seriously flawed and we cannot recommend it. For more details, visit [find.pcworld.com/49902](http://find.pcworld.com/49902).



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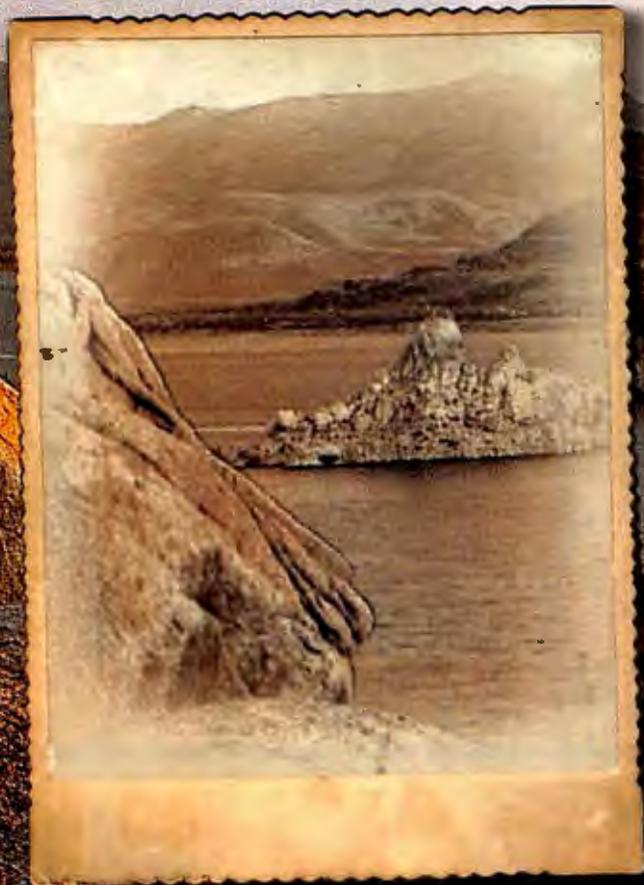
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In addition, R-Studio 3.0 now supports UFS1 and UFS2 file systems as well as enhanced remote host scanning

procedures that analyze data on the remote host rather than the local host, speeding up data recovery time. R-Studio 3.0 also includes R-Studio Emergency version free of charge, allowing users to recover data on a computer on which Windows cannot be booted due to system file corruption or deletion. And to make things even more user-friendly, R-Studio and R-Studio Emergency demo versions can be registered on-the-fly.

R-Studio 3.0 joins the growing list of business continuity solutions from R-Tools that includes R-Drive Image 3.0, a powerful utility that effortlessly creates disk image files for backup and duplication. These files are exact copies of a drive partition and are created without interrupting normal business operations.

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R-Drive Image 3.0 can also be utilized for mass system deployments when

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In addition, R-Tools offers R-Word to recover damaged Microsoft Word files; R-Excel to reconstruct precious Excel files that have been corrupted or attacked; R-Mail to reconstitute email messages accidentally deleted or damaged .dbx files; and R-Wipe & Clean that automatically keeps disks free and clear of data clutter.

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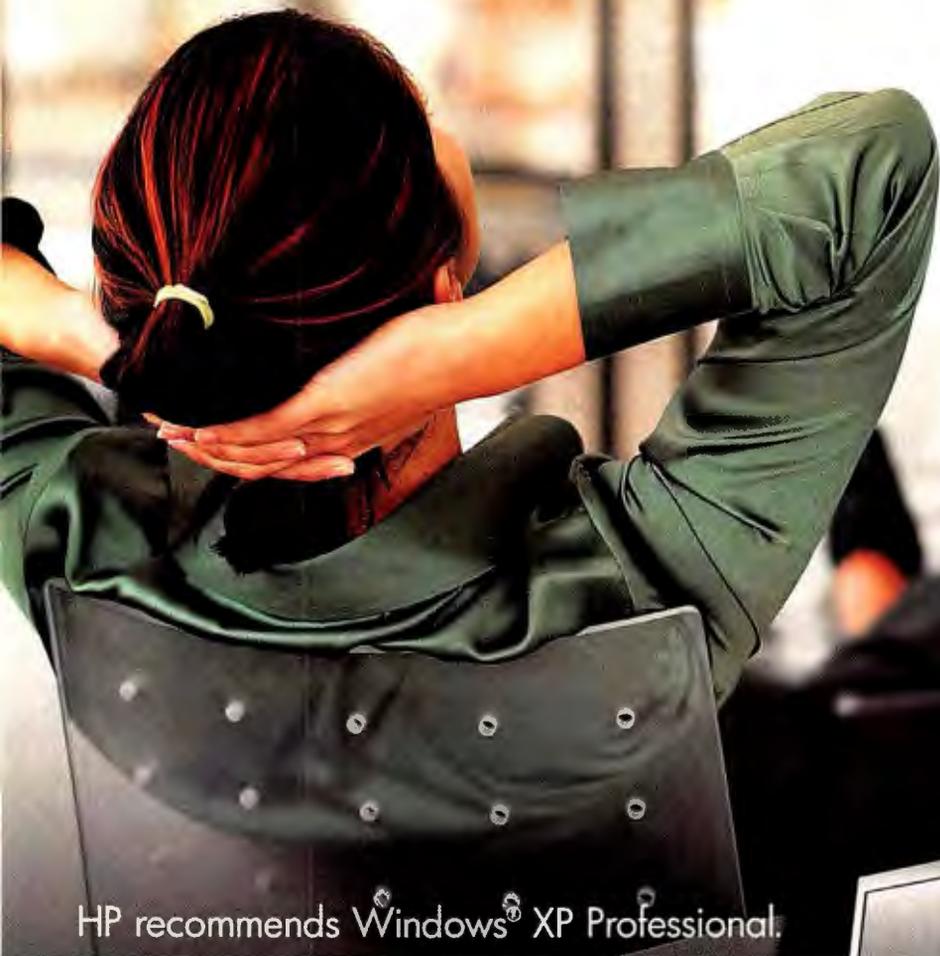
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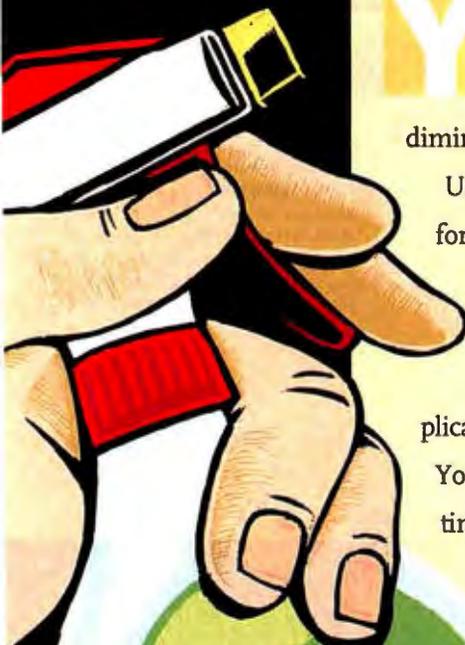
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# Gunk Busters!

Get your PC running like new with these easy tips for clearing the crud out of Windows, applications, and hardware.

BY WOODY LEONHARD



**Y**OU'RE NOT IMAGINING THINGS: It is indeed taking you longer to load Windows, browse the Web, and run your applications. It's as if your car took longer to get you to work as it got older. You wouldn't stand for such diminishing performance from your automobile, so why abide PC slowdowns?

Unless you built it yourself, your PC began picking up unwanted junk long before you first connected to the Internet. The people who made that shiny new PC loaded it with useless, bandwidth-clogging software at the start. And it only gets worse as you install programs, whether via download or off a disc.

The following tips will help you scrape the crud out of Windows and your applications to get your PC running *better* than it did when it was new. And "Optimize Your Notebook" on page 77 will show you how to wipe out power-draining settings in your portable. Of course, stray software isn't the only thing that clutters your computer life; actual dust, dirt, and debris can create problems too.

*Answer Line* guru Lincoln Spector offers advice on page 78 for removing the physical gunk from your PC's dirtiest hardware components. ►





## Cleaning Windows

**W**INDOWS PICKS UP lint like my aunt's wool sweater. But before you clean up, scan your system for viruses, spyware, and other interlopers. Then remove the Windows components and applications you don't need. And finally, make sure you have the tools and settings in place to keep digital detritus from reinsinuating itself into your PC.

### Eliminate Pests

START BY VISITING the Windows Update site to make sure you have the latest patches for your version of the OS. Next, check your antivirus and antispyware utilities for updates, and then run a complete check of your system with each tool. (Browse to [find.pcworld.com/49962](http://find.pcworld.com/49962) for information on our favorite freebies in each category.) Once the scans come up clean, disconnect from the Internet and any local networks you might be on, and shut down each of the utilities' autoprotect features. This will make it easier to spot the CPU-cycle robbers on your system.

### Zap Unwanted Programs

MANY OF THE PROGRAMS that came preinstalled on your computer automatically launch "helper" programs when Windows starts, often doing little more than adding to the flurry of applets swirling around in the Windows atmosphere.

First, jettison unneeded Windows components. In XP, click *Start*•*Control Panel*•*Add or Remove Programs*, and choose *Add/Remove Windows Components* in the left pane. (The steps are similar in older versions of the operating system.) Two prime candidates for deletion are Games (click *Accessories and Utilities*•*Details*•*Games*•*Details*, and uncheck those you don't want) and MSN Explorer (simply uncheck it and step through the wizard). When you're done, click *Next* and *Finish*.

You can remove well-behaved applications by using Control Panel's Add or Remove Programs applet, but if the program has its own undelete option (likely on its submenu in All Programs), use that. If the program still appears in Add or Remove Pro-

grams after you do so, or if it doesn't have its own undelete function, select it in the list of 'Currently installed programs', click *Remove* or *Change/Remove*, and follow the instructions (as shown below left). Some security programs have only a 'Change' option, requiring removal by their own uninstall component.

Click *Show updates* at the top of this window to see the various Windows and Office patches that have been added to your system. If you delete a Windows or Office patch here, however, Windows concludes that you want to undo the patch, rather than just remove the files. Rolling back patches is risky. If you want to get rid of the backup files, read Lincoln Spector's *Answer Line* column from March 2005 at [find.pcworld.com/50276](http://find.pcworld.com/50276) to learn about a safe approach.

Sometimes programs remain in the Add or Remove Programs list after they have been uninstalled. Others insist on running components even after they've been removed, and icons for some "removed" programs may continue to appear in your system tray (next to the clock), the Ghosts of Applications Past.

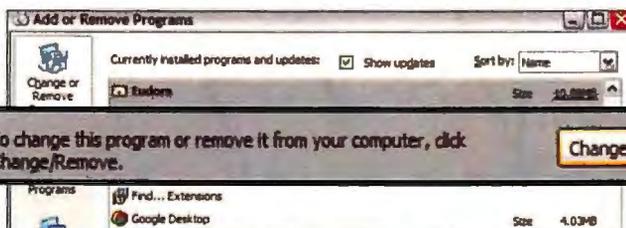
When you encounter such a spectral program, click its *Remove* or *Change/Remove* button again. Windows XP with Service Pack 2 may recognize your second try as an attempt to remove the entry from the Add or Remove Programs list, and fix the problem automatically. If that doesn't work, shift Windows into Safe Mode: Restart your computer, hold down the <F8> key, and choose *Safe Mode*. Use the *Remove/Change* option in Add or Remove Programs once again. If that doesn't work either, haul out the heavy artillery. While you can manually remove stuck entries by editing the Registry (see [find.pcworld.com/50344](http://find.pcworld.com/50344)), Microsoft has a much more thorough—and less dangerous—option called the Windows Installer Cleanup Utility. Browse to [find.pcworld.com/49964](http://find.pcworld.com/49964) to download your free copy of this tool.

### Poke Autostart Porkers

ONCE YOU'VE DELETED all the programs you can live without, look for cycle-stealing apps that run unnecessarily in the background on your system. The majority of self-starting Windows processes, inscrutable though they may be, serve vital roles. For example, if you press <Ctrl>•<Alt>•<Del> to bring up the Windows Task Manager, you may see ten copies of the file svchost.exe among your processes. Don't worry. Svchost.exe is a wrapper—a program that runs other programs—and having half a dozen running all the time is common. If you read somewhere that Windows runs blazingly fast if you just disable one of these Windows services, be skepti-



**STARTUP CONTROL** Panel lets you turn off your autostart programs.



**WAVE BYE-BYE TO THE PROGRAMS** you don't use by clicking this button in their listing in Windows' Add or Remove Programs applet.

cal, and think twice before you stop any Windows service without knowing for sure that you don't need it. For more on identifying Windows processes, browse to [find.pcworld.com/50278](http://find.pcworld.com/50278) and read Andrew Brandt's *Security Tips* column from last July.

Mike Lin's free Startup Control Panel ([find.pcworld.com/49984](http://find.pcworld.com/49984)) lists all the programs that start automatically on your PC (except the really sneaky ones). After you download and install the utility, click *Start•Control Panel•Startup*, and choose one of the Startup tabs. Uncheck the box next to an unwanted program to prevent it from launching when Windows starts (see image to the left). Disabled programs appear on the Deleted tab, so you can bring them back easily if you determine that you need them.

Always restart your machine after you've used Startup Control Panel to make any changes to your Windows settings.

## Whip Disks Into Shape

HAVING PLENTY OF EMPTY SPACE on your hard drive is important for good Windows performance, as it allows room for virtual memory (see [find.pcworld.com/50388](http://find.pcworld.com/50388) for more on tweaking Windows' memory settings). Fortunately, clearing space on a drive is usually pretty easy. For example, few people need anywhere near the hard-disk space that Windows sets aside for the Recycle Bin—the default is 10 percent of the drive's total capacity. That's 3GB of a 30GB hard drive. To make some room, right-click the *Recycle Bin*, choose *Properties*, swing the slider down to 3 percent or less, and click *OK*. That would still give you almost a gigabyte to temporarily store deleted files on our example 30GB hard drive, which should be plenty under most circumstances.

Another storage profligate is Windows' System Restore, ►

## POWER TIPS

# Optimize Your Notebook

NOTEBOOK GARBAGE is like desktop garbage, only worse: All that excess activity saps your system's resources. Anything that unnecessarily drains your laptop's battery deserves to get dumped. A quick tune-up can make any notebook more energy efficient.

### A POWER MAKEOVER

CHOOSE THE RIGHT power scheme for your work style (or make a scheme of your own). Click *Start•Control Panel•Performance and Maintenance* (if necessary)•*Power Options*. Under Power Schemes, pick *Max Battery*, and click *OK*. This setting shuts off your monitor after 1 minute and puts your notebook in standby if you don't use it for 2 minutes. If that is too soon, repeat the steps and choose the *Portable/Laptop* power scheme, which goes into standby after 5 minutes. (Note that some battery-saving modes may slow your system down.)

Another way to reduce your notebook's power consumption is by dimming the screen. Unfortunately, every notebook manufacturer seems to have a different technique for screen dimming, so you may have to go digging for your owner's manual. (Some laptop keyboards have keys with light icons and up/down arrows.) My rule of thumb: Set your screen to the dimmest setting you can stand, and then bump it up one step. Ultimately you're better off draining a little more of the battery than straining your eyes.

A notebook's built-in wireless card sucks up power as it looks for access points, so disable yours when you're not working on a network. Other laptop power-grabbers that you should unplug when you don't need them are USB devices and PC Cards.

### CLEAN OUT THE BACKGROUND

GIVE AUTOSTART PROGRAMS the heave-ho when you're running on battery power. In addition to following the steps in "Poke Autostart Porkers" on page 76, right-click the icons in your system tray (near the clock) and shut down the programs you don't need. They'll start up again the next time Windows loads.

### STANDBY OR HIBERNATE?

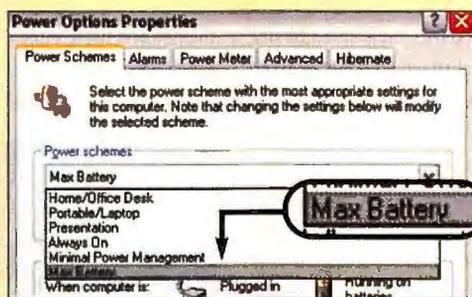
WINDOWS XP'S STANDBY MODE stops your hard drive and monitor, but everything currently in your system's memory stays there, using a little trickle of power. Hibernation mode writes everything

in memory to the hard drive and shuts down your machine completely. Windows springs back quickly from standby mode, but it takes much longer to wake up from hibernation. However, if your notebook's battery dies while in standby, you lose any changes to your open files that you haven't saved.

To put your notebook into standby mode, click *Start•Turn Off Computer•Stand By*. To make the unit hibernate, choose *Start•Turn Off Computer* and click *Hibernate* (you may have to hold

down the <Shift> key to see this option). If it won't hibernate, click *Start•Control Panel•Performance and Maintenance* (if necessary)•*Power Options•Hibernate*, and check *Enable hibernation*. To restart your system from either mode, press the power button.

If your computer has a "Sleep" button, or if it turns off when you close the lid, click the *Advanced* tab to find options for adjusting these settings in the Power Buttons box. —Woody Leonard

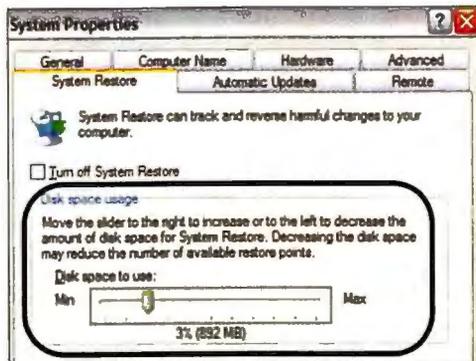


GET MORE BATTERY LIFE from your notebook by choosing this power scheme in your Power Options.

which uses a ton of hard-drive space to hold restore points that you will never need. To trim them, right-click *My Computer*, choose *Properties*•*System Restore*, drag the slider down to 3 percent or less, and click *OK* (see image at right). That should be sufficient for at least two restore points on our example 30GB drive.

Now you should run Windows' Disk Cleanup: Click *Start*•*Run*, type `cleanmgr /sageset:99`, and press **<Enter>**. Check each type of file you want to look for (I check them all), and click *OK*. Right-click the C: drive in *My Computer* and choose *Properties*•*Disk Cleanup*. You'll see a list of a dozen or so kinds of files that you can delete. Check the categories you don't need, click *OK*, and then click *Yes*.

You may want to leave some entries unchecked, however. The contents of your Temporary Internet Files folder, for example, can help speed up Internet Explorer by reducing the amount of data



**FREE UP HARD-DRIVE space by reducing the amount of storage reserved by Windows' System Restore.**

you have to download to view Web pages that you return to frequently. (See "Shake Out Internet Explorer" on page 81 for more.) Also, if you delete your Office Setup files, some Office 2003 updates may not function properly (see [find.pcworld.com/50280](http://find.pcworld.com/50280) for information about Microsoft's fix for the Office 2003 SP2 installer).

Once you've emptied the trash, restart your computer, right-click your

C: drive in *My Computer*, and choose *Properties*•*Tools*•*Defragment Now*. In the Disk Defragmenter dialog box, click *Analyze*. If the Analyzer reports that you need to defrag the drive, wait until you can afford to leave your computer alone for a few hours before proceeding. In fact, there is some disagreement as to whether defragging actually improves your system's performance. The consensus at present, however, is that defragging your hard drive periodically does indeed result in faster data accesses.

## CLEANING TIPS

# Grime Fighters

THE DIGITAL DETRITUS slowing Windows' performance is virtual dirt; the stuff inside your keyboard and mouse, or on the surface of your monitor and optical discs, is the real thing. Here's how to get rid of accumulated material that can literally gum up the works.

### BENEATH THE KEYS

THE DIRT, DUST, AND CRUMBS that keyboards pick up so easily make for rough typing. To clean your keyboard, you'll need a can of compressed air (available at any computer store for about \$5); a bottle of isopropyl alcohol (about \$2 at any drugstore); cotton swabs; and two clean, soft cotton cloths (a cut-up old T-shirt will do).

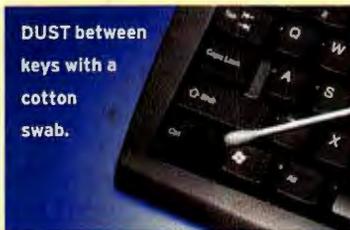
Unplug the keyboard and bring it outside (or place it on newspaper). Turn it upside down and tap it gently to knock out loose dirt. Then turn it vertical and spray compressed air between the keys. Finally, turn the keyboard upside down, shake it again, and slap the bottom. Repeat this spray-shake-slap routine until nothing comes out.

With the keyboard still unplugged, put some alcohol on one of the cloths and wipe the surface clean. Dip a cotton swab in the alcohol and clean between the keys where the cloth can't reach. Alcohol evaporates pretty quickly, but if necessary dry the keyboard with the other cloth.

### UNDER THE MOUSE ROLLER

IF YOUR MECHANICAL mouse stops rolling properly, cleaning the inside rollers should make it as good as new. All you need to get back on a roll are a can of compressed air and possibly tweezers.

DUST between keys with a cotton swab.



Unplug the mouse and turn it upside down. You'll see a little plastic disk with a hole in the middle. The roller ball shows through the hole. Turn the disk in the direction indicated by the arrows (counterclockwise on Microsoft mice), remove the disk, and take out the ball.

You'll see two or three rollers inside. Lint and dirt on these rollers are what make your mouse misbehave. Blow some compressed air onto the rollers to loosen the gunk, which tends to clump into big pieces. Then pull the stuff off with your fingers or with tweezers. Clean any surface oils off the ball. Reassemble the mouse.

**PC CLEANING KIT:** alcohol, compressed air, swabs, tweezers, and cotton cloths.



### BETWEEN EYES AND MONITOR

WHAT'S THAT WEIRD character on your worksheet? Is it a euro? An ampersand in some strange script font? No, it's a little dust ball clinging to your screen. Cleaning a CRT monitor is pretty easy: Just turn off the monitor, slightly moisten a soft cloth with water (never use glass cleaner), rub the screen, and wipe it dry. Removing dirt

## Automate Your Registry Scrubs

YOU COULD SPEND the next ten years fiddling with Registry keys, cache parameters, menu delay settings, and a thousand other minute Windows details. Or you can take advantage of the years of work that other folks have devoted to the cause of achieving a more shipshape Windows. Two of my favorites are Macecraft's \$30 jv16 PowerTools (30-day free trial; [find.pcworld.com/49980](http://find.pcworld.com/49980)) and the Registry scanner in Iolo Technologies' \$50 System Mechanic utility suite (30-day free trial; [find.pcworld.com/49982](http://find.pcworld.com/49982)). Both programs make it easy to clear the crud from your Registry. (Note: The Registry is a terrible thing to muck up, so avoid no-name Registry cleaners like the plague.)

## Restrict Future Downloads

NOW THAT WINDOWS is spiffy, keep it that way by creating a limited account for anyone who uses the machine but whom you can't trust to download with discretion. Log on as an administrator and click **Start**•**Control Panel**•**User Accounts**•**Create a new account**. (If you don't see this option, your network administrator

and grime from an LCD is a bit more complicated. You'll need a microfiber cloth (such as those sold or given away by opticians for cleaning eyeglasses), as well as a few ounces of a mixture that's half water and half isopropyl alcohol. Turn off the monitor (if it's on a notebook, turn off the PC), lightly moisten the cloth with the fluid, and wipe carefully. With both CRTs and LCDs, wait a few minutes after you finish cleaning before turning the monitor back on.

**TAKE YOUR DIRTY discs**  
for a spin to make them  
playable again.



device such as 3M's \$13 Scotch CD and CD-ROM Cleaner (which also cleans DVDs; [find.pcworld.com/49992](http://find.pcworld.com/49992)). The hand-cranked device comes with a spray bottle of cleaner. Put a little of the cleaner on your dirty disc, insert the disc (label-side-down) into the device, close the top, and turn the crank five times; then remove the disc, and let it air dry for a minute or so. —Lincoln Spector

## DISC-WASHING MACHINE

A SINGLE SPECK of dirt on the surface of a CD or DVD can interrupt a song, a movie, or a program installation. If wiping the disc gently from the center out with a dry cotton cloth doesn't do the trick, break out the hardware: For cleaning optical discs, try a

may have restricted your system.) Enter a name for the account, click *Next*, choose *Limited* under 'Pick an account type', and select *Create Account*. To give this account a log-in password, click it in the list of accounts, choose *Create a password*, type the password twice, enter a password hint (if you desire), and click *Create Password*. Close the User Accounts dialog box when you're done.



## Unencumbering Applications

**S**OONER OR LATER, every application accumulates gunk—whether useless files, obsolete add-ons, or intrusive settings that clog the works or just get in the way. Scraping the barnacles off programs needn't be a chore, however.

## Ax Word's Old Recovered Files

MICROSOFT WORD BEHAVES like a pack rat. Not only will cleaning house free disk space, but it will also help you avoid problems.

Whenever Word crashes, it leaves interim files with names like "DFC15F8.TMP" on your hard drive. Running Windows' Disk Cleanup will sweep away most of these files (see "Whip Disks Into Shape" on page 77), but you can also delete them en masse. Begin by closing all running programs. Then click **Start**•**Search**, choose *All files and folders* (if necessary), enter **\*.tmp** in the box labeled 'All or part of a file name', select *Local Hard Drives (C:)* under 'Look in', and click **Search**. When the search is complete, press **Ctrl+A** to select all the files, and then press **Delete**.

By default, Word saves AutoRecover copies of open files every 10 minutes. As Word recovers from a crash, it offers to retrieve the files that you had open at the fateful moment. Sometimes AutoRecover files remain on your hard drive long after they're needed—representing a potential security risk. To make sure all your old AutoRecover files bite the dust, open Word and click **Tools**•**Options**•**File Locations**. Double-click *AutoRecover files*, right-click the resulting folder (it's probably named '\Word\STARTUP'), and choose *Explore*. Click the up arrow to move to the parent directory, and delete all files with names that end in '.asd'.

Obsolete add-ins can slow Word to a crawl. To get rid of them, click **Tools**•**Templates and Add-Ins**, and look for the interlopers listed under 'Global templates and add-ins'. Select the ones you no longer need and click **Remove**. If the Remove button is grayed out, close Word and open your Word Startup folder (you'll probably find it at C:\Documents and Settings\username\Application Data\Microsoft\Word\Startup, where *username* is your log-on ID). Change the name of each unwanted file so that it doesn't ►

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end in '.dot' (rename 'oldmacros.dot', for example, as 'oldmacros.dot.save'); when you restart Word, all of the unneeded add-ons will be gone.

### Clear Cobwebs From Outlook

ONE GOOD THING about Microsoft's Outlook e-mail and contact manager is that the program stores everything in a single giant .pst file. The bad thing about Outlook is that this file is nearly impenetrable and tremendously difficult to clean out.

Outlook 2003's .pst files are more reliable than their counter-

parts in Outlook 97, 2000, and 2002 (visit [find.pcworld.com/50284](http://find.pcworld.com/50284) for more on this subject). If you upgraded to Outlook 2003 from an earlier version, you may still be using the old .pst file. Updating to the Outlook 2003 format can save you loads of misery. Unfortunately, doing so takes time.

**SPEED UP OUTLOOK** by archiving your .pst file from the date of your choice.

To determine which type of .pst file your copy of Outlook 2003 is using, right-click *Personal Folders* in the left pane under All Mail Folders, choose *Properties for "Personal Folders"*, and click *Advanced*. If the Format box says 'Personal Folders File (97-2002)', you have the old version. To convert it, close Outlook and navigate to your outlook.pst or mailbox.pst file. It's probably at C:\Documents and Settings\username\Local Settings\Application Data\Microsoft\Outlook (or a variation of this file path), where *username* is your log-on name.

If it's not there, open Outlook and click *File>Data File Management*. A box lists your Archive and Personal Data Folders. Click *Settings* to see their location, or choose *Open folder* to display the contents in an Explorer window. (Be sure to close Outlook before proceeding.) Once you've found the file, right-click it and choose *Rename*. Call the file **outlook.old.pst**.

When you restart Outlook, the program will bellyache that it can't find its .pst file. Click *OK*. Outlook will offer to create a new Personal Folders file. Select *Open* and *OK*. When Outlook finally comes up for air, click *File>Open>Outlook Data File*, select your outlook.old.pst (or mailbox.old.pst) file, and click *OK* once more. Now click the plus sign next to the Personal Folders entry at the bottom of the left pane; you'll find all of your old Outlook data there. Click and drag the files you want to keep from these folders to their analogs in your new Inbox, Contacts, Calendar, Sent Items, and maybe even Deleted Items folders. You can leave the old Personal Folders open, or right-click it and choose *Close*. (If

## Word's AutoRecover files stay on your drive long after they're needed.

Outlook doesn't recognize your Contacts list, follow the instructions at [find.pcworld.com/49988](http://find.pcworld.com/49988) for resetting your profile.)

You can improve the performance of any version of Outlook by archiving old messages: Click *File>Archive*, choose a folder, pick a date in the 'Archive items older than' drop-down calendar, and click *OK* (see image at left). Visit [find.pcworld.com/49989](http://find.pcworld.com/49989) for more on modifying Outlook's automatic backup settings.

Next, run Outlook's Inbox Repair Tool to make sure that your .pst file is working well. With Outlook closed, click *Start>Search*, choose *All files and folders* (if necessary), type **scanpst.exe**, and press **<Enter>**. Double-click the file in the search results window, click *Browse*, navigate to your .pst file as described above, select it, and click *Open>Start*. If the Inbox Repair Tool finds errors (it probably will), check *Make backup of scanned file before repairing* and click *Repair*. Click *OK* when the repairs are complete.

Now right-click *Personal Folders*, choose *Properties for "Personal Folders"*, click the *Advanced* button under the General tab, and select *Compact Now*. If your .pst file is old or very scattered, the compression can take a while. When it's done, click *OK* twice.

### Shake Out Internet Explorer

CLEARING THE HISTORY FILES, cookies, and cache in Internet Explorer is simple: Click *Tools>Internet Options*, and then choose *Delete Cookies* and *Delete Files* under Temporary Internet Files on the General tab, or *Clear History* under History. But don't expect your cleanup to last long.

If your computer has a 150GB hard drive, it may not matter to you that IE uses 3GB worth of temporary files. Conversely, you may gladly tolerate slightly slower browsing to save space on a 10GB drive.

To curb IE's voracious storage appetite, click *Tools>Internet Options*, choose the *Settings* button under the General tab, and run the slider down to 20MB or 30MB (or up to maybe as much as 100MB if you have a horrendously slow dial-up Internet connection; see image above). Click *OK* twice to finish the job. ■

Check out Woody Leonhard's new guide to whipping Windows into shape, *Windows XP Hacks & Mods For Dummies*, available online or at your favorite bookstore. Contributing Editor Lincoln Spector writes the Answer Line column for PC World.



**GAIN HARD-DRIVE** space by reducing the amount Internet Explorer claims.



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### HP Compaq nc6120

- Intel® Centrino™ Mobile Technology
- Intel® Pentium® M Processor 740 (1.73GHz)
- Intel® PRO/Wireless 2200 Network Connection (802.11b/g)
- Memory: 512MB
- CD-RW/DVD-ROM combo drive
- 15" active-matrix display

Recommended accessories:

HP Docking Station \$149 (CDW 808964)

HP Secondary Travel Battery \$129 (CDW 810189)

**\$1149** NOTEBOOK  
CDW 817916  
**-200** TRADE-IN  
**\$949**



### ThinkPad T42

- Intel® Centrino™ Mobile Technology
- Intel® Pentium® M Processor 725 (1.60GHz)
- Intel® PRO/Wireless 2200 Network Connection (802.11b/g)
- Memory: 256MB
- CD-RW/DVD-ROM combo drive
- 14.1" active matrix display

Recommended accessories:

ThinkPlus 512MB memory upgrade \$139 (CDW 547666)

ThinkPlus port replicator \$149 (CDW 461019)



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CDW 699585  
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Monitor sold separately

### ThinkCentre A51

- Intel® Pentium® 4 Processor (2.93GHz)
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- CD-ROM drive
- Windows® XP Professional

Recommended accessories:

ThinkPlus 256MB memory upgrade \$67.76 (CDW 806427)  
ThinkVision L171 17" LCD monitor \$324.95 (CDW 819492)

\$599 DESKTOP  
CDW 791358

-30 TRADE-IN

\$569



\$539 DESKTOP  
CDW 739192

-30 TRADE-IN

\$509



### HP Compaq Business Desktop dx2000

- Intel® Pentium® 4 Processor (2.80GHz)
- Memory: 256MB
- 40GB hard drive
- 10/100/1000 Ethernet
- Windows® XP Professional

Recommended accessories and services:

HP Compaq 512MB memory upgrade \$79 (CDW 586440)  
HP Compaq 17" LCD monitor \$329 (CDW 515635)  
HP Care Pack 3-year, next business day, 9 x 5,  
onsite warranty upgrade \$93 (CDW 514298)



### HP ProLiant DL360 G4p Rack-mount Server

- Intel® Xeon™ Processor (3GHz)
- Optimized for space-constrained data center installations
- Embedded Lights-Out technology provides secure text-based remote console and remote power on/off
- Offers optimum fault tolerance for an ultra-dense form factor, with redundant fans and redundant power

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HP 1GB memory upgrade \$497.65 (CDW 675404)  
HP 72.8GB internal hot plug hard drive \$587.41 (CDW 44223B)  
HP Care Pack 3-year, 4-hour, 24 x 7 onsite warranty upgrade \$523 (CDW 643802)



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\$1829<sup>43</sup>

CDW 768981



invent

### IBM eServer xSeries 346 Server

- Intel® Xeon™ Processor (2.80GHz)
- Delivers outstanding performance, availability and capacity—all in a space-saving 2U rack-mountable design
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Recommended service:

IBM ServicePac 3-year, 4-hour, 9 x 5,  
onsite service \$527.89 (CDW 317638)



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SAVINGS<sup>1</sup>

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Need a new camera? Want to get more out of the one you already own? We've rounded up today's best point-and-shoot models, plus handy accessories and services that let you take better pictures and share them with the world.

# Digital Photo Superguide

**FORGET BASEBALL**—America's real national pastime is taking pictures.

Twenty years ago, 110-format film cameras ruled the earth. A decade ago, Advanced Photo System cameras were the kings of the snapshot. But today, unquestionably, digital is it. Thanks to digital technology, the average picture you take today is noticeably better than the average shot you captured ten years ago. That's great—but the biggest boon of going digital is that it makes taking (and sharing) your photographs easier, including being able to review your shots and throw away the bad ones.

So besides testing this month's Top 10 point-and-shoot cameras, we've rounded up a dozen interesting products and services that can enhance your digital photo experience and give your snaps some extra zing. ▶

86

Cameras

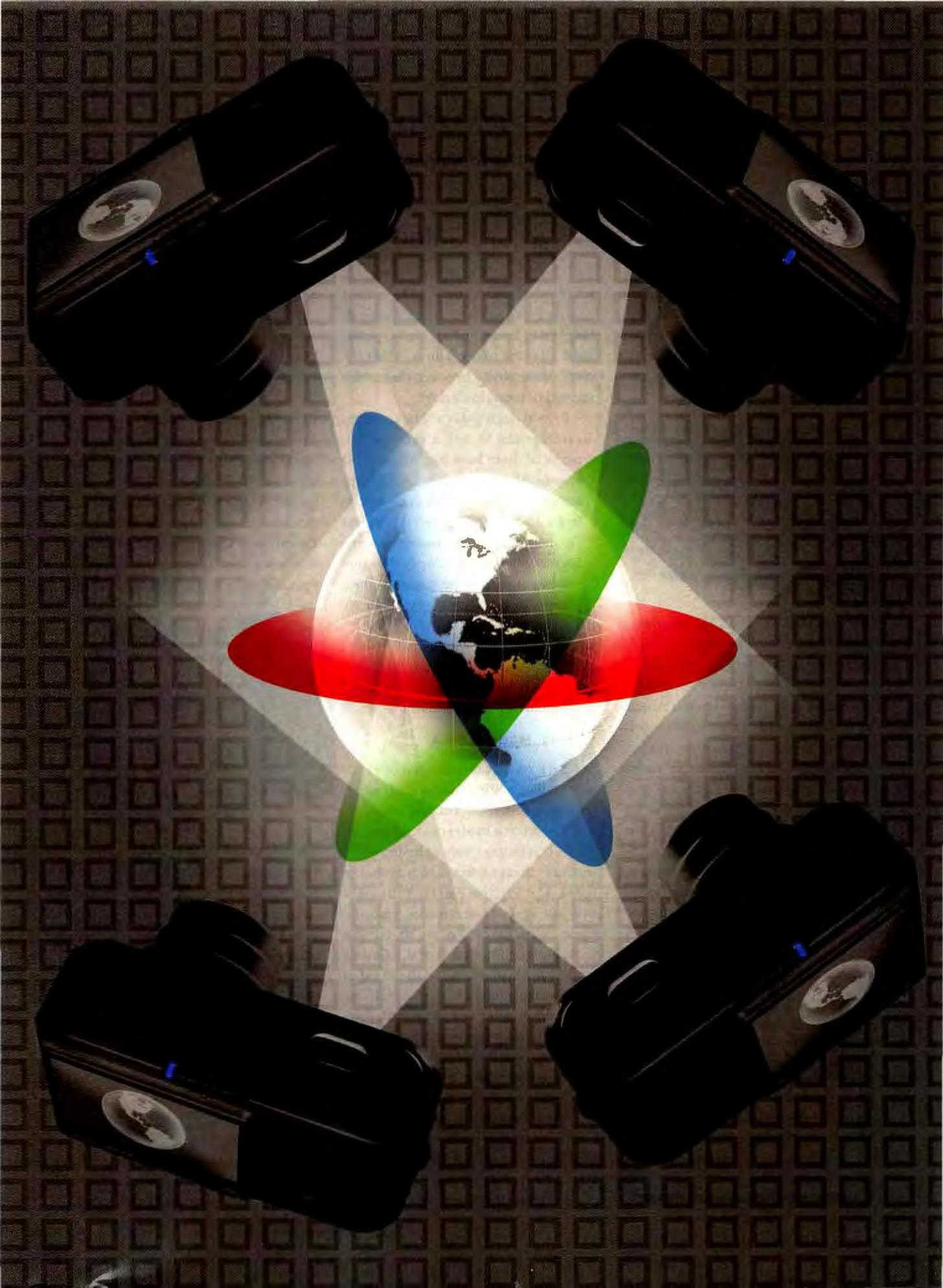
BY RICHARD BAGULEY

88

Accessories

BY DAVE JOHNSON

TESTING BY TONY K. LEUNG OF THE PC WORLD TEST CENTER  
PHOTO-ILLUSTRATIONS BY GEOFF SPEAR



# CHOOSE YOUR NEXT CAMERA

This collection makes it easy to grab fine photos.

## Features to Check Out: A Short Guide

IF YOU GO into an electronics store and browse the digital camera section, you may be overwhelmed by the choices available. But choosing the right point-and-shoot camera isn't really difficult: It's basically a matter of understanding the features you need.



**THE OLYMPUS Stylus 800 is water resistant.**

More pixels means better photographs—right? Not always. There's more to image quality than the resolution: The quality of the lens and of the image processing that the camera performs also play significant roles. In our image-quality tests, we rated the 5.1-megapixel Olympus C-5500 Sport Zoom and the 7.2-megapixel Casio Exilim EX-Z750 as having equally strong image quality. The 5.1-megapixel images from the Olympus are large enough to produce nice-looking prints at 8 by 10 inches (the size we use for testing), but not at much bigger sizes. To produce a good-looking photo print, you need at least 200 pixels per inch. So

### LEARN MORE

#### ONLINE

THE PRODUCTS IN our chart are ordered by overall score. Browse to [find.pcworld.com/50382](http://find.pcworld.com/50382) for reviews of all products tested this month and ranked in the chart.

the 7.2-megapixel Casio (which takes photos at resolutions of up to 3072 by 2034 pixels) can produce a good-quality print as large as 11 by 14 inches. On the other hand, all of the cameras on our chart can produce attractive 4-by-6-inch photos that you will be proud to display.

Even though today's thin-and-light cameras can fit into a shirt pocket, many of them have big, bright LCD screens. The Casio Exilim EX-Z750, for instance, is under 1 inch thick, but offers a 2.5-inch LCD screen that's great for showing off your photos at a party. Such smaller models provide the same resolutions and scene modes as their bigger cousins do, but their zoom lenses are typically limited to 3X; a larger camera like Olympus's SP-500 Ultra Zoom has the size to accommodate a larger lens and can zoom farther into the action (up to 10X).

### MODE MANIA

ALL THE CAMERAS we tested offer automatic shooting modes such as portrait, sports, fireworks, and museum. These scene modes can help you get the best pictures without having to manually change settings such as shutter speed. The Fujifilm FinePix F10 comes with just 5 preset scene modes, while the Casio Exilim EX-Z750 offers 30. But you probably won't use most of the Casio's modes, and scrolling through the list to find the right one can take a while. If you just want to point and shoot with your camera, try a simple model (such as the chart-topping HP Photosmart R717) that makes picture-taking as easy as possible by offering on-screen instructions. Our December review of advanced cameras evaluated plenty of units with sophisticated features, starting with the top-rated Canon PowerShot G6 (see [find.pcworld.com/50004](http://find.pcworld.com/50004) for that chart). Note, however,

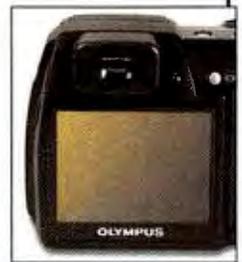
that some point-and-shoot camera models—among them the Canon PowerShot A520 and the Nikon Coolpix 7900—have useful advanced features of their own, such as manual control and several metering modes for taking finer control of the photographic process beyond what many of these cameras allow.

### GOT JUICE?

YOU MIGHT ASSUME that the smaller a camera is, the shorter its battery life will be, but that's not the case. The compact Casio Exilim EX-Z57 had very impressive battery life, reaching our testing limit of 500 shots—that's more than double the life of the HP Photosmart R717. Some of the cameras on our point-and-shoot chart (such as the Olympus C-5500 Sport Zoom) use nonrechargeable AA batteries, which is a useful feature if your battery runs out and you're within trekking dis-



**THE OLYMPUS SP-500 Ultra Zoom has both a viewfinder and a large, bright LCD screen.**



tance of a store.

We evaluated four new cameras for this month's chart: Olympus's SP-500 Ultra Zoom and Stylus 800, Panasonic's Lumix DMC-XL1, and Samsung's Digimax i5. The Olympus SP-500 carries an impressively long 10X zoom—the longest on the chart—while the Stylus 800 has a splash-proof case that protects the electronics from water, salt, and sand. The Panasonic provides three

aspect ratios for taking wide-screen photos; and the Samsung is the size of a pack of cards, though the quality of its photos was mediocre. We also reexamined Nikon's Coolpix 7900 under our new test plan. (For more on testing, go to [find.pcworld.com/50384](http://find.pcworld.com/50384).) The two



**Best BUY** HP'S PHOTOSMART R717 leads our chart. Its banana-shaped zoom control sits in a shallow trench.

Olympus models and the Nikon made our Top 10. For reviews of the Lumix and the Digimax, see [find.pcworld.com/50050](http://find.pcworld.com/50050) and [find.pcworld.com/50052](http://find.pcworld.com/50052), respectively.

*Richard Baguley, a former PC World editor, writes PCWorld.com's Making Movies column ([find.pcworld.com/49004](http://find.pcworld.com/49004)).*

## FEATURES COMPARISON

# TEST Center EASY-TO-USE CAMERAS GAIN IN FEATURES, IMAGE QUALITY

THE INEXPENSIVE HP PHOTOSMART R717 provides extensive in-camera coaching and convenient extra features.

	POINT-AND-SHOOT CAMERA	PCW Rating	Performance	Features and specifications	Bottom line
1	<b>HP Photosmart R717</b> <b>Best BUY</b> \$270 <a href="http://find.pcworld.com/47128">find.pcworld.com/47128</a>	<b>84</b> Very Good	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Battery life: Fair</li> <li>Overall design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>6.2 megapixels</li> <li>39mm to 117mm zoom</li> <li>9 scene modes</li> <li>5.8 ounces</li> </ul>	Model comes with a host of useful features, including in-camera image advice and red-eye reduction, with extensive help menus.
2	<b>Olympus SP-500 Ultra Zoom</b> \$380 <a href="http://find.pcworld.com/50048">find.pcworld.com/50048</a>	<b>82</b> Very Good	<ul style="list-style-type: none"> <li>Image quality: Superior</li> <li>Battery life: Superior</li> <li>Overall design: Good</li> </ul>	<ul style="list-style-type: none"> <li>6.1 megapixels</li> <li>38mm to 380mm zoom</li> <li>21 scene modes</li> <li>14.0 ounces</li> </ul>	A long zoom lens and strong image quality make this camera a good pick for beginners who need to get close to the action.
3	<b>Olympus C-5500 Sport Zoom</b> \$280 <a href="http://find.pcworld.com/47708">find.pcworld.com/47708</a>	<b>81</b> Very Good	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Battery life: Good</li> <li>Overall design: Good</li> </ul>	<ul style="list-style-type: none"> <li>5.1 megapixels</li> <li>38mm to 190mm zoom</li> <li>10 scene modes</li> <li>8.6 ounces</li> </ul>	Accurate colors and exposures, and a long zoom range, are this model's strengths. Autofocus locks well on moving subjects.
4	<b>Canon PowerShot A520</b> \$250 <a href="http://find.pcworld.com/48083">find.pcworld.com/48083</a>	<b>81</b> Very Good	<ul style="list-style-type: none"> <li>Image quality: Good</li> <li>Battery life: Poor</li> <li>Overall design: Good</li> </ul>	<ul style="list-style-type: none"> <li>4.0 megapixels</li> <li>35mm to 140mm zoom</li> <li>14 scene modes</li> <li>6.4 ounces</li> </ul>	With many manual controls, the full-featured but compact PowerShot A520 offers good performance except for its very limited battery life.
5	<b>Casio Exilim EX-Z750</b> \$400 <a href="http://find.pcworld.com/49024">find.pcworld.com/49024</a>	<b>78</b> Good	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Battery life: Superior</li> <li>Overall design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>7.2 megapixels</li> <li>38mm to 114mm zoom</li> <li>30 scene modes</li> <li>5.8 ounces</li> </ul>	Slim model has very quick startup, a fine selection of manual controls, and a 2.5-inch LCD, along with an optical viewfinder.
6	<b>Fujifilm FinePix F10</b> \$349 <a href="http://find.pcworld.com/48085">find.pcworld.com/48085</a>	<b>78</b> Good	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Battery life: Superior</li> <li>Overall design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>6.3 megapixels</li> <li>36mm to 108mm zoom</li> <li>5 scene modes</li> <li>7.2 ounces</li> </ul>	The F10 has strong image quality, easy storage, and a high ISO setting, but our test images had significant noise even at lower ISOs.
7	<b>Nikon Coolpix 7900</b> \$400 <a href="http://find.pcworld.com/47704">find.pcworld.com/47704</a>	<b>76</b> Good	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Battery life: Good</li> <li>Overall design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>7.1 megapixels</li> <li>38mm to 114mm zoom</li> <li>16 scene modes</li> <li>6.5 ounces</li> </ul>	Small but easy to hold, the stylish 7900 combines an intuitive menu system, many scene modes, and a few advanced features.
8	<b>Olympus Stylus 800</b> \$450 <a href="http://find.pcworld.com/50049">find.pcworld.com/50049</a>	<b>75</b> Good	<ul style="list-style-type: none"> <li>Image quality: Superior</li> <li>Battery life: Very Good</li> <li>Overall design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>5.0 megapixels</li> <li>35mm to 105mm zoom</li> <li>23 scene modes</li> <li>4.6 ounces</li> </ul>	This good-looking, well-designed camera provides terrific image quality, is water resistant, and includes a large, bright LCD screen.
9	<b>Casio Exilim EX-Z57</b> \$300 <a href="http://find.pcworld.com/48086">find.pcworld.com/48086</a>	<b>74</b> Good	<ul style="list-style-type: none"> <li>Image quality: Fair</li> <li>Battery life: Superior</li> <li>Overall design: Fair</li> </ul>	<ul style="list-style-type: none"> <li>5.0 megapixels</li> <li>35mm to 105mm zoom</li> <li>23 scene modes</li> <li>4.6 ounces</li> </ul>	The small, attractive EX-Z57 comes with lots of scene modes, very long battery life, and a 2.7-inch LCD, but few manual controls.
10	<b>HP Photosmart R817</b> \$349 <a href="http://find.pcworld.com/49030">find.pcworld.com/49030</a>	<b>74</b> Good	<ul style="list-style-type: none"> <li>Image quality: Good</li> <li>Battery life: Poor</li> <li>Overall design: Good</li> </ul>	<ul style="list-style-type: none"> <li>5.1 megapixels</li> <li>36mm to 180mm zoom</li> <li>9 scene modes</li> <li>6.7 ounces</li> </ul>	Unit offers in-camera red-eye reduction like the similar R717, plus a more powerful zoom, but image quality in tests was less impressive.

CHART NOTES: Ratings are as of 11/28/2005. Zoom range (focal length) is identified as 35mm equivalent; camera weights include batteries.

## BOOST YOUR PHOTO FUN

Products to aid you, your family, and your friends.

### The Pod

WHEN YOU SLIP a compact point-and-shoot camera into your backpack, you probably don't plan on schlepping a big, heavy tripod to mount it on. But if you want to capture a long exposure or to steady the camera so that you can take a sharp picture in low light, what can you do?

Consider the Pod—it's one of those useful little gadgets that you'll find painless to pack on your next trip. Imagine setting your camera on top of a beanbag, and you pretty much get the picture. The Pod's mushy body provides a stable base for your camera, and it includes a threaded tripod bolt in the top. Just screw your camera onto the bolt, and then position the Pod's grippy bottom on almost any stationary surface to shoot a shake-free photo.

Portability is the Pod's main appeal. Available in two sizes, its 3.75-inch- or 5-inch-diameter body is filled with beans, so you can cram it into a small bag or backpack. And because the Pod is so small, you can use it in places—such as museums and art galleries—that expressly forbid ordinary tripods. The cost varies a bit, depending on your choice of color and size. \$14 to \$17, [find.pcworld.com/50308](http://find.pcworld.com/50308)



**PORTABLE AND PETITE**, the beanbag-like Pod will steady your camera; and unlike your tripod, it fits in a large pocket.

### TIP

#### OUTDOOR FLASH

**FORGET THAT ADVICE** you may have heard about not using a flash outside. When you take pictures in bright sunlight, your flash can help eliminate harsh shadows and thereby produce a better exposure. For best results, stand within 10 feet of your subject.

### Belkin Media Reader for iPod

ON A LONG TRIP, you probably carry extra memory cards or a laptop to accommodate all the pictures you'll take. But if you're already packing an iPod, why not let it do double duty as a hard drive?

That's the idea behind Belkin's Media Reader for iPod with Dock Connector. This gadget plugs into the docking port at the bottom of your iPod Photo or other model such as the Nano (not the iPod Mini, however) and transfers your photos via memory card—CompactFlash, SmartMedia, SD Card, or Memory Stick. Using iPod software version 2.1 or later, you can easily transfer your images first onto the iPod and later to your computer.

Belkin's convenient Media Reader device quickly turns your iPod into a handy place to store your photos. \$50, [find.pcworld.com/50312](http://find.pcworld.com/50312)



**TAKE BELKIN'S** Media Reader on your next trip and leave the laptop at home.



### LE-Adapter

THE LE-ADAPTER lets you attach a telescope, binoculars, a spotting scope, or a microscope to your camera, dramatically magnifying its zoom power.

The LE-Adapter works with a range of digital and film cameras, from small point-and-shoot models to single-lens reflex units. All you need is a set of threads on the front of the camera lens; the adapter comes ready to screw onto cameras equipped with either 37mm- or 52mm-diameter threads. If your camera's lens has a different diameter, you can purchase a step ring online or at most camera stores to act as an intermediary between your camera and the LE-Adapter.

Of course, your photos won't be quite as bright and sharp as you're used to with your ordinary camera lens. A set of binoculars, for instance, may deliver a lot of magnification, but the optics aren't designed to take photos. On the other hand, the LE-Adapter allows you to capture photos that you otherwise couldn't with your digital camera. \$126, [find.pcworld.com/50310](http://find.pcworld.com/50310)

WITH THE LE-Adapter you can take photographs that look as if you had shot them through the window of the space shuttle.



for instance, may deliver a lot of magnification, but the optics aren't designed to take photos. On the other hand, the LE-Adapter allows you to capture photos that you otherwise couldn't with your digital camera. \$126, [find.pcworld.com/50310](http://find.pcworld.com/50310)

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## Imeem

THESE DAYS, TEXT and photo blogs are as hot as Web sites were in 1996. But some people are reluctant to post personal photographs to a blog that the entire universe



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has access to. If you're looking for a way to share pictures, text, and files with a select group of friends and family, look no further than Imeem. Imcem is not a Web site; it's a program that hosts content such as text blogs, photos, discussion

forums, instant messaging, and file sharing. Once you create your online space with Imeem, only people you personally approve can see your content. Or you can relax the privacy rules and let a wider circle of people see your stuff—such as friends of anyone directly linked to you—or you can just open the floodgates to the whole world.

When you're not logged in to Imeem, your user profile and text blogs remain available to anyone who has permission to see them, because they reside at Imeem's site. Your photos stay on your PC, however, so they're available for public viewing only when you're online. And when someone else views your photos, the program stores copies of the pictures on that person's PC. As an alternative to renting space on a public server, Imeem works well—especially if you link to a lot of friends. Free, [find.pcworld.com/50314](http://find.pcworld.com/50314)

## Slide

SLIDE IS UNLIKE a typical photo-sharing service. Whereas most sites post pictures online for visitors to peruse in a browser-based photo album, Slide displays your photos in a rolling filmstrip that scrolls slowly down the side of your computer screen. The pictures are small and unobtrusive; but if you hover over a particular image, the filmstrip pauses and the selected image pops into a larger window for closer inspection. Controls in the window let you share the picture instantly—at its original resolution—with anyone via e-mail. (The images are stored locally and are always sent from your own machine.)

Slide's filmstrip routinely displays images stored throughout your PC; this can lead to serendipitous rediscovery of long-lost photos. If you like, you can organize photos into channels and invite friends and family to subscribe to them so that they can see your photos on their own desktops. You can subscribe to other people's channels as well, so at any given moment you may be watching a filmstrip of your cousin's best photos. Some Web sites have created their own channels: You can subscribe to Gizmodo.com's parade of gadget-related photos, for instance. Free, [find.pcworld.com/50316](http://find.pcworld.com/50316)



**SURPRISE YOURSELF** and relive your favorite memories as Slide scrolls your photos on your desktop.



**AVVENU CAN DISPLAY** your favorite photos and files from any Internet-connected PC.

## Avvenu

SOMETIMES, IN SPITE of the growing number of online file-sharing sites, the hardest part of digital photography can be showing off what you've done. Generally you can't e-mail 6-megapixel images because most e-mail servers balk at such large files. Enter Avvenu, a service for sharing photos or entire folders on your computer with friends and family.

The photos stay on your PC, while Avvenu acts as a Web-based go-between. Use Avvenu to share photos, music, and other files; the recipient gets an e-mail message containing a preview of the photos and a link to the appropriate online location for downloading a copy of the files. From then on, your friends can access anything you throw into your shared folders. The downloads are secure; only people you choose can obtain them.

You can access the Avvenu service from any Web-enabled device, including mobile phones and PDAs, and browse your photos from the palm of your hand. Free, [find.pcworld.com/50318](http://find.pcworld.com/50318)

### TIP

#### NEVER FORMAT

DON'T USE your digital camera's format command; instead, use the "erase all" option. If you format your memory card, many cameras will then create file names starting at number 001 all over again, leading to duplicate files on your computer.



**For the** stage-diving, VIP only, chinchilla wearing, entourage touting, "these go to eleven," paparazzi dodging, 3 p.m. wake-up call **rock star in us all.**

Listen like a pro. Shure, a leader in professional audio gear for over 80 years, steps offstage with its award-winning E Series Sound Isolating™ Earphones. Now stage-worthy, listen-like-you-live-it audio is available for anyone on the go. Shop [www.shure.com](http://www.shure.com) for the full line of premium earphones and headsets for your music, movies, gaming, mobile phone, and more.



"These are the Mercedes of headphones." – *Forbes.com*, April 18, 2005

"High-definition drivers add bonus bass and extra bite to raging guitar solos." – *Maxim*, "Top 25 of 2005," Scott Stein, May 2005

"They're pure audio nirvana." – *CNET.com*, CNET Editors' Choice, July 2005

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Just what I needed.™

**Tweeter**  
E Series Demo Location

Also Available at Apple Stores

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## TIP

## PRESERVE PRINTS

ALL INKJET PHOTOS fade eventually, but you can stave off the inevitable for many years by keeping them out of direct sunlight and under a sheet of glass or plastic. Many modern printers generate prints that supposedly will last a century, but only if you use the recommended special paper and ink.

## Konfabulator Tools for Flickr

KONFABULATOR is a free utility that lets you position widgets (little apps that do all sorts of things) on your desktop. Two of these widgets add cool capabilities to the popular photo-sharing Web site Flickr.

FD Flickr Uploader makes short work of posting your photos on Flickr. The Uploader sits on your desktop; just drag



**FLICKR ALBUM**, a Konfabulator widget, arranges online images haphazardly—just like in a real album—on a page on your desktop.

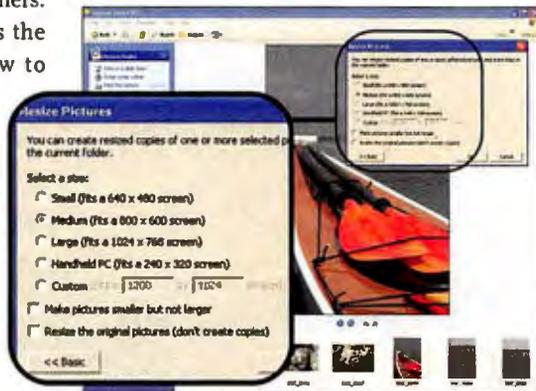
one or more of your photos to it and then type a title, tags, and a description for each image. In some cases you can save oodles of typing by applying the same set of tags to all of the images that you upload, with a single click.

Once your pictures are online, Flickr Album enables you to see them right on your desktop. Enter your Flickr ID or specify a tag that you're interested in, and you'll see a virtual album of Flickr photos. Clicking on any image sends you to its Flickr page in your Web browser. Free, [find.pcworld.com/50322](http://find.pcworld.com/50322)

## PowerToys for Windows

IF YOU'RE EAGER TO GET a little more digital camera savvy, you don't have to wait for Windows Vista—with its built-in photo organizer and editor—to arrive. Microsoft's PowerToys—free but unsupported add-ons to Windows—include a couple of goodies especially designed for photographers.

Image Resizer addresses the common problem of how to shrink your digital photos. And there are many reasons why you might want to resize a photo—for instance, to attach it to an e-mail message, to post it on a Web page, or just to save disk space. With this utility you right-click one or more images and get a



handy dialog box that lets you select one of several common sizes. Resized pictures appear as

**IMAGE RESIZER**, one of Microsoft's PowerToys, lets you easily adjust the dimensions of your images.

copies of the original in the same folder, or you can choose to replace the originals. The other utility helps you use the RAW mode that some digital cameras offer. RAW is a lossless, uncompressed format; as such, it represents the ultimate in digital quality. JPEG, in contrast, is a compressed format that strikes a balance between file size and image quality. Until now, RAW has been hard to work with on a PC because the files are large and few applications recognize them. Microsoft's RAW Image Thumbnailer and Viewer PowerToy lets you preview RAW images, see thumbnails of them, and print them as if they were saved in any other file format that Windows understands. This software works with most Canon and Nikon cameras. Free, [find.pcworld.com/50320](http://find.pcworld.com/50320)



## GPS-Photo Link

ARE YOU READY FOR a taste of so-called geo-photography? GPS-Photo Link associates photographs from almost any digital camera with position data from an ordinary handheld GPS receiver, as long as the receiver can download the saved waypoint coordinates to your computer. If your camera can record time and date information with each photo, it will work with GPS-Photo Link by matching times and dates.

At home, run the GPS-Photo Link wizard to synchronize the GPS coordinates and the photos; the result is a custom Web page that displays your pictures together with bread-

crumbs on a satellite map that shows where each picture was taken.

GPS-Photo Link is expensive and somewhat finicky to use. But for marking your photos with navigation data and linking them to real, high-resolution satellite maps, it is currently the only game in town. \$229, [find.pcworld.com/50324](http://find.pcworld.com/50324)

# Fast. Mobile. Drop Dead Cool.

Alienware recommends  
Microsoft® Windows® XP

## AREA-51® m5700

Microsoft® Windows® XP Home Edition  
Intel® Pentium® M 760 (2.0GHz, 2MB Cache, 533MHz)  
512MB Dual Channel DDR2 SO-DIMM at 533MHz  
NVIDIA GeForce Go 6800  
24x10x24 CD-RW / 8X DVD Combo Optical Drive  
60GB 5400 RPM Hard Drive  
17" Wide Screen LCD with Clearview® Technology  
1-Year AlienCare Toll-Free 24/7 Phone Support

As Configured **\$1,799** (After \$100 rebate)



AREA-51® m7700

AREA-51® m5700

AREA-51® m5500

SENTIA™ m3200

## SENTIA™ m3200

Microsoft® Windows® XP Home Edition  
Intel® Pentium® M 730 (1.6GHz, 2MB Cache, 533MHz)  
256MB DDR2 SO-DIMM at 533MHz  
40GB 5400 RPM Hard Drive  
Intel Graphics Media Accelerator (900)  
24x10x24 CD-RW / 8X DVD Combo Optical Drive  
12.1" Wide Screen LCD with Clearview® Technology

As Configured **\$1,099** (After \$100 Rebate)

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## Pictorico Premium Canvas; HP Iron-On Transfer

WHEN SELECTING INKJET PRINTER PAPER, it's good to use paper from the same company that made your printer, because they're generally engineered to work well together. But what about special projects? Pictorico produces a superb family of inkjet



papers that work well with most popular inkjet printers, including models from Canon, Epson, and HP. Pictorico Premium Canvas paper, for instance, has the look and feel of a painter's canvas, complete with rich texture and a warm paper tone. \$17 for ten sheets of 8.5-by-11-inch stock, [find.pcworld.com/50330](http://find.pcworld.com/50330)

T-shirts may not qualify as fine art, but transferring digital photos to clothing is popular for fundraisers, team sports, and family projects. Like Pictorico paper, HP's Iron-On Transfer paper works well with a wide variety of printers, so it's a great choice for putting a photo of your bowling league logo onto team T-shirts. \$15 for 12 sheets of 8.5-by-11-inch transfers, [find.pcworld.com/50332](http://find.pcworld.com/50332)

## ExpoCap

WHAT COLOR IS WHITE? Your digital camera must answer that question every time it takes a picture. To a camera white looks different indoors, outdoors, at sunset, and at high noon. Unfortunately, when running on full automatic settings, most digital cameras get it wrong about as often as they get it right—a major reason so many pictures have obvious color problems.

One way to solve this regular headache is by performing a white-balance adjustment—if your camera has this feature—each time you start taking pictures. To do this, you access the calibration function, aim the camera at a white or gray card (available from any camera shop for about \$5), and shoot. But ExpoCap from ExpoImaging makes the task even easier. Just snap the opaque cap onto the front of your camera lens, and then set your camera's white balance. Unlike most white-balance aids, the ExpoCap gives your pictures a slightly warmer tone, which translates into better skin tones in pictures of people.

ExpoCap snaps onto the front of any camera lens that is 52mm, 58mm, or 67mm in diameter. If your lens isn't one of those standard sizes, you can set the white balance manually by holding the cap in front of the lens—or you might just want to go and purchase that \$5 calibration card from your local camera store, instead. \$59, [find.pcworld.com/50328](http://find.pcworld.com/50328) ■

*Dave Johnson provides expert tips on photography and imaging in PCWorld.com's Digital Focus column ([find.pcworld.com/47284](http://find.pcworld.com/47284)).*



WITH EXPOCAP you can properly set your white balance, ensuring that your colors will be accurate under any conditions.



## Philips 7FF1AW/37 Digital Photo Display

BECAUSE MOST digital photos never get printed on paper, sharing them electronically makes a lot of sense. That's where a digital display comes in handy. The Philips 7FF1AW/37 Digital Photo Display may have a name that only a robot could love, but this 7-inch LCD screen surrounded by a wood or contemporary clear plastic frame looks attractive enough to occupy a position of distinction in your living room, which is exactly the point.

The display can store 50 pictures internally, or you can play slide shows of your photos via SD Card, CompactFlash, or Memory Stick media. The display also has a built-in transition library of interesting visual effects to put between photos.

The display looks sharp and bright from a wide range of viewing angles, with 720 by 480 resolution in its 5.4-by-3.6-inch frame. And you needn't confine the display to a tabletop. Pass it around at a party, and its rechargeable battery will keep it alive for almost an hour. \$249, [find.pcworld.com/50326](http://find.pcworld.com/50326)

### TIP

#### BURST AWAY

TRY USING YOUR camera's burst mode instead of relying on a tripod. Brace yourself against something rigid, hold as still as possible, and press the shutter release so that the camera takes a bunch of pictures in succession. Then find the shot in the series that has the least camera shake (and delete the rest). Odds are good that at least one photo will be pretty steady.

Acer recommends Windows® XP Professional.



December 2005/  
January 2006

Acer®, like Ferrari, is the technology driver of tomorrow. Both produce desirable, eye-catching and devastatingly fast products that embody the passion, spirit and experience of years leading the competition. The magnificent carbon fiber casing of the **Ferrari 4000** conceals the very latest 64Bit technology, full wireless connectivity and widescreen monitor. Powerful, dark and purposeful, the **Ferrari 4000** has the presence of a true champion.

# NEW **Ferrari 4000** NOTEBOOK TECHNOLOGY DRIVER

- AMD Turion™ 64 Mobile Technology ML-37
  - AMD PowerNow!™ Technology
  - HyperTransport™ Technology
  - Enhanced Virus Protection Technology¹
- Microsoft® Windows® XP Professional
- 1GB DDR333 SDRAM
- 100GB² hard drive, 5400RPM
- Integrated DVD-Super Multi double-layer drive
- 5-in-1 card reader for optional MultiMediaCard™, Secure Digital card, Memory Stick®, Memory Stick PRO™ or xD-Picture Card™
- 15.4" WSXGA+ (1680 x 1050) TFT display
- ATI® MOBILITY™ RADEON® X700 graphics, 128MB DDR
- 802.11b/g WLAN, Bluetooth®, gigabit LAN, V.92 modem
- One-year limited warranty³

**Ferrari**  
OFFICIAL LICENSED PRODUCT



**Ferrari 4005WLMi**

# \$2,199

(LX FR406.035)

For the name of a reseller near you or further information, please call Acer or visit our Web site: **800-571-2237 | www.acer.com/us**



www.prensing.it - ADV  
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## Acer® Flat Panels: Displaying Quality & Value



### Acer AL2416Wd

- 24" wide-screen TFT LCD
- 1920 x 1200 native resolution
- 1000:1 contrast ratio
- 178° horizontal viewing angle
- 178° vertical viewing angle
- VGA, DVI-D signal connectors
- 500 cd/m<sup>2</sup> brightness
- 6ms response time
- Internal power adapter
- Silver color

Acer AL2416Wd

**\$919**

(ET.L6102.018)

**24" WIDE-SCREEN**



### Acer AL2032W A

- 20" wide-screen TFT LCD
- 1680 x 1050 native resolution
- 800:1 contrast ratio
- 160° horizontal viewing angle
- 160° vertical viewing angle
- Two 5.0W integrated speakers
- VGA, DVI-D signal connectors
- 300 cd/m<sup>2</sup> brightness
- 8ms response time
- External power adapter
- Gloss-black color

Acer AL2032W A

**\$539**

(ET.L380B.065)

**8MS RESPONSE TIME**

Acer recommends Windows® XP Professional.

The Acer TravelMate 4400 features everything you need to perform at your best in today's business environment, including advanced graphics capabilities, wide-screen display and wireless connectivity. Moreover, because this notebook is powered by AMD Turion™ 64 Mobile Technology, you'll experience leading-edge 32-bit performance and seamless 32- to 64-bit migration. For added convenience get the ezDock Docking Station, your one-step connection to desktop peripherals.

## Acer® TravelMate™ 4400

### Powerful Business Asset



- AMD Turion™ 64 Mobile Technology ML-30
  - AMD PowerNow!™ Technology
  - HyperTransport™ Technology
  - Enhanced Virus Protection Technology¹
- Microsoft® Windows® XP Professional
- 512MB DDR333 SDRAM
- 100GB² hard drive
- Integrated DVD-Super Multi double-layer drive
- 6-in-1 card reader for optional SmartMedia™ card, MultiMediaCard™, Secure Digital card, Memory Stick®, Memory Stick PRO™ or xD Picture Card™
- 15.4" WXGA (1280 x 800) TFT display
- ATI® MOBILITY™ RADEON® X700 graphics, 64MB DDR
- 802.11b/g WLAN, gigabit LAN, V.92 modem
- One-year limited warranty³



**15.4" WIDE-SCREEN**

### Acer® ezDock

Manage and organize peripheral connections with ease. Add or remove devices instantly, without turning off your notebook. The one-plug Acer ezDock features 21 interface ports and two card slots for desktop-like expansion possibilities, as well as PCI Express™ technology and a Kensington® lock slot.



#### Acer ezDock Docking Station

**\$299**

(LC.D0103.004)

Compatible with the TravelMate 8100, 4650, 4400, 3000, C310, C200, Ferrari 4000

#### Acer TravelMate 4402WLMi

**\$1,199**

AMD Turion™ 64 Mobile Technology ML-30  
Microsoft® Windows® XP Professional  
(LX.T7806.023)



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## Compare Monitor Prices/Features & You'll Choose Acer®



Acer AL1951B

**\$379**

(ET.L4108.028)

### Acer AL1951B

- 19" TFT LCD
- 1280 x 1024 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- Two 1.5W integrated speakers
- VGA, DVI-D signal connectors
- 400 cd/m<sup>2</sup> brightness
- 6ms response time
- External power adapter
- Silver/black color

**6MS RESPONSE TIME**



Acer AL1922r

**\$349**

(ET.L2508.091)

### Acer AL1922r

- 19" TFT LCD with height adjustment & rotation
- 1280 x 1024 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- Two 1.0W integrated speakers
- VGA, DVI-D signal connectors
- 300 cd/m<sup>2</sup> brightness
- 8ms response time
- Internal power adapter
- Silver/black color

**ADJUST HEIGHT & ROTATE**



Acer AL1917 bm

**\$289**

(ET.1917B.M00)

### Acer AL1917 bm

- 19" TFT LCD
- 1280 x 1024 native resolution
- 500:1 contrast ratio
- 140° horizontal viewing angle
- 140° vertical viewing angle
- Two 1.0W integrated speakers
- VGA signal connector
- 250 cd/m<sup>2</sup> brightness
- 12ms response time
- Internal power adapter
- Black color

**BUILT-IN SPEAKERS**



Acer AL1916W

**\$279**

(ET.L5209.005)

### Acer AL1916W

- 19" wide-screen TFT LCD
- 1440 x 900 native resolution
- 500:1 contrast ratio
- 150° horizontal viewing angle
- 130° vertical viewing angle
- VGA signal connector
- 300 cd/m<sup>2</sup> brightness
- 8ms response time
- Internal power adapter
- Black color

**19" WIDE-SCREEN**



Acer AL1717 Bbmd

**\$249**

(ET.1717B.MD8)

### Acer AL1717 Bbmd

- 17" TFT LCD
- 1280 x 1024 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- Two 1.0W integrated speakers
- VGA, DVI-D signal connectors
- 300 cd/m<sup>2</sup> brightness
- 8ms response time
- Internal power adapter
- Black color

**8MS RESPONSE TIME**



Acer AL1717 bm

**\$239**

(ET.1717B.M00)

### Acer AL1717 bm

- 17" TFT LCD
- 1280 x 1024 native resolution
- 500:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- Two 1.0W integrated speakers
- VGA signal connector
- 300 cd/m<sup>2</sup> brightness
- 12ms response time
- Internal power adapter
- Black color

**BUILT-IN SPEAKERS**

Acer recommends Windows® XP Professional.

The Acer Aspire T135 boasts an impressive feature set in a stylish chassis at a price that won't break your budget. Ample power means you can efficiently perform everyday tasks. Expansion slots make the system easy to upgrade, while the eight USB 2.0 ports (two front, two internal, four back) give you the ability to connect to the latest peripherals. All in all, a sound investment for home, school or office needs.

## Acer® Aspire™ T135

### All-Around Budget Performer



Monitor sold separately.

- AMD Sempron™ Processor 3100+
  - 3DNow!™ Professional Technology
  - HyperTransport™ Technology
  - Enhanced Virus Protection Technology<sup>1</sup>
- Microsoft® Windows® XP Home Edition
- 512MB DDR SDRAM
- 80GB<sup>2</sup> hard drive
- DVD-Dual drive (DVD+/-RW)
- 9-in-1 card reader for optional MultiMediaCard™, Secure Digital card, SmartMedia™ card, Memory Stick®, Memory Stick PRO™, CompactFlash® I/II card, Microdrive® or xD-Picture Card™
- Integrated UniChrome™ Pro graphics
- 10/100 LAN
- One-year limited warranty<sup>3</sup>



**9-IN-1 CARD READER**

Acer Aspire T135-U-S3100

**\$399**

AMD Sempron™ Processor 3100+  
Microsoft® Windows® XP Home Edition



Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.



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## Acer® Projector with DLP™ Technology

Digital Light Processing™ from Texas Instruments is an all-digital display technology for projectors and other products that delivers the best picture in terms of clarity, brilliance and color.



- 2600 ANSI lumens
- XGA (1024 x 768) native resolution
- 2000:1 contrast ratio
- 16.7 million displayable colors
- PC and Mac compatible

**Acer PD525**

**\$889**

**PD525**

(EY.J1501.W04)



- 2000 ANSI lumens
- SVGA (800 x 600) native resolution
- 2000:1 contrast ratio
- 16.7 million displayable colors
- PC and Mac compatible

**Acer PD100**

**\$779**

**PD100**

(EY.J2101.006)

### Projector Accessories

Acer projectors come with these accessories: remote control (batteries included) with laser pointer; carrying case; lens cap; CD-ROM user's guide; quick-start instructions; AC power cord; VGA (D-sub) to component/HDTV adapter; VGA (15-pin D-sub), composite video (RCA), S-video, USB and audio (mini-to-mini phone jack) cables.

For permanent placement of a projector in a conference room or classroom, you'll want an easy-to-install Ceiling Mount. Also, consider keeping a Replacement Lamp on hand for your Acer projector.

#### Replacement Lamp

**\$299**

(EC.J1001.001)

- Expected life in hours: 2,000 standard mode, 3,000 economy mode
- Designed for Acer PD525 and PD116P

#### Replacement Lamp

**\$199**

(EC.J2101.001)

- Expected life in hours: 2,000 standard mode, 3,000 economy mode
- Designed for Acer PD100

#### Ceiling Mount

**\$79**

(EZ.PCM03.007)

- 6.6 pounds
- Designed for Acer PD525, PD116P and PD100

Acer recommends Windows® XP Professional.

For your home or for your office the full-featured Acer Aspire 5000 notebook provides the must-have computing features, including a versatile DVD-Dual drive (DVD+/-RW) and wireless connectivity. You can also expect desktop-caliber performance from this multimedia powerhouse thanks to AMD Turion™ 64 Mobile Technology.

## Acer® Aspire™ 5000 High Performance Value

Made for mobility with  
AMD64 performance



- AMD Turion™ 64 Mobile Technology
  - AMD PowerNow!™ Technology
  - HyperTransport™ Technology
  - Enhanced Virus Protection Technology¹
- Microsoft® Windows® XP Professional
- 512MB DDR333 SDRAM
- 80GB² hard drive
- Integrated DVD-Dual drive (DVD+/-RW)
- 15.0" XGA (1024 x 768) TFT display
- SiSM760GX chipset with integrated Mirage™2 graphics
- 802.11b/g WLAN, 10/100 LAN, V.92 modem
- One-year limited warranty³



Acer Aspire 5002LMi

**\$999**

**DVD-DUAL DRIVE**

AMD Turion™ 64 Mobile Technology ML-30  
Microsoft® Windows® XP Professional  
(LX.A5106.001)



### Acer Notebook Service Upgrades Protect Your Valuable Investment

Quality is built into every notebook Acer makes, and each comes with a one-year standard limited warranty.³ It includes hardware technical support via toll-free phone plus a concurrent International Traveler's Warranty for travel outside the U.S. and Canada. Extra protection is available with one of these upgrades:

2-Year Extension of Limited Warranty (146.AB820.EX2)

**\$99**

Prepays freight to and from Acer repair depot.  
Excludes extension of International Traveler's Warranty.

It's a tough world out there, and accidents do happen—sticky spills, dangerous drops, nasty knocks—which is why you should consider the Total Protection Upgrade. It runs concurrently with the limited warranty³ and limited warranty extension and covers the cost of a replacement unit if your covered notebook cannot be repaired.

2-Year Extension of Limited Warranty + 3-Year Total Protection Upgrade (146.AD077.002)

**\$199**

Prepays freight to and from Acer repair depot.  
Excludes extension of International Traveler's Warranty.

Prices shown are estimated street prices and do not include tax or shipping.  
Retailer or reseller prices may vary.

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# Acer® Aspire™ 3000 Entertainment Starts Here

**\$30 PRICE CUT!**



- Mobile AMD Sempron™ Processor 2800+
  - AMD PowerNow!™ Technology
  - HyperTransport™ Technology
  - Enhanced Virus Protection Technology<sup>1</sup>
- Microsoft® Windows® XP Home Edition
- 256MB DDR333 SDRAM
- 40GB<sup>2</sup> hard drive
- Integrated CD-RW/DVD-ROM combo drive
- 15.0" XGA (1024 x 768) TFT display
- SiSM760GX chipset with integrated Mirage™2 graphics
- 802.11b/g WLAN, 10/100 LAN, V.92 modem
- One-year limited warranty<sup>3</sup>

Acer Aspire 3002LCi

**\$619**

Mobile AMD Sempron™ Processor 2800+  
Microsoft™ Windows® XP Home Edition  
(XA5505.263)



**WiFi**<sup>®</sup>  
CERTIFIED

Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.

<sup>1</sup> Enhanced Virus Protection (EVP) is enabled by Microsoft® Windows® XP Service Pack 2. By default, EVP will protect the user's Windows operating system only. Users must enable the protection of their applications and associated files to be protected from memory buffer overrun attacks. AMD and Microsoft strongly recommend that users use third-party anti-virus software as part of their security strategy.

<sup>2</sup> When referring to storage capacity, GB stands for one billion bytes and MB stands for one million bytes. Some utilities may indicate varying storage capacities. Total user-accessible capacity may vary depending on operating environments.

<sup>3</sup> For a free copy of the standard limited warranty end-users should see a reseller where Acer products are sold or write to Acer America Corporation, Warranty Department, P.O. Box 6137, Temple, TX 76503.

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# THE BEST COMPANIES TO BUY FROM

Who offers reliable products and hassle-free service? We polled 35,000 PC World readers about their PCs, printers, cameras, and other hardware, and learned that good help can be hard to find.

BY JEFF BERTOLUCCI



JUSTIN SMITH loves his Alienware PC, but he's one of the lucky ones. Few hardware makers stood out for reliability or service performance this year.

104 Desktops | 106 Notebooks | 108 Printers | 112 Digital Cameras | 114 Wireless Gateways | 116 Audio Players

**W**HEN YOUR PC BREAKS, you shouldn't need a U.N. interpreter to communicate with tech support. Just ask Ronald Pippin, a CPA from Wheaton, Illinois, who twice encountered communication problems with technical support: once when he called Belkin about a defective wireless router, and again when he phoned Dell about a bad CD-ROM drive in his Dimension 8400 desktop system.

The thick-accented Belkin rep "kept asking, 'What? What?'" Pippin says. "I even hung up once. I figured I'd call back and talk with some-

one who could speak better English." He did call again and eventually resolved the problem. His experience with Dell was just as frustrating. "It's not that they're dumb people," he acknowledges. But accents can pose a barrier "when you're talking about something technical."

Ongoing problems with overseas tech support are among several key trends in the latest edition of our annual Reliability and Service survey. We asked readers to rate vendors across the spectrum of computer hardware, including the makers of

desktop and notebook PCs, printers, digital cameras, wireless routers, and audio players. We asked in-depth questions about readers' satisfaction with the reliability of their products, as well as their experiences with tech support both on the phone and via the Internet. Overall, readers reported that all products were slightly more reliable this year. In general, ser-

Accents can pose a barrier "when you're talking about something technical."

—Ronald Pippin had problems communicating with Belkin's and Dell's reps.

vice performance showed no significant change in overall effectiveness.

Responses from the nearly 35,000 readers who participated in our survey indicated a trend away from the use of phone support and slow movement toward company Web sites as vendors do a better job of supplying relevant answers there. However, a majority of respondents were down on tech support via e-mail, stating that companies failed to resolve technical problems that way: Many readers reported having to wait a day or longer to get a response, if one came at all. And when vendors did write back, the information was often less relevant, less coherent, and less likely to resolve the problem than phone-based tech support.

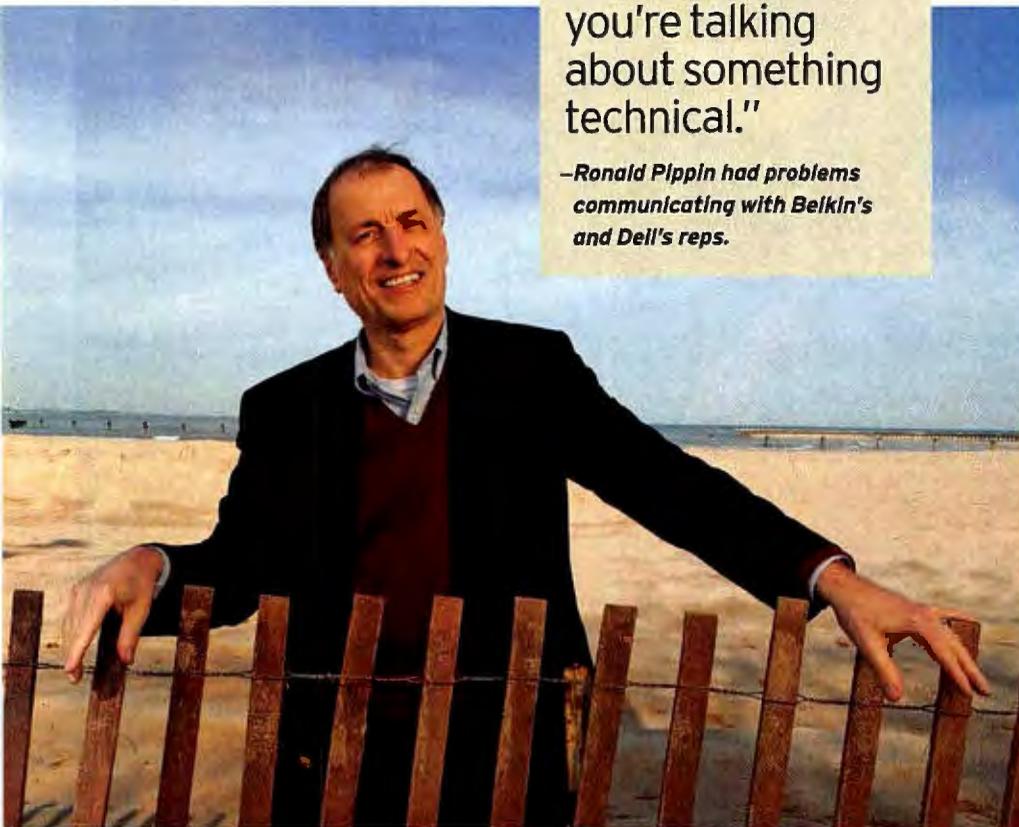
Indeed, fewer people this year said their problem was resolved the first time they contacted the company, despite the fact that vendors in recent years have made first-time resolution a top service goal. And when it's unclear whether the problem is hardware or software related, some

readers got the runaround, with hardware vendors passing the buck to software makers, while others received help if the software came with the system.

Our survey also confirmed the growing perception that Dell's halo is fading. Once known for its excellent reliability and service, Dell received scores for desktops and notebooks that were average overall and below average in some areas, including phone support hold time. Dell's overseas reps with thick accents also featured in many reader complaints. Recent changes by the company to shorten some warranties and alter delivery policies may tarnish its image as well.

#### WILL YOU REPEAT THAT?

AS WITH PREVIOUS surveys, lots of readers gave us an earful about hard-to-understand tech reps. Dell customer Todd Gar-



lick says that the few times he has phoned Dell for help with his son's Inspiron 1150 laptop, the support reps were "friendly and knowledgeable" but hard to communicate with. "I've had fouled-up orders on replacement parts. I've had to call back two or three times because I couldn't understand what the reps were saying," says Garlick, a dental technician in Boise, Idaho. "I probably won't buy a Dell again" because of such problems, he adds.

The accent issue is a sensitive topic for vendors, who invariably offer vague, carefully worded statements about how they're training tech reps to communicate better with callers. Some companies have responded by returning support centers to North America. For instance, Gateway, which bought eMachines in 2004, decided last year to use only U.S.-based support for many of its products, including desktops and notebooks. Toshiba reports that 80 percent of its North American support calls are handled by its Toronto center.

Both HP and Sony have call centers worldwide, although neither vendor lists specific locations. Smaller vendors have gone international, too. For example, Alienware, which makes high-end gaming PCs, has support operations in both Ireland and the United States. Peripheral makers, for the most part, keep support near the States. Printer companies Brother and Xerox, for instance, have call cen-

#### FIRST CONTACT WITH SERVICE:

**56%** first phoned for tech support.

**26%** first went to the company's Web site.

ters in Canada. (Brother also has a U.S. center.) And both PC maker Shuttle and digital camera vendor Vivitar have United States-based technical support reps.

Interestingly, an accented rep may be closer to home than you think. Toshiba's Toronto call center, for example, is in an area with a large Indian population, many of whom work for Toshiba. "People think our call center is in India because of the ethnic sound of a rep's voice, but it's in

## SURVEY OVERVIEW

### Overall Winners and Losers

ACCORDING TO OUR READERS, very few companies in 2005 stood out from the pack for either the reliability of their products or the service and support they provide. In fact, no company qualified as a winner in either the desktop PCs or the

wireless gateway category. The winning companies in the chart below scored better than average on two or more measures and had no worse-than-average scores; losers, on the other hand, scored worse than average on two or more measures.

PRODUCT	WINNERS	LOSERS
Desktops	None	ABS, CyberPower
Notebooks	Apple, Lenovo (IBM)	Compaq
Printers	Canon (inkjet printers)	Brother (inkjet and MFP), Dell (inkjet and laser), Epson (inkjet), Lexmark (all categories), Xerox (laser)
Cameras	Canon, Sony	HP, Konica Minolta, Vivitar
Wireless gateways	None	2Wire
MP3 players	Apple	RCA

Canada," says David Norris, Toshiba vice president of service and support. Among Toshiba laptop owners who took our survey, 63 percent said their support reps spoke clearly and intelligibly, on a par with ratings from all survey respondents.

Accents aside, 67 percent of PC respondents reported that the information they received from a phone-based support rep

PCs, with which agents can re-create the problems that users experience. After correcting a customer's problem, an agent can then send out information on the fix to the rest of the support staff.

#### DELL'S TARNISHED HALO

DELL CUSTOMERS were particularly vocal this year about reps with thick accents: 43 percent of Dell desktop and notebook owners reported that the rep they talked to did not speak clearly and intelligibly, compared with an average of 34 percent for the whole survey group. Online forums, blogs, and other sites, including BuzzMachine ([find.pcworld.com/50348](http://find.pcworld.com/50348)), are gripe fests for the Dell disgruntled.

JoAn Easton Marchese, a mother of six in Kissimmee, Florida, has bought plenty of Dell PCs over the years for her family. But her frustrations with Dell's tech support may soon end her loyalty. "I get ticked off when I talk to people who don't understand me," says Marchese, who recently phoned Dell support because her Dimension desktop kept crashing. Much like Todd Garlick, she reports that ►

during one call “the guy couldn’t understand two words I was saying.” She had better luck with a follow-up call: “I got a rep who was very good. She was from India and spoke good English.”

Dell acknowledges such complaints but maintains that foreign accents don’t necessarily translate into poor service. “If a customer can’t understand a rep for whatever reason—whether it’s an accent or telephony or solar flare—there’s potential for a poor satisfaction rating,” says Dell support chief Steve Young.

He notes that one of Dell’s support centers in India has the “highest level of customer satisfaction,” according to the ven-

дор’s internal customer surveys. Dell remains bullish on international support, having added four new call centers last year in Canada, El Salvador, India, and the United States. In addition, the company is establishing support teams to handle the growing PC security threats of spyware and viruses, Young says.

**GET WHAT YOU PAY FOR**

CERTAINLY, THE MORE you pay, the better the service. Dell’s high-end XPS PCs, introduced last year with desktop prices starting at \$1000, offer priority assistance with shorter phone support hold times. XPS customers also are assigned to sepa-

rate tech reps, who are located in the United States and India, according to Dell spokesperson Jennifer Davis.

For low-end PCs, however, Dell has shortened its standard warranty period to 90 days. Customers have the option of upgrading to a one-year warranty for \$19 to \$29. “This lets customers pick what best fits their needs,” says Davis. (Even longer warranties are available at added cost.) But industry watchers are skeptical: A one-year warranty has long been standard for consumer PCs, says technology analyst Roger Kay, president of Endpoint Technologies Associates. “Part of Dell’s marketing is to come out with the lowest

**DESKTOP PCs**

**Few PC Manufacturers Excel Across the Board**

IT WAS A RELATIVELY GOOD YEAR for PCs made by small, independent shops: Even though such systems tended to have more than the average number of failed components, readers felt they received superior service from small companies on virtually all measures, an improvement over last year’s results. Readers were satisfied with the reliability of Apple and Alienware computers, but Apple’s scores for failed components and failed core components

slipped into the average range, a drop from last year’s high ratings, while Alienware customers were more satisfied with the reliability of their machines than they were last year. CyberPower, a high-end gaming PC manufacturer, earns the dubious distinction of having the worst reliability scores among desktops. Nearly 46 percent of CyberPower owners reported having at least one problem. ABS fell behind other manufacturers in reliability of components.

COMPANY	RELIABILITY MEASURES						SERVICE MEASURES			
	Any hardware or software problem	Problems on arrival	Failed component	Failed core component <sup>1</sup>	Satisfaction with reliability	Overall reliability <sup>2</sup>	Phone hold time	Phone rating	Failure to resolve problem	Service satisfaction
Alienware	●	●	●	●	●	●	3	3	3	3
Apple	●	●	●	●	●	●	3	3	3	●
eMachines	●	●	●	●	●	●	●	●	●	3
Acer	●	●	●	●	●	●	3	3	3	3
Lenovo (formerly IBM)	●	●	●	●	●	●	3	3	3	3
Independent sellers	●	●	■	■	●	●	●	●	●	●
MPC	●	●	●	●	●	●	3	3	3	3
PowerSpec	●	●	●	●	●	●	3	3	3	3
Shuttle	●	●	●	●	●	●	3	3	3	3
Sony	●	●	●	●	●	●	●	●	■	●
Compaq	●	●	●	●	■	●	●	●	●	●
Dell	●	●	●	●	●	●	■	●	●	●
Gateway	●	●	■	●	●	●	●	●	●	●
HP	●	●	●	●	■	●	●	●	●	●
Systemax	●	●	■	●	●	●	3	3	3	3
ABS	●	■	■	■	●	●	3	3	3	3
CyberPower	■	■	■	■	●	■	3	3	3	3

● = Better than average ● = Average ■ = Worse than average FOOTNOTES: <sup>1</sup> We categorize six desktop PC components as “core components”: CPU, motherboard, RAM, graphics chip, hard drive, and power supply. <sup>2</sup> The overall reliability score is a weighted calculation of the other five reliability measures. <sup>3</sup> We received too few responses to rate the company on this measure.

## LIKELINESS TO RECOMMEND:

**52%** of Apple laptop owners are extremely likely to recommend one to a friend.

**14%** of Compaq desktop owners are extremely likely to recommend one to a friend.

advertised price and, once having attracted the traffic, trade people up to more profitable configurations," he says.

Perhaps not enough of Dell's customers are accepting the trade-offs or choosing to upgrade, since its once-high support scores across multiple product lines have turned mediocre in our survey. Its marks dipped below average in some areas as well, including phone hold time. Dell desktop PC users told us that, on average, they waited on hold for about 14 minutes (compared with 11 minutes for other system vendors), and Dell notebook owners said they waited a little over 11 minutes (compared with about 9.5 minutes for other laptop makers).

### SOLVE MY PROBLEM, PLEASE

IN GENERAL, readers have few serious difficulties getting through to tech support. Only about a third of this survey's respondents—the same as last year—said their wait on hold was not acceptable. Some vendors insist they're trying to cut hold times and resolve customer issues faster. "We want to get you to a live technician in 1 minute or less," says Mike Zimmerman, Gateway's senior vice president of customer care services. Still, Gateway desktop owners reported waiting on hold for an average of about 7.5 minutes.

Contacting tech support is one thing, but getting a busted PC or peripheral fixed is another. When it comes to resolving problems, only one desktop and notebook vendor stood out as either exemplary or terrible: Sony scored the worst at problem resolution in the desktop PC category—a fact that probably won't shock George Brown of St. Petersburg, Florida.

Last year Brown bought a new DVD writer for his Sony VAIO PCV-RZ22G. But when he connected the drive, the

desktop wouldn't recognize the device (which was still under warranty), so he phoned Sony tech support for assistance.

"They said it's not their problem, it's Microsoft's," says the former electronics engineer. An annoyed Brown then phoned Microsoft, which sent him a free copy of Windows XP to reinstall on his computer. The fix worked, but Sony's

apparently indifferent and pass-the-buck attitude soured him on the company.

Vendors grudgingly support software issues. "It's not good marketing to point the finger at the software supplier and not solve the customer's problem," analyst Kay says. Sony states that it helps its customers resolve operating system and software issues, including spyware and virus glitches, for one year.

Vendors who go the extra mile fixing a customer's problem can earn undying loyalty. When Brad Hulyk of Katy, Texas, bought his Apple iBook laptop in 2002, the machine worked great. After a couple months, however, a vertical red line started appearing near the left edge of the ▶

## What the Survey Measures Mean

### RELIABILITY MEASURES

**Any Hardware or Software Problem (All Devices):** Based on the percentage of survey respondents who reported any problem at all during their product's lifetime.

**Problems on Arrival (All Devices):** Based on the percentage of owners who reported that a device had some sort of problem right out of the box.

**Failed Component (Desktop and Notebook PCs):** Based on the percentage of owners who reported replacing one or more original parts that failed.

**Dead Peripheral (Printers, Cameras, Wireless Gateways, and MP3 Players):** Based on the percentage of people who reported that they had a problem serious enough to make their device unusable.

**Failed Core Component (Desktop and Notebook PCs):** Based on the percentage of respondents who reported a failure of a CPU, motherboard, system memory, power supply, graphics board, or hard drive.

**Product's Ease of Use (Printers, Cameras, Gateways, and MP3 Players):** Based on the owners' rating, on a seven-point scale, of the ease of working with the device and with any accompanying software.

**Satisfaction With Reliability (All Devices):** Based on the owners' rating, on a seven-

point scale, of their satisfaction with the reliability of a device.

**Overall Reliability (All Devices):** An overall score that weighs some of the more serious individual reliability measures (such as a failed core component) more heavily than others (such as ease of use).

### SERVICE MEASURES (DESKTOP AND NOTEBOOK PCs ONLY)

**Phone Hold Time:** Based on the average time a brand's owners reported waiting on hold to speak with a tech-support rep.

**Phone Rating:** Based on the cumulative score from a question in which we asked brand owners to rate, on a seven-point scale, several aspects of their experience in phoning the company's tech support. Among these were whether the information was easy to understand and whether the support rep spoke clearly.

**Failure to Resolve Problem:** Based on the percentage of a brand's owners who said that their problem was not resolved to their satisfaction.

**Service Experience:** Based on the cumulative score from a question in which we asked brand owners to rate, on a seven-point scale, important aspects of their service experience.



The laser printer is “really cheap, flimsy.” The Job Cancel button kept getting stuck and made the printer inoperable.

—Mary Lynn Bower has had two Brother laser printers with the same problem.

screen. At first, “it would come and go, but it did not impair the functionality of the machine,” says Hulyk, a geophysicist.

A while later, the line began to show up more often. He phoned Apple, which agreed to repair the iBook for free—even

though the laptop’s warranty had expired. Hulyk was impressed, and Apple gained a repeat customer. “When this laptop goes, I’ll replace it with an Apple,” he says.

Similarly, IBM customer Jerry Straub, a former engineer from Charleboin, Michi-

gan, has glowing things to say about Big Blue’s tech support. When the hard drive in his IBM ThinkPad notebook started working erratically last year, IBM quickly sent a new drive and gave Straub 90 days to transfer his data before returning the defective disk. When the old one was due, Straub asked for another 3 or 4 days to finish the transfer. IBM gave him ▶

## NOTEBOOK PCs

# ThinkPad and PowerBook Users Most Satisfied

LAPTOPS FROM LENOVO (née IBM) and Apple topped the satisfaction charts in reliability for the second year in a row. eMachines, another of last year’s chart toppers, lost momentum this year, ranking at the low end of average for system reliability. Sony’s products showed marked improvement from last year, when readers criticized

both the company’s service and the reliability of its products. As in the last survey, Compaq’s ratings were among the lowest of any notebook manufacturer. Oddly, even though HP and Compaq are one company, HP-branded notebooks scored in the middle of the pack for both reliability and service, beating those with a Compaq logo.

COMPANY	RELIABILITY MEASURES						SERVICE MEASURES			
	Any hardware or software problem	Problems on arrival	Failed component	Failed core component <sup>1</sup>	Satisfaction with reliability	Overall reliability <sup>2</sup>	Phone hold time	Phone rating	Failure to resolve problem	Service satisfaction
Lenovo (formerly IBM)	●	◆	◆	◆	●	●	3	3	◆	3
Apple	◆	◆	◆	◆	●	●	3	3	3	3
Acer	●	◆	◆	◆	◆	◆	3	3	3	3
Averatec	◆	◆	◆	◆	◆	◆	3	3	3	3
Dell	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Fujitsu	◆	◆	◆	◆	◆	◆	3	3	3	3
Gateway	◆	◆	◆	◆	◆	◆	3	3	◆	◆
HP	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Independent sellers	◆	◆	◆	◆	◆	◆	3	3	3	3
Sony	◆	◆	◆	◆	◆	◆	3	3	◆	3
Toshiba	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
eMachines	◆	◆	◆	◆	■	◆	3	3	3	3
Compaq	■	◆	◆	◆	■	■	◆	◆	◆	■

● = Better than average ◆ = Average ■ = Worse than average FOOTNOTES: <sup>1</sup> We categorize six notebook PC components as “core components”: CPU, motherboard, RAM, graphics chip, hard drive, and power supply. <sup>2</sup> The overall reliability score is a weighted calculation of the other five reliability measures. <sup>3</sup> We received too few responses to rate the company on this measure.

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two extra weeks. "What a class act," says Straub, who adds he'd buy another IBM system "in a New York minute." (Lenovo acquired IBM's Personal Computing Division in May; IBM continues to provide technical support for its customers.)

**RELIABILITY MATTERS**

OBVIOUSLY, customers want a reliable product. Readers were hard on companies this year, resulting in top scores for just a handful of vendors in the Overall Reliability category. Apple and Lenovo

**PERCENT OF PRINTERS WITH PROBLEMS ON ARRIVAL**

**Inkjets: 2.3% Lasers: 2.4% MFPs: 4.4%**

(IBM) notebooks won kudos, as did Canon inkjet printers. But no one stood out in MP3 players, wireless routers, and laser or multifunction printers.

Desktops had some bright spots. For example, Alienware received high customer satisfaction scores for the reliability of its high-end machines. Justin Smith of Castle Rock, Colorado, who runs an

Internet startup, calls his Alienware 5500 the "best computer I've ever owned." The company, which sells primarily to gamers and other power users, says it inspects each system carefully—and even runs performance benchmarks—before shipping it out the door. Smith appreciates the customized service. "It's fun when your system is delivered, and you have a personalized program that shows all the [benchmark] scores," he says. "It gives you a sense of pride in your system."

Repeat problems have the opposite effect and drive customers off. When Mary Lynn Bower of Des Plaines, Illinois, purchased a Brother HL-5040 in December 2003, she figured her new laser printer would last for years. Less than a month later, Bower pressed the Job Cancel button on the printer's control panel—and the button remained stuck in the down position, making the unit inoperable. Brother quickly replaced the machine, but Bower encountered the same problem last year with the replacement unit—months after the warranty had expired. Her solution: Remove the button and patch the resulting hole with tape. Bower, a project manager for the American Academy of Pediatrics, calls the printer "really cheap, flimsy." Next time, she says, she'll buy from another vendor. Brother calls Bower's issue "a strange anomaly" that hasn't been a common problem with the HL-5040. The company earned an average rating for overall reliability.

**QUALITY CONTROL**

NOT ONLY CAN product returns and repairs impact future sales, but companies also take a hit on any profit they would have made from the original sale. "If you take a return back, it costs [the manufacturer] several hundred dollars," explains Gateway's Zimmerman. Even bargain-basement products need reliable components, he says—despite the widely held belief that cheap PCs use inferi- ▶

**PRINTERS**

**Only Canon Stands Above the Crowd**

THIS YEAR we broke up our printer category into separate charts that cover each major type of printer. The most significant story appears at the bottom of each chart, where respondents continue to criticize Lexmark and Xerox on most measures of

reliability, ranking those companies' products below average for the second year. Users of Brother, Epson, and Dell inkjet printers, and Brother multifunction printers (all-in-one printer/copier/fax machines) expressed wide dissatisfaction as well.

COMPANY	RELIABILITY MEASURES					
	Any problems	Problems on arrival	Dead printer	Product's ease of use	Satisfaction with reliability	Overall reliability <sup>1</sup>
<b>INKJET PRINTER</b>						
Canon	●	●	◆	●	●	●
HP	◆	◆	◆	◆	◆	◆
Brother	◆	◆	◆	■	◆	■
Dell	■	◆	■	◆	■	■
Epson	◆	◆	■	■	■	■
Lexmark	■	◆	■	■	■	■
<b>LASER PRINTER</b>						
Brother	◆	◆	●	◆	◆	◆
HP	◆	◆	◆	◆	◆	◆
Samsung	◆	◆	◆	◆	◆	◆
Minolta	◆	◆	◆	■	◆	◆
Dell	◆	■	◆	■	◆	◆
Xerox	■	◆	■	◆	◆	■
Lexmark	■	◆	■	■	◆	■
<b>MULTIFUNCTION PRINTER</b>						
Canon	◆	◆	◆	◆	◆	◆
Dell	◆	◆	◆	◆	◆	◆
Epson	◆	◆	◆	◆	◆	◆
HP	◆	◆	◆	◆	◆	◆
Lexmark	◆	◆	◆	◆	■	■
Brother	◆	◆	■	■	■	■

● = Better than average ◆ = Average ■ = Worse than average FOOTNOTE: <sup>1</sup> The overall reliability score is a weighted calculation of the other five reliability measures.

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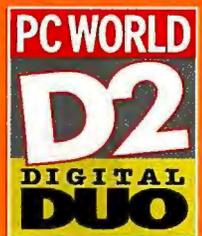


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or parts. "That's not the case at all. By spending a little more on the front end, we'll reduce our service costs on the back end," Zimmerman explains.

And that's crucial, as high service costs can spell disaster for vendors. "A single [support] call, depending on how long it runs, can cost \$25, which wipes out the extra profit," says analyst Kay.

Vendors report that they're always working to improve the quality of their wares. For instance, Lexmark, which received low grades for overall reliability of its laser, inkjet, and multifunction printers, says that its products undergo numerous performance and durability tests in a variety of temperature, humidity, and altitude conditions. And Dell says its QuietCase desktop with a space-saving BTX chassis design, introduced last year, should improve reliability by allowing better cooling inside the PC. Toshiba, which received a score of average in the overall reliability of its notebooks, says that it is

## How We Conducted the Survey

WORKING WITH Lynd Bacon & Associates of Belmont, California, and Research Results of Fitchburg, Massachusetts, *PC World* surveyed nearly 35,000 subscribers about their experiences with desktop and notebook PCs, printers, cameras, wireless gateways, and MP3 players. The online survey was open to our subscribers between May 1 and August 1, 2005. We limited respondents' reports to devices that were three years old or newer.

Lynd Bacon & Associates then used statistical analysis, including multivariate statistics and psychometrics, to determine

which companies performed significantly better or worse than average across a number of measures.

In our charts, we arranged the companies with the most better-than-average scores at the top and those with the most worse-than-average scores at the bottom. When a vendor had both better-than-average and worse-than-average scores, we subtracted the worse-than-average scores from the better-than-average scores. When two or more vendors received the same number of average, better-than-average, or worse-than-average scores, we arranged the list alphabetically.

adding shock-absorbing mounts to various notebook components such as hard drives and LCD screens to increase reliability and reduce potential damage.

In the Overall Reliability category,

CyberPower PCs, Compaq laptops (made by HP), HP and Vivitar digital cameras, 2Wire routers, Brother inkjet printers and MFPs, and all types of Lexmark printers all had low marks. The vendors attribute their low scores to various factors. HP, for instance, says it's working to improve the quality of its cameras and has seen significant improvement in the past 12 months. The company has focused in part on enhancing its cameras' zoom lenses, which get a lot of wear and tear and thus have a large impact on reliability. However, HP's camera reliability scores showed little improvement in our survey from last year to this year.

Brother, while not directly addressing the poor reliability scores for its inkjet and MFP models, says it has had enormous sales growth over the past two years of its inkjet printers, which has increased support calls. Vivitar says many of its help queries come from entry-level users unfamiliar with digital cameras. Several other vendors, including 2Wire, CyberPower, and Konica Minolta, declined to comment on their poor survey scores.

### DIGITAL CAMERAS

## Sony and Canon Top the Camera Group

READERS REPORTED, for the second year in a row, that Sony's cameras were particularly easy to use. Canon cameras were the least prone to problems, an improvement over the previous year's results. At the

other end of the spectrum, survey participants rated HP and Vivitar cameras below average in four of six reliability measures—landing both companies at the bottom of the heap for the second consecutive year.

COMPANY	RELIABILITY MEASURES					
	Any problems	Problems on arrival	Dead camera	Product's ease of use	Satisfaction with reliability	Overall reliability <sup>1</sup>
Canon	●	◆	◆	◆	●	◆
Sony	◆	◆	◆	●	●	◆
Casio	◆	◆	◆	◆	◆	◆
Fujifilm	◆	◆	◆	◆	◆	◆
Kodak	■	◆	◆	●	◆	◆
Nikon	◆	◆	◆	■	●	◆
Panasonic	◆	◆	◆	◆	◆	◆
Pentax	◆	◆	◆	◆	◆	◆
Olympus	◆	◆	◆	■	◆	◆
Konica Minolta	◆	◆	■	■	◆	◆
HP	■	◆	■	◆	■	■
Vivitar	■	◆	◆	■	■	■

● = Better than average ◆ = Average ■ = Worse than average

FOOTNOTE: <sup>1</sup>The overall reliability score is a weighted calculation of the other five reliability measures.

### USER FRIENDLY

EASE OF USE matters as well, particularly with peripherals. Readers gave makers of digital cameras, MP3 players, wireless routers, and printers mixed scores in ▶

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"They said it's not their problem, it's Microsoft's."

—George Brown called Sony when his VAIO PC would not recognize his external drive.



this category. Among camera vendors, for instance, Kodak and Sony received above-average marks for usability, while Konica Minolta, Nikon, Olympus, and Vivitar fared poorly. What kinds of usability issues bothered our readers? One example comes from former pharmaceutical researcher Myron Slotsky of Boynton Beach, Florida, who says that the Olympus C-750 Ultra Zoom point-and-shoot camera he bought for his wife last year was simply too difficult for her to learn to operate. Now it's his camera. The Olympus model's confusing menus make shooting, say, a panorama difficult: "You should be able to press a button and get it," Slotsky says.

**SUPPORT MOVES ONLINE**

MOST PEOPLE are still inclined to pick up the phone and call a vendor when something goes wrong. Across all six product categories we surveyed, some 56 percent of readers said they first contacted tech support via phone, down slightly from 60 percent a year ago. However, Web use saw a slight uptick: Site visits bumped up one point to 26 percent.

Companies would rather you click than call. Though they've been trying to nudge customers online for years with limited success, their efforts continue. They're investing heavily in Web-based support, including online chat and automated diagnostic and repair tools that download software fixes via the Internet. What percentage of support queries are handled online? Vendor estimates vary greatly: 10

percent for Gateway and Xerox, 40 percent for Alienware, 60 percent for Brother, and nearly 90 percent for Sony. That said, not all vendors define an online support experience in the same way. Gateway's low estimate, for instance, doesn't

factor in customers who use the company's online FAQ pages or its Big Fix diagnostic software to download driver updates. On the other hand, Sony's high figure takes into account all online visits. Think of it as the fast-food ap- ▶

**WIRELESS GATEWAYS**

**No Brand Makes Its Mark in Reliability**

PARTICIPANTS IN this year's survey told us that none of the major brands of wireless gateways stood out on any measure of reliability. Netgear, which topped the chart last year, now rates average across the board.

Readers complained about ease of use—in particular, the difficulty of initial setup—with all brands of wireless routers, but rated SMC's devices and chart newcomer Cisco's products the worst in that category.

COMPANY	RELIABILITY MEASURES					
	Any problems	Problems on arrival	Dead gateway	Product's ease of use	Satisfaction with reliability	Overall reliability <sup>1</sup>
Belkin	◆	◆	◆	◆	◆	◆
D-Link	◆	◆	◆	◆	◆	◆
Linksys	◆	◆	◆	◆	◆	◆
Motorola	◆	◆	◆	◆	◆	◆
Netgear	◆	◆	◆	◆	◆	◆
Cisco	◆	◆	◆	■	◆	◆
SMC	◆	◆	◆	■	◆	◆
2Wire	■	◆	◆	◆	◆	■

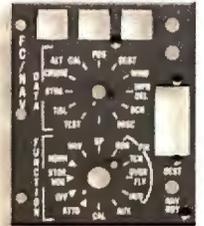
◆ = Better than average ◆ = Average ■ = Worse than average FOOTNOTE: <sup>1</sup> The overall reliability score is a weighted calculation of the other five reliability measures.

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proach to customer support. Intense competition, particularly among PC vendors, means lower prices for consumers—and lower profit margins for vendors. To cut expenses, vendors implement self-serve Web support. “You’re expected to bus your table when you go to McDonald’s,” says analyst Roger Kay. Computer vendors, he adds, work in a similar fashion: “They don’t want employees on phones. They want you to bus your own table.”

**SELF-SERVICE**

CERTAINLY, VENDORS prefer that their customers use Web-based support because it’s cheaper to operate. But as users’ sophistication with the Internet grows, they’re coming to accept online help. Over the past year, Sony’s online chat feature has gone “from pilot to mainstream,” says Sony VAIO customer service manager Stephen Nikel. The company’s internal surveys show a positive bump in user reaction to online support, he adds. And HP reports a 65 percent increase in the use of chat over the past 12 months. Other vendors are moving more cautiously into chat. Dell started a pilot chat pro-

**AUTOMATED PHONE MENU SYSTEM:**

**17% said it solved their problem.**

**33% said it was hard to get to a live person.**

gram a year ago and has been “giving it a bit more real estate” on its site lately, says Dell support chief Steve Young. Although he did not provide usage percentages, he says that the number of Dell customers who use online support is on a par with—if not greater than—the number calling up phone support.

Despite vendors’ enthusiasm for chat, our survey respondents remain cool to it: Only 5 percent of readers said they used chat to contact a tech rep, up just 2 percent from last year. Why the resistance? Toshiba’s internal customer surveys provide a strong clue. “With chat, one of the responses we’d get is, ‘How do you expect me to use online chat if my computer is down?’” says Toshiba’s David Norris.

“People want to talk to a person and tell them their problem. They want to get it fixed by a person who can cut to the chase,” says Kay of phone lines’ appeal.

E-mail is equally unpopular. As is the

case with chat, nearly 7 percent of surveyed readers used this method to contact vendors. Companies aren’t all that happy with e-mail queries either, since they can be difficult to answer. “It takes anywhere from four to five e-mails just to identify the customer’s problem because of interpretation or description,” Norris says. That makes people cranky. “They’ll write an e-mail, get a question back, write another e-mail, and get another question back.” It might take as many as eight messages before a company is able to provide an answer, he adds.

Then again, readers are more likely now to surf Web sites to find product information and drivers, according to our survey results. A hard-to-navigate site can irk people, of course. Ken Moorhouse, a maintenance man from Cammore, Alberta, Canada, couldn’t get the TV tuner on his HP Media Center m480n desktop system to work. He went to HP’s site to download an updated driver. “I couldn’t find it anywhere,” he says. He turned to online chat, though, and an HP rep guided him to the right driver and ultimately helped him resolve the problem.

**WHAT CUSTOMERS WANT**

OVERALL, PC AND peripherals users say they want tech reps who are native English speakers (preferably American English); better-trained reps who aren’t merely reading from a script; shorter hold times for phone support; faster response to e-mail queries; and, finally, better-made products that don’t require a tech support call in the first place.

The eternal moral for vendors: It pays to treat a customer right. Tech reps must be intelligent, polite, and—readers stress this most—easy to understand. ■

*Freelance writer Jeff Bertolucci is a regular contributor to PC World, Kiplinger’s Personal Finance, and other national publications.*

**AUDIO PLAYERS**

**iPod Remains the Easiest Player to Use**

FOR THE SECOND year running, readers gave Apple’s popular iPod MP3 player kudos for being the easiest to use in the market. Ease of use was a big problem in last year’s survey, and several manufactur-

ers seem to have improved this key aspect of their players’ design. Sony slipped the most overall: This year, fewer owners of Sony players were satisfied with the products’ reliability than they were last year.

COMPANY	RELIABILITY MEASURES					
	Any problems	Problems on arrival	Dead MP3 player	Product’s ease of use	Satisfaction with reliability	Overall reliability <sup>1</sup>
Apple	◆	◆	◆	●	●	◆
Creative	◆	◆	◆	◆	◆	◆
Dell	◆	◆	◆	◆	◆	◆
iRiver	●	◆	◆	■	◆	◆
Samsung	◆	◆	◆	◆	◆	◆
Sony	◆	◆	◆	◆	■	◆
RCA	◆	◆	◆	■	■	◆

● = Better than average ◆ = Average ■ = Worse than average FOOTNOTE: <sup>1</sup> The overall reliability score is a weighted calculation of the other five reliability measures.

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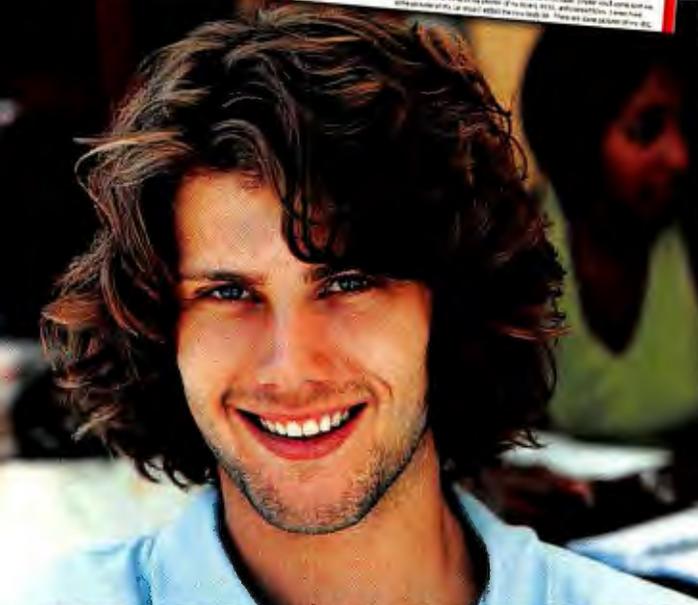
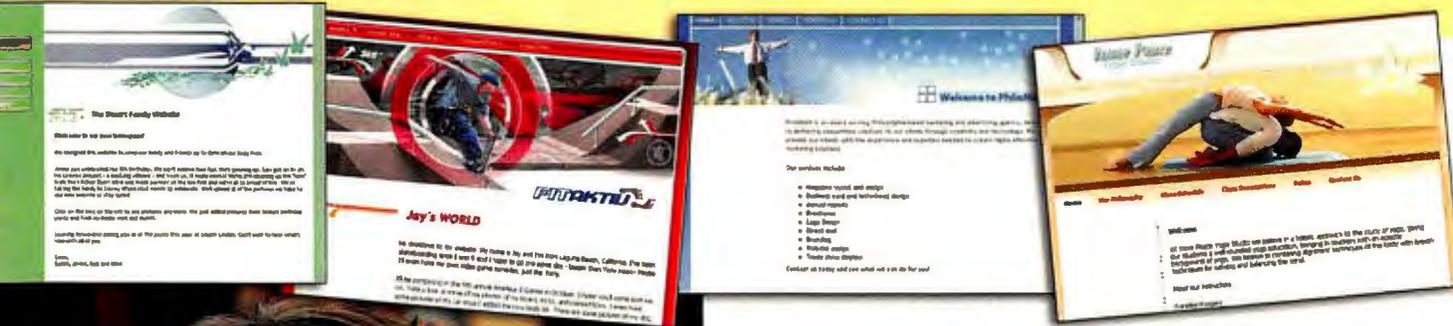
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Photo Gallery	✓	–
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Web Space	<b>10,000 MB</b>	5,000 MB	10,000 MB
Monthly Transfer Volume	<b>500 GB</b>	200 GB	500 GB
E-mail Accounts	<b>1,000 IMAP or POP3</b>	200 POP3	1,000 POP3
Mailbox Size	<b>2,000 MB</b>	2,000 MB	10 MB
Website Builder	<b>12 pages</b>	✓	<b>Extra charge applies</b>
Photo Gallery	✓	✓	✓
Dynamic Web Content	✓	✓	—
Web Statistics	✓	✓	✓
Chat Channels	✓	—	✓
Database	<b>25 MySQL (Linux)</b>	MySQL support	25 MySQL (Linux)
Search Engine Tools	✓	Extra charge applies	<b>Extra charge applies</b>
PHP Support (Linux)	✓	✓	✓
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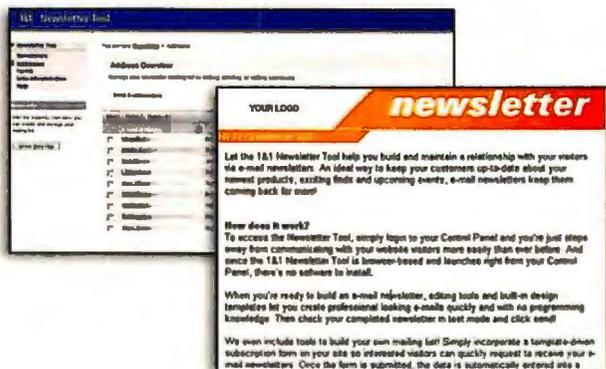
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Price per month			
Included Domains	<b>3</b>	1	<b>0</b>
Web Space	<b>20,000 MB</b>	10,000 MB	20,000 MB
Monthly Transfer Volume	<b>1,000 GB</b>	400 GB	1,000 GB
E-mail Accounts	<b>2,000 IMAP or POP3</b>	500 POP3	2,000 POP3
Mailbox Size	<b>2,000 MB</b>	2,000 MB	10 MB
Website Builder	<b>18 pages</b>	✓	<b>Extra charge applies</b>
Photo Gallery	✓	✓	✓
Dynamic Web Content	✓	✓	—
Web Statistics	✓	✓	✓
E-mail Newsletter Tool	✓	<b>Extra charge applies</b>	<b>Extra charge applies</b>
In2site Live Dialogue	✓	—	—
Chat Channels	✓	—	—
Form Builder	✓	✓	—
Database	<b>50 MySQL (Linux)</b>	MySQL support	50 MySQL (Linux)
Search Engine Tools	✓	Extra charge applies	<b>Extra charge applies</b>
PHP Support (Linux)	✓	✓	✓
Perl Support (Linux)	✓	✓	✓
Software suite (\$600 value)	✓	—	—
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Helen McSweeney	817 Providence Hwy, Boston, MA 02116	helenmcsweeney@hotmail.com

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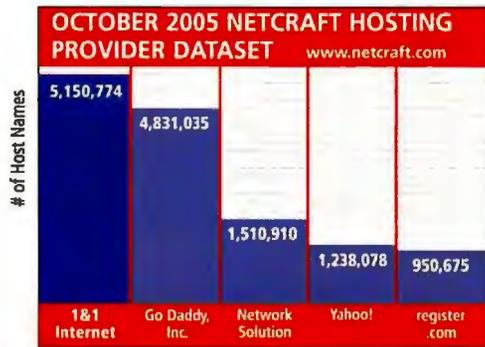


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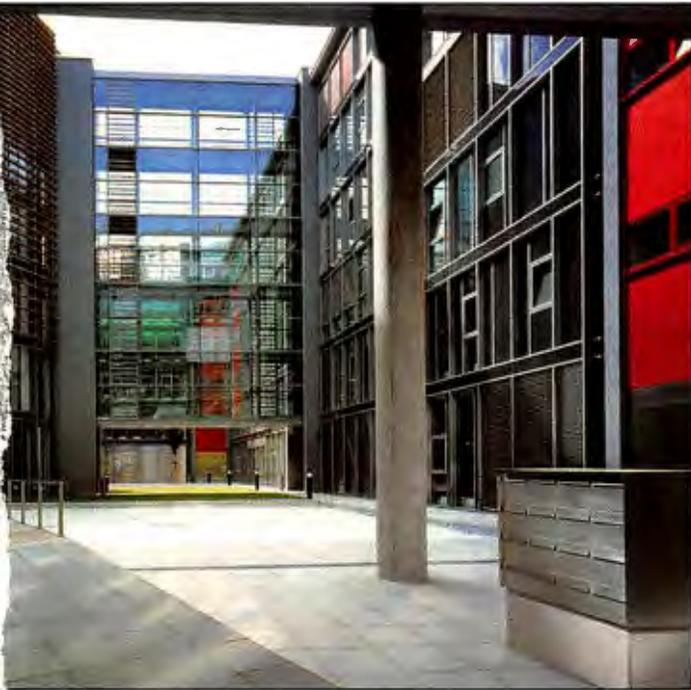
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**DIGITAL WORLD**

EDITED BY MELISSA PERENSON

# BURN TV ON DVD

**THE LATEST DVD RECORDERS HAVE HARD DRIVES, PROGRAM GUIDES, AND LOWER PRICES. IF YOU LOVE TV, ONE OF THESE TEN MODELS MAY BE RIGHT FOR YOU. BY RICHARD BAGULEY**

PHOTOGRAPH: CHIP SIMONS

DOES YOUR AGING VCR, with its clunky analog tapes and limited capabilities, feel antiquated? Maybe it's time to switch to a slim DVD recorder. Today's models offer better quality and larger recording capacity than ye olde VCR—plus on-screen pro-

gramming guides, and built-in hard drives that hold hundreds of hours of video.

The newest DVD recorders far outshine last year's relatively primitive models—making this a great time to jump in. They're cheaper, too: A year ago, such recorders

were priced for the television elite—up to \$1000 for one with a 160GB hard drive—but today various models are within reach of ordinary TV watchers. A basic recorder (like CyberHome's DVR1600) sells for less than \$100; a model with an 80GB hard

drive (for example, the Lite-On LVX-5045) costs less than \$300; and a deluxe 250GB model (such as the Toshiba RD-XS54) runs about \$700.

The three models mentioned above are among the ten DVD recorders I evaluated in this roundup. Half ▶

of them had a built-in hard drive; the other half were either bare-bones recorders or combination units that coupled a DVD recorder with a VCR or second DVD player. (Only the top three in each category make our chart below. For full reviews and ratings of all ten recorders, see [find.pcworld.com/50292](http://find.pcworld.com/50292).)

Among hard-drive-enabled models, the full-featured, network-connected Toshiba receives our Best Buy. Samsung's DVD-VR325, which pairs a DVD recorder with a VCR, wins our Best Buy for non-hard-drive recorders.

All of the recorders in this roundup include component video outputs, but only the



**DIRECT TO DVD:** Samsung's DVD-TR520 (top) and DVD-VR325, and Philips's DVDR3355 (bottom) lack a hard drive, but have other assets.

Samsung DVD-VR325 and the Toshiba provide digital connections for use with a HDTV. Both the Samsung and the Toshiba convert ana-

log video into digital signals at resolutions of 720p or 1080i (two common HDTV formats) for output via an HDMI port. Such up-conversion can

make a difference: TV recorded to DVD from a cable signal or other analog source looked much better on an HDTV. DVD video piped to our test TV via an HDMI connection looked sharper than the same video transmitted via component cables, probably because it underwent fewer analog-to-digital conversions.

Every recorder we tested supports playing MP3 audio files and displaying JPEG photo files burned to disc. But the Philips DVDR3355 is the only one that plays back MPEG-4 and DivX video files, too. The Toshiba RD-XS54 can be programmed via the Internet, without requiring an extra-cost add-on.

**FEATURES COMPARISON**

## DVD RECORDERS DELIVER ON DIVERSITY

THE SAMSUNG DVD-TR520'S disc-to-disc copying and the Toshiba RD-XS54's network support helped propel them to Best Buys for models without and with hard drives, respectively. For full ratings, rankings, and reviews of all ten models tested, see [find.pcworld.com/50292](http://find.pcworld.com/50292).

WITHOUT HARD DRIVE		PCW Rating	Features and specifications		Performance <sup>1</sup>	Bottom line
1	<b>Samsung DVD-VR325</b> Best Buy \$400 <a href="http://find.pcworld.com/50286">find.pcworld.com/50286</a>	<b>79</b> Good	<ul style="list-style-type: none"> <li>DVD-R/RW, DVD-RAM write formats</li> <li>VCR</li> <li>HDMI output</li> </ul>	<ul style="list-style-type: none"> <li>Program guide: No</li> <li>One-touch recording: Yes</li> <li>Time shifting: No</li> </ul>	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> </ul>	Combines a DVD recorder and VHS recorder in one stylish, easy-to-use device that delivers good image quality.
2	<b>Samsung DVD-TR520</b> \$250 <a href="http://find.pcworld.com/50290">find.pcworld.com/50290</a>	<b>78</b> Good	<ul style="list-style-type: none"> <li>DVD-R/RW, DVD-RAM write formats</li> <li>Twin-tray, DVD-to-DVD dubbing</li> </ul>	<ul style="list-style-type: none"> <li>Program guide: No</li> <li>One-touch recording: Yes</li> <li>Time shifting: No</li> </ul>	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> </ul>	Its dual DVD decks make copying unprotected DVDs easy, but this unit is pricey and can't duplicate copy-protected content.
3	<b>Philips DVDR3355</b> \$250 <a href="http://find.pcworld.com/50288">find.pcworld.com/50288</a>	<b>74</b> Good	<ul style="list-style-type: none"> <li>DVD-R/RW, DVD+R/RW write formats</li> </ul>	<ul style="list-style-type: none"> <li>Program guide: VCR Plus+</li> <li>One-touch recording: Yes</li> <li>Time shifting: No</li> </ul>	<ul style="list-style-type: none"> <li>Image quality: Good</li> </ul>	Good for isolated recording needs, this low-cost model has a well-designed remote and delivers reasonable image quality.
WITH HARD DRIVE						
1	<b>Toshiba RD-XS54</b> Best Buy \$700 <a href="http://find.pcworld.com/50294">find.pcworld.com/50294</a>	<b>79</b> Good	<ul style="list-style-type: none"> <li>DVD-R/RW, DVD-RAM write formats</li> <li>250GB hard drive</li> </ul>	<ul style="list-style-type: none"> <li>Program guide: TV Guide On Screen</li> <li>One-touch recording: Yes</li> <li>Time shifting: Yes</li> </ul>	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Dubbing: Good (DVD-R, 358; DVD-RW, 789)</li> </ul>	High-end unit has a slew of features, including HDMI output; ethernet connection lets you control it over the Internet.
2	<b>Panasonic DMR-EH50S</b> \$400 <a href="http://find.pcworld.com/50296">find.pcworld.com/50296</a>	<b>76</b> Good	<ul style="list-style-type: none"> <li>DVD-R/RW, DVD-RAM write formats</li> <li>250GB hard drive</li> </ul>	<ul style="list-style-type: none"> <li>Program guide: TV Guide On Screen</li> <li>One-touch recording: Yes</li> <li>Time shifting: Yes</li> </ul>	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Dubbing: Good (DVD-R, 363; DVD-RW, 512)</li> </ul>	Makes high-quality recordings and has an SD Card slot that you can use to transfer still images to DVD or to the hard drive.
3	<b>Pioneer DVR-633H-S</b> \$599 <a href="http://find.pcworld.com/50298">find.pcworld.com/50298</a>	<b>75</b> Good	<ul style="list-style-type: none"> <li>DVD-R/RW, DVD+R, DVD-RAM write formats</li> <li>100GB hard drive</li> </ul>	<ul style="list-style-type: none"> <li>Program guide: TV Guide On Screen</li> <li>One-touch recording: Yes</li> <li>Time shifting: Yes</li> </ul>	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Dubbing: Good (DVD-R, 354; DVD-RW, 616)</li> </ul>	Only model here that can write to dual-layer DVD-R discs; had fastest-R disc load time (by a hair) and finalization times.

<sup>1</sup>Dubbing time (in seconds) to copy 1 hour of video from hard drive to DVD. CHART NOTES: Prices are as of 10/18/05. See [find.pcworld.com/50292](http://find.pcworld.com/50292) for details on how we test DVD recorders.

PHOTOGRAPH: MARC SIMON

## SPEEDY COPYING

THE ABILITY TO copy and archive video is the running theme among the DVD recorders assembled here.

All but the CyberHome and the \$250 Philips DVDR3355 have features to make copying video easier. Samsung's \$400 DVD-VR325 and Sony's \$310 RDR-VX515 combine a DVD recorder with a VHS video deck, so transferring your VHS home movies to DVD is a snap, and the \$450 Samsung DVD-TR520 can copy from DVD to DVD. Four other models (the Lite-On, the \$350 Panasonic DMR-EH50S, the \$500 Pioneer DVR-633H-S, and the Toshiba) can record to a DVD or to a hard drive; a fifth, the \$390 Humax DRT400, requires you record video to its hard drive before burning it to DVD.

Given how pervasive VHS tapes have been for the past two decades, the Samsung and Sony models with DVD and VHS decks represent a convenient bridge between past and present. These combo models digitize and copy video from tape to DVD in real time—a great feature if you want to create digital copies of old TV shows or family films. Both models have a button to sync the start of VHS cassette playback with the DVD recording—a much simpler approach than stringing cables between a VCR and a DVD recorder, and juggling two remotes.

DVD recorders equipped with a hard drive are great for recording lots of TV, capturing long programs (like the Super Bowl or the Winter

Olympics) at the highest quality speed, or recording several episodes of a show while you are away for a few weeks. Depending on the hard drive's capacity and the video quality setting you choose, you can store many hours of video: The Humax is rated at a maximum of 40 hours; the Panasonic, 100 hours; the Lite-On and the Pioneer, 160 hours;



**CAPACIOUS STORAGE:** Our three chart-making DVD recorders with hard drives—from Pioneer (top), Panasonic, and Toshiba—feature roomy drives.

and the Toshiba, 250 hours. After recording a program on a hard drive, you can transfer it to DVD in a single step; the recorder will split the video among discs as needed. Hard drive models transfer video to DVD fairly quickly: When the PC World Test Center copied a 1-hour TV show from the four hard-disk models to DVD-R using the highest quality mode (at which a disc holds 1 hour of video), most completed the job in around 6 minutes (not including the 2 minutes or so required to finalize the disc, to ensure that it will play without a hitch on other DVD players).

The fastest unit, the Pioneer, transferred the video in 5 minutes and 54 seconds, and finalized the disc in 55

seconds for a total of just under 7 minutes. The two outliers in our tests were the Humax (which took about 15 minutes) and the Lite-On LVW-5045 (18 minutes); both vendors said the slower performance was likely due to the speed of the integrated DVD burner (rated at 4X, compared with 8X for the other models).

The slick, twin-tray design of the Samsung DVD-TR520 pairs a DVD-R/RW and DVD-RAM recorder with a DVD player, so you can dub from disc to disc (but only if the original source disc has no copy protection; you can't use the recorder to make copies of commercial DVD movies).

## PC-FREE EDITING

ALL TEN RECORDERS let you edit video on the disc itself if you record to a rewritable DVD format. Every model supports one or more form of RW disc, and the Samsungs, the Panasonic, and the Toshiba support the less interchangeable RAM format as well. With a rewritable disc, you can edit and remove advertisements or other con-

tent directly from your recorded video disc, without having to transfer it to your PC's hard drive, perform the editing there, and then re-render and burn the video to disc.

Still, the process was easier on certain models than on others. The CyberHome, Panasonic, two Samsungs, and Sony let you remove sections of video from rewritable DVD discs by selecting start and end points anywhere in the video (a technique known as A-B editing). The other recorders require you to define ads and other unwanted sections as chapters before you can delete them—a less elegant process.

With the three hard-drive-equipped players, you can edit video on the hard drive before committing it to disc (the best bets are low-cost write-once DVD-R or +R disc).

Sadly, the Humax does not support any editing. Instead, you have to burn the whole recording, and if it exceeds your media's capacity at all, you must use two discs.

## VIDEO QUALITY

VIDEO QUALITY IS critical to a DVD recorder. Fortunately, I found few examples of egregious recording quality when I tested these recorders at their highest image-quality mode, which can pack a full hour of video on a single-layer disc, or twice that amount on a double- or dual-layer disc (the Pioneer is the only model here that supports dual-layer media, however).

I was particularly impressed with the quality of both Samsungs, the Panasonic, and the Toshiba, all of which ▶

produced accurate recordings of the video sources that I used to test these models. Top marks went to the Samsung DVD-VR325, especially when we played back its video on a calibrated high-definition TV using the HDMI output: The colors were extremely accurate, and the blacks looked intensely dark while at the same time maintaining shadow detail. Similarly, the Toshiba and Panasonic recorders produced great-looking, balanced video with accurate colors.

The CyberHome and the Lite-On produced the least-impressive image quality. Though the low-cost CyberHome's video was acceptable,



SLICK DESIGN: Humax's DRT400 uses TiVo's guide and interface.

it looked more like the output from an old VHS recorder than from a spanking new DVD recorder: The colors were unappealing and I saw noticeable noise in areas of flat color, such as in some cartoons. The Lite-On's videos were better, but they suf-

fered from poor contrast: Blacks looked gray, and colors appeared dull and muted.

**A PERFECT RECORDER**

IT'S DIFFICULT TO choose a single winner in this diverse group. The good news is that no matter what your budget

or criteria for a living room DVD recorder, you should be able to find a model to suit your needs and wallet.

The HDMI-equipped Samsung VR-325, one of our Best Buys, does an excellent job of bridging the chasm between old technology (the VCR) and new (HDTV and DVD recording). Among the hard-drive recorders we tested, the pricey Toshiba RD-XS54 wins a Best Buy as well: It holds the most video, produces terrific-looking recordings, and is jam-packed with features. ■

*Richard Baguley is a freelance writer who doesn't have enough time to watch TV.*

**PROGRAM GUIDES**

# A TALE OF TWO ON-SCREEN PROGRAM GUIDES

A SNAZZY LIVING-ROOM DVD recorder won't be of much use if you can't find the programs you want to record or play back. Many recorders integrate TV listing services to simplify finding and recording shows, but some do it better than others.

The most common electronic program guide is Gemstar's TV Guide On Screen. This free service doesn't require Internet access; instead, listings are transmitted within the TV signal, decoded by the recorder, and paid for by ads (which I found maddeningly distracting) that line the left third of the screen. The service doesn't work with satellite boxes.

The Toshiba, Panasonic, and Pioneer models I reviewed support TV Guide On Screen. The service's main competitor, TiVo (\$13 per month, or \$299 for the lifetime of the unit), comes with the Humax recorder. (A new subscription-based

guide from Microsoft should be available in some recorders by the time you read this.)

In my tests, I much preferred TiVo to TV Guide On Screen: The TiVo interface is much slicker, and the program grid feels less cluttered, even though it displays more programs.

Though TV Guide On Screen lets you initiate or schedule a recording from within its program guide, TiVo's advanced features (such as its ability to automatically record only new episodes of a series, or to record all programs starring a particular actor) make getting the shows you want much easier. TiVo also allows you to schedule recordings online, a feat that only the expensive Toshiba RD-XS54 could match (when connected to a home network via ethernet). Unlike TV Guide On Screen, TiVo also supports satellite TV connections.



TIVO'S CLUTTER-FREE menus include a recorded program list.



TV GUIDE ON SCREEN has a busy, ad-supported program grid.

# GADGET FREAK

DAN TYNAN

## Tracking the Wild Teenager: Spy Tools for the Whole Family

WHEN I TOLD my wife I was planning to stalk my family members for this column, she got a bit testy. "Who are you stalking? Where? For how long?" she demanded.

I thought maybe I'd caught her having an affair. Turns out she just didn't want me to know she sneaks off to shop.

Playing P.I. with the family does have a certain attraction. Although my kids aren't yet teens, in a few years I'm sure I'll want to tail my daughter when she goes on dates, and train a speed gun on my lead-footed son. Fortunately, there are a few gadgets that will do the dirty work for me.

### RATTLE AND ROLL

FIRST I TRIED out the Road Safety RS-1000 (\$280, [www.roadsafety.com](http://www.roadsafety.com)), a black box about 6 inches square with a PC Card-size CPU inside. I plugged the RS-1000's cable into my '96 Honda's data link connector beneath the dash and hid the box under a seat.

The RS-1000 is like a back-seat driver who never shuts up. Accelerate too rapidly and the box beeps; take a turn too sharply and it rattles. I forgot to tell my wife about it, so the first time it rattled at her she thought a baby diamondback was hiding under her chair.

The alerts should make

your teenagers better drivers, says Larry Selditz, president of Road Safety International. RSI's own surveys indicate that most kids quickly modify

instant he exceeded 80 mph and got grounded for life. A decibel detector tells you if junior pumps up the volume when you're not in the car.

You can show your child the precise instant he exceeded 80 mph and got grounded for life.



their habits (some just crank the stereo up louder).

The RS-1000 lets you remove the processor from the box, attach a USB cable, and download the data to your PC—its coolest feature. Once there, you can view a graph displaying driving activity second-by-second, so you can show your child the precise

### FOLLOW ME

THE RUBBER REALLY hits the road when you can track not only how your kids are driving, but where they've been. Selditz expects a GPS module for the RS-1000 to be available in early 2006. Meanwhile, I did some snooping with the Little Brother (\$595, [www.trackmygps.com](http://www.trackmygps.com)), a cigarette-

lighter-size, auto-based GPS tracker sold by Securacom.

To get a feel for how the device works, I logged into Securacom's tracking site and watched a cop car with a GPS unit move across a map. A detailed report told me everywhere it had been, how far it had gone, and how fast it was traveling. I was fascinated—and a little creeped out.

Tracking your kids when they're not in a car is dicier. Nextel's BlackBerry 7520 (\$199 plus service plan, [www.nextel.com](http://www.nextel.com)), a GPS-enabled cell phone/messaging device, and MapQuest's Find Me service ([findme.mapquest.com](http://findme.mapquest.com)) offer a potential solution. For a mere \$4 to \$6 a month, you can track Find Me users (with their permission) carrying select GPS phones, and see their location on the BlackBerry's screen or on the Find Me site. At least theoretically.

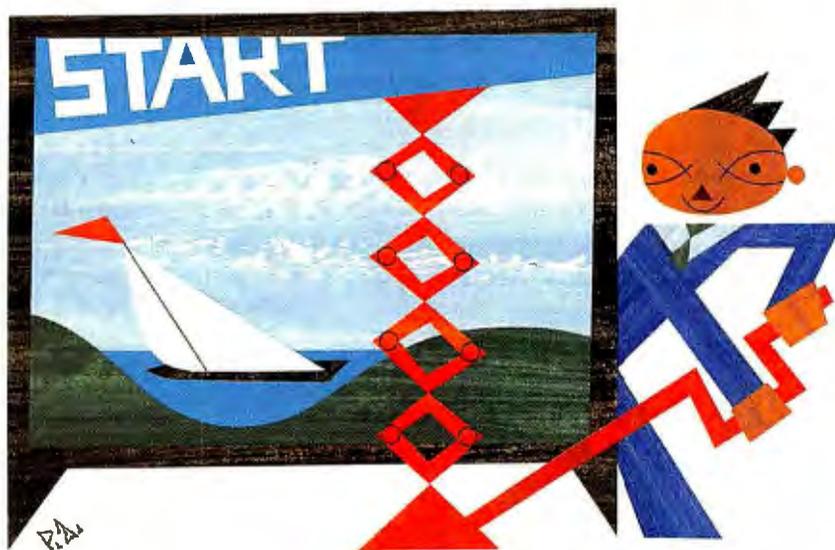
Because GPS doesn't work well indoors, you can instruct Findme to use cell towers to locate those you're tracking, but that has its own problems. The GPS had me within a few yards of my location, but the cell towers placed me 3 to 10 miles away. With this tracking method, once my kids head indoors, I might know what county they're in, but not much else. I failed to find this comforting.

Keeping track of where my kids are and what they're doing is fine—if they know that I'm watching and they understand why. But I have no reservations about spying on my wife. I want to find out what mischief she's up to before the credit card bills arrive. ■

Watch out. Contributing Editor Dan Tynan is following you.

# HERE'S HOW

EDITED BY ERIC DAHL AND DENNIS O'REILLY



## WINDOWS TIPS

SCOTT DUNN

### Break Through Windows' Workspace Limitations

WHO ISN'T RUNNING out of room on their desktop? (Put your hands down; you are, too.) We tend to stick with the default screen layouts in both Windows and apps. But there are many ways to see more rows of your spreadsheet, more lines of your letter, and more pixels of your picture.

**Toggle the taskbar:** Your taskbar takes up space that you could be using to see more of the files you're working on. To toggle the taskbar in and out of view, right-click it and choose *Properties*. If 'Always on top'

or 'Keep the taskbar on top of other windows' is checked (depending on your version of Windows), uncheck it. Your maximized window will become larger. You can access the taskbar by pressing **<Ctrl>-<Esc>**, **<Esc>** by itself, or **<Windows>** and then **<Esc>**. When you return to an open window, the taskbar hides again.

If you would rather use your mouse to bring your taskbar in and out of view, right-click the taskbar, choose *Properties*, recheck *Always on top* or *Keep the taskbar*

*on top of other windows*, and check *Auto hide* or *Auto-hide the taskbar* (depending on your version of Windows). The taskbar will now stay out of sight until you move your mouse over to that edge of the screen. You can use this option in conjunction with the keyboard technique, though it doesn't work in Windows 98.

**Bonus tip:** To make each new window open maximized when you click its icon, right-click the icon, choose *Properties>Shortcut*, select *Maximized* from the Run drop-down list, and click *OK* (see **FIGURE 1**). To toggle between a window's maximized and normal sizes, simply double-click the window's title bar.

**Switch from landscape to portrait:** If you work mainly with spreadsheets and other wide, landscape-oriented documents, put the taskbar at the bottom of the screen so that the remaining available space will be wider than it is high. On the other hand, if you work often with portrait-oriented files (such as most text documents), drag the taskbar to the left or right edge of the screen. In XP, you may need to right-click the taskbar and uncheck *Lock the taskbar* to enable dragging and resizing.

**Tame your toolbars, part 1:** The toolbars that grace the top of Windows Explorer and Internet Explorer (as well as most popular applications) are great time-savers, but sometimes they take up too much space. In the normal view, Explorer and IE allow you to determine what toolbars or menus you'll see at the top of the screen by right-clicking and choosing items from the context menu.

To make your work window bigger, put several toolbars on the same line. (Sometimes you can even have a toolbar share a line with the menu bar.) In most toolbars, buttons that run off the edge of the screen

**138 WINDOWS TIPS**

Squeeze more elbow room out of the workspaces in Windows and your apps; add dual-monitor support to any PC.

**142 INTERNET TIPS**

Discover expert advice on the Web by browsing through the best online forums; join a Web community.

**144 HARDWARE TIPS**

Eight techniques for coaxing more speed out of your PC; lock down your optical drives with a free utility.

**146 ANSWER LINE**

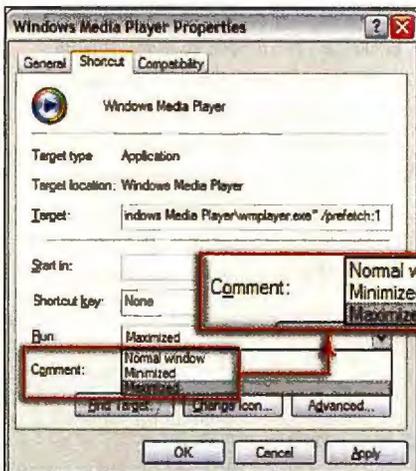
Get to the bottom of an on-again, off-again broadband connection; clean out the Windows Temp folder automatically.

**148 DIGITAL VIDEO TIPS**

Keep your audience's attention when sharing your video masterpiece via the Web, e-mail, or DVD; create your own DVD labels, credits, and menus.



148

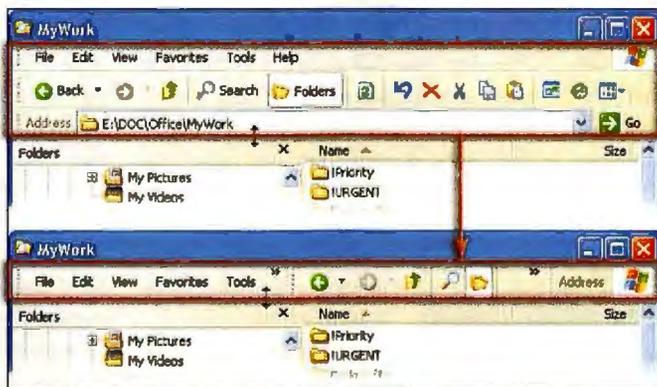


**FIGURE 1: GET THE MOST ROOM** for your apps when you launch them by choosing **Maximized** in the shortcut's properties.

remain available via a menu that appears when you click the double chevron. Try a few toolbar arrangements until you find one with the buttons and menus you use frequently. To remove unneeded items from many toolbars and, often, add new functions, right-click the toolbar and choose *Customize*. While you're in the *Customize Toolbar* dialog box, select *Small icons* in the 'Icon options' drop-down menu near the bottom to give yourself even more work room.

To turn off toolbars in the Mozilla Firefox Web browser, click *View>Toolbars* and uncheck the ones you don't want; alternatively, you can click *Customize* and drag the ones you want onto the toolbar. Check

**FIGURE 2: JUST DRAG UP** or **down** to quickly collapse or expand toolbars in your folder and application windows.



Use *Small Icons* in the *Customize Toolbar* dialog box to save even more space.

**Tame your toolbars, part 2:** If you just want to move your toolbars out of the way now and then, Windows Explorer and Internet Explorer offer a quick way to hide them: Position your pointer below the toolbars until you see the direction arrows, and drag upward to collapse them (and the menu bar) into one or two rows. Just drag back down to expand them (see **FIGURE 2**).

**Make room in Explorer and IE:** For the biggest possible view of any Explorer or IE window sans borders, title bars, and other controls, press <F11>. Press that key again to return to normal view. (This keystroke also works in several applications, including the Firefox and Opera browsers.)

To close Explorer's folder-tree pane on the left (or any pane that you choose by selecting *View>Explorer Bar*), click the X icon in its upper-right corner. To make the pane slide in and out of view when you move your mouse to the left, click the pushpin icon (near the X icon) to toggle between showing it and autohiding it.

**Eke out more pixels:** To shrink the title bars at the top of every window, right-click the desktop and choose *Properties>Appear-*

*ance*. In XP, click the *Advanced* button. In all Windows versions, either click the title bar in the picture or choose *Active Title Bar* from the Item drop-down list. In the Size box to the right, reduce the number to shrink the title bar (you might also want to lower the size of the title's font to keep the title bar from reverting to its



**FIGURE 3: SEE MORE of** your pictures by hiding file names in a folder that shows thumbnails.

default size). Some fonts are unreadable at small sizes, so you may need to choose another typeface as well (MS Sans Serif looks pretty good even at a point size of 8). Other options in this dialog box let you shrink scrollbars and reduce icon spacing.

**Enlarge thumbnails in XP:** If you use Explorer's Thumbnails view (choose *View>Thumbnails*), you can save some space—and maybe fit more thumbnails in the window—by hiding file name labels. If you're navigating with the tree pane on the left, <Shift>-click the folder whose files you want to view as thumbnails sans labels (see **FIGURE 3**). (If you're in Explorer's main window, you may ▶

need to select the folder and then <Shift>-double-click to open it.) The file names will remain hidden until you press <Shift> while reopening the folder.

If you want to see more thumbnails, or

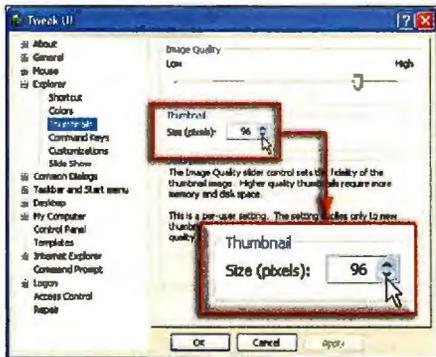


FIGURE 4: SHRINK YOUR thumbnails via the Tweak UI utility in PowerToys for XP.

if they're too small, visit [find.pcworld.com/49678](http://find.pcworld.com/49678) to download Microsoft's free PowerToys for Windows XP, which includes the Tweak UI utility. After you install PowerToys, launch Tweak UI and navigate to *Explorer-Thumbnail* in the tree pane on the left. Set your desired thumbnail size on the right (see FIGURE 4). Use the Image Quality slider to set the thumbnail quality; just be aware that nicer-looking thumbnails consume more memory. When you're finished, click OK.

**See more words and numbers:** Microsoft Word and Excel offer an uber-maximized mode of their own. Click *View-Full Screen* to have the programs' workspace fill the display. In this mode, Word even hides its scrollbars, so it helps to have a mouse with a scrolling wheel. If you don't see a menu bar at the top of the screen, move your pointer up there to make it pop back into view. To go back to regular view, click the floating *Close Full Screen* toolbar button or choose *View-Full Screen* again (the keyboard shortcut is <Alt>-V followed by U).

**Miniaturize your media player:** If you use Windows Media Player while you work,

you can move the player window out of the way by placing it in the taskbar. Right-click an empty area of the taskbar and choose *Toolbars-Windows Media Player*. Now when you minimize the program, its player controls appear in the taskbar. To restore the main player window, click the restore or full-mode icon on the minimize-mode controls (see FIGURE 5).

**Silp into a svelter skin:** Many of the downloadable interfaces (aka "skins") for Windows Media Player are more compact than the program's default look. Among my favorite space savers are Microsoft's Circle ([find.pcworld.com/49682](http://find.pcworld.com/49682)) and The Dash by JellyBeanSoup ([find.pcworld.com/49684](http://find.pcworld.com/49684)), which even includes a tiny visualization window.

**Compress to compact:** Even without adding skins, you can save space in Windows Media Player by choosing *View-Menu Bar Options-Hide Menu Bar* (or *Auto-hide Menu Bar* to have it pop in and out as needed). You can still access the menus by clicking the button next to the minimize icon or by right-clicking anywhere in the title bar. To make the menu bar even smaller, drag any corner or horizontal edge to reduce the height of the player. When it gets small enough, it will snap into a bar shape that includes basic controls and provides information on the file currently playing. Drag horizontally until you get just the size you want. Again, when you drag to a certain point, the player snaps into an even smaller state that removes the current file information. To restore the player to its normal view, drag an edge or corner to enlarge the window until it snaps out of its shrunken state.

**Stretch your Acrobat screen:** You can toggle Adobe Acrobat's full-screen mode by choosing *View-Full Screen* or by pressing <Ctrl>-L. In full-screen mode, click the left mouse button to change to the next page, and the right mouse button to go back to

the previous page. If you simply want to get all the toolbars out of the way quickly, press <F8> (press it again to return them).

**Hide Adobe palettes:** In many Adobe applications,

WINDOWS TOOLBOX

Get Multiple Monitor Support With MaxiVista

IF YOU'D LIKE to add a second display to a PC that doesn't support dual monitors, or if you're looking for a new use for your old laptop, the MaxiVista utility could be for you. The program lets you extend your desktop onto a second monitor even if your machine's video system doesn't support two displays. For just a few more bucks, you can extend your desktop onto as many as four computers to create a huge work space. You can also use MaxiVista to run two PCs from a single keyboard and mouse, or to mirror your monitor's view on a networked computer (useful for training or demos). The downside is that the software requires two



networked systems, not just one computer and an extra monitor. Prices range from \$30 to \$50, depending on the features. Want to try it out? A free demo is available at [www.maxivista.com](http://www.maxivista.com).

including Photoshop, Illustrator, InDesign, Premiere Pro, and After Effects, you can quickly hide floating palettes to get a better view of your open documents. Simply press the <Tab> key. Press it again to bring the palettes back into view. Note that this shortcut works only if you don't have an active text-insertion point. ■

*Send Windows-related questions and tips to [scott\\_dunn@pcworld.com](mailto:scott_dunn@pcworld.com). We pay \$50 for published items. Visit [find.pcworld.com/31607](http://find.pcworld.com/31607) for more Windows Tips. Scott Dunn is a contributing editor for PC World.*

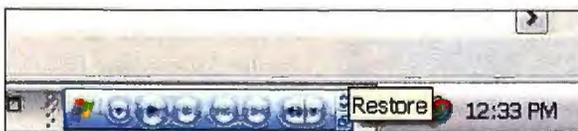


FIGURE 5: PLACE YOUR MEDIA PLAYER controls in your taskbar whenever your applications need more screen room.

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# INTERNET TIPS

SCOTT SPANBAUER

## Free Expert Advice on the Web's Forums: Priceless

THE INTERNET AND ITS endless repositories of useful data have changed our lives, but no amount of Google, wiki, or Web can replicate the wisdom of a roomful of humans. Recently I was stumped by a new technology. None of my friends, family, or colleagues knew much about it; and googling yielded tangential references but no answers. When I posted the question on the geek-oriented Slashdot Web site ([www.slashdot.org](http://www.slashdot.org)), however, it generated a days-long discussion among dozens of high-tech professionals. Not only did I get my question answered, I also got to listen in as a bunch of smart, passionate people debated a wide range of alternative theories.

### SNAPSHOT OF THE WEB'S COMMUNITY RESOURCES

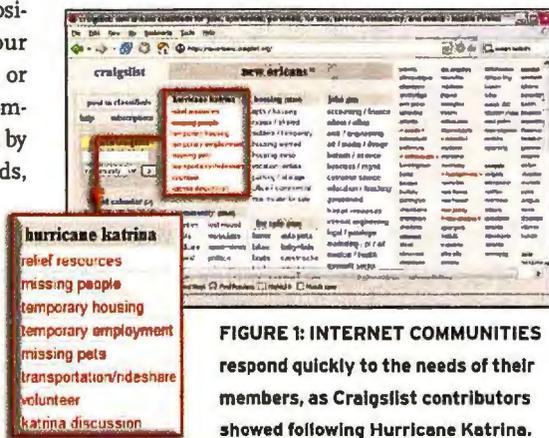
THOUGH COUNTLESS WEB sites and other digital venues qualify as online communities, here are three excellent places to get your virtual feet wet.

**Slashdot:** The site is free, but for a \$5 yearly subscription you receive 1000 ad-free pages and can read some stories early. [www.slashdot.org](http://www.slashdot.org)

**The Well:** For \$10 a month you get Web access to forums and a premium subscription to Salon.com. For \$15 a month you also receive a well.com e-mail address, a Web site of your own, and telnet access to forums. [www.well.com](http://www.well.com)

**Craigslist:** This free site is organized by geographic location. [www.craigslist.org](http://www.craigslist.org)

**MySpace:** Popular with young people, the free service makes sharing photos and opinions easy. [www.myspace.com](http://www.myspace.com)



**FIGURE 1: INTERNET COMMUNITIES respond quickly to the needs of their members, as Craigslist contributors showed following Hurricane Katrina.**

Web-based forums such as Slashdot generally host topical discussions, but some of them also offer news, personal ads, and the ability to upload photos and other files. The Well ([www.well.com](http://www.well.com)), currently owned and managed by Salon.com, is arguably the oldest ongoing online community. Dating from the Internet's Pleistocene era (1985), the site covers a wider range of topics than Slashdot's tech-oriented fare. I joined the community soon after it started up. For the first couple of years, I could basically take or leave The Well's banter. And then in 1989 the Loma Prieta earthquake hit the San Francisco Bay Area. With many phone lines, freeways, and bridges out of commission, The Well provided a lifeline for locals cut off from friends, loved ones, and employers. I became hooked.

Another longtime online community site is the popular Craigslist ([www.craigslist.org](http://www.craigslist.org)). Though generally geared toward classified and personal ads, this site showed itself to be a genuine online community when Hurricane Katrina

struck New Orleans last fall (see **FIGURE 1**).

While they can't match the scope of Craigslist, blogs provide a venue for small online communities. If you want to create a discussion forum for a group of friends or coworkers, Google's free Blogger and Blogspot services ([www.blogger.com](http://www.blogger.com)) offer an easy way to get started. Another popular blog site, especially among young folks, is MySpace ([www.myspace.com](http://www.myspace.com)).

Usernet and other collections of newsgroups are not Web-hosted forums, strictly speaking, but they constitute topic-

based online communities. Most ISPs include access to a Usernet server in their monthly fees and will help you get started reading newsgroups.

### COMMUNITY RULES

MOST ONLINE communities require that you identify yourself, at least by providing a name and e-mail address. Identifying yourself online can be to your benefit if you are offering advice in a professional forum where you have some expertise.

For example, a friend of mine recently landed a gig covering the Denver jazz scene when a newspaper editor spotted his screeds on a local music forum.

However, recent news stories have shown that your postings can come back to bite you during job interviews, owing to the power of Google and other search engines. If you know that your online persona tends to be controversial, consider creating a separate online identity to protect your real-life career and reputation. Start with a free e-mail account at Gmail, Hotmail, or Yahoo, and be careful not to disclose identifying personal information in your posts or community profiles.

If the community's past postings are available, search them before joining in. Bringing up overworked hot-button topics may only label you as a "newbie." ■

*Send your questions and tips to [nettips@spanbauer.com](mailto:nettips@spanbauer.com). We pay \$50 for published items. Go to [find.pcworld.com/31523](http://find.pcworld.com/31523) for more Internet Tips. Scott Spanbauer is a contributing editor for PC World.*

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# HARDWARE TIPS

KIRK STEERS

## Eight Fast, Simple Ways to Give Your PC More Pep

HAVE YOU EVER wondered how much faster you could make your PC? Here are eight techniques that computer speed freaks use to squeeze every ounce of performance out of their systems.

**1. Overclock your PC and graphics card:** When you overclock your CPU, you set it to run it faster than its certified speed. This is usually okay because the CPU is designed to go beyond its stated velocity (chip makers build in a little cushion). With many PCs, you just increase the front-side bus speed and/or the CPU multiplier settings in your PC Setup program (which you enter by hitting <F1> or <Del> after you turn your system on but before Windows loads).

For more details on how to overclock your CPU and graphics card, see last March's "Secret Tweaks" feature ([find.pcworld.com/49714](http://find.pcworld.com/49714)). Keep in mind, however, that overheating a processor—or any

other chip, for that matter—can destroy it. Always do your homework before you alter your system.

**2. Push your RAM timing:** Lower the CAS Latency setting, typically from 3 or 2.5 to 2. This makes your memory faster, but it can also cause lockups on systems that use lower-quality memory chips. "CAS" stands for "column address strobe." Visit Wikipedia ([find.pcworld.com/49792](http://find.pcworld.com/49792)) for more on this technology, and check out my January 2004 column ([find.pcworld.com/49794](http://find.pcworld.com/49794)) on choosing memory.

**3. Stop saving power:** Disable any power-saving settings in your PC Setup program. These may slow hard drives, the CPU, or other system components.

**4. Isolate your swap file:** Your PC's swap file—or virtual memory—puts data onto the hard drive when your system's RAM gets full. Unfortunately, accessing data on a hard drive is much slower than accessing data stored in RAM. A PC that frequently accesses the swap file for data may suffer a noticeable performance hit.

The best way to speed up swap-file access is to place the file on a second hard drive—ideally one without any other program or operating system files. If you can't put the swap file on its own hard drive, place it in its own drive partition to minimize fragmentation, which also slows memory access. Partitioning software such as Symantec's \$70 Partition-Magic 8 ([find.pcworld.com/49716](http://find.pcworld.com/49716)) makes creating partitions a breeze.

**5. Toss your swap file:** If your PC has at least 1GB of RAM, you may be able to speed up your PC by disabling the swap file in your virtual memory settings. Simply click *No paging file* in the Virtual Mem-

ory dialog box (see **FIGURE 1**). To open your virtual memory settings in Windows XP, right-click My Computer, click *Properties-Advanced*, choose the *Settings* button under "Performance", click the *Advanced* tab, and select the *Change* button.

**6. Get dual drives:** Add a second hard drive configured as a RAID 0 array, which will increase your data transfer speeds. Many midrange and high-end motherboards support RAID 0. If your motherboard doesn't, you can add a PCI RAID controller card such as Adaptec's \$75 ATA RAID 1200A ([find.pcworld.com/49718](http://find.pcworld.com/49718)).

**7. Check your AGP settings:** Make sure the AGP Speed setting in your PC Setup program matches your graphics chip set's



**FIGURE 1: SPEED UP YOUR applications by eliminating the Windows swap file altogether.**

maximum (4X, 8X, and so forth). If your PC supports AGP 4X or 8X, enable AGP Fast Write, which allows graphics data to bypass system RAM.

**8. Open the gate:** Pick the fastest speed for PC Setup's Gate A20 Emulation setting, to shift the source of a memory timing routine from the slower keyboard circuitry to the faster chip-set circuitry. ■

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### SECURE YOUR SYSTEM FROM BOOT-UP DISC INTERLOPERS

ALL THE WINDOWS passwords in the world can't protect the contents of your PC from someone who boots your computer from a startup disc in its CD-ROM or DVD drive. With a second operating system running off the disc, all the files on your system's hard drives are easy to access. But CDRom-Lock, a free utility, lets you open, close, and lock all of your optical drives by clicking a small icon in the system tray. The program works only on machines running either Windows XP or 2000. Browse to [find.pcworld.com/49719](http://find.pcworld.com/49719) to download your copy. (Note that the author accepts donations.)

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CISCO SYSTEMS



# ANSWER LINE

LINCOLN SPECTOR

## How to Diagnose a Faulty Broadband Connection

**?** WHY DOES MY CABLE Internet connection frequently fail?

Jack McKee, Barrington, Illinois

FIRST, UPDATE YOUR security programs (antivirus, antispyware, firewall, and so on). Next, check for viruses and spyware. If a malicious program has turned your PC into a zombie, your Internet link may be overloaded with hidden, illegal activity. One infected PC can block access to your entire network.

After determining that your PC is free of malware, ping your connection to verify that the network hears you. Select *Start>Run*, type **command /k ipconfig**, and press **<Enter>**. The resulting box shows your network settings, one of which is your PC's IP address. At the command prompt below these, type **ping ipaddress**, where 'ipaddress' is the number that follows 'IP Address'. Press **<Enter>**. You'll see a series of replies along with a list of ping statistics in milliseconds (see **FIGURE 1**). If the ping fails ("Destination host unreachable"), the problem is with your PC's network adapter, or the connection

between the PC and the router. Type **exit** and press **<Enter>** to close the window.

One possible fix is to restart the router, modem, or whatever device plugs first into the cable running from the wall. If the box lacks a power button, unplug it, wait a minute, plug it back in, reboot your PCs, and see if the problem is gone.

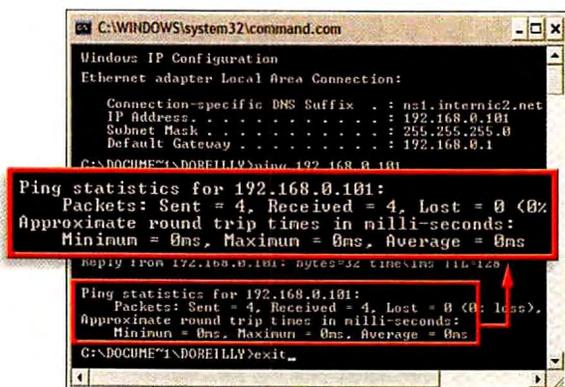
Another potential low-cost solution is to swap cables. Change the cables connecting your PCs to the network boxes one at a time to see whether a bad cable was responsible for the outages.

If all of the computers on the network lose Internet access simultaneously (and you've determined that malware isn't to blame), the problem is not with Windows, the PCs' hardware, your cables, or your Wi-Fi connection (if any). But if only one computer on the network loses access, the source of the problem could well be one of those components.

If you use a Wi-Fi network, check your wireless card's connection strength (most cards put an icon for this in the system tray). If the signal is weak, either

remove obstructions (such as plants, fish tanks, or CD collections) from the signal path or move your PC closer to the wireless transmitter.

If all of your equipment is working, call your ISP's tech support. If your ISP didn't provide your cable modem or router, you may also have to call the product manufacturer's support line. (Browse to [find.pcworld.com/49720](http://find.pcworld.com/49720) for Michael Desmond's tips on dealing with tech support.)



**FIGURE 1: ANYBODY OUT THERE?** Ping your network connection to ensure that the world is indeed on the line.

### TEMP-FOLDER AUTOSCRUB



A FEW YEARS AGO you suggested a batch file to clean out the Temp folder at PC startup ([find.pcworld.com/49721](http://find.pcworld.com/49721)). It doesn't work in Windows XP. Is there a revised version?

Jeff Szymanski, Greendale, Wisconsin

MY ORIGINAL TEMP folder autocleaner still works fine for Windows 98 and Me. Here's the updated version for Windows XP and 2000: Launch Notepad or any text editor and enter these two lines:

```
rd %temp% /s /q
md %temp%
```

Save the file in a convenient location, and assign it the name 'cleantemp.bat'. To add the batch file to your Start menu's Startup submenu, drag it onto the Start button until the menu appears, hover atop All Programs (in XP) or Programs (in 2000) until that menu appears, and then drop it onto the Startup folder.

Cleaning the Temp folder at shutdown (as I once mistakenly advised) can play havoc with some installation programs. But once your Startup programs have loaded, you can safely assume that there is nothing in Temp worth keeping. ■

Send your questions to [answer@pcworld.com](mailto:answer@pcworld.com). Answer Line pays \$50 for published items. See [find.pcworld.com/31577](http://find.pcworld.com/31577) for more Answer Line columns. You'll find Contributing Editor Lincoln Spector's humorous and other writings at [www.thelinkinspector.com](http://www.thelinkinspector.com).

### A BETTER WORD COUNT

MICROSOFT WORD CAN'T TELL you how many times a particular word appears in a document. But Norton Bell of Palo Alto, California, devised a workaround. Press **<Ctrl>-H** to open Find and Replace's Replace tab. In the 'Find what' field, type the word you want to count. In the 'Replace with' field, enter **^&**. If you see the *More* button, click it. In the Search menu, select *All*. Check *Find whole words only* and make sure all other options are unchecked. Click *Replace All* to see the number of occurrences of that word in the document.



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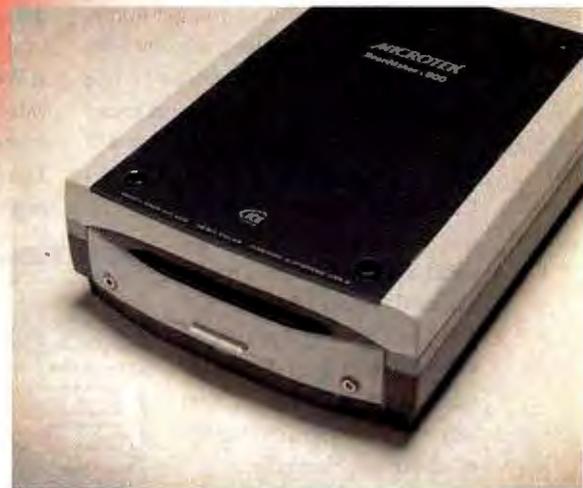
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# DIGITAL VIDEO TIPS

RICHARD BAGULEY

## The Best Ways to Share Videos on the Web or DVD

WHETHER THEY CAPTURE your daughter's first birthday party or your latest assault on the twin peaks of Kilimanjaro, videos are for sharing. These tips will help you keep your audience's attention as they view the show on the Web or play it from a DVD. (Visit [find.pcworld.com/49688](http://find.pcworld.com/49688) for tips from last October's *Digital World* section on using Adobe Premiere Elements to produce a DVD.)

**Film a lot, but edit down:** When you are having your adventures, shoot as much video as you can. When you get home, edit it down to the scenes you really want to show people. Your audience won't be interested in your entire 45-minute cruise around San Francisco Bay, but they will want to see a minute or so of the Golden Gate Bridge, Alcatraz, and Sausalito.

**Use credits for the details:** Instead of sticking the trip itinerary at the start of the video, position it at the end (much the way studios append the credits on movies and TV shows). That way, viewers who aren't interested can skip that info.

### PLAY IT ON THE WEB

**Pick the right format:** Before you can put your video on the Web, you must do some serious compressing. A good video editing program will let you squish the videos and convert them to the right Web format:

Windows Media (.wmv), QuickTime (.mov), or Flash (.swf). Your video editor should offer presets for various connections, too; pick a slow frame rate and/or a small playback window size, unless

you're certain that viewers will be using broadband connections. Microsoft's free Windows Movie Maker video editing program for Windows XP ([find.pcworld.com/49699](http://find.pcworld.com/49699)) will automatically encode the video and upload it to a video-hosting service such as Neptune MediaShare (starting at \$59 per year with 150MB of storage; free three-day trial; [www.neptune.com](http://www.neptune.com)) or MyDeo (starting at \$5 per minute of video and 200 views; [www.mydeo.com](http://www.mydeo.com)). Note that Neptune MediaShare requires using the Internet Explorer browser.

**Host your video on the Web for free:** Several Web sites will compress and host your video for free after you register, letting anyone with a Web browser watch it. You Tube ([www.youtube.com](http://www.youtube.com)), Ourmedia ([www.ourmedia.org](http://www.ourmedia.org)), and Google Video

Finish Movie menu (see **FIGURE 1**), and follow the prompts to compress your video and attach it to an e-mail message (for more, visit [find.pcworld.com/49702](http://find.pcworld.com/49702) to view Microsoft's Movie Maker tutorial).

### PUT IT ON DVD

**Use chapters for navigation:** Some video editing programs (not Windows Movie Maker, though) let you organize your home movies into chapters like those commercial DVDs use to help viewers find a particular scene in a movie. Simply put a chapter pointer in the video as you edit it: In Ulead's \$50 DVD MovieFactory, for instance, you can add chapters either manually at specific points or automatically with the program's scene detection feature ([find.pcworld.com/49704](http://find.pcworld.com/49704)).

**Use a still frame in a menu:** A frame from your video can be a backdrop for your DVD's menu. Most video editing programs (but not Windows Movie Maker) let you pick a frame from the video in a couple of mouse clicks. Check the documentation for the specific process; many programs refer to this as a *frame grab*.

**Use the highest quality settings:** You might be tempted to use the higher compression settings since the resulting files require less disk space, allowing you to put more videos onto a single DVD—but

you'll pay a big price in playback quality. Put less video on each disc, even if that means stretching a long movie over two discs. Alternatively, you could take it as a sign that your movie is too long and needs to be edited down. This means you, Kevin Costner.

**Put the movies on good discs:** Employ discs that are made to last; keep them in their cases when they aren't in use, and store them in a cool, dry place.

**Make a nice label:** It's no sweat—both Avery ([www.avery.com](http://www.avery.com)) and Fellowes ([www.fellowes.com](http://www.fellowes.com)) provide downloadable DVD-label design templates on their Web sites. ■

com) provide downloadable DVD-label design templates on their Web sites. ■

Richard Baguley writes the Making Movies column for PCWorld.com.



**FIGURE 1: THE FREE WINDOWS MOVIE MAKER video editing program compresses video files before sending them via e-mail.**

([video.google.com](http://video.google.com)) are among such sites.

**Send video by e-mail:** Windows Movie Maker lets you compress video so that it won't overload the recipient's inbox: Select *Send in e-mail* on the program's



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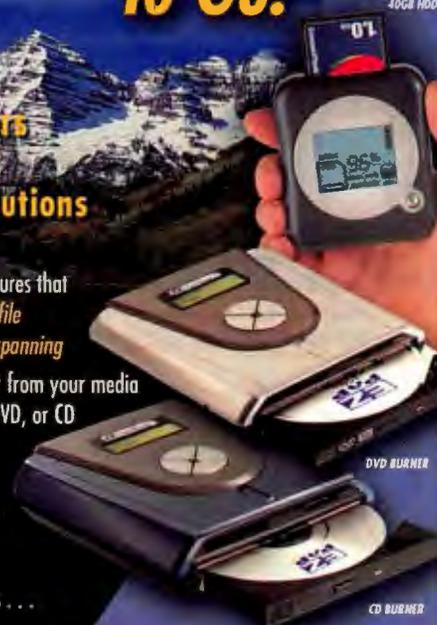
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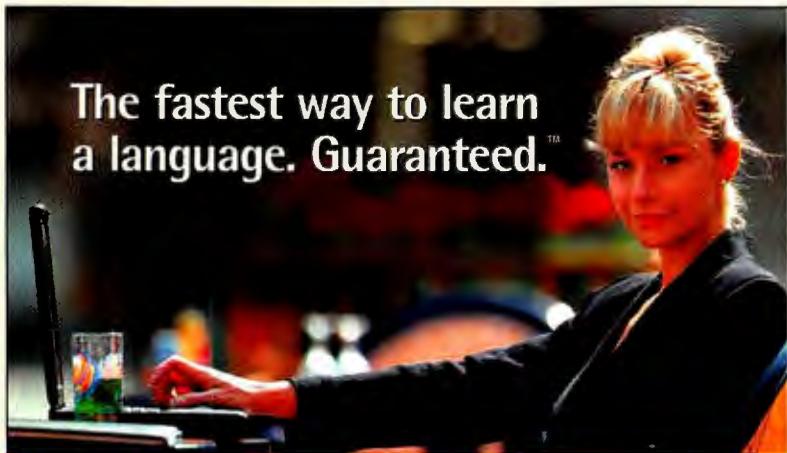
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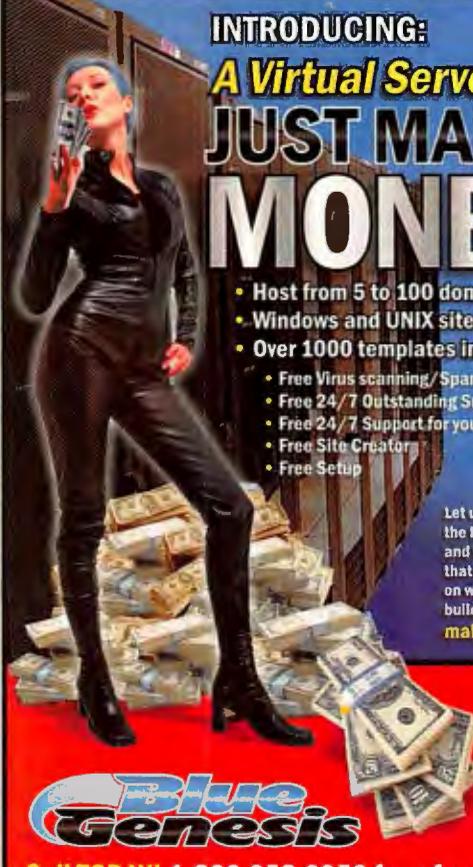
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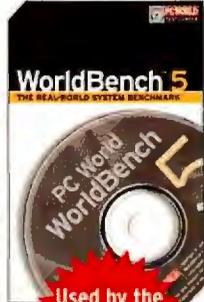
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## Desktop Search: Just What You Need

MANY YEARS AGO, in the heyday of DOS, Lotus brought out a desktop search program called Magellan that did several amazing things. It indexed your entire hard drive and kept that index up-to-date. It let you search for anything in any file on the drive, no matter what the format.

And it displayed the contents of what it found in a handy preview pane located right next to the list of relevant files.

Magellan's users tended to become fanatical about the program, because it suddenly made the content on the drive more important than the file names. And then, to the gnashing of teeth throughout the Land of DOS, Lotus killed it.

Over the years, a smattering of inexpensive desktop search programs for Windows have cropped up—the one I used the longest was Enfish Find—but now, thanks to the immense popularity of Internet search, users are finally beginning to grasp just how useful searching one's own hard drive can be. Today, desktop search is everywhere—and usually free, as it is in downloadable apps from Copernic, Google, MSN, and Yahoo. It's also integrated into Mac OS X Tiger and the forthcoming Windows Vista.

What's the big deal? Same as on the Web: Desktop search unlocks highly useful information that was heretofore hidden inside otherwise impenetrable files. But how that info is presented and how you can filter that presentation are the keys to usefulness, and that's why I currently use—make that practically live in—Yahoo Desktop Search

([desktop.yahoo.com](http://desktop.yahoo.com)), the free little brother of X1's \$75 X1 Desktop Edition.

When I want to find information that somebody sent me about podcasting, I just type the word into Yahoo Desktop Search's search window and instantly see a display of every file on my drive that contains "podcasting." Unlike some of its free rivals, YDS presents those results as a file list with a preview pane.

I can further restrict the search with Boolean operators (AND, NOT, OR), limit the search by type of data (e-mail, attachment, document, picture, instant message), narrow the results by file name or mail sender, and sort by date or other criterion. When I find the nugget I want, I

can open it with a single click. All of a sudden, desktop search becomes the place where I go to start looking for anything.

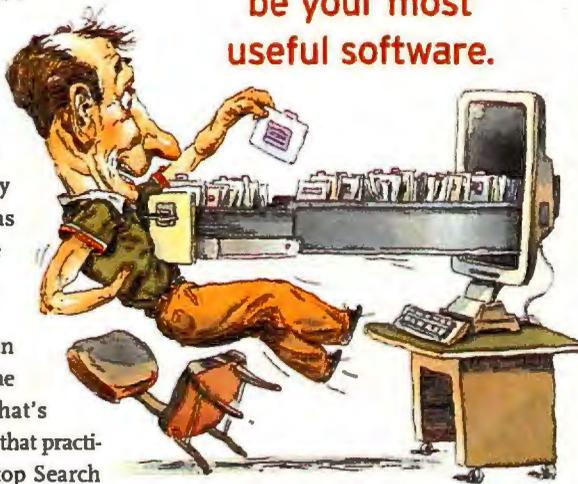
Search proponents have been known to take this power a bit too far: Why bother keeping an address book of your correspondents? A couple of keystrokes, and you can extract their phone numbers from their e-mail. Why bother categorizing mail into folders when you can search your entire inbox in seconds?

Not so fast. One reason to keep an address book is so that you can transfer it to and from a phone. And one reason to categorize mail into folders is so that you will have everything related to, say, a particular upcoming conference together in a single place. (Not all your mail regarding the conference will explicitly mention it by name; as a result, even a perfect search might miss relevant items.)

But it's easy to become a fanatic about this stuff. Having saved all my e-mail (well, not the spam), I have an amazing database that lets me see what I was doing as far back as the early eighties. Now it's accessible, thanks to a search engine that can look into, index, and display files in formats I can barely remember.

I can't stress enough how useful a desktop search program is. Don't wait for Windows Vista. Start with Yahoo's program, and if you're unhappy with it, move along to one of the others. Search is the most valuable software category since the long-gone Age of Magellan. ■

**A search app can  
be your most  
useful software.**



Contributing Editor Stephen Manes is cohost of PC World's Digital Duo ([www.pcworld.com/digitalduo](http://www.pcworld.com/digitalduo)) on public TV. Visit [find.pcworld.com/31595](http://find.pcworld.com/31595) for more Full Disclosure columns.



Volume 24, number 1. PC World™ (ISSN 0737-8939) is published monthly at \$24.95 for one year (12 issues), \$49.90 for two years (24 issues), \$74.85 for three years (36 issues) by PC World Communications, Inc., 501 Second Street #600, San Francisco, CA 94107. Foreign orders must be prepaid in U.S. funds with additional postage. Add \$12 per year for Canada; add \$30 per year for airmail for all other countries. Canadian GST Registration #R124669680. Periodicals Postage Paid at San Francisco, California, and at additional mailing offices. Canada Post Publications Mail Agreement #2493993. Returns: 4960-2 Walker Road, Windsor ON N9A 6J3. POSTMASTER: Send address changes to PC World, Subscription Dept., P.O. Box 37571, Boone, IA 50037-0571. Editorial and business offices: 501 Second St. #600, San Francisco, CA 94107, 415/243-0500. Copyright © 2005. PC World Communications, Inc. All rights reserved. The trademark PC World is owned by International Data Group and used under license by PC World Communications, Inc. Technology Advice You Can Trust™, PC World Top 10™, Top 10™, PC World Top 100™, Top 100™, and Consumer Watch™ are trademarks of International Data Group, Inc., and used under license by PC World Communications, Inc. Printed in the United States.

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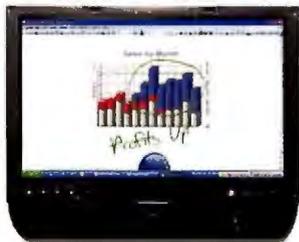
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