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- 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)

$479 DESKTOP CDW 739192
-30 TRADE-IN[1]
$449

$160 INSTANT SAVINGS[2]

Monitor and speakers sold separately

Acer AcerPower™ S260

- Intel® Celeron® D Processor 335 (2.80GHz)
- Memory: 256MB
- 80GB hard drive
- CD-ROM drive
- Windows® XP Professional

$409 DESKTOP CDW 807602
-30 TRADE-IN[1]
$379

HP ProLiant DL360 G4 Rack-mount Server

- Space-saving form factor offers a combination of integrated Lights-Out (iLO) management with performance technologies
- Handles large transaction workloads for Web hosting, infrastructure applications and terminal services
- Offers a combination of a 3.0GHz Intel® Xeon™ processor with EM64T, 4 drive bays (2 are hot-pluggable) and 2 expansion slots (both are hot-pluggable)

$2419.75
CDW 674965

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Hard drives sold separately

HP Smart Buy ProLiant ML350 G4 Series Server

- Provides high processing power with a 3.20GHz Intel® Xeon™ processor, PCI-X, DDR memory and the Grand Champions LE chipset with EM64T
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- Up to 8GB of memory allow for flexible configurations

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  - Intel® Pentium® M Processor 730 (1.60GHz)
  - Intel® PRO/Wireless 2200 Network Connection (802.11b/g)
- Memory: 512MB
- CD-RW/DVD-ROM combo drive
- 14" WXGA active-matrix display

Recommended accessories and services:
Toshiba port replicator **$179** (CDW 577638)
Toshiba Services 3-year, 2 business day, onsite warranty upgrade **$289.62** (CDW 666666)

Sony VAIO T340 Notebook

- Intel® Centrino™ Mobile Technology
  - Intel® Pentium® M Processor ULV 753 (1.20GHz)
  - Intel® PRO/Wireless 2200 Network Connection (802.11b/g)
- Integrated wireless Wide Area Network (WAN) technology
- Memory: 512MB
- CD-RW/DVD-ROM combo drive
- 10.6" WXGA active-matrix display

Recommended accessories and services:
Sony mobile optical mouse **$39.99** (CDW 642238)
Sony Service Pack 2-year, 9 x 5, onsite warranty upgrade **$199** (CDW 777927)

$1949 NOTEBOOK CDW 790094
-200 TRADE-IN[1]
$1749

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[1]Eligible processors include Intel Pentium II, III or Intel Celeron; AMD processors do not qualify; trade-in values are estimates only; actual trade-in values may vary from $100 to $500; all products must be in good working condition and have a fair market value; call your CDW account manager for details; offer ends 12/31/05. [2]HP Smart Buy instant savings reflected in price shown; HP Smart Buy savings based

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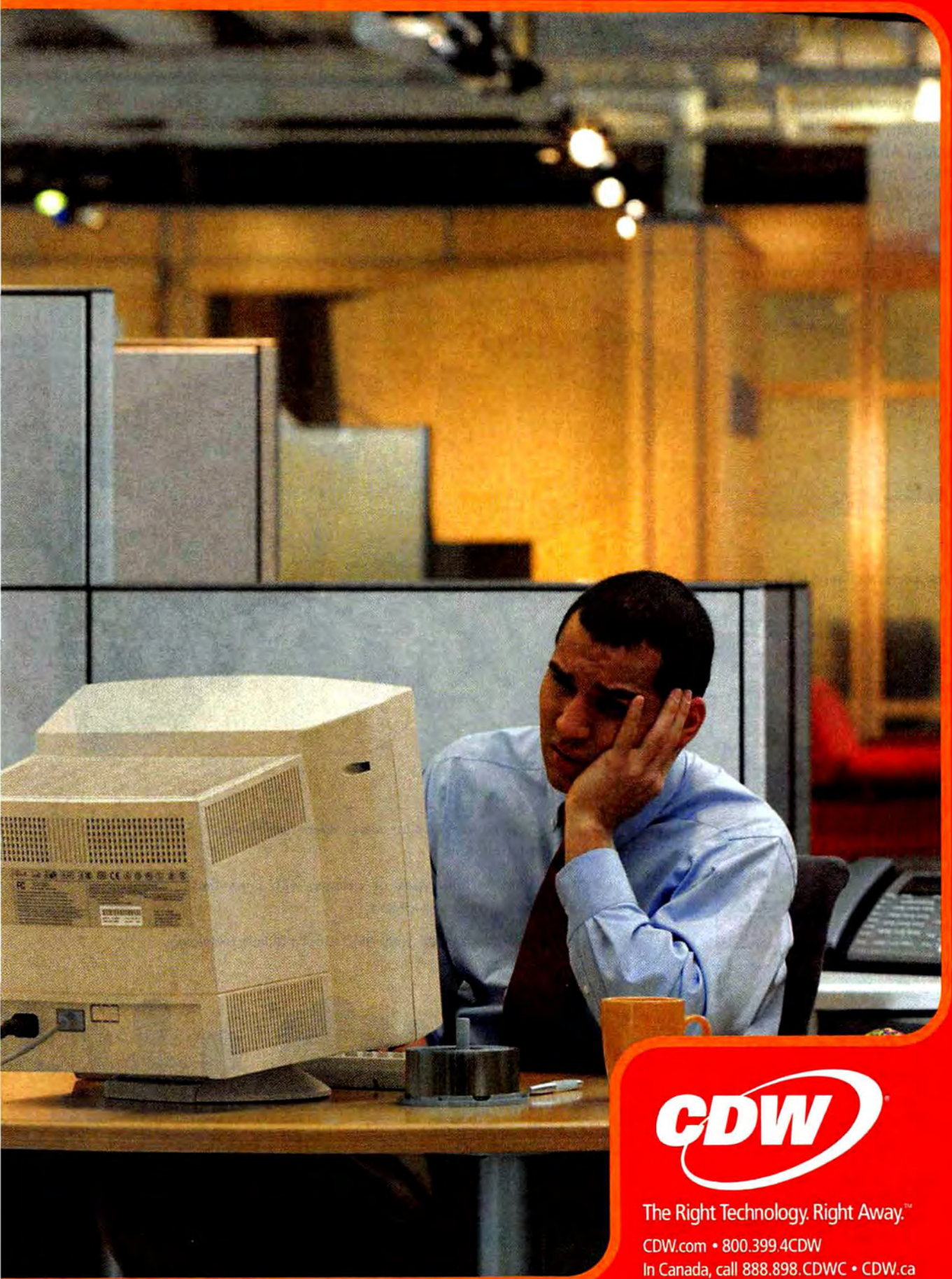

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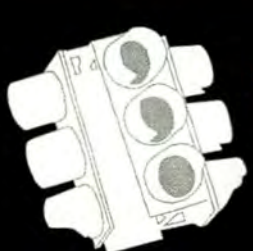

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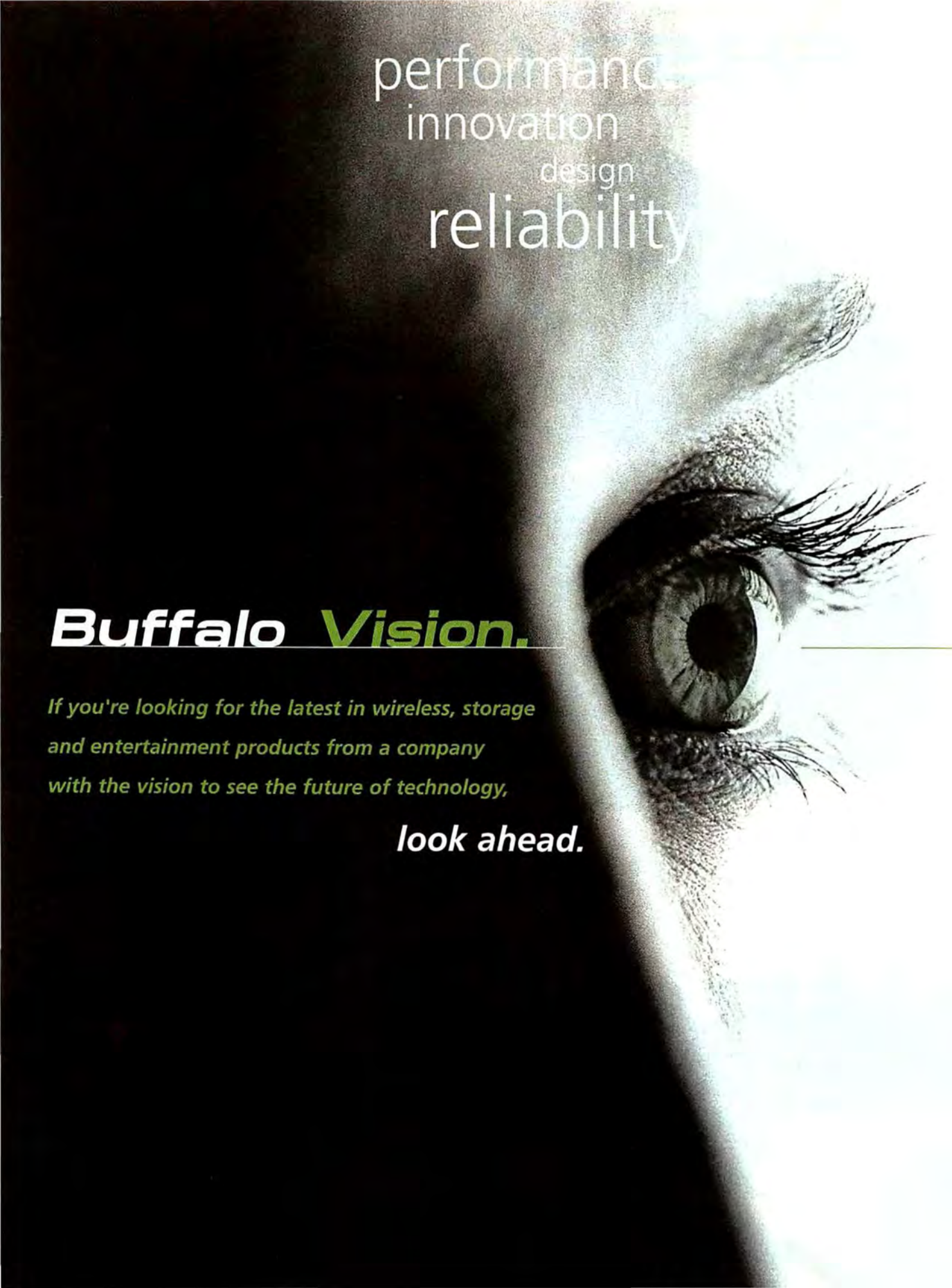
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OCTOBER 2005

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89 Deep File Divers

Your huge hard drive holds a trove of sunken treasure: text, images, audio, and video. We evaluate six tools designed to plunge into the murky depths and retrieve the item you need in an instant.

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99 Build a Better Browser

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56 Twenty Things They Don't Want You to Know

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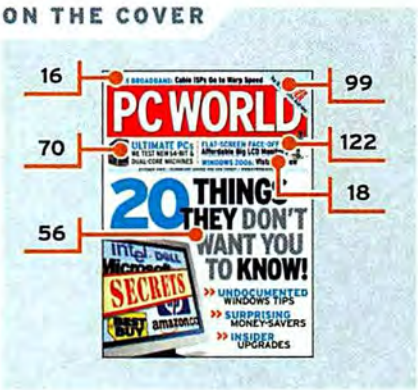

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COMING UP IN NOVEMBER

Who's Behind Spyware? Well-known companies are partnering with spyware firms to entice you to click.

Anti-Spyware Roundup: As malware grows ever more sophisticated, your protection must keep pace.

Personal Info for Sale: We examine how data is collected and disseminated, and how you can guard it.

Best High-Capacity MP3 Players: New devices offer color screens, more storage, and lower prices.

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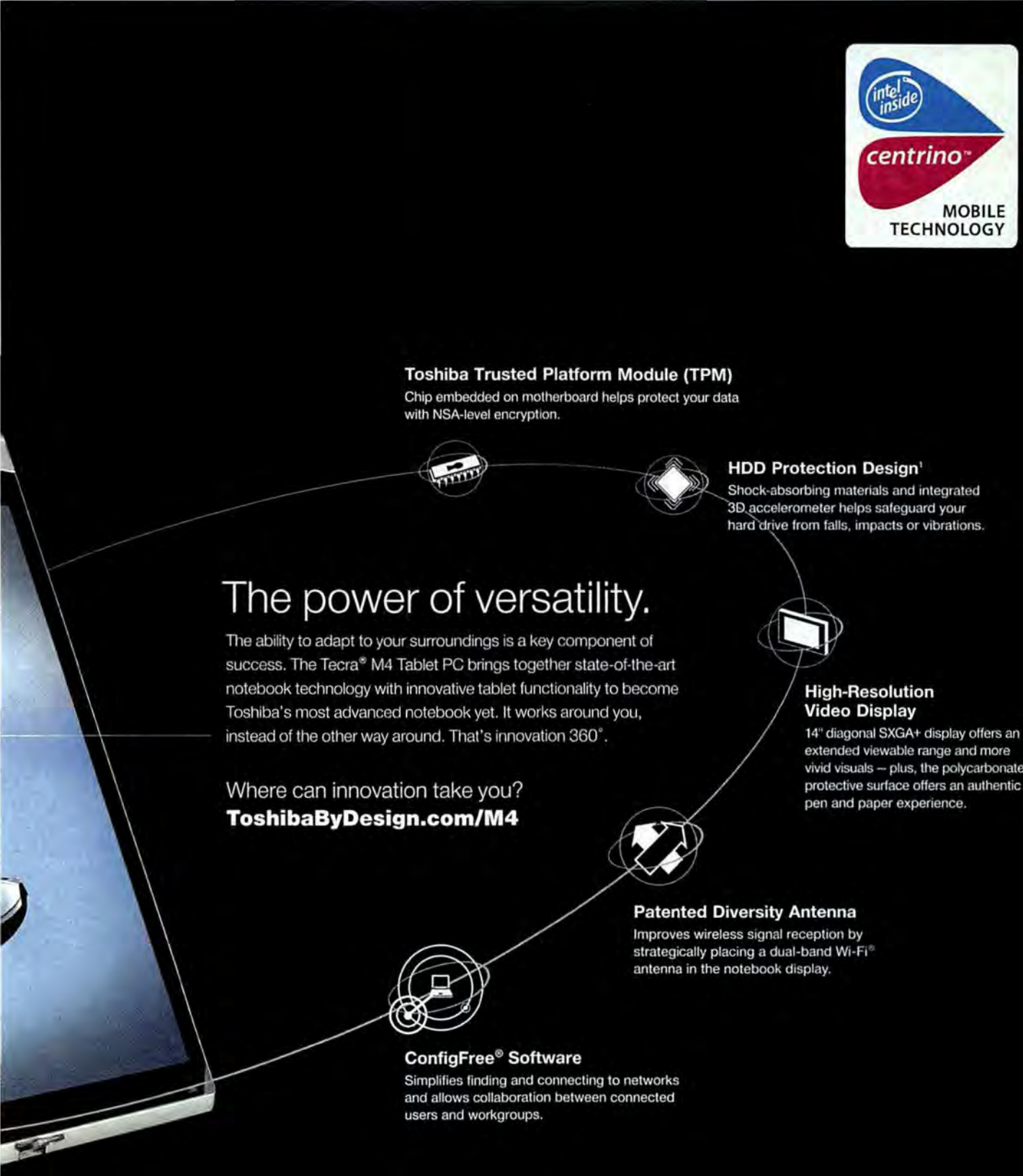

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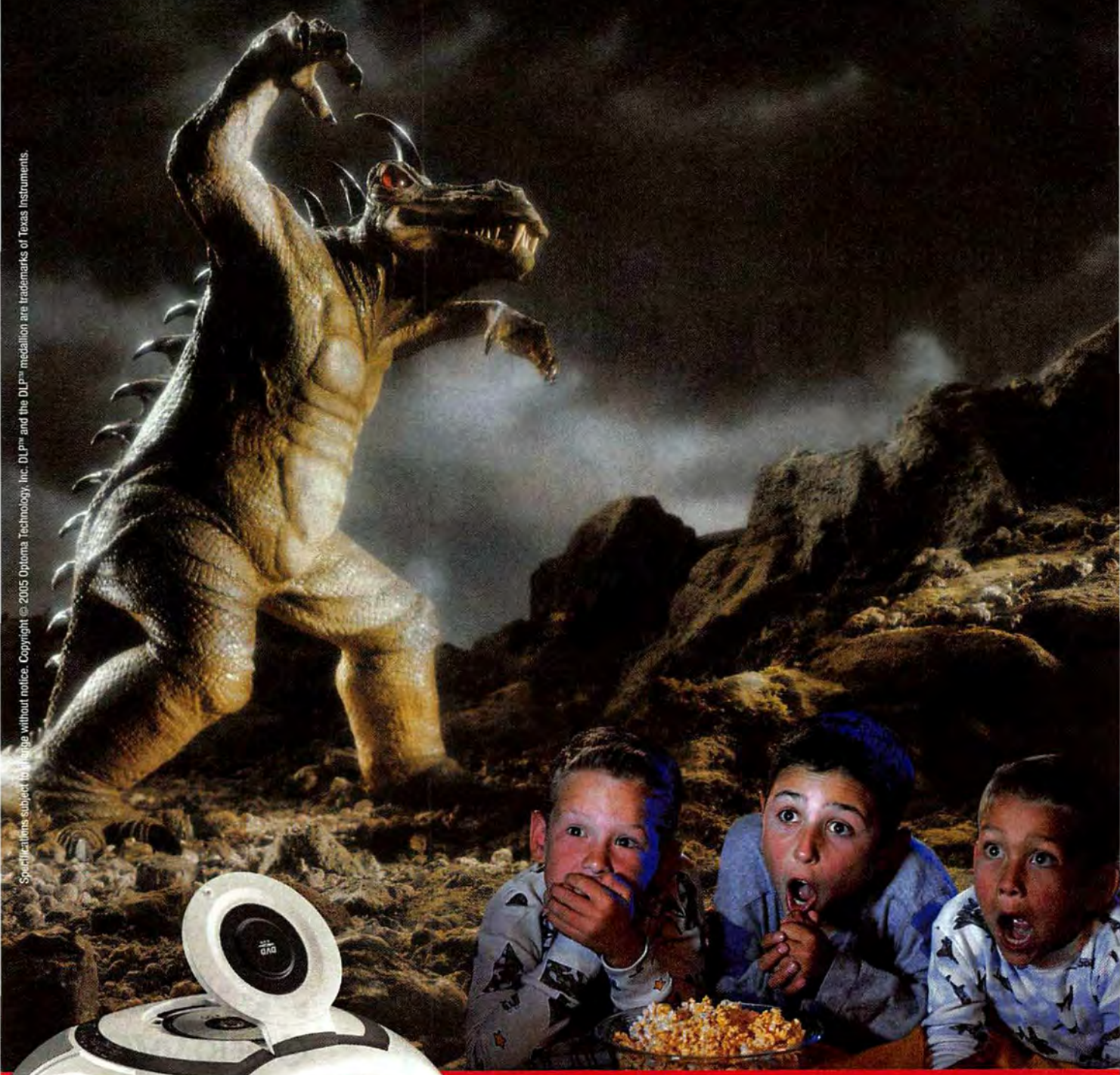

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UP FRONT

HARRY McCRACKEN

The Windows of My Dreams (and Yours?)

Four little things that could add up to a lot—if Microsoft gets them right.

WINDOWS VISTA: There's something about the moniker of Microsoft's next operating system that brings automobile metaphors to mind. Over on page 160, Contributing Editor Stephen Manes says it makes him think of ancient Oldsmobiles and Dodges. For me, "Vista" summons one of those car commercials in which an SUV glides confidently to the rim of some picture-perfect canyon. Ads like that aim to exhilarate, but ultimately they're irrelevant for 97.62 percent of us.

With cars, the things that matter most are prosaic-but-practical details, from the quantity of the air bags to the quality of the cup holders. It's the same way with operating systems. Whether Vista is better than XP will depend largely on whether Microsoft adds touches that result in a more secure and convenient piece of software.

As Senior Editor Yardena Arar explains in "Windows Vista Looks Slicker, Safer" (page 18), it's way too early to render a verdict on the OS. The Beta 1 test version—which is now in the hands of more than half a million developers and other techies—is mostly about technical underpinnings; the final, polished product isn't due until late next year. That means it's not too late to chime in with ideas for this upgrade. (*PC World* has been doing this for a while; see find.pcworld.com/49278 and find.pcworld.com/49279 for some of our past requests.)

The following four pleas may be mundane, but they rank high on my WinVista wish list. Microsoft, are you listening?

Button down the Start button: The world needs a better way to wrangle today's profusion of programs, files, and settings than the Start menu, which dates from an era when hard drives were measured in mere megabytes. (The Mac OS X Dock looks cooler but can be even clunkier.) Judging from Beta 1, Microsoft is at least wrestling with this issue. The Vista Start menu's default mode opens folders in place, rather than splaying menus, submenus, and submenus of submenus.

That leaves numerous Start menu puzzlements yet to be solved. F'rinstance, why does it highlight recently installed programs—but only some of the time?

Tame the system tray: Depressing factoid: My new notebook came with two dozen icons crammed into the bottom-right corner of the screen...*before* I installed any software myself. Even more depressing factoid: Few of the icons tell me anything I truly need to know. Vista should prevent a program from depositing anything in my system tray without my explicit permission. It also needs brain-dead-simple "Hide All" and "Show All" options. And a truly hospitable tray would roll up related items into tidy groupings, the way the taskbar already does with multiple open documents.

Make code reveal its identity: As long as spyware can jimmy its way into seemingly well-protected PCs, we'll need to use Windows' Task Manager to keep tabs on programs and processes. But Task Manager often raises more questions than it answers: A typical machine's process list may include such less-than-informative names as Ivpsvmgr.exe and ccEvtMgr.exe. Could Windows do a better job of identifying which process relates to what application? Um, yeah: Sysinternals' invaluable Process Explorer (find.pcworld.com/49318) already does. For free.

Be consistently...consistent: If all Vista did was organize tools rationally and eradicate instances where the same function works differently in different parts of the OS, it would be a giant leap for Windowskind. Just installing the beta version reminded me of how much work remains undone. To get a PC on a corporate network, for instance, you'll likely need to make it a member of a domain. A sensible person (or at least, I) might assume that this setting resides in the Control Panel's Network and Internet area. But in Beta 1, it's still in the System Properties dialog box, which is filed under Hardware.

Got any last-moment to-do items for Microsoft's Windows Vista team? Drop me a line at mageditor@pcworld.com. I'll report back on my Techlog blog (blogs.pcworld.com/techlog). ■

Harry McCracken is the editor in chief of PC World.

ILLUSTRATION: EDWIN FOTHERINGHAM

NEWS & TRENDS

EDITED BY EDWARD N. ALBRO

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The Fastest Net Yet

ULTRAFAST BROADBAND SERVICES FROM PHONE AND CABLE COMPANIES COULD SPEED UP YOUR DOWNLOADS TO 15 MEGABITS PER SECOND OR MORE. BY MICHAEL DESMOND

A NEW GENERATION of superfast broadband Internet access promises to do more than accelerate Web browsing and file downloads. Five to thirty times as fast as DSL, these new—and surprisingly affordable—wide pipes can in some cases enable new video, voice, and data services.

Spearheading the coming bandwidth bonanza are fiber-optic services from Verizon and SBC—and hefty bandwidth increases from competing cable providers. For customers, these offerings can immediately speed up music, photo, video, and software downloads; they could eventually enable HD-quality video on demand, custom views of live events, and other bandwidth-intensive services.

Steve Dektor is an early convert to Verizon's fiber-optic Fios service. The owner of Alliance Computer Services, a repair and maintenance business he operates out of his home in Keller, Texas, Dektor dumped his cable ISP for good last year after taking part in an early Fios trial.

Steve Dektor of Keller, Texas, uses Verizon's 15-mbps Fios fiber-optic service to download software for the PCs he services.

"We've had the 15-mbps service, and it's just really fast," says Dektor, who frequently downloads large software service packs and application updates. "If the Verizon service is available, it's a no-brainer. The cost is comparable [to cable and DSL pricing], the speed is much higher, and the reliability has been great. I think most people who want broadband and have the Verizon service available are on it."

And there's the rub: Access to "ultra" broadband services remains limited. Verizon—by far the most aggressive player—has announced many high-speed fiber deployments, but actual rollouts have been slow: At press time, its Fios service had signed up fewer than 300,000 subscribers. But other services are boosting speed, if not as dramatically.

WORTH THE WAIT

ANALYST Rob Enderle, founder of The Enderle Group, uses DSL but is eagerly awaiting the pumped-up bandwidth. "At the price points they are talking about, I'd grab it in a minute," he says.

For example, Verizon's basic Fios service, which offers speeds of 5 megabits per second downstream and 2 mbps upstream, costs $40 a month;

PHOTOGRAPH: REED RAHN

$50 per month boosts downstream rates to 15 mbps. The high-end $200 monthly package delivers 30 mbps downstream and 5 mbps upstream. (Subscribers to Verizon phone service plans receive discounts of $5 to $20 a month.)

Verizon attains these speeds by replacing copper cables with fiber-optic lines. Like DSL and cable ISPs, providers of fiber-based services generally offer asymmetric data rates (downstream throughput that's two to six times higher than upstream), because the majority of residential customers download more than they upload.

Even so, upstream rates have increased greatly, and customers notice. "With more and more people sharing pictures on the Internet...the 2-megabits-per-second upload can really help move things along," Dektor says.

The other nationwide fiber rollout is SBC's $4 billion Project Lightspeed, slated to reach 18 million households by the end of 2007. (Meanwhile, SBC has sped up its Yahoo DSL Pro service.) Cable companies such as Comcast, Cox, and Time Warner/Road Runner have also announced big hikes in downstream data rates (see chart below for plan details). Cox, for example, has raised downstream rates for its basic service from 1 mbps to 4 or 5 mbps. Even if you don't opt to buy these new services, you might benefit as prices drop for slower broadband, says Michael Arden, broadband analyst with ABI Research.

> Consumers will have little say in what next-gen broadband they get.

SHIFTING SERVICES

INDUSTRY WATCHERS expect cable providers to catch up as they deploy next-generation IP (Internet Protocol) cable networks. Dave Burstein, editor of DSL Prime, an online newsletter for the broadband industry, says new cable technology, which should be in use by 2007, could deliver as much as 50 to 200 mbps per household. But consumers will have little say in what next-gen broadband they get, or when it will arrive.

What will users do with all the bandwidth? With 35 mbps downstream, services such as interactive, IP-based television (IPTV) become possible. This connection could support two simultaneous HDTV streams, allow users to switch camera angles on, say, a sporting event—and still leave bandwidth to spare for voice and traditional data service. Enderle envisions TiVo-like digital video recording on remote servers, and sophisticated video security monitoring. Businesses could use PCs as terminals for content and processing power hosted online.

But such services face some challenges. Teney Takahashi, market analyst for research firm The Radicati Group, says the software and hardware to drive these applications are unlikely to be ready before 2007. And ABI's Arden points out that ISPs will have to overcome licensing hurdles that piracy-obssessed Hollywood studios are sure to impose.

In short, this rosy broadband future won't materialize overnight. "If you start going five years out from now, that's when you see the whole IPTV stuff kicking in, you see the new services that you just can't get today from the cable operators," Arden says. "Five years out you are going to notice a big difference."

INTERNET ACCESS

BROADER BROADBAND

NEW SERVICES, available for under $100 in limited parts of the country, leave traditional 1- to 2-mbps broadband in the dust.

SERVICE	BANDWIDTH		Monthly cost
	Downloads	Uploads	
Comcast 2	8 mbps	768 kbps	$53
Cox HSI Preferred[1]	4 to 5 mbps	512 kbps to 2 mbps	$40 to $50
Cox HSI Premier[1]	5 to 15 mbps	768 kbps to 2 mbps	$55
Road Runner Premium	8 mbps	512 kbps	$85
SBC Yahoo DSL Pro	3 mbps	1.5 mbps	$25
Verizon Fios	5 mbps/15 mbps	2 mbps	$40/$50

[1] Cox prices and bandwidth for services marketed under the same brand vary depending on location.

IN BRIEF

Tidbytes

DSL DECISION: Telephone companies will no longer have to lease their high-speed lines to independent DSL providers, once a new FCC policy takes effect in about a year. The decision gives phone companies the same ability to exclude competing ISPs from their networks that cable providers have always had (and which the U.S. Supreme Court ruled legal in June). For more on how this could affect consumers, see our story in last month's issue (find.pcworld.com/49310).

AUDIO UPGRADE: Creative Technology has announced a new Sound X-Fi Xtreme Fidelity audio chip that will run the next generation of Sound Blaster X-Fi sound cards, due out this fall. Creative says that the chip's advanced sound processing technology can make an MP3 audio track sound as good as the CD it came from. X-Fi technology is supposed to reproduce a fuller, richer sound in other applications: Expect to see X-Fi in everything from game consoles to cable boxes and DVD players, the company says.

ILLUSTRATION: GORDON STUDER (UPPER RIGHT)

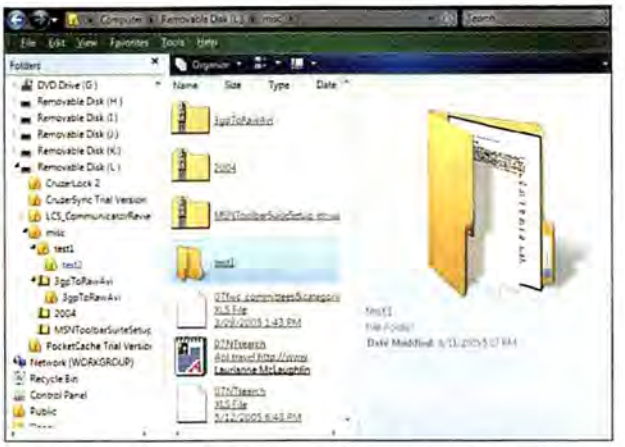
OPERATING SYSTEMS

Windows Vista Looks Slicker, Safer

IMPROVED SEARCH AND SECURITY IN BETA 1 OF MICROSOFT'S NEW OS; BUT NO SEA CHANGE.

THE FIRST beta of Microsoft's Windows Vista clearly shows where the operating system is headed. Rather than a dramatic departure from Windows XP, Vista seems to refine the OS with sharper graphics and improved search and security. The new interface and other changes are definitely for the better, but some aspects of Vista—including its Virtual Folders—are a bit puzzling.

Described by company executives as "a plumbing release" containing only about half the features users will receive in the shipping version (still said to be on track for rollout in late 2006), Build 5112, aka Beta 1, was released on July 27 to 10,000 technical testers, with an additional half million IT pros and developers gaining access to the code (if not to tech support) via their respective Microsoft support groups.



WINDOWS VISTA'S ICONS LET YOU PEEK inside files and folders by previewing their contents via representations of the files themselves.

VISTA'S GOT THE LOOK

QUITE SIMPLY, the new OS looks cool. Vista's "aero glass" see-through window frames and green liquid-like progress bars resemble effects that Mac users have enjoyed for years. Vista's icons are representational: A document's icon is an image of that particular document, a file folder containing documents looks like a folder with papers inside—and the top-paper icon is an image of the first document in that folder (see above).

The ubiquitous standard application menu bar (the one with the File, Edit, View, and other menus) that traditionally appears just under the window frame has been relocated in Windows Vista and is now below the address bar—or dispensed with entirely. An additional menu bar in Windows Explorer provides several new options, such as the Aero theme's slider control that lets you enlarge or shrink icons. Navigating to a file or folder is much easier because folder names in the Address bar (for example, 'Administrator>Virtual Folders>Favorite Music') are now buttons you can click to go to that folder. Or you can jump straight to any subfolder by clicking the arrow and then choosing the folder from a drop-down menu. Finally, a preview pane at the bottom of the window provides information about the selected item; the kind of info varies by file type (see below). You can alter the size and location of the preview pane, or hide it.

SECURITY IS JOB ONE

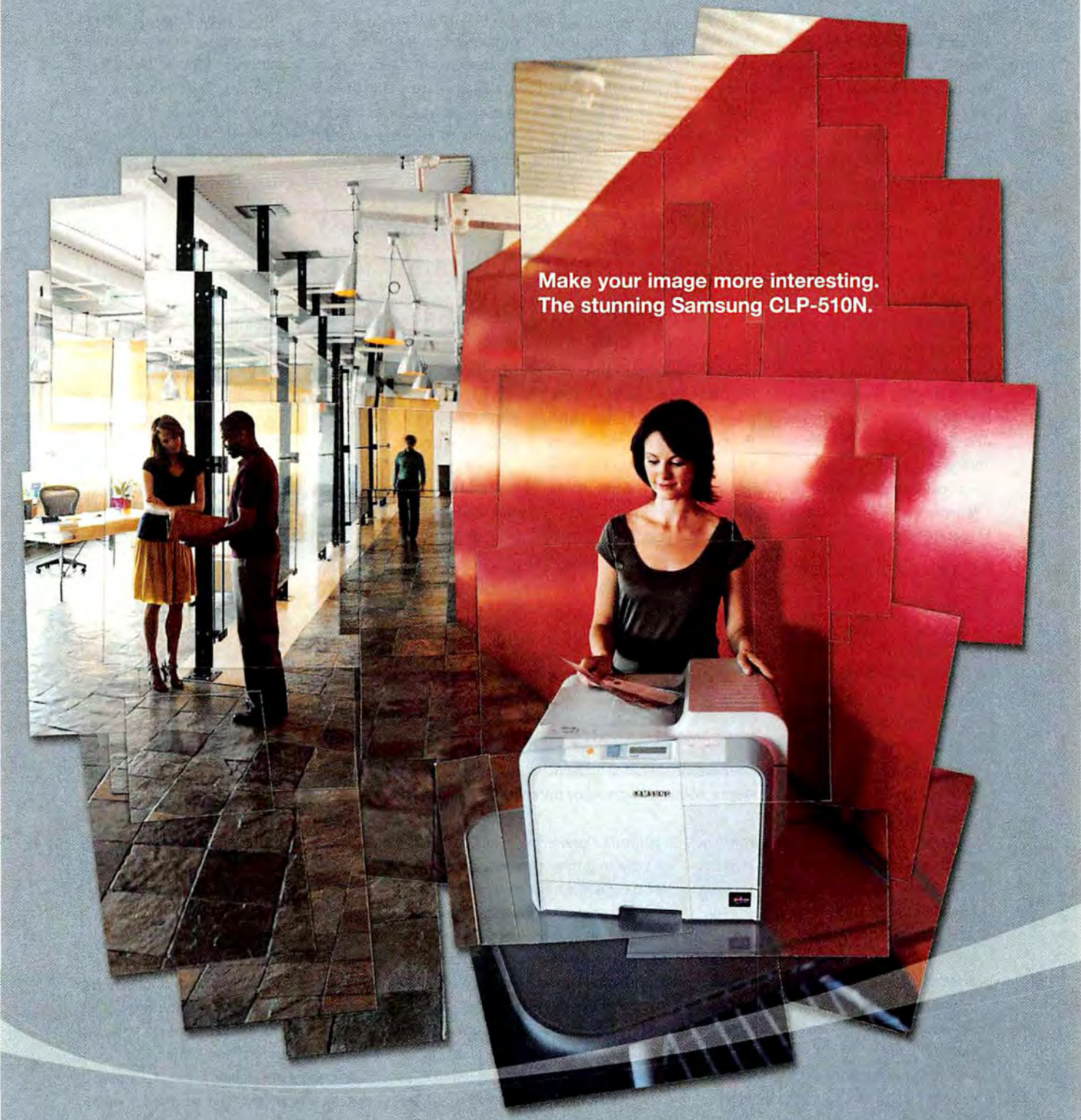
CONSCIOUS OF the security and reliability concerns that have plagued previous Windows releases, Microsoft is trying hard to overcome people's resistance to upgrading by proving that with Vista, things have changed. Based on my experience with Beta 1, the results of that effort remain to be seen. The most striking security innovation is the new Limited User account: A Limited User cannot install applications, but can perform routine tasks such as installing a new printer driver.

Microsoft's reviewer's guide promises a host of new security and reliability features—for example, the abilities to detect imminent component failure and recommend responses such as immediate data backup, as well as to detect during startup whether a system has been tampered with. While many of these features, along with improvements in deployment, troubleshooting, and management, are directed primarily at IT departments, they are sure to benefit users, too.

SEARCH IN CONTEXT

ONE OF THE more helpful changes: Context-sensitive search windows appear everywhere in Vista. The Start menu, which in most respects looks much like its counterpart in XP (and can be reset to resemble the old Windows 95/98 Start menu), provides a small search field at the bottom. Start typing, and Vista replaces items in the menu's left column with the names of the programs on your PC that best match your search term. Alternatively, click *All Programs*, and the left pane lists your programs. If they can't all fit, a scroll bar appears—and it is much easier to navigate than the three or four splayed columns you see on XP's All Programs menu. (Go to find.pcworld.com/49316 for Steve Bass's instructions on changing XP's All ▶

INFORMATION ABOUT THE SELECTED FILE has been moved to the bottom of the Windows Explorer screen.



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Programs list to a scroll bar.)

You'll also find search fields located to the right of the Address bar in Windows Explorer (and Internet Explorer 7, for that matter—see "Two New Internet Explorers" below). In the beta, the Windows Explorer search appears to index only file metadata, the same information you can view (and sometimes edit or enter) in XP by right-clicking a file and choosing *Properties*. Microsoft says that the shipping version will offer more search capabilities. Click the *Search* icon on the Start menu to open the new Search Center, which allows you to perform multiple layers of filtered searches.

Windows Vista's Virtual Folders find documents even when you aren't searching for them by dynamically updating the results of a saved search when you click the folder. This feature will be available for all Windows applications once Microsoft implements the WinFS file system that was originally slated for Vista (find.pcworld.com/49290). Until then, however, no third-party apps will be able to take full advantage of Windows Vista's search capabilities.

Microsoft preinstalled several Virtual Folders in Beta 1, but some are confusing: The Documents folder replaces My Documents, but there's also a Virtual All Documents folder with different content. The Music and Pictures shortcuts on the Start menu point to Virtual Folders, not to the Music and Pictures subfolders of the Documents folder.

> Vista may not be a revolutionary departure from XP, but that's not necessarily a bad thing.

Missing completely from the beta are support for Tablet and Media Center PCs, and a promised new version of Windows Media Player. We anticipate seeing more of these items as future builds surface. The next milestones on the road to release are Microsoft's Professional Developers Conference in September, and Beta 2, which may be made available to the general public (but for which no release date has been announced).

Clearly a work in progress, Windows Vista may not be a revolutionary departure from XP—but that's not necessarily a bad thing. If the OS delivers on Microsoft's ambitious promises, especially for security and reliability, PC users won't care whether they're getting a complete overhaul or a simple renovation.

—Yardena Arar

BROWSER PREVIEW

TWO NEW INTERNET EXPLORERS

ENTER YOUR SEARCH TERM DIRECTLY in the new text box that sits to the right of IE 7's Address bar.

ALONG WITH BETA 1 of Windows Vista, Microsoft has produced not one but two beta versions of Internet Explorer 7—one for Windows XP, and one in the Vista beta. The most exciting (and long overdue) innovation in both is tabbed browsing, which lets you open multiple Web pages in one browser window. You switch between the pages by clicking tabs in the IE 7 window. (The free MSN Search Toolbar adds tabs to IE 6.) Tabs have long been in Opera, and they're an attraction in Mozilla Firefox.

Another nice addition in the IE 7 betas is a search text box positioned to the right of the Address bar (see above). Microsoft has also improved IE's printing capabilities with a good Print Preview function that lets you resize the page prior to printing.

Microsoft's promised support for RSS feeds (find.pcworld.com/49396)—which are confusingly called both "Feeds" and "Web Feeds"—appears in rudimentary form as a button with radio waves emanating from a point. The grayed-out graphic turns red on sites that have correctly tagged RSS feeds; clicking a feed displays its contents as a Web page. You can subscribe to the feed by adding it to your Favorites, but there's no mechanism for knowing when a feed has been updated: You have to keep checking the bookmarked page.

IE 7 for Windows XP (but not for Windows Vista) also contains the first iteration of a new Phishing Filter that identifies suspected and confirmed phishing sites (Web sites that try to get your personal information by masquerading as well-known legitimate sites such as those for PayPal or a bank). Suspected sites are identified based on their behavior; confirmed sites are those that appear on a constantly updated database that Microsoft is maintaining.

The company originally planned to upgrade IE only when it shipped Vista. But clearly in response to the growing popularity of Firefox and endless IE 6 vulnerability disclosures, Microsoft chair Bill Gates announced in February that a stand-alone version of IE 7 would be available by year's end for Windows XP with Service Pack 2 and XP Professional X64 Edition.

IE 7 isn't without annoyances. For example, the Forward and Back buttons are easy to find on the top left; but the Home button is on the menu bar, below the tabs, and the Refresh button is now to the right of the Address bar (it turns into a stop button while the page loads). Microsoft will likely address these issues before IE 7 ships.

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LAWSUIT

Does Intel's Dominance Hurt Consumers?

AMD'S SUIT AGAINST INTEL ALLEGES ANTITRUST VIOLATIONS THAT LEAD TO HIGHER PC PRICES.

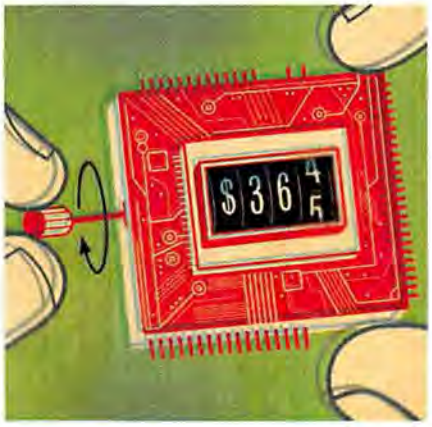
WHILE CHIP MAKERS AMD and Intel duke it out in the industry's latest antitrust battle, users are left with some questions. Whether achieved legally or illegally, has Intel's overwhelming domination of the chip market made PCs more or less expensive? And what effect, if any, will AMD's lawsuit have on what we pay for PCs in the future?

Industry players and experts disagree on the answers, but a surprising number think the overall effect of Intel's market dominance has been to lower costs, not raise them.

HIGHER PRICES?

AMD IN JUNE sued rival Intel, accusing the company of persistently bullying at least 38 PC companies, retail stores, and distributors into buying its CPUs instead of AMD's. According to the suit, Intel's 90 percent market share was gained unfairly, via antitrust-violating practices—including cash payoffs. AMD seeks billions in damages and an end to the practices. Intel says it has done nothing wrong, and will officially reply to the 48-page complaint around the time you read this.

Though Intel and the companies it allegedly bullied—including Dell, Gateway, HP, and Lenovo—have declined comment, AMD is quick to claim credit for helping to lower computer prices. Competition from AMD is primarily responsible for driving the average desktop PC's plunge from $2000 to $500 in the last decade, says Tom McCoy, AMD's chief administrative officer and executive vice president of legal affairs. If Intel is forced to stop its monopolistic practices, PC prices will drop even faster than the usual 10 to 15 percent a year, he says.



USERS PAY

SOME EXPERTS are less certain of the salubrious effect an AMD victory would have. Dick Schmalansee, an MIT economist who testified on behalf of Microsoft in the mid-1990s during the Department of Justice's antitrust investigation, says it's virtually impossible to know how Intel's majority share of the chip market has shaped system prices, or how prices might change as a result of an AMD win. "[The lawsuit] obviously gives Intel a public-relations problem. You would expect them to behave a little more gently in the marketplace, at least for a while. Which could be good or bad for consumers, by the way."

PC companies may like the idea of more competition, but Intel's chip choke hold has helped keep the prices down, says Forrester Research analyst Simon Yates. If Intel loses a large chunk of its chip business to AMD, some of its manufacturing capacity will go unused and it will still have research and other fixed costs to meet, leading to an overall increase in the costs per chip. This may offset any competition benefit, Yates explains.

> A surprising number of experts think the overall effect has been to lower costs, not raise them.

Pointing to the $3.2 billion in damages Intel might have to pay if it loses the lawsuit, Gartner analyst Ken Dulaney also predicts higher-priced PCs. "This lawsuit is a tax on end users," he says. "When a new Intel processor comes out, let's say the target price was $465 for that chip. So maybe they make it $468 [to pay the judgment costs]." The markup to the consumer buying an Intel-based system may be a bit higher, though that person may not be aware of it. "One way or another, users will wind up paying for it," Dulaney says.

TAX ON AMD

IF ANY SYSTEM costs have been inflated in the recent past as a result of Intel's alleged practices, they're probably the ones for AMD-based PCs, claims Frederic Warren-Boulton, an economic analyst and consultant based in Washington, D.C. Warren-Boulton says that if the misbehavior that AMD alleges against Intel is true, what Intel is essentially saying to its PC companies and retailers is that if they use AMD's products, Intel will increase the cost to them of Intel's own chips. Since these vendors still have to buy some Intel chips, they turn to AMD to compensate them for the extra Intel costs. One way AMD does that is by lowering its chip prices, but that savings does not get passed on to consumers. Vendors keep the AMD PC price a bit higher so they get a better margin of profit on the sale to cover the higher Intel costs. "Intel's discounts [to its chip clients] are really a tax on [end users of] AMD chips," he says.

Even if AMD wins, adds Gartner's Dulaney, its gain in market share may be far less than it expects. "This could be a hollow victory for AMD."

—Carla Thornton

ILLUSTRATION: HARRY CAMPBELL

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WIRELESS NETWORKING

Budget MIMO Is a Good Value

NEW BELKIN ROUTER AND CARD BRING BUDGET MIMO TO THE MASSES.

WHEN MIMO wireless networking equipment first appeared in late 2004, it improved spotty coverage and speeded up slow networks. But MIMO gear remains costly compared with the price of standard Wi-Fi routers and client cards. Now, our tests show that new bargain-priced MIMO products from Belkin deliver performance that's almost as good as that of more expensive alternatives, at two-thirds of the price.

In our testing, Belkin's Wireless G Plus MIMO products (a router and a PC Card) transferred data just slightly slower than the average (see the chart below) for Belkin's pricier Wireless Pre-N router, which earned a Best Buy in our August roundup of new Wi-Fi products (find.pcworld.com/49262).

At 100 feet and through several walls, both the Pre-N and the G Plus devices exhibited a noticeable drop-off, with the G Plus's 9-mbps throughput again trailing the Pre-N's results by 2 mbps. But when you consider that no conventional 802.11g network gear we've ever tested has even completed our FTP transfer test at 100 feet, the G Plus equipment's performance is impressive. (For details on the testing methodology, browse to find.pcworld.com/49368.)

BELKIN'S G Plus MIMO delivers nearly-as-good performance as Pre-N, for a third less dough.

All of Belkin's MIMO products have two built-in radio transmitters, but its Wireless G Plus MIMO router contains only two radio receivers—one fewer than the Wireless Pre-N routers have. The $100 G Plus router costs about a third less than the $150 Pre-N router. The company's $80 Wireless G Plus MIMO PC Card contains three receivers—the same number that the $100 Wireless Pre-N PC Card has.

Belkin's Wireless G Plus MIMO line will have some competition soon: Linksys has announced products based on the same Airgo chips Belkin uses in the G Plus.

Though these new MIMO products cost less than their predecessors, you may not need to fork over even that much for Wi-Fi. Belkin's own 802.11g routers cost $50 to $70, and standard 11g network cards will set you back about $40 to $50. Older products may well do the job for you (especially if you use your network primarily to share broadband Internet access, which typically peaks below the maximum throughput of standard 11g equipment). But if you need more throughput within your network, or if you're attempting to cover an annoying radio dead spot, the G Plus can give you a performance kick without a corresponding hit to your wallet.

—Yardena Arar

TEST REPORT

MIMO ON THE CHEAP

BELKIN'S NEW WIRELESS G Plus MIMO gear delivers most of the speed and range of its pricier Wireless Pre-N products.

PRODUCT	AVERAGE THROUGHPUT[1]		
	Close range (6 feet)	Medium range (30 feet)	Long range (100 feet)
Belkin Wireless G Plus MIMO Router $100, PC Card $80 find.pcworld.com/49367	16	16	9
Belkin Wireless Pre-N Router $150, PC Card $100 find.pcworld.com/48322	18	18	11

[1] The average of our upload and download FTP tests, in megabits per second (mbps).

IN BRIEF

Product Pipeline

BIGGER PICTURE: Fujifilm breaks the 9-megapixel barrier with two digital cameras—the FinePix S9000 and the FinePix E900. The former is an SLR model that features a tilting LCD screen and a 10.7X wide-angle zoom lens. The latter is a more compact point-and-shoot model with a 2-inch LCD screen and a 4X zoom lens. The S9000 will cost around $700 when it goes on sale in September, while the E900, which should be available when you read this, sells for $500.

SATELLITE RADIO MEETS DIGITAL MUSIC PLAYER: Samsung Electronics and XM Satellite Radio hope to make music together with portable digital players that play back both recorded XM programming and MP3 audio files. The yet-to-be-named players will come in 1GB and 512MB sizes and are expected to ship by year's end. The flash memory players won't receive XM programming directly. Instead each will come with a docking station that receives and stores XM's satellite broadcasts on the player. You can tag XM songs on playback and keep the tracks on the player indefinitely. And you can purchase saved music tracks from online music stores.

PHOTOGRAPH: MARC SIMON (LEFT)

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PLUGGED IN

STEVE FOX

The Podcasts Are Coming

PLUS: SHRINKING STORAGE, AND SLIMMER PHONES.

LISTENING TO THE POD PEOPLE

The Buzz: Steel yourself for the attack of the podcasters. Podcasts—free programming (talk, music, and some hybrid formats) delivered to a portable MP3 player or desktop—are sprouting up like, well, alien pods in a horror flick. The Diffusion Group, a consultancy specializing in the connected home, estimates the number of podcast consumers at about 5 million this year, with 55 million expected by 2010. A slew of sites have popped up, all competing to be the podcast portal of choice. Apple (apple.com/podcasting) has jumped to the lead, while Odeo (odeo.com), Podcast Alley (podcastalley.com), Podcast.net (podcast.net), The Podcast Network (thepodcastnetwork.com), and others are jockeying for position. And don't forget Google and Yahoo, which have multimedia search functionality.

Bottom Line: Hype aside, there's a genuine flowering of creativity out there, especially from private citizens with interesting (and often downright weird) things to say. Enjoy it now before Clear Channel finds some way to ruin it.

FUTURE TECH

Super Video Recorders

PROMISE TV'S PERSONAL video recorder is like TiVo's big brother. Instead of having you pick programs to record, the English startup's PVR just records them all on a whopping 3.2-terabyte hard disk array. Users can index, search, and even offload programs to external storage. Promise (promise.tv) recently demonstrated its prototype box recording an entire week's worth of programming (over 2000 hours) from Britain's 12 TV channels. Promise has yet to announce commercial plans, but Sony has; its VAIO X PC video server can record seven programs at once using dual video server boards and three analog TV tuners. It should go on sale in Japan this November for around $5000.

4 GIGS ON A QUARTER

The Buzz: The guts of Imation's USB-powered Micro Hard Drive are incredibly small—less than the size of a quarter, making it the smallest drive around. But the diminutive package is protected by a lightweight, shock-resistant casing that resembles a sturdy combination lock and includes a built-in USB tether that forms a loop when it's not in use. The 2GB model ($159) is available for purchase now, with a 4GB model ($189) due in retail stores later this year.

Bottom Line: Storage that makes a fashion statement. Next time someone tries to tell you geeks have no style, just pull one these babies out from behind your pocket protector.

TAKE AVENUE Q

The Buzz: What do you get when you meld the ultrathin build of the Razr phone with the functionality of the BlackBerry? Answer: The Q, as in the Motorola Q, destined to be a must-have device when it arrives in the first quarter of 2006. A Windows Mobile 5 smart phone, the Q has a full QWERTY keyboard, a thumbwheel, a 1.3-megapixel camera (with flash), an audio player, and Bluetooth connectivity. It should run thousands of Windows applications and handle mail by way of Microsoft Exchange Server 2003.

Bottom Line: Makes the Palm Treo look like it needs Weight Watchers. But the phone's price tag—probably somewhere north of $600—will put your wallet on a diet as well. ■

Contact PC World *Contributing Editor Steve Fox at steve_fox@pcworld.com; visit find.pcworld.com/31643 to read additional* Plugged In *columns.*

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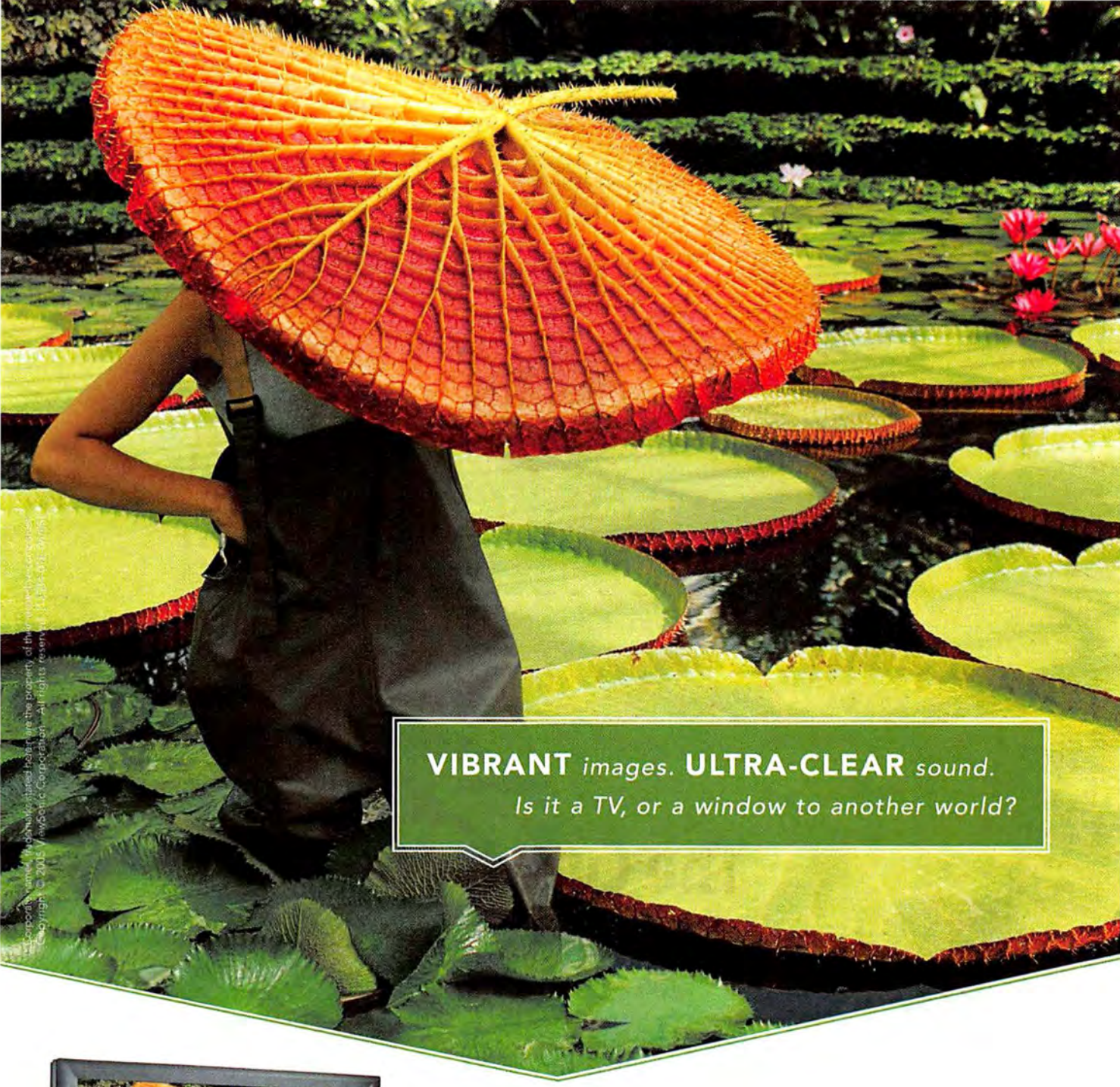

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WIRELESS STILL A HEADACHE

CORPORATE NO-NOs

UPGRADES: KNOW YOUR LIMITS

PUBLIC VS. PRIVATE BROADBAND

THE AUGUST GRABBER for me was Tom Spring's piece on ISPs versus cities ["ISPs Attempt to Stop Public Broadband," *News and Trends*]. I know from experience the tactics companies use to block local government from offering cable and Internet services. They play hardball!

Saddled with miserable cable TV service from a powerful corporation, our little city refused to renew the franchise when a municipal system was ready. The cable firm slapped us with a multimillion-dollar suit. The city countersued. The issue was settled by a referendum, and the firm got a sudden urge to go away.

We now have perhaps the cheapest cable service in the country, recently upgraded to all-digital plus broadband.

Art Darwin
Morganton, North Carolina

WHILE LARGE ISP companies can be expected to wish to protect their coveted high-speed Internet monopolies, and have a right to do so, their claim that they are better at network management is a joke. Anyone who has ever had outages can vouch for the red-tape-filled mess it is to get service restored. Cities that wish to help their citizens attain more affordable, reliable, and fast Internet can increase competition. The Internet is a vital tool in education and research. It should not be restricted to those who can afford and tolerate the ISP giants.

Isaac Harrison
Pullman, Washington

OPERATING SYSTEMS: NO FRILLS, PLEASE

I JUST DON'T GET IT ["Longhorn Preview," *News and Trends*, August]! Why are transparent buttons and 3D icons so important to an operating system? So what if Mac OS has had such things for years. What's important to me is how an OS works with all my other software and its compatibility with files from other platforms. My OS should be a tool that lets all my other tools make my life better.

What should be talked about is why OSs are so expensive and incompatible. Many times I have to resort to third-party apps just to make something transferable to another OS. I realize software development is very expensive and time consuming, but maybe if companies didn't have to develop an OS with cute or entertaining features and focused more on functionality and compatibility, the software made to run on the OS would follow suit.

Sean McMenemy, Lombard, Illinois

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WE WANT OUR REPLAYTV!

LINCOLN SPECTOR'S ARTICLE on digital video recorders, "TV Time Shifters" [*Digital World*, August], failed to include the best DVR on the market, ReplayTV.

It does what all the other DVRs do and more. Easy searches? No problem. A better program guide than all of the others? Got it. Easy to upgrade? Sure. Some units have 400 hours of recording capability.

Can your TiVo network with other TiVos in your house so you can watch in your bedroom the show you recorded in the family room? My ReplayTV can. Send a show to a friend over the Internet? My ReplayTV can. Forget to set up a show to record before a vacation? I can program my ReplayTV right over the Net.

Brian M. Trotta, Enfield, Connecticut

Editor's response: We received several letters from fans of ReplayTV and other DVRs not included in our article. However, we wanted to look at a representative cross-section of the different devices available on the market, instead of making an exhaustive survey.

–Anush Yegyazarian

CHEERS FOR YAHOO MUSIC

IN AUGUST'S *New Products* ["Yahoo Does Portable Music Downloads"], you failed to mention one key feature of Yahoo Music Unlimited that makes it a winner in my house: the fact that three users can sign on simultaneously. After fighting for access with my two teenage children using Rhapsody and Napster, I discovered that Yahoo Music will let us all listen to our own tunes at the same time. Yahoo!

Larry Swerdlove, via the Internet

SOME UPGRADES NOT FOR ALL

YOUR AUGUST COVER story, "Reinvent Your PC," tackles a good subject, but I question the article's inclusion of the ▶

PHOTOGRAPH: RICK RIZNER

Athlon 64 X2 dual-core processor upgrade.

Most of your readers are not hardware enthusiasts to the point of being able to change a CPU in an already fairly new setup. To advise a novice to spend hundreds of dollars on a new CPU and flash the BIOS is beyond me. That is not a viable upgrade option but rather a risky and expensive plan for possible disaster.

These X2 dual-core CPUs are simply way too new and too expensive—and the BIOSs are too new, as well—to recommend to someone who may never have taken the side off their case.

John McInturff, Wytheville, Virginia

FOLLOW COMPANY RULES

WE ARE BOMBARDED daily with attempts to compromise corporate computer security. Now we have a column [*Hassle-Free PC* by Steve Bass, August] in a respected computer magazine giving out instructions on how to sneak files past "IT-types."

Business rules are there for a reason. When you join a company, you agree to play by the company's rules. If you can't, then you should go work elsewhere.

David A. Dyer, via the Internet

THE BETTER WORD PROCESSOR

YOUR AUGUST REVIEW of WordPerfect Office 12 ["Improved WordPerfect Is Still a Hard Sell," *New Products*] leaves a lot to be desired (as has been your practice in recent years). I recently obtained a copy of Microsoft Office on a new computer, and it took me only a couple of hours to realize how much better off I was with WordPerfect. Better formatting and editing capabilities, coupled with a lack of security problems, plus excellent support policies, make the choice a no-brainer.

Paul Harrison, via the Internet

BUT CAN YOU STAY CONNECTED?

THOUGH YOUR AUGUST review of wireless networking products ["Wireless Networking: Faster! Farther!"] was interesting, it omitted the most important test. Judging by the thousands of complaints in Wi-Fi chat rooms about random loss of connectivity with wireless routers, if any wireless router eliminated that problem it would become a best seller.

I am not referring to a loss of connection due to excessive distance but to a stationary wireless connection that spans only a few feet; it works fine at first, and then all of a sudden is permanently lost. The only solution is to power down everything and restart. Advice to change settings or firmware, or to eliminate sources of interference—the advice that we get from the vendors—is ineffectual.

I finally gave up on wireless routers and now use a wired router that doesn't have this known problem of frequent resets.

Robert Elgin, Yorktown, Virginia

PC World *welcomes letters to the editor. We reserve the right to edit for length and clarity. Send e-mail to letters@pcworld.com.* ■

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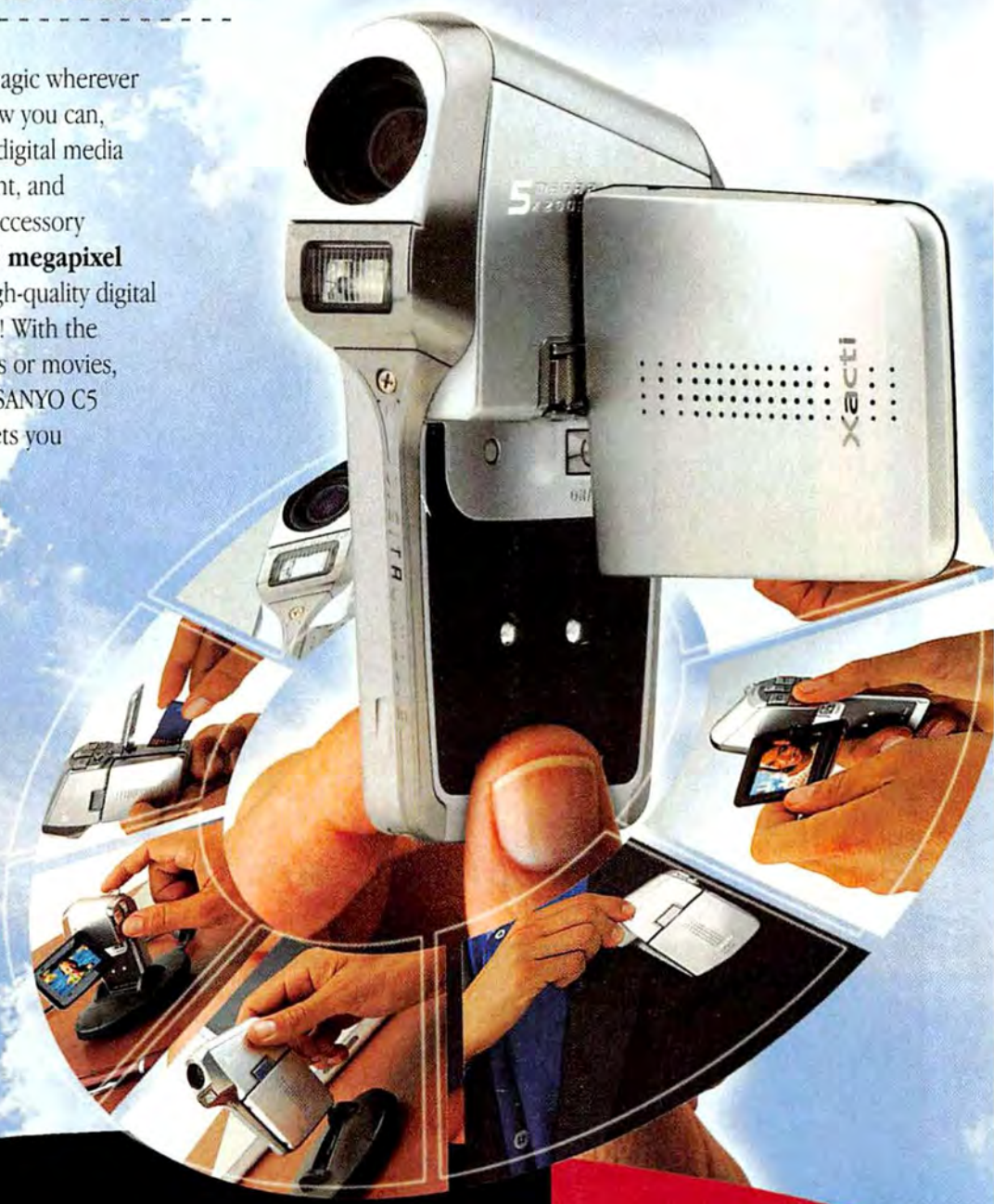

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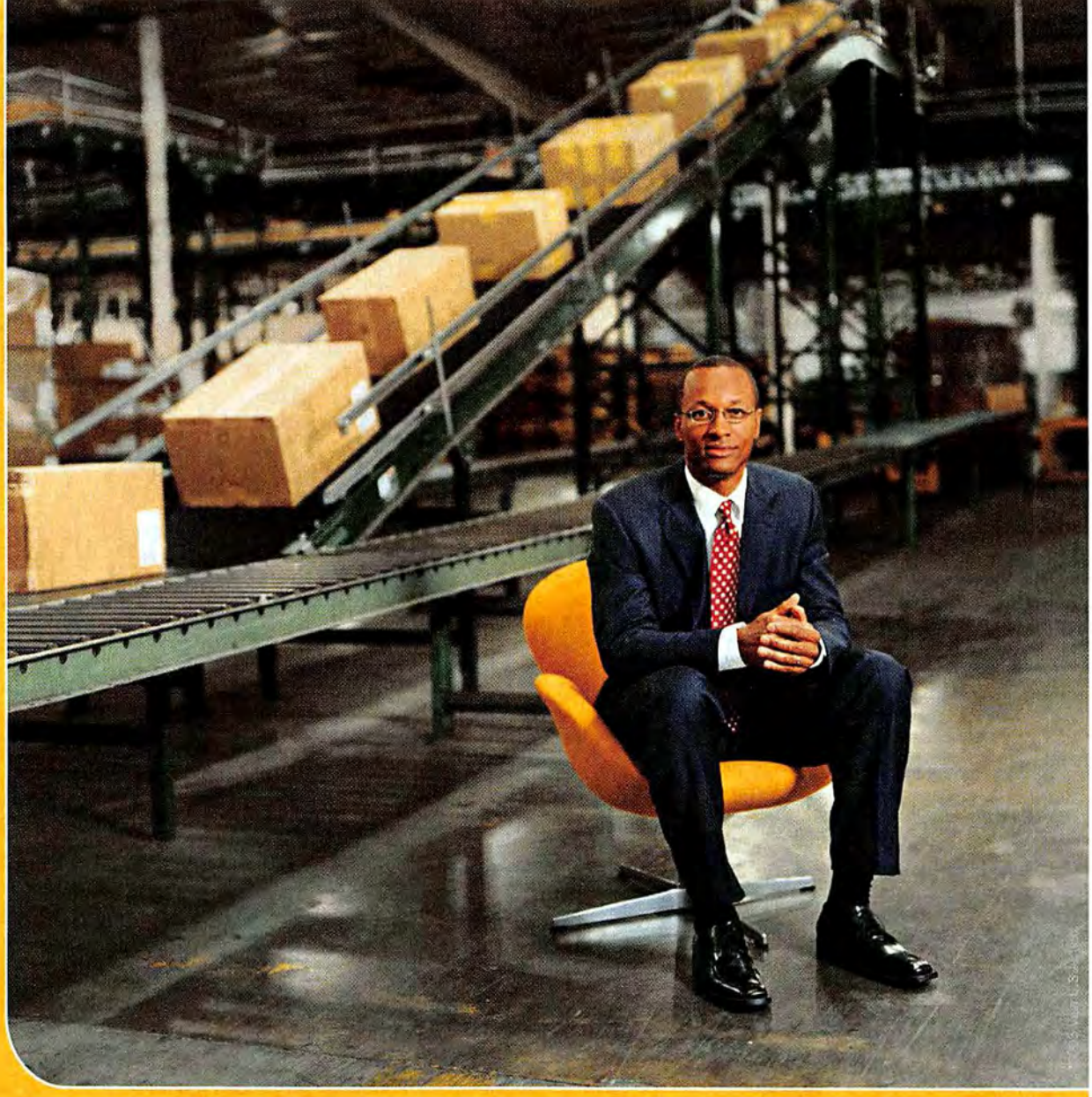

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CONSUMER WATCH

ANNE KANDRA

THE HASSLES OF BUYING MUSIC LEGALLY

PRIVACY WATCH: PHISHING ERODES TRUST

ON YOUR SIDE: MOZILLA STORE PROBLEMS

How to Beat the Music Download Blues

Incompatible formats and players can make getting music online a headache.

MUSIC MAY BE THE universal language, but when technology gets involved, the words sometimes flow less freely.

Deciphering the alphabet soup of digital music file formats—including MP3, WMA, and AAC—is just the beginning. No single portable audio player or site supports every file type, and it's not always clear which ones they do support. To add to the confusion, music sites have different rules for burning CDs, copying tracks onto multiple devices, and performing other tasks. So before you start downloading your favorite Stones album, you need to figure out which formats will work with the players you plan to use—and which sites and services will let you play your digital music the way you want to.

This summer, in *MGM vs. Grokster*, the Supreme Court took a clear position against file sharing, so it's essential to make sure that you're listening legally.

Here's some advice to help you pick up your favorite tunes online without hassles.

ILLUSTRATION: PETER HOEY

ABCs AND MP3s

IT HELPS TO REALIZE that in the digital music world, you can take one of three distinct paths: Apple's, Microsoft's, or the independent route. Once you get started on one path, it can be difficult (and expensive) to switch to another.

In music, unlike in computing, the well-traveled road is Apple's. IPods are by far the most popular audio players, and sales at the ITunes Music Store (half a billion songs and counting) dwarf those at any other music download site—for good reason. The IPod looks great and has a clear, efficient interface. ITunes was the first music store to simplify online music purchasing. And the ITunes desktop music player software makes putting your purchases on your IPod a snap.

But you pay a price for following the Apple route. Since the ITunes store sells copy-protected tracks in the AAC (Advanced Audio Coding, or MP4) format, the IPod is your only choice in a portable player; no others can play AAC files with Apple's type of copy protection.

Now, being stuck with an IPod isn't the worst of fates, but it can be limiting, primarily because IPods won't play Microsoft's WMA file format. That means you won't be able to play tracks you buy from most other online music stores. And if you subscribe to a music service such as Rhapsody, you won't be able to transfer any of that subscription music from your PC to your portable player.

So you're stuck with the policies of the ITunes Music Store (outlined at find.pcworld.com/49164). Many other online vendors sell tracks recorded at higher bit rates than those offered at ITunes—and higher bit rates generally translate into better sound quality. Downloaded tracks from any music store come with restrictions governing how many times you can copy them, how many machines you can play them on, and other factors. And those rules can change radically. How would you react if, after you'd bought an IPod and hundreds of dollars' worth of ITunes music, Apple changed its license restrictions in a way you didn't like? Would you be willing to start over again with a different format?

If you go down Microsoft's music path, you have many more choices. WMA files are sold at most online stores other than Apple's, including MSN Music, Musicmatch, and Napster. If you don't like ▶

the licensing rules at one store, you can take your business elsewhere. And WMA files play on most portable players not named IPod, including models from Creative, Dell, HP, IRiver, and Rio.

The downside to throwing your lot in with WMA is feeling a bit like an outcast. The fact that new audio accessories like portable speakers and FM transmitters tend to be bright white and have the letters p-o-d in their names is no coincidence. It's an IPod world; if you're carrying a Creative Zen, you're just living in it.

If you're not interested in joining either camp, you can stick with the MP3 format, which plays on virtually any portable player, on any computer, and with any music software. Unfortunately, MP3 files equivalent in quality to AAC and WMA files must be bigger, meaning that fewer will fit on your portable player.

With the exception of EMusic.com, few online stores sell music in MP3 format, but with some work you can convert AAC or WMA files to MP3s. You burn the original file to a CD and then you rip that CD into an MP3. It's tedious and you do lose some sound quality along the way, but you end up with a file that's free of the limitations of digital rights management.

PLAYING BY THE RULES

YOUR CHOICE OF MUSIC store won't make much difference in what you pay. Most stores charge less then $1 for each track, and about $10 for an album. But each vendor has its own rules. Here are some questions to consider when buying.

> It's an IPod world. If you're carrying a Zen, you're just living in it.

Can you copy the music you purchase onto multiple players or computers?

Suppose you want to copy the latest Coldplay album onto your laptop or office computer. Most sites let you do this, but within limits: For example, ITunes lets you authorize five additional systems to access your library; Napster gives you an allowance of three. Some sites require you to copy and restore license files to each additional computer you plan to use.

Don't forget to deauthorize systems before you retire them or upgrade the motherboard. Each site should provide instructions on how to do this.

Can you burn unlimited copies of your purchased music to CD?

Once you've purchased a legal copy of a music file, most services let you make as many copies on CD as you want, but it's a good idea to check for restrictions. Wal-Mart's music store, for example, limits you to ten burns to CD.

Are there limits on what you can do with your playlists?

Creating personal playlists of your favorite tunes is easy with digital music. But some sites place limits on playlists—for example, Musicmatch permits you to burn the same playlist no more than seven times.

What if your hard drive goes south?

Many sites require you to repurchase any lost music that you wish to replace, ▶

PRIVACY WATCH

Phishing Anxiety May Make You Miss Messages

"WASHINGTON MUTUAL SECURITY Warning." "Verify Your PayPal Account." "Official Information From Wells Fargo." You've been bombarded by e-mail messages with headers like these so often that you may now assume that they're all phishing scams. But what happens if your bank or an online vendor does need to contact you by e-mail? Will you even open the message?

If you're like most people, you've probably grown so disgusted with the daily attempts to con you into divulging your personal data that you may now unwittingly throw out some legitimate messages along with the fraudulent ones.

The percentage of people who open legitimate HTML messages from companies—the so-called "open rate"—has dropped by 20 to 30 percent over the past year, according to MarketingSherpa, an online publication that covers the marketing industry.

"We have been noticing in general that open rates across HTML e-mail have been unexpectedly plummeting," says Anne Holland, MarketingSherpa's publisher. (There are no statistics available regarding how many people open plain-text marketing messages, because those messages can't be tracked in the same manner.)

You probably know the best defense against phishing: Don't click any of the links within a suspicious message. Instead, type the URL into your browser's address bar, log in as you normally would, and then check to see whether your account has problems.

But companies have to find better ways to communicate securely with their customers. Some businesses are using small dedicated applications to get messages to customers, Holland says. "If [banks] can get people to download an application for banking and keep that on their computer, that might get past phishing."

Another option is for a firm to post messages to customers in a secure portion of its Web site. That way customers can get important news when they log into their account and know it's legitimate.

Finally, more businesses need to adopt measures to counter phishing attacks. For instance, some bank Web sites can detect when a phishing Web site tries to load the site's graphics and can prevent the images from displaying properly in the victim's browser.

It's unlikely that anything will completely eliminate phishers, but if companies want customers to treat their e-mail messages seriously, they need to get serious about dealing with the problem.

–Andrew Brandt

ILLUSTRATION: MARK MATCHO

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ON YOUR SIDE

Mozilla Store Fails to Follow Through

I ORDERED THE CD and manuals for Firefox and Thunderbird. My credit card was promptly charged but my order never arrived. I have called and e-mailed all of the numbers listed at Mozilla's site; but four months later, I still haven't received any products.

Bob Sanders, Marietta, Georgia

On Your Side responds: Officials at the nonprofit Mozilla Foundation said that several factors contributed to Mr. Sanders' problem. First, the company hired to run the Mozilla Store, Kendall Bryan Companies, had recorded an incorrect address for him. Second, Kendall Bryan had no system for tracking his package. And third, Mozilla officials said that they had recently discontinued their telephone customer service.

The foundation closed the Mozilla Store on May 23 to address these difficulties. At press time, foundation officials said that they expected the store to reopen at about the time this story is published. In the meantime, Mozilla has issued Sanders a refund. It has a new customer service phone number (888/738-4300) and e-mail address (customercare@store.mozilla.org).

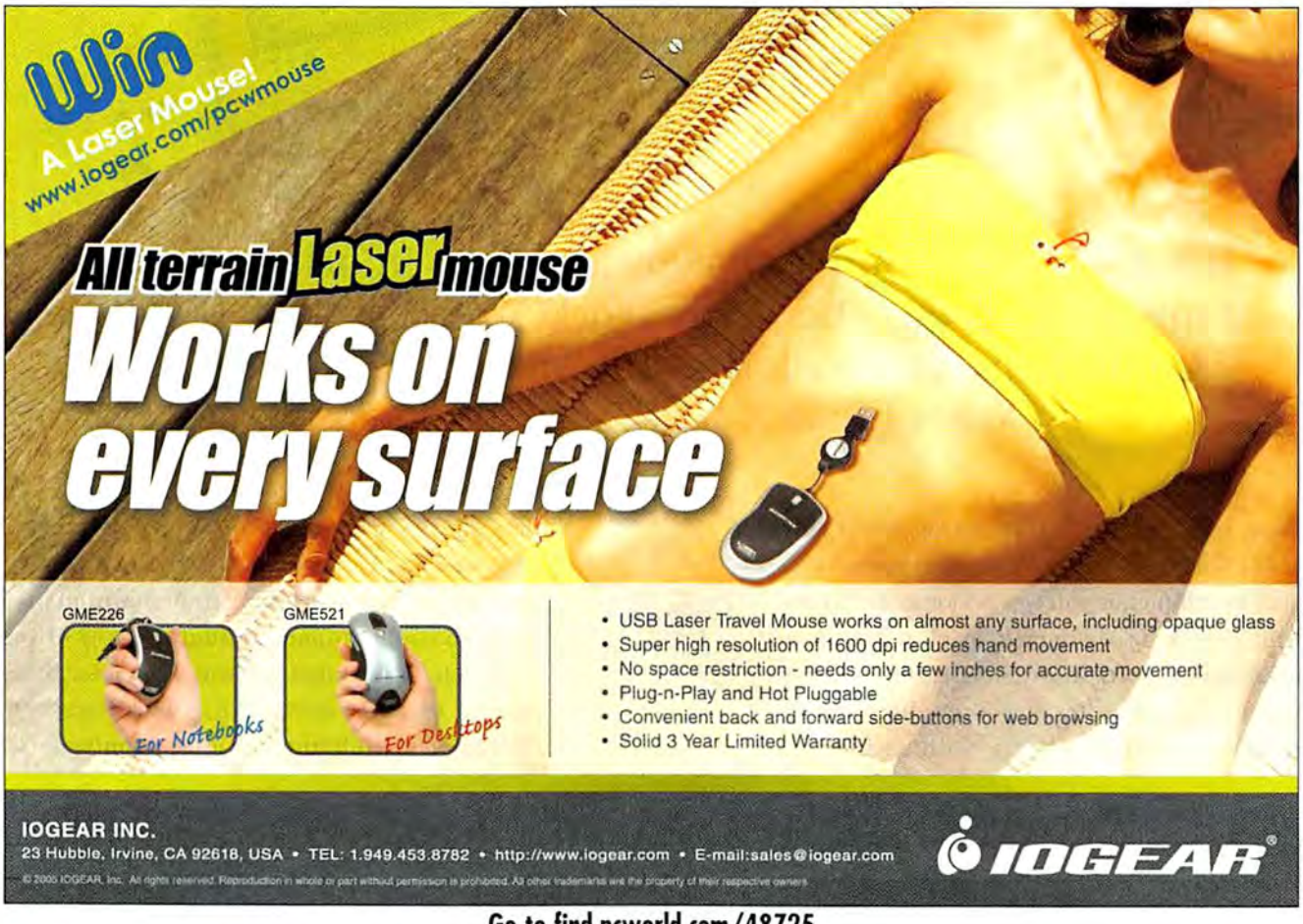
–Amber Bouman

regardless of the details. Other sites may be able to supply you with a restored copy of your library. Either way, it's best to back up your collection regularly onto CD.

Do all of these rules make buying music online sound too much of a hassle? Then consider renting your tunes. For a subscription fee of around $10 a month, streaming services such as those offered by Rhapsody (www.rhapsody.com) and by Napster (www.napster.com) let you listen to unlimited hours of music on demand. For an extra $5 a month, you can copy music files to a limited number of portable players and play the songs for as long as you pay your subscription—though you won't be able to burn the music to CD.

All these rules are enough to make you yearn for the simpler days of vinyl. But if you do a little homework, the Web can lead to a whole new world of musical discoveries. So load up your browser, crank up the volume, and enjoy the music. ■

Anne Kandra is a contributing editor, Andrew Brandt is a senior associate editor, and Aoife M. McEvoy is a contributing editor for PC World. *E-mail them at consumerwatch@pcworld.com, privacywatch@pcworld.com, or onyourside@pcworld.com. To read previously published* Consumer Watch, Privacy Watch, *or* On Your Side *columns, visit find.pcworld.com/31703, find.pcworld.com/31706, or find.pcworld.com/31709, respectively.*



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HASSLE-FREE PC

STEVE BASS

Clean Up a Taskbar Littered With Buttons

Plus: Force IE to save .jpg files, and beat XP's annoying log-in hassle.

GOT A MINUTE? Probably not, because you're busy closing windows and programs whose buttons clutter up your taskbar, or because you're repeatedly typing your XP log-in password. Take heart: I have fixes for these PC hassles.

TAME TASKBAR TURMOIL

The Hassle: *After a few hours of computing, dozens—well, half-dozens—of application and document buttons occupy my taskbar. Closing them individually is a pain. Do you have a quicker way?*

The Fix: Try playing with XP's universal multiple-task Control key, a handy but well-hidden shortcut. Click the taskbar button of an app you want to close; then hold down the **<Ctrl>** key and click the taskbar button of each other program you want to close. Release the **<Ctrl>** key, right-click any of the selected taskbar buttons, choose *Close Group*, and say *adios*. Next, experiment with taskbar groups, a setting you may have forgotten. It's super for stacking, say, multiple Word docs or IE sessions within one taskbar button. Right-click a button-free spot on the taskbar and choose *Properties*. On the Taskbar tab under 'Taskbar appearance', check *Group similar taskbar buttons* and click OK.

IE SAVE PROBLEMS

The Hassle: *I used to be able to save images from Web pages as .jpg files using Internet Explorer. But now I find that I can save files only in .bmp format. What's going on?*

The Fix: IE has a long-standing bug. To see if you have it, go to find.pcworld.com/48794, right-click any portion of the image, select *Save Picture As*, click the arrow at the right end of the 'Save as type' drop-down list box, and note the file choices. If you're limited to .bmp files, IE's cache may be full or it may contain a corrupted file. Click *Cancel* to close the Save Picture dialog box. Then delete the browser's temporary cache by selecting *Tools•Internet Options•Delete Files•OK*. Better yet, use ButtUglySoftware's CleanCache 3 (find.pcworld.com/48796), a freebie that lets you delete other IE files, too. Either way, exit IE, log out of Windows, log back in, and run IE again.

No go? Here are two workarounds:

Workaround 1: Select *Tools•Internet Options•Settings•View Objects*, and look for programs listed as 'Unknown' or 'Damaged' in the Status column. If you find one, right-click it, choose *Remove*, and click *Yes* to confirm. Repeat the process for any others. Still busted? Delete all of the downloaded program files.

Workaround 2: Select *Tools•Internet Options•Advanced*, scroll to the Security section, click *Do not save encrypted pages to disk* to clear its check box, and click *OK*. In IE, select *View•Refresh* or press **<F5>**.

BYPASS XP'S PESKY LOG-IN

The Hassle: *Windows insists on a new password every month. How can I shut this off?*

The Fix: In a work setting, I would just put up with it. But in my home office, I got tired of the reminder. Here's how to defeat it. Open Control Panel, select *Performance and Maintenance* in Category view, and choose *Administrative Tools•Local Security Policy*. In the left pane, double-click *Account Policies* and click *Password Policy*; in the right pane, double-click *Maximum Password Age*. Change the number to zero, click *OK*, and then close the Local Security Settings window. ■

Contributing Editor Steve Bass is the author of PC Annoyances, *published by O'Reilly (see find.pcworld.com/43818). Contact him at hasslefreepc@pcworld.com.*

TOOL OF THE MONTH

Conquer Taskbar Clutter

A MESSY TASKBAR IS one of my A-list kvetches. Every chance I get, I move taskbar buttons to the system tray. In Outlook 2002 and later, for instance, right-click Outlook's icon in the system tray and select *Hide When Minimized*. For apps that lack this feature, play around with Iconize, a nifty, free tool written by Brooks Younce (find.pcworld.com/48798). Right-click Iconize's system tray icon and choose from a list of open applications to minimize to the system tray. You'll recognize the app because Iconize uses the same icon that appeared in the taskbar.

ILLUSTRATION: JAMES YANG

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BUGS & FIXES

STUART J. JOHNSTON

Block Potential Attacks Aimed at Firefox

Plus: Stop the bad guys from sneaking in through a hole in Windows' remote access.

PCs HAVE GROWN increasingly vulnerable. In the second quarter of this year, 442 security holes were found in software, according to a report by the SANS Institute (www.sans.org), an organization that helps keep computer users safe online. This total is up by 10 percent compared with the previous quarter and is nearly 20 percent higher than in the same period last year.

The vulnerable programs include such usual suspects as Internet Explorer, along with increasingly popular apps like Firefox and ITunes. Recently, three holes were discovered in Firefox, the latest in a growing list for this browser. Two of the flaws could let an attacker control your PC, copy files, or plant a sleeper app (known as a *bot*) on your hard drive. You probably won't even know that your system has been infiltrated. The attacker could also use the bot to turn your machine into a so-called zombie, to send spam in league with other infected PCs. And your system could be used to infect other PCs or to send e-mail messages aimed at crashing other computers and Web servers—an exploit known as a denial-of-service attack. To get infected, you must click a planted link on a Web site.

The third flaw could let a miscreant trick you into giving out information such as credit card numbers or passwords. Say you visit a site containing a poisoned link that, when clicked, triggers the download of malware onto your PC. That malware hides in your PC and unleashes its mayhem when you visit a site (for example, your bank's) that requires entering personal data in, say, a pop-up window. That pop-up seems to be from the trusted site, but in reality it is the attacker's. Though no one has reported attacks yet, it's best to patch these holes; download Firefox version 1.0.6 at find.pcworld.com/49039.

REMOTE-ACCESS FLAW

MICROSOFT HAS patched a glitch in Windows' Remote Desktop Protocol (RDP) that could enable a malefactor to crash your machine. If you have enabled RDP, your PC is a sitting duck, waiting to be targeted by an automated program that sends corrupt RDP requests (messages that one computer sends to another, asking Windows to allow access to that system).

RDP lets you connect to a remote PC and use it as if it were the one sitting in front of you. RDP also allows support technicians to control your system to help you diagnose and fix computer problems.

If your PC is equipped with both Windows XP Media Center Edition 2005 and Microsoft's Media Extender device, your system is vulnerable because it has RDP enabled by default. The glitch also affects Windows 2000 through XP SP2, but unless you enable RDP in these versions, you're safe; it is turned off by default. The patch is available at find.pcworld.com/49040. ■

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

BEWARE OF FAKE MICROSOFT BUG ALERT

THE U.S. COMPUTER EMERGENCY Response Team (US-CERT) and research firm Websense Security Labs have reported an e-mail scam disguised as a Microsoft Security Bulletin. Although phony bulletins are not a new concept, this one is sneakier than earlier iterations because it looks more legit and urges you to click a link instead of an attachment to download the update.

The fake message is labeled "Microsoft Security Bulletin MS05-039: New patch against W32/Sober, W32/Zafi, W32/Mytob" and claims to fix an issue affecting Windows NT through XP. But what you get is a Trojan horse that compromises your PC's security.

If you receive a security bulletin, browse to www.microsoft.com/technet/security to verify its authenticity and to get details about the real alert. For more advice, visit find.pcworld.com/49044.

IN BRIEF

Tablet PC Memory-Slowdown Patch

MICROSOFT has patched a memory leak in Windows XP Tablet PC Edition 2005 that causes a gradual decrease in available system memory. This problem could eventually degrade performance, making applications run painfully slowly or freeze frequently. Hop over to find.pcworld.com/49046 to get the company's hot fix.

BUGGED?

FOUND A hardware or software bug? Tell us about it via e-mail at bugs@pcworld.com.

ILLUSTRATION: ROBERT NEUBECKER

NEW PRODUCTS

EDITED BY LIANE CASSAVOY AND MELISSA J. PERENSON

Turion-Based Notebooks Target Intel's Centrino

The PC World Test Center looks at two of the first laptops to use AMD's Turion processor and finds some mixed results—and a notably good deal.

TURION'S DEBUT: Acer's Ferrari 4000 (left) is stylish and pricey; Compaq's Presario M2000Z impresses with its low price.

NOTEBOOKS

TEST Center TURION 64 mobile technology for notebooks represents AMD's attempt to challenge Intel's dominant Centrino platform. I looked at two shipping notebooks from Acer and Compaq that use the new processor-and-wireless combo—and found both well equipped and suitable for most uses. While neither model proved a performance powerhouse compared with some Centrino-based systems our Test Center has evaluated, both possess strengths that should pique the interest of savvy buyers.

The basis of Turion 64 mobile technology is the new Turion 64 mobile processor, which AMD derived from its popular Athlon 64 CPU by lowering the chip's power consumption. Turion 64 chips fall into one of two categories: ML, which consumes less power (for longer battery life), and MT, which favors performance over power savings. Just as Intel calls Centrino a platform, AMD refers to Turion as a technology, and not merely a processor. Like Centrino, Turion includes a wireless transmitter (802.11a/g) as part of the package. And, to one-up Centrino, Turion adds Bluetooth, a nice bonus.

DIFFERING PERFORMANCE

THE TWO NOTEBOOK models I reviewed, the Acer **Ferrari 4000** and the Compaq **Presario M2000Z**, rely on the 1.8-GHz Turion 64 ML-34 processor and 1GB of RAM.

Despite their similar configurations, they turned in varying performance. The Acer managed a score of 85 in our WorldBench 5 tests, while the Compaq mustered a 73. The

Ferrari 4000
Acer
★★★½☆
Sleek-looking notebook will appeal to those who love snappy design; delivers respectable performance but average battery life.
List: $1999
find.pcworld.com/49070

Presario M2000Z
Compaq
★★★½☆
This model lacks style, and its performance isn't stellar, but its solid battery life and bargain price make it worth considering.
Street: $914
find.pcworld.com/49072

PHOTOGRAPHS: MARC SIMON

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50 PRINTER
Epson America AcuLaser CX11NF

DATABASE
FileMaker Pro 8

51 PROJECTOR
Optoma MovieTime DV10

52 INFORMATION MANAGER
EverNote Plus

44

Acer's score places it above the mark of 84 earned by a similarly configured notebook equipped with a 1.86-GHz Pentium M 750 processor.

In battery life tests, the Acer and Compaq switched places. The Acer lasted just 3 hours—an average showing—on a single charge, while the Compaq powered through for 4 hours, 48 minutes. That isn't the longest battery life we've seen—some Centrino-based notebooks we've tested have topped out at 6 hours—but it's impressive, nonetheless.

FEATURES GALORE

THE FERRARI 4000, Acer's latest model in its line of race-car-inspired notebooks, has candy-apple-red trim that's visible even when its checker-design lid is closed.

The unit's keyboard has a somewhat unusual ergonomic curve, which encourages quick, comfortable typing. And its 15.4-inch-wide screen with 1680 by 1050 resolution makes both working and viewing movies a pleasure.

Acer has placed a five-in-one media card reader, battery and power status lights, and Bluetooth and Wi-Fi LED button controls on the front of the notebook for easy access. On the side the notebook offers a slot-loading DVD Super-Multi double-layer drive. A DVI port on the back is a nice extra.

The Compaq, on the other hand, has a more staid design, with a standard-aspect-ratio 15-inch screen and a muted silver exterior finish. A 12-cell battery forms a foot at the back of the notebook; it also gives the keyboard a slight downward slant when the unit is placed on a desk.

A six-in-one media card reader resides on the left side, and a rewritable double-layer, dual-format DVD drive can be found on the right. Handy icons identifying all the ports and slots ring the keyboard, so you don't have to wonder about the right connection.

MODERATE PRICES

IN ADDITION TO sporting different designs, the Acer and Compaq have widely diverging prices. The Ferrari 4000 costs $1999, while the Presario M2000Z I reviewed is an incredible deal at just $914. The Acer's steeper price tag is attributable largely to its unique car-themed design and extra features. Even so, many Centrino-based notebooks cost $1999 or more, making the Compaq's sub-$1000 price particularly appealing—in spite of its uninspired performance.

If you're looking for top-of-the-line speed, neither Turion 64–based notebook is ideal. But if you seek reasonably robust configurations and easy-to-use designs, either one would make a fine selection.

—Kalpana Ettenson

QUICK TAKE

Fujitsu's Tablet-Style Ultraportable Notebook

THE $1649 LifeBook P1510D from Fujitsu is eye-catchingly small and slim. Even more captivating is its 8.9-inch touch-screen display, which you can twist around to turn this Windows XP–based notebook into a slate-style tablet.

It comes with a stylus and tablet-friendly apps such as EverNote and RitePen, so you can easily jot notes and annotate documents, just as you would with a notebook running Microsoft's Windows XP Tablet PC Edition operating system. Unlike models running the Tablet PC OS, which require you to use a specific pen, the P1510D's touch screen conveniently works with any stylus pen, or even your fingers.

At about 2.2 pounds and 9.3 by 6.6 by 1.4 inches, the P1510D is certainly compact; however, you sacrifice some power for portability.

The preproduction model I looked at came equipped with an Intel Pentium M Ultra Low Voltage 753 processor; 512MB of DDR2-400 SDRAM memory; and a 30GB, 4200-rpm hard drive. The unit lacks an optical drive—and one is not included even in the optional $130 port replicator. It does come with 802.11a/g wireless, though, as well as a fingerprint reader and SD Card and CompactFlash slots. find.pcworld.com/49074

–Melissa J. Perenson

THE LIFEBOOK P1510D is dazzlingly small and slim.

New ZoneAlarm Tackles Spyware

SECURITY

ZONE LABS' NEW ZoneAlarm Internet Security Suite 6 adds anti-spyware capabilities to an already bursting all-in-one security package. In addition to tools for preventing and removing adware and spyware, the suite includes a firewall, antivirus protection, privacy controls, and instant messaging security—all accessible via a unified interface.

I tested a shipping copy of this $70 package and found a number of improvements over its predecessor that make it noteworthy—even though some areas still need work.

Unlike other security packages, ZoneAlarm builds its spyware prevention around the firewall, attempting to stop malware before the apps can install themselves on your PC. This approach seems natural, since malware thrives only with an Internet connection. However, a permission-based firewall app such as ZoneAlarm relies for its effectiveness on the user's ability to make the right decision—fine for security-savvy people, less so for the average home user.

SMART ADVISOR?

TO COUNTER this weakness, Zone Labs offers its SmartDefense Advisor. The Advisor can automatically respond to alerts on behalf of the user, based on Zone Labs' policies. SmartDefense successfully alerted me when a program tried to inject itself into Internet Explorer—a common tactic of adware and spyware apps, and one that few antispyware products can prevent. It also warned me when an app tried to modify sensitive areas of my system's Registry.

Still, on a number of occasions SmartDefense tripped over telling me what to do with known adware and spyware. When one program attempted to reach the Internet, the suite could not suggest what action to take. And when confronted with a critical Windows service that routinely accesses the Net, svchost.exe, SmartDefense informed me, "Advice is not yet available for this program." Zone Labs says that the SmartDefense feature will improve as the company collects information from users. For now, however, it's clearly a work in progress.

ZoneAlarm deals with existing spyware in a more traditional manner, by scanning your system for infections. To gauge ZoneAlarm's effectiveness at this task, I tested it and compared it with the free versions of Lavasoft Ad-Aware SE Personal and Spybot Search and Destroy 1.4. ZoneAlarm Security Suite removed an impressive 80 percent of the active adware and spyware components, while Ad-Aware knocked out 63 percent and Spybot got 59 percent.

Despite my occasional disappointment with SmartDefense, I found ZoneAlarm Internet Security Suite 6 a solid product, offering an excellent firewall and above-average spyware removal. The suite is probably best suited for experienced users who don't mind responding to a bevy of program alerts.

—Mary Landesman

ZONEALARM Internet Security Suite 6 can't always offer advice on what action to take.

ZoneAlarm Internet Security Suite 6
Zone Labs
★★★½☆
Suite protects against a wide range of baddies and adds much-needed anti-spyware features, but it may require too much hand-holding for some users.
Street: $70
find.pcworld.com/49153

QUICK TAKE

Gizmondo's New Slant on Portable Gaming

WHAT DO YOU GET WHEN you take a portable game console, shove in bits of a cell phone, and then hammer a GPS receiver into the remaining space? You get Tiger Telematics' Gizmondo, a $399 device that's gunning to be a data-enabled variant of Sony's popular PlayStation Portable.

TIGER Telematics' Gizmondo.

Small and lightweight (6.7 ounces), with a 2.8-inch screen, the Gizmondo isn't as bulky as Sony's 9.9-ounce PSP (which has a larger, brighter screen). The range of games is limited at the moment, and those that are available lack the graphical wow factor and playability that PSP games have. But the Gizmondo has a built-in camera that takes slightly blurry but adequate VGA-resolution snapshots; it also has Web browsing and messaging features, plus the ability to play back MP3 music and MPEG-4 videos via an SD Card.

The pricing of the Gizmondo will be complex: If you receive three ads a day, it costs $229. If you don't want the ads, it jumps to $399—significantly more than the $250 PSP. You'll also need to pay for data services via cellular phone networks. (A service provider has yet to be designated.) The company expects the new device to be available in the United States in October. find.pcworld.com/49078

–Richard Baguley

PHOTOGRAPHS: MARC SIMON

Fujifilm's Simple, Slim Shooter

FUJIFILM'S STYLISH FinePix Z1 lacks a grip, making its sliding lens cover difficult to open.

DIGITAL CAMERA

THESE DAYS IF YOU want a skinny camera, you have an embarrassment of riches to choose from, among them Casio's Exilim series, Nikon's Coolpix S1, and Sony's Cybershot DSC T7. Now Fujifilm enters the market with its slim and lightweight FinePix Z1. The 5.1-megapixel Z1 offers hardware specs on a par with those of the competition. But when it comes to the most important factor—photo quality—the Z1 is a disappointment.

On the positive side, the Z1's intuitive menus make it a pleasure to use. You can zoom in up to 3X optically (for a focal range of 36 to 108 millimeters in 35mm-film equivalent), and you can tweak the exposure and white balance—but not the aperture and shutter speed. The sliding lens cover functions as the power switch, but its lack of a grip can make opening difficult.

Sadly, the Z1's image quality was far inferior to that of other point-and-shoots we've recently tested; the camera produced blurry shots, for example. Even its Natural Light trick (which automatically disables the flash, speeds up the shutter, adjusts the aperture, and increases the ISO setting to up to ISO 800) was disappointing. The lighting and shadows in my indoor photos looked fine, but the shots had color artifacts and graininess.

On the Z1's 2.5-inch LCD, images appeared grainy and had color noise, as well; these problems were all the more obvious on my PC monitor.

Style and user-friendliness are the Z1's strong points. But its major weakness, image quality, is a whopper. If you want a superslim camera, go for the comparably priced Nikon S1 or the $400 Casio Exilim EX-S500; both models performed better in our tests.

—Grace Aquino

FinePix Z1
Fujifilm
★★☆☆☆
This point-and-shoot camera's inferior photo quality offsets its excellent ease of use and superslim, stylish design.
Street: $380
find.pcworld.com/49076

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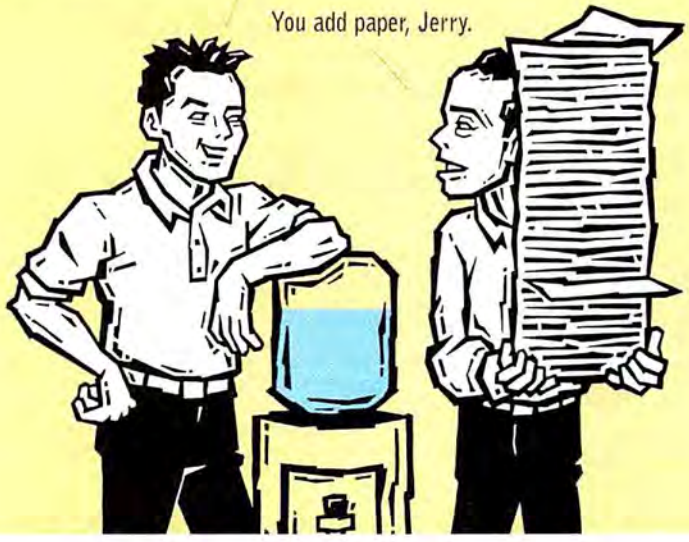

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Quicken 2006: A Worthy, E-Finance-Savvy Upgrade

PERSONAL FINANCE

NEW VERSIONS of Quicken take advantage of cutting-edge electronic record-keeping in useful ways. Unlike Microsoft Money 2006—a minor upgrade (see find.pcworld.com/49068)—my shipping copy of the $80 Quicken Premier 2006 provides compelling reasons to move up from older versions, or even to start using personal finance software.

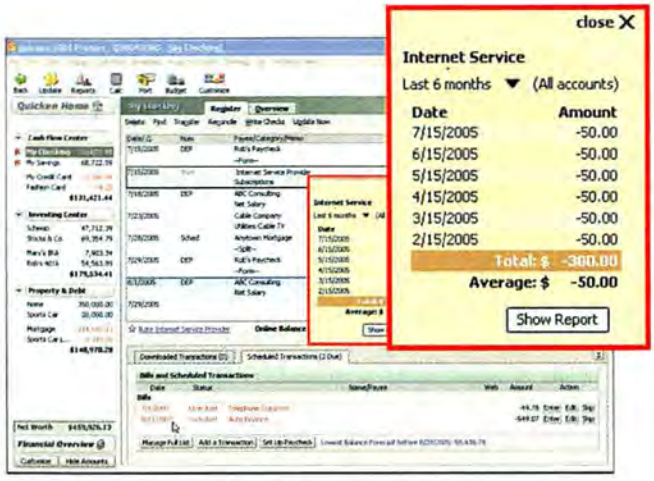
Quicken Premier 2006
Intuit
★★★★☆
Smart new features make this year's edition of the market-leading personal finance manager a worthy upgrade.
List: $80
find.pcworld.com/49080

My favorite new feature: the ability to attach digital images or PDFs—of checks, monthly statements, paycheck stubs, and the like—to your Quicken accounts or register entries, permitting your records to be at hand instantly (this feature isn't in the $30 Quicken Basic, however). The product even lets you encrypt these documents so they can't be viewed from outside the software.

New buttons in transaction entries bring up mini-reports that show all proceedings involving the payee or category within a user-customizable time frame. And the application's renovated Reports Center simplifies creating and accessing reports; customizing your views; and exporting those reports as PDF files so that accountants or other parties can view them easily.

I'm still annoyed about Intuit's withdrawal of support for the .qif data format, but Quicken Premier 2006 is one of the best Quicken versions Intuit has delivered in years.

—Yardena Arar



A MOUSE CLICK in a Quicken 2006 register produces similar entries.

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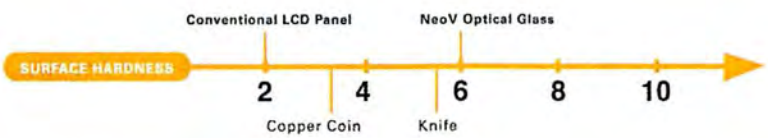

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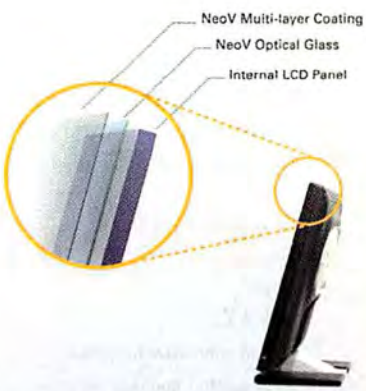

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A Different Class of Display

Latest Macromedia Studio May Not Merit an Upgrade

WEB PUBLISHING

MACROMEDIA HAS overhauled its Studio 8 Web suite, but many of the changes are outside the individual applications. Overall, the $999 suite features tighter integration. If you work primarily in just one of the suite's big-name programs (Dreamweaver 8, Flash Professional 8, or Fireworks 8), however, you'll likely find few reasons to upgrade from Studio MX 2004.

Studio 8
Macromedia
Beta version, not rated
Flash Pro 8's new video features are the biggest change, but the lack of knockout new tools leaves you with few reasons to upgrade.
List: $999, $399 upgrade
find.pcworld.com/49082

Studio 8's rejiggered lineup adds Contribute 3 for updating site content and FlashPaper 2 for converting files to Flash or PDF. Absent is the FreeHand drawing program, which was part of the two previous Studio releases.

Flash Professional 8 has the biggest changes. The vector-graphics program adds a new video encoder plug-in that gives you more ways to control how video plays. Flash Player 8 also gets an upgrade by way of On2 Technologies' new VP6 video codec, which promises improved playback.

FLASH PROFESSIONAL 8 includes a new engine that makes text easier to read and adds filters to give simple animations pizzazz.

Dreamweaver 8, the suite's Web-design program, features new tools that make it much easier to design and use Cascading Style Sheets. Fireworks 8, the suite's Web image editor, also adds CSS support, but more important are its tighter hooks to Dreamweaver and Flash. For example, Fireworks now imports Flash vector objects with colors, blends, and other attributes intact.

Despite the useful new features in Dreamweaver 8 and Fireworks 8, both feel more like point releases than major updates. However, the tighter links between the apps themselves could make the new suite worth the price.

—Dennis O'Reilly

Wireless Router Opens a Window Into Web Usage

WIRELESS

TO LOOK AT Prismiq's Commander Wireless Router, you wouldn't think it's capable of monitoring virtually all forms of Internet communication, from e-mail and instant messaging to Web browsing. The unassuming, bright white device looks more like an IPod accessory than like a serious surveillance tool for home or small-business broadband users. But the low-key facade belies a feature-rich product that can offer a detailed look at how others on your network are using their Web access.

Commander Wireless Router
Prismiq
★★★½☆
A good alternative for people who need thorough surveillance but don't want to install software on every PC on the network.
List: $80
find.pcworld.com/49084

Prismiq's $80 unit offers a built-in firewall, automatic configuration, five wired ethernet ports, and an 802.11g Wi-Fi networking radio with a single antenna (this device is not a MIMO router). Setting up my shipping unit was a snap: The whole process, from open box to Internet access, took all of 10 minutes, 6 of which I spent crawling behind a desk to reach the modem.

PRISMIQ'S WIRELESS ROUTER looks unassuming, but serves as a serious surveillance tool.

The Commander Wireless can log all Internet activity. Using Prismiq's IWACS (Internet Warning and Control Software) program, I could read any e-mail or instant messages sent or received by anyone connected to the router, as well as the MAC address (a unique, identifying code) of the logged PC. The software also displayed every URL the Web browser loaded. (The unit does not log the contents of Web pages, just the URLs.) In addition, an administrator can manually add URLs, individual IP addresses, or ranges of IP addresses that users may not connect to.

IWACS provides the kind of detailed window into Internet usage that would ordinarily require installing tracking software on each machine. Although this monitoring can be useful, such as when inappropriate Internet use is suspected, it can be abused, too. Users should always be told if they're being monitored.

—Andrew Brandt

PHOTOGRAPH: MARC SIMON

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Epson's Low-Cost MFP Impresses

PRINTER

TEST Center

FOR THE PRICE, you can't beat the printing, copying, and scanning speeds of Epson's $799 AcuLaser CX11NF, the least expensive multifunction color laser printer we've seen. This unit not only outshone two other low-cost color laser MFP models but also proved faster on most tasks than the $2999 Xerox WorkCentre C2424.

AcuLaser CX11NF
Epson America
★★★★☆
This peppy MFP delivers fast speeds and high image quality at an especially low price, but lacks features for busy offices.
Street: $799
find.pcworld.com/48966

Our shipping test unit printed text at a quick 17.6 pages per minute, much faster than other color laser MFPs we've tested: The Xerox WorkCentre printed text at 11.2 ppm; the Canon ImageClass MF8170C, at 10.6 ppm; and the HP Color LaserJet 2840, at 7.0 ppm. The latter two models cost $999 each in our July roundup (see find.pcworld.com/49052).

The Epson was faster than both the Canon and the HP at printing a three-page PowerPoint presentation (44 seconds, versus 83 seconds for the Canon and 189 seconds for the HP); scanning a 4-by-5-inch photo (11 seconds, versus 29 and 38 seconds for the Canon and the HP, respectively); and copying (4.9 ppm, compared with 3.3 ppm for the HP and 2.8 ppm for the Canon).

The MFP's image quality was almost as impressive. Dark text printed with sharp edges, though the letterforms were not as sleek as those printed by the Canon or HP models. Scans exhibited natural-looking colors, but skin tones were slightly reddish, and the Epson failed to reproduce details that the Canon captured.

Although it performs well, the Epson AcuLaser has just a single 180-sheet paper tray; an optional 500-sheet paper tray is available for $322.

If frequently refilling the paper tray won't irritate you, the speedy AcuLaser CX11NF should deliver plenty of productivity for the money.

—Eric Butterfield

EPSON'S affordable MFP makes quick work of most tasks.

FileMaker 8 Packs Plenty of Conveniences

DATABASE

FILEMAKER PRO, the easiest full-fledged database program I've found, made a great leap forward with its last release, adding new relational capabilities. So what are the developers doing for an encore with the $299 FileMaker Pro 8? Nothing as spectacular, but it offers improvements that make it easier and faster to use.

I tested a beta version and found more options for sharing data with someone who doesn't own a copy of the program. For example, you can send a PDF so they can see the exact look of the database, or you can export data to an Excel spreadsheet, allowing the recipient to manipulate and analyze the information.

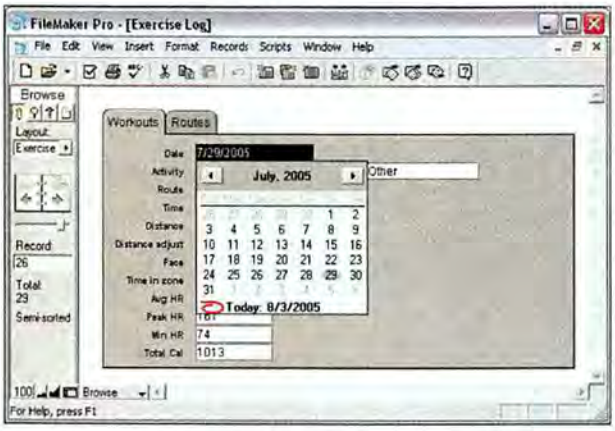
FileMaker's Web publishing features have also been improved, letting you serve an interactive version of your database online with a few clicks. And the Web version looks and acts more like the desktop version than it did in the previous edition.

Inputting information into a FileMaker database is now easier in several ways. You can put a drop-down calendar on any date field, and you can add an autocomplete capability to any text field as well.

And if you're a FileMaker guru who creates databases for others, you have more options for customization, including adding specialized menu buttons and tooltips.

The improvements in FileMaker Pro 8 will make any serious user's life easier. If you already own Pro 7, though, you'll have to decide whether the added conveniences are worth the $179 upgrade price.

—Edward N. Albro



FILEMAKER PRO 8 lets you add a drop-down calendar to any date field, making inputting information easier and faster than before.

FileMaker Pro 8
FileMaker
★★★★½
Update offers plenty of small improvements that make this easy-to-use database program even more efficient.
List: $299, $179 upgrade
find.pcworld.com/49086

PHOTOGRAPHS: MARC SIMON

Optoma's MovieTime Projects Big-Screen Fun

PROJECTOR

VERY FEW PEOPLE can afford a dedicated home theater, let alone find the space for one. Optoma's MovieTime DV10, a device of the "instant home theater" product category, can sate your lust for a big-screen movie experience without requiring you to endure a lot of cost, cabling, or hassles.

MovieTime DV10
Optoma
★★★★☆
With its integrated DVD player and speakers, this projector is an excellent choice for people who want a big-screen experience at a reasonable price.
List: $1499
find.pcworld.com/48934

The $1499 MovieTime is one of only a few digital projector models to have an integrated DVD player and built-in speakers. To watch a movie across an entire wall in your home, accompanied by surprisingly good sound, all you have to do is plug in a power cord and pop in a DVD. When the movie's over, just unplug the unit and stash away the reasonably compact box (14.5 by 4.6 by 10.7 inches).

The projector has a native resolution of 854 by 480 pixels, fairly standard for its class. Placed 7 feet from the wall, my shipping unit produced a very respectable 74-inch diagonal screen in 16:9 format.

The MovieTime's greatest shortcoming by far is its menu system. Once you get to the proper menu, using it isn't too difficult; but reaching the correct settings took many more steps than it should have.

Nevertheless, this projector is a fine, flexible choice for people who can't mount a projector permanently in their room, and who want a large-screen viewing experience without incurring a huge cost.

—Ramon G. McLeod

OPTOMA'S MOVIETIME DV10 projector offers up a high-quality image and provides a built-in DVD player and integrated stereo speakers.

How can you be so sure this color printer is as dependable as it is affordable?

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INFORMATION MANAGER

ALL THE WORLD IS a crib sheet, and every bit of your art and data is just so much chaos waiting to be organized. Enter **EverNote Plus**—a marvelously simple organizer of images, videos, ink (handwriting entered via mouse, tablet, stylus, and so on), text notes, spreadsheets, and more.

EverNote Plus
EverNote
★★★★☆
This great data organizer features excellent handwriting recognition, but it may appeal only to stylus users.
List: $35
find.pcworld.com/49087

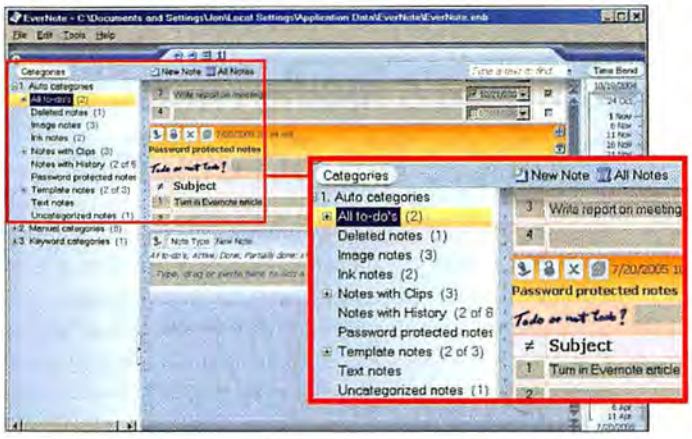
EverNote offers a free basic version and a $35 Plus version that adds handwriting recognition (I tested a shipping version of the Plus package). The application considers all of your files to be notes. You can create your own notes either by using templates or by dragging and dropping data and files into EverNote Plus.

Finding your files and data is simple: EverNote organizes your notes into a searchable database. When your database grows to a truly daunting size, you merely create a new one.

Organizing your notes and files is a good thing, but the way the Plus edition converts ink drawings and graphical scans to text is downright cool. It is startlingly good at recognizing whole words and sentences written in script, though recognition of printed single characters is a bit scattershot. Another neat trick in the Plus version of the app is shape correction, which straightens or smooths your lines, circles, squares, and other doodles.

EverNote is hardly perfect—I'd especially like to see more ways to filter notes into categories. However, the program is a great tool for note takers and tablet scribblers.

— Jon L. Jacobi



EVERNOTE ORGANIZES your files and data into a database that you can browse by category or query via its smart search function.

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The Versatile Projector

[Today's technology can be as sharp in the office as it is entertaining at home.]

Technology has changed the business world in countless ways, and one of the more compelling changes is the blurring of the lines that separated work life from home life. Today's workers think nothing of bringing work home, if it means they can skip out of the office early to catch a ballet recital or a soccer game.

As a result of this change, technology vendors have developed products that bridge the business world and the home. For example, it is no longer necessary to purchase one projector for business presentations, another for home entertainment, and yet another for, say, educational use.

In step with today's demanding users

In fact, with so many different companies selling projectors, a lot of smart buyers separate the great ones from the also-rans by looking to those vendors who care enough about projection technology to bring a complete solution package to the table. That is precisely what InFocus (www.infocus.com) offers. For everything you need to go totally wireless, including carrying bags and a full line of accessories to complement these world-class projectors, InFocus and its products cater to the projector needs of consumers and businesspeople alike with matchless quality.

The InFocus X3: Use it with a host of business tools as well as consumer electronic devices.

Consider, for example, the InFocus X3, a projector that is as versatile as it is powerful. Capable of fitting the needs of business users, educators, and home entertainment enthusiasts, the InFocus X3 will deliver consistently crisp, sharp images—both still images and video—whether they're on a screen or filling an entire wall. The InFocus X3's versatility and quality is derived in part from its extensive connectivity, which enables its use with computers, DVD players, video game consoles, and a host of other business tools and consumer electronic devices.

Weighing less than 7 pounds, the InFocus X3 delivers superb video quality with a 2000:1 contrast ratio and automatic deinterlacing, as well as 1700 lumens of brightness for the crisp image projection that demanding business users require today. And because the InFocus X3 features Texas Instruments Digital Light Processing (DLP) technology, still images won't deteriorate over time, while video images will be amazingly sharp. Pair it with an InFocus screen and carry case for a complete solution.

■ *For more information on the InFocus X3, or to learn about the complete projection solution offerings from InFocus, click now on www.infocus.com.*

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www.infocus.com

»TIPS FOR BUYING THE DREAM MACHINE«

Experts agree that buyers today can take advantage of the versatility built into projectors in order to have just one machine for both business and home use—if you carefully consider your needs and then match them to the available products. Therefore, consider the following tips before making your purchase:

»» Carefully weigh the various features of projectors you're considering against the actual usage you anticipate. For example, if you think your use will lean heavily toward projecting movies, be sure the projector is optimized with video functions (as opposed to being heavily laden with functionality geared toward still images).

»» If portability is an issue, carefully consider the trade-offs of an ultra-light projector versus the fuller functionality of a heavier projector.

»» Wireless projector functionality has grown in leaps and bounds in recent years and therefore should merit particular consideration, especially for business users. A wire-free presentation just looks sharp and professional.

»» If you are confused about lumen ratings, just remember that for typical lights-out presentations, relatively low lumen ratings are just fine. But business users cannot usually control the environment in which they are presenting, so it is safer to go with a minimum of 1500 lumens—even higher, if presentations are to be made to large audiences in large rooms.

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20 Things They Don't Want You to Know

BY ERIC DAHL

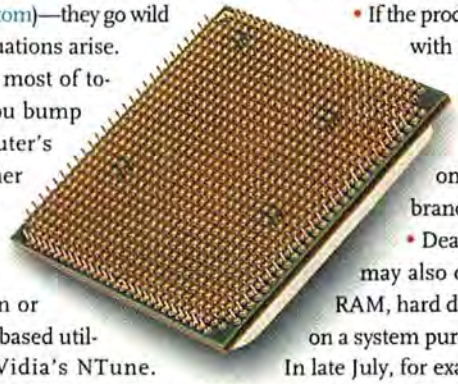
PSSSST! WANNA KNOW A SECRET? How about a whole bunch of them? Sadly, the Colonel's Secret Recipe and Dick Cheney's Secure Undisclosed Location remain shrouded in mystery, but I'm going to spill the beans about a bunch of things that technology companies would rather you didn't know. These insider tips will help you cut through hype when you shop, save money when you buy, and get the most out of products you already own. ▶

ILLUSTRATIONS BY DAN PAGE

Your CPU May Be Much Faster Than You Think

HERE'S A CPU manufacturing secret: Most CPUs can be overclocked to run at least a bit faster than usual, giving your PC a free speed boost. And on some rare occasions, low-end chips are capable of running just as fast as much more highly priced CPUs. But while overclocking can speed up your system, note that you must take care to properly cool your PC, or you might damage the CPU—and most system warranties won't cover that damage.

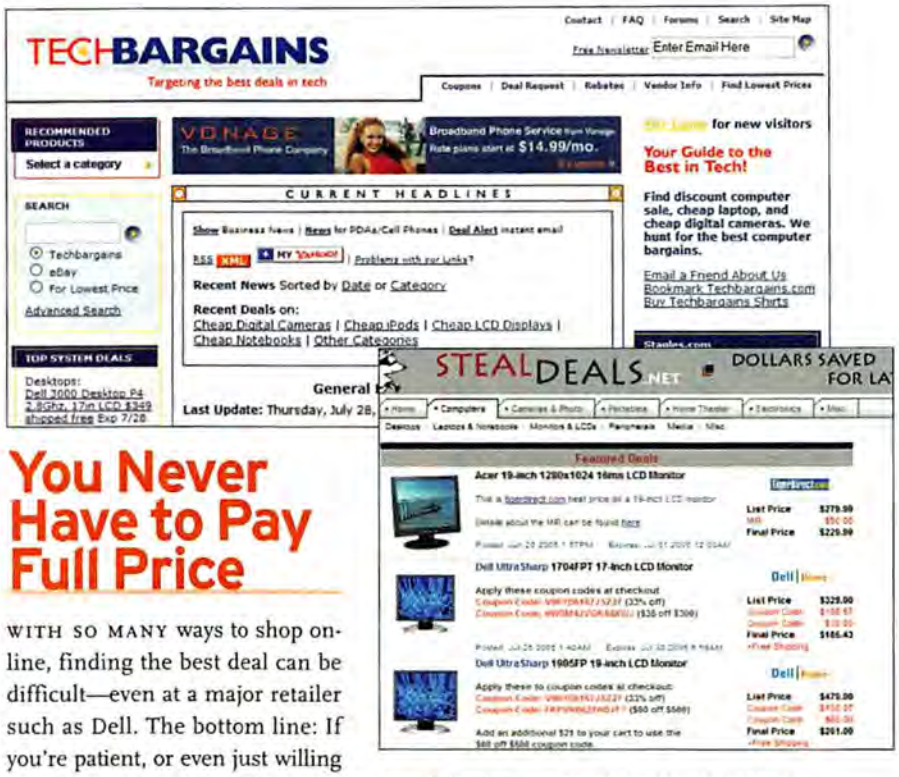
The big speed jumps usually come along when Intel or AMD has transitioned to a new manufacturing process and is getting great yields on even its high-end chips. When that happens, slower CPUs that use the same technology are ripe for overclocking. The classic example: Intel's Celeron 300A chip, a 300-MHz CPU that overclockers routinely ran at 450 MHz. Check in periodically with enthusiast sites like Anandtech (www.anandtech.com) and HardOCP (www.hardocp.com)—they go wild when those situations arise.



To overclock most of today's CPUs, you bump up your computer's bus speed, either through the system's PC Setup (or BIOS) program or via a Windows-based utility such as NVidia's NTune. (See "Secret Tweaks" in our March 2005 issue at find.pcworld.com/46914.) Each time you increase the speed, you should use a utility like Motherboard Monitor to check the CPU's temperature while you stress the system by encoding video or playing a 3D game. If the core temperature rises above 60 degrees centigrade, or if you experience any system instability (crashes, corrupt graphics, etc.), roll back to the next-lowest setting and stay there.

You Never Have to Pay Full Price

WITH SO MANY ways to shop online, finding the best deal can be difficult—even at a major retailer such as Dell. The bottom line: If you're patient, or even just willing to look around, you should never have to pay full price for most tech products. Here are my favorite tips:



TOP: TECHBARGAINS.COM tracks online deals. BOTTOM: STEALDEALS.NET is another source for Net-based bargains.

- When shopping at Dell, always check both the Home & Home Office and the Small Business sections. Prices for the same item often differ because independently operated business units manage these sections. Neither one consistently offers better deals, so when looking for specific items, check both areas periodically.
- If the product you're looking for isn't on sale, wait. Dell rotates promotional offers with blinding speed. Dell-branded products go on sale more often than items by other manufacturers do, but none of the products I tracked stayed at full price for longer than three weeks.
- The maximum discounts I've seen Dell offer—around 35 percent on its own items—are rare. But discounts of up to 20 percent on Dell-branded products and 10 percent on third-party items appear frequently.
- Deals on desktop and notebook PCs can be tough to evaluate, since Dell may also offer specials or free upgrades for included components (typically RAM, hard drives, and optical drives), making it difficult to calculate total savings on a system purchase. But sometimes you can find both discounts and free upgrades: In late July, for example, Dell offered a 34 percent discount on its XPS Gen 5 desktop, as well as a free upgrade from 512MB to 1GB of RAM.
- Check sites such as StealDeals.net and Techbargains.com (full disclosure: Techbargains powers PCWorld.com's Bargain Finder), which track day-to-day bargains on lots of shopping sites and which also list coupon codes that can augment the deals you find.

Not all deals are as good as they initially sound. Dell, for example, sometimes offers as much as $750 off notebooks that originally cost $1500 and up. But check the configuration and prices for notebook components carefully: Often the cost of adding RAM or a DVD burner will rise sharply during the deal period, cutting into your savings.

And before heading to a brick-and-mortar store, check the prices on its Web site at home, because local managers for chains such as Best Buy sometimes run in-store promotions that can produce prices different from those you'd see outside the store.

PHOTOGRAPHS: RICK RIZNER

Faster Shipping Isn't Always Faster

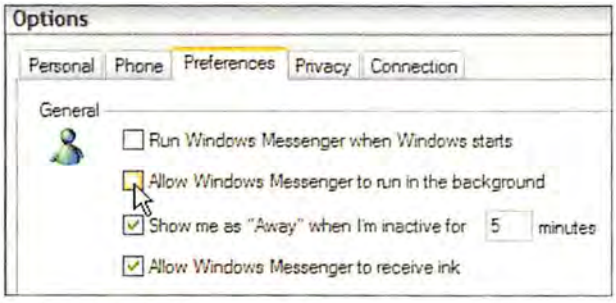
EVERYONE WANTS new books, CDs, and DVDs delivered yesterday. But for some folks, standard shipping may be just as fast as expensive two-day service. Try this experiment with a recent release you can stand to wait for. Use free or standard shipping, and check the package-tracking link to see what location handles the order (most of your orders probably ship from the same place). Most new releases I've ordered here in San Francisco ship from Reno or Fernley, Nevada—and they arrive in two days without expedited shipping.

USELESS SPEC

Digital Zoom

NOT ALL ZOOM is created equal. While optical zoom uses the camera's lens to increase magnification, digital zoom uses software built into a camera to magnify a subset of an image captured by a lens. The software does this by upsampling (or interpolating) pixels—generating new image data based on samples from the original pixels. That process can degrade the quality of the photo, making it blurry and pixelated. Optical zoom is the important number to look for. *–Grace Aquino*

SOME CAMERA MAKERS advertise a combination of digital and optical zoom.



UNCHECKING THESE boxes is the first step in removing Messenger.

You Can Kill Messenger

KNOW ANYONE WHO uses Windows Messenger as their instant messaging client? Me neither. Yet many of us have it sitting in our system tray anyway, because it often resurfaces even after you banish it using its own tools (select *Tools•Options*, click the *Preferences* tab, and uncheck 'Run Windows Messenger when Windows starts' and 'Allow Windows Messenger to run in the background'). You can, however, give Messenger the boot permanently; see find.pcworld.com/49002 for detailed instructions.

Extended Warranties Aren't Worth It

YOU KNOW THE DRILL: You're ready to pay for a new PC, HDTV, or peripheral, and take it home. But first you must suffer through your intrepid salesperson's 20-minute rap on why you'd be a fool to leave without buying an extended warranty. These plans are rarely a good deal.

Retailers push extended warranties hard because they're almost pure profit. By buying one, you're betting that your product will break, that the extended warranty will cover the damage, and that repairing the product would cost more than you paid for the extended warranty—an unlikely scenario. Extended warranties typically cost between 10 and 30

percent of a product's purchase price, so if these criteria don't hold true for one in every three to ten tech products you buy, routinely purchasing extended warranties will be a losing proposition for you.

Financial planners recommend making your purchase using a credit card that extends the manufacturer's warranty, and then putting the cost of the extended warranty into a repair or replacement fund. Often, by the time you need that money, you'll probably have saved enough to replace the nonworking tech product.

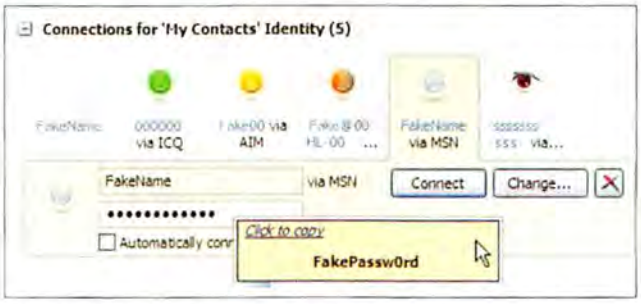
If you still want the extended service plan, read the fine print carefully; don't rely on the salesperson's assurances. Recognize that you're paying more for peace of mind (being prepared for the off chance something does go wrong) than service. And look for service plans that really do help. For example, some plans for rear-projection HDTVs cover the cost of replacing the backlight bulb, which you'll eventually have to do anyway. ▶

You Too Can Exploit Windows' Bad Security

MY PC'S FIREWALL, antivirus scanner, spyware remover, pop-up blocker, and spam filter all agree: Windows is sorely lacking in PC security. That situation may not change until Windows Vista (formerly Longhorn) comes out sometime next year. Meanwhile here are a few ways to turn Windows' poor security to your advantage.

If you ever have to reinstall Windows, you'll need the license key that came with your copy. But that string of 25 random letters and numbers isn't always handy. You'd think that in a world where you can't use Windows without activating it, the code required to do so would be a well-guarded secret, but thanks to lax Windows security, a 252KB download—Magical Jelly Bean Software's free Keyfinder 1.41—will recover your license key in a snap. Just head to find.pcworld.com/48938, download and run the app, and write down your key. Now if only Keyfinder could find my Windows CD....

While your license key might be written down somewhere, your Web site passwords probably aren't. I've set Windows to remember a bunch of mine so that I don't have to figure out the right log-in and password every time I go to, say, Amazon.com. Still, my only record of the password is asterisked out on Amazon's site. Because Windows doesn't do much to secure those stored passwords, you can get them back using another download. Revelation 2 from Snadboy Software (www.snadboy.com) will reveal any asterisk-hidden passwords. (It's free, although the site asks for a donation if you keep the software.) A $15 utility called Aqua Deskperience (www.deskperience.com/aqua) pairs a similar password-revealing ability with some useful features such as a convenient screen grabber and the ability to copy text from any application (including those where a copy command isn't available).



AQUA DESKPERIENCE deciphers stored passwords that are asterisked.

Finally, if the password you've forgotten is your Windows XP administrator password—required for operations such as booting into Safe Mode—Microsoft has a knowledge base entry (see find.pcworld.com/48942) that will help you reset the password.

You Can Save Big Money on Big-Name Software Packages

OEM: These three little letters, which stand for "original equipment manufacturer," can save you more than 50 percent on key software (see chart). Designed to accompany commercial systems, OEM editions have increasingly become available in stores such as Directron (directron.com) and Newegg (newegg.com). These stores are only supposed to sell OEM software with associated hardware—so for an operating system, you'd have to be buying parts for an entire PC. But most vendors let online stores sell OEM editions to anyone who buys a nonperipheral part—even a mouse, for example.

OEM software typically ships without a box, printed manuals, or the tech support you'd get with a retail version. But in return you save some serious coin.

PRICING

OEM BEATS RETAIL

SOFTWARE	Retail price	OEM price
Microsoft Windows XP Professional (with SP2)	$306	$136
Microsoft Windows XP Home (with SP2)	$199	$85
Microsoft Office Professional Edition 2003	$380	$300
Symantec Norton Internet Security	$68	$46

All prices are from Directron, as of 7/20/05, except where noted. [1] Prices from Newegg, as of 7/20/05.

USELESS SPEC

Response Time and Contrast for LCDs

AN LCD'S response time is supposed to tell you how well a monitor will respond to fast-moving images. Unfortunately, LCD manufacturers measure response times in so many different ways that the figures they quote are pretty much useless, as we found out in "LCD Specs: Not So Swift" (find.pcworld.com/49062). And contrast ratios aren't much use either. In June 2003 (find.pcworld.com/49063), we found monitors that underperformed their ratings by more than 50 percent.

That Dead Pixel on Your LCD May Not Be Covered

SOME MONITOR vendors are better than others when it comes to handling minor defects in their products. Any small anomaly in the manufacturing process can result in a dead or stuck pixel—a dot that stays bright or dark no matter what's being displayed. And since a typical 19-inch LCD has nearly 4 million tiny red, blue, and green subpixels, it's no surprise that some vendors balk at replacing a monitor if it has only a dead pixel or two.

But standards are improving. Philips's Perfect Panel guarantee and Asus's warranty for its V6V notebook display pledge replacements if even one pixel is dead.

Most vendors' LCD monitor warranties specify a minimum number of pixels that must be malfunctioning before they'll replace your display. Usually you can unearth a manufacturer's dead-pixel policy by searching its site for "dead pixels" or "pixel criteria." You might also find the policy in a PDF of the monitor's manual.

ViewSonic, for example, will replace a 14- to 15-inch monitor with more than four dead pixels; a 17- to 19-incher with seven dead pixels; and a 20-inch or greater monitor with more than ten stuck subpixels. Dell will replace monitors with six or more "fixed pixels"; NEC requires ten "missing dots." Most makers will also consider replacing a monitor that has a few dead pixels in a concentrated area.

PHOTOGRAPH: RICK RIZNER

Your Cell Phone's Been Crippled

TO TETHER YOU to their service, carriers "lock" phones so you can't use them on a competitor's network. And sometimes carriers disable other features as well. But with a little time and effort (and spare change), you might be able to unlock your phone regardless of whether your carrier cooperates. Be aware, though, that doing so might invalidate your phone's warranty; read the fine print.

Why do carriers do this? Money. Service providers generally charge less for phones than third-party vendors do, and they need to recoup that money. So, for example, some carriers make it difficult for you to employ Bluetooth to let your phone act as a dial-up modem for a notebook or handheld (presumably to push you toward expensive over-the-air data services). Locked GSM phones also cost you money when traveling, as you can't swap out your SIM (Subscriber Identity Module, the tiny card that holds the phone number and other information specific to your handset) for one from a local carrier, which generally will charge less than most U.S. carriers do for overseas roaming.

The easiest and most common unlocking technique is to enter special numbers on the dial pad—typically an unlock code plus your handset's International Mobile Equipment Identifier (IMEI), Electronic Serial Number (ESN), or Master Subsidy Lock code (MSL). Some phones, including Samsung and Sony Ericsson models, you can unlock only by connecting them to a PC using special cables and software.

The safest way to get your unlock code is from your carrier. T-Mobile, for example, will provide codes 90 days after you subscribe. Cingular generally doesn't help customers unlock phones, but makes exceptions on a case-by-case basis, says spokesperson Ritch Blasi. Sprint won't unlock phones—period. (Verizon Wireless says its CDMA handsets are unlocked.)

If your carrier refuses to help, third parties will sell you unlock codes for about $30 and up; a Google search for "unlock phone" produces links to Bongo Wireless (www.bongowireless.com), GSM Locker (www.gsmlocker.com), and Mobile Fun (find.pcworld.com/49320). Many of these outfits are Web-based, but independent brick-and-mortar shops are preferable because you can walk in and talk to a person if there's a problem. Whatever company you use, make sure it's legit: Find a contact number, and call a sales rep to get details such as cost and service guarantees. If the unlock code doesn't work, will you get your money back? What will the company do if the unlocking procedure breaks the phone?

CINGULAR generally doesn't give out unlock codes for its phones.

A Google search will also lead you to forums and blogs where fellow cell phone users share unlocking secrets—for example, Howard Forums (www.howardforums.com, registration required) and Treonauts (www.treonauts.com), which provides unlocking tricks for Cingular's Palm Treo 650 (find.pcworld.com/49036).

Some blog sites also help you circumvent restrictions on Bluetooth file transfers. For example, IrishEyes (find.pcworld.com/49035) and RussellBeattie.com (find.pcworld.com/49034) publish instructions on how to unleash some of the Bluetooth powers of Verizon's Motorola V710 handset. *—Grace Aquino* ▶

High-End Manufacturers Don't Always Make Their Products

IT'S TOUGH TO KNOW who really makes anything these days. In an era of shrinking profit margins, major companies such as Dell and HP often save money by outsourcing much of the design and assembly of their products to a small number of less-well-known (and usually overseas) companies—sometimes the same companies that supply cut-price competitors.

For example, most vendors selling LCD monitors don't make their own LCD panels. Dell buys the panel in its 24-inch wide-screen 2405FPW from Samsung; HP gets the panel in its L2335 monitor from Philips. A handful of companies provide the basic engines for most CD and DVD recorders, as well.

Does this mean that, say, your NEC monitor is no better than the Brand X model made with the same panel, or that your Sony DVD burner is no different from a no-name burner made with the same optical-drive engine? Not necessarily. The answer depends mainly on the type of product you're buying.

With LCD monitors, for example, vendors have many ways to add features and enhance the overall quality of the product. A company like Dell or HP can afford to invest a lot more than a no-name outfit can in the industrial design, the physical adjustment options, and the user interface for tweaking the monitor's setup.

For more commoditized products—items such as optical drives, where the form factor is constrained and where prices have dropped so low that there's little profit margin for manufacturers to compete over—the big-name vendors don't have as great an advantage. Of course, there will still be important differences in various vendors' warranties, tech support, and software bundles; however, the performance of two products based on the same engine should be quite similar. In that case, you should be able to get good value by choosing a high-quality product regardless of the brand name, such as one of the top-performing, inexpensive drives on our *Top 10 DVD Drives* chart.

USELESS SPEC

Speaker Wattage

SPEAKER manufacturers have a bag full of tricks they can use to inflate the power ratings of their speakers. But wattage should be pretty low on your list of deciding factors, especially for PC speakers. As any audiophile will tell you, there's no substitute for a good listening test when you're shopping for speakers. So put down the spec sheet, pick up a CD you're familiar with, and listen before you buy. If you insist on comparing speaker specs, look for a figure labeled Watts RMS that's broken down by channel instead of combined into a number representing total system power.

You Can Call Amazon, EBay, and Other Web Businesses

SOMETIMES THE BEST e-mail and chat support in the world is no substitute for a conversation with a real person. But that kind of talk isn't cheap, so to cut costs, Net-based companies like Amazon often make their phone numbers hard to find. Not to worry: A site called Cliché Ideas (www.clicheideas.com) has dug them up:

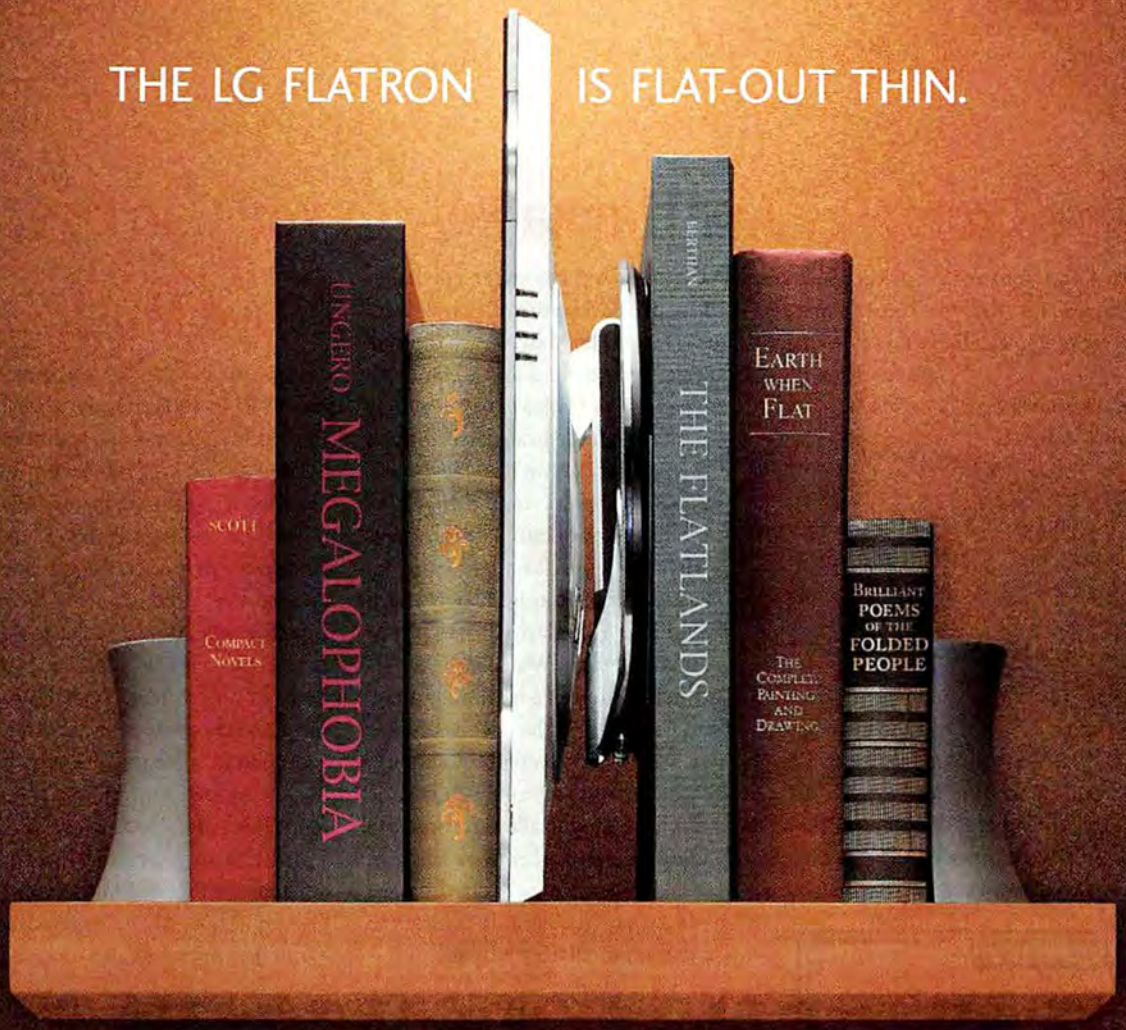
- Amazon: 800/201-7575
- EBay: 800/322-9266

UNCHECK these settings to silence Security Center warnings.

Security Center Can Be Muted

I KEEP MY WINDOWS system pretty well secured, but somehow that doesn't prevent Windows' Security Center from informing me that 'Your computer might be at risk' every morning when I turn on my computer. That message gets old fast. To banish it for good, go to *Start•Control Panel•Security Center*. Then click *Change the way Security Center alerts me* in the resources box and uncheck all of the boxes on the resulting screen. ▶

THE LG FLATRON IS FLAT-OUT THIN.



WALL MOUNTED (front view)

SLIM SCREEN

INTEGRATED PORTS

90° TILT (auto image flip)

PORTRAIT

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FLATRON™ ƒ·ENGINE

8ms Ultra Fast Response Time

BEST BUY

80 Series model shown

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Game Consoles Are Hackable

TODAY'S GAME consoles are powerful, crammed with useful technology, and (to habitual PC buyers) relatively inexpensive, so it's no surprise that hackers are constantly finding new ways to make them do more than just play games. The Xbox, for example, is essentially a PC with specialized graphics and audio hardware and a CPU that's a few generations old. With some dedicated hacking you can install Linux on it and use it as a PC. See find.pcworld.com/48936 for the Xbox Linux Project's step-by-step guide for answers to any questions you might have. (I did not find a similarly simple way to turn an Xbox into a Windows PC.)

SONY'S slick, hackable PlayStation Portable.

Within a week of its release, Sony's PlayStation Portable had been hacked to let the user customize its background images and browse the Web using a secret browser built into the game Wipeout Pure. The PSP Hacks site (find.pcworld.com/48940) has the story on this and other PSP hacks, including the continuing effort to allow the device to run home-brewed software. At press time Sony had just released a firmware upgrade that adds a Web browser and customizable background images, but locks out the latest home-brew hacks. Count on hackers to find a way around that eventually.

USELESS SPEC

Burst Transfer Rate

HARD-DRIVE MARKETERS like to push big numbers, such as a drive's burst transfer rate. But that number has little meaning. A typical Serial ATA drive can transfer bursts of data at 150 MBps when exclusively writing to or reading from its cache. But that doesn't happen often. A drive's sustained transfer rate or internal transfer rate (usually around 65 MBps), has more bearing on performance.

You Can Get a Human on the Phone

FOLLOW THE directions at Paul English's Find-A-Human IVR Phone System Shortcuts site (find.pcworld.com/48937) to reach a human operator at any of more than 60 cell phone, PC, and travel firms.

You Can Use an IPod to Move Music

APPLE DOESN'T MAKE it easy to employ your IPod to duplicate your music collection on both your work and home PCs, but you can do it. If you have a Windows machine, simply plug in your IPod, find it listed in Windows Explorer, and make sure your machine can view hidden files.

Open the 'IPod_Control' folder and copy the 'My_Music' folder to your PC. Import those tracks into ITunes and put them in order there. Select *Edit•Preferences*, and choose the *Advanced* tab. Select a location for your music library by clicking the *Change* button, and then check *Keep iTunes Music folder organized.*

Utilities such as the $15 IPodRip—available for PCs and Macs from The Little App Factory (thelittleappfactory.com)—can help automate this process.

MP3 Players Run Down Too Fast

TODAY'S DIGITAL audio players and other portable devices often feature two levels of "off." One—a standby mode that allows the player to turn power back on quickly after a period of inactivity—keeps some of the player's circuits active and constantly draining a bit of power. That's what Jan Schuppius and several other members of Creative Labs' MP3 support forum found was reducing the battery life on their Zen Micro players from 12 hours to fewer than 6 hours. (Browse to find.pcworld.com/48956 for their analysis.)

Creative fixed that problem in early July with a firmware update that lowered the standby time to 4 hours before the device shuts down fully, but I found the same drawback with an IRiver H10 I've been testing. Device manufacturers could follow Creative's lead in lowering standby time or correct this issue by permitting users to completely power down their players. Given the choice, many would opt for longer battery life. ■

PHOTOGRAPH: RICK RIZNER

Eric Dahl is a senior editor and Grace Aquino is a senior associate editor at PC World.

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ValueWeb's Price

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- 80 GB IDE Hard Drive
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ValueWeb's Price

Linux **$99/mo**

Windows **$129/mo**

$99 setup

PRO

- Intel P4 2.8 GHz CPU
- 1024MB RAM
- 2x80 GB IDE Hard Drive
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ValueWeb's Price

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Windows **$175/mo**

$99 setup

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MOBILE TECHNOLOGY

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ThinkPad R50e

DISTINCTIVE INNOVATIONS

ThinkVantage Rescue and Recovery – one button recovery and restore solution

SYSTEM FEATURES

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Intel® PRO/Wireless 2200BG (802.11b/g)[2]

Microsoft® Windows® XP Professional[3]

15" XGA TFT Display (1024x768)

256MB DDR SDRAM[4], 40GB Hard Drive[5]

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Perfect balance of performance and portability.

DISTINCTIVE INNOVATIONS

ThinkVantage Client Security Solution 6.0[10] – Strong security as a standard feature

SYSTEM FEATURES

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Intel® Pentium® M Processor 740 (1.73GHz)
Intel® PRO/Wireless 2200BG (802.11b/g)

Microsoft® Windows® XP Professional

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Only 1" thin[7] and 4.7-lb travel weight[8]

1-yr limited warranty[11]

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(9) Internet access required; not included. (10) Embedded Security Subsystem: requires software download. **(11) Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges. **(12) Systems with limited onsite service:** are designed to be repaired during the applicable warranty period primarily with customer-replaceable parts. A technician will only be sent onsite to perform a repair if (a) remote telephone diagnosis and/or customer part replacement are unable to resolve the problem, or (b) the part is one of the few designated by Lenovo for onsite replacement. For a list of onsite replaceable parts, contact Lenovo. Support unrelated to a warranty issue may be subject to additional charges. **Trademarks:** The following are trademarks of Lenovo: ThinkPad, ThinkCentre and UltraConnect. IBM and IBM logo are registered trademarks of IBM and are used under license. Microsoft and Windows are registered trademarks of Microsoft Corporation. Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Other company, product and service names may be trademarks or service marks of other companies. ©2005 Lenovo. All rights reserved. **Visit www.lenovo.com/safecomputing periodically for the latest information on safe and effective computing.**

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ThinkPad X40

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)[2]

Microsoft® Windows® XP Professional[3]

15" XGA TFT Display (1024x768)

512MB DDR SDRAM; 60GB Hard Drive[4]

Multiburner Plus with DVD burner

1-yr limited warranty[1]

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Thinnest and lightest ThinkPad ultraportable ever.

DISTINCTIVE INNOVATIONS

ThinkVantage Client Security Solution 6.0[5] – Strong security as a standard feature

SYSTEM FEATURES

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256MB DDR SDRAM, 30GB Hard Drive[4]

Only .94" thin[7] and 2.7-lb travel weight[8]

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ThinkPad R50e

ThinkPad R50e

Mainstream performance and features.

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128MB DDR SDRAM

30GB Hard Drive

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ThinkPad T43

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MOBILE TECHNOLOGY

ThinkCentre A50
(monitor not included)

ThinkCentre A50

Sleek tower design.

SYSTEM FEATURES

Intel® Celeron® D Processor 330 (2.66GHz)
Microsoft® Windows® XP Professional
256MB DDR memory at 333MHz
40GB Hard Drive, CD-ROM
6 USB 2.0 Ports (2 frontside)
1-yr limited warranty with limited onsite service[12]

THINK EXPRESS MODEL

$499 (P/N 8148D3U)

ThinkCentre A51

PCI Express technology.

SYSTEM FEATURES

Intel® Pentium® 4 Processor 515 (2.93GHz)
Microsoft® Windows® XP Professional
256MB DDR2 memory at 400MHz
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6 USB 2.0 Ports (2 frontside)
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Integrated fingerprint swipe sensor puts your passwords at the tip of your fingers.

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ThinkCentre A50

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SYSTEM FEATURES

Intel® Pentium® 4 Processor 530 with HT Technology (3GHz)
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ThinkCentre A51
(monitor not included)

ThinkCentre A50
(monitor not included)

ThinkCentre A51

PCI Express technology.

SYSTEM FEATURES

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Microsoft® Windows® XP Professional
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80GB Hard Drive, CD-RW Drive
6 USB 2.0 Ports (2 frontside)
1-yr limited warranty with limited onsite service[12]

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Embedded Security Subsystem 2.0: Help protect data and keep it private with our combined hardware and software solution.[10]

Rescue and Recovery: Recover previously saved data in minutes with our one-button solution.[10] (select models)

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(9) Internet access required; not included. (10) Embedded Security Subsystem: requires software download. **(11) Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges. **(12) Systems with limited onsite service:** are designed to be repaired during the applicable warranty period primarily with customer-replaceable parts. A technician will only be sent onsite to perform a repair if (a) remote telephone diagnosis and/or customer part replacement are unable to resolve the problem, or (b) the part is one of the few designated by Lenovo for onsite replacement. For a list of onsite replaceable parts, contact Lenovo. Support unrelated to a warranty issue may be subject to additional charges. **Trademarks:** The following are trademarks of Lenovo: ThinkPad, ThinkCentre and UltraConnect. IBM and IBM logo are registered trademarks of IBM and are used under license. Microsoft and Windows are registered trademarks of Microsoft Corporation. Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Other company, product and service names may be trademarks or service marks of other companies. ©2005 Lenovo. All rights reserved. **Visit www.lenovo.com/safecomputing periodically for the latest information on safe and effective computing.**

NEXT-GENERATION PCs

What will the everyday PC of tomorrow look like? Probably a lot like these super systems, all packing an array of cutting-edge technologies—and all available right now.

THE PACE OF PC innovation continues to quicken, and today's high-end systems contain technologies that few people could have imagined even a handful of years ago. From speedy dual-core desktop processors to 64-bit operating systems and super-powerful graphics that employ a tandem of brawny video cards, if it's computing power you want, you can have it—for a price.

As our roundup of super PCs and workstations shows, high performance doesn't come cheap. Nevertheless, even the budget conscious should pay attention to what happens at the top of the proverbial PC food chain. Today's cutting-edge computer will be tomorrow's affordable desktop. All you have to do is wait.

In the PC World Test Center we examined six of the best-equipped PCs on the market today: Alienware's Aurora 7500, Apple's Power Mac G5, Polywell's Poly 916NF4-SLI, Sony's VAIO VGC-RA842G, Voodoo Computers' Omen DCC A:221 Opteron workstation, and Xi Computer's MTower X2 AGE-SLI. (See "Power Mac G5 ▶

BY KIRK STEERS • PHOTOGRAPHS BY MARC SIMON

TEST DEVELOPMENT BY ELLIOTT KIRSCHLING • TESTING BY ELLIOTT KIRSCHLING AND WILLIAM WANG

THE INTERIOR OF VOODOO'S Omen DCC A:221 workstation impresses with its water-cooled, twin CPUs.

Is Fast, Yet Easy to Support" on page 74 for details on that machine.) We also examined HP's Xw4300 Workstation; see "Should Your Next System Be a Workstation?" on page 78. This roundup includes high-powered gaming systems, consumer multimedia systems, and commercial workstations, all equipped with an assortment of the latest processors, dual SLI graphics cards, and high-speed hard drives using RAID configurations.

TWICE THE CPU

ALL THE SYSTEMS we looked at, except the Apple Power Mac G5, came with the latest dual-core CPUs from either Intel or AMD. A dual-core CPU is essentially two processors built into a single chip. This can significantly boost performance when you run multiple programs at one time. It's also suitable for apps written specifically to support multithreaded CPU operations, such as Adobe's Photoshop CS2. You can expect many more programs to utilize multithreading capabilities by the time dual-core PCs become commonplace. (For more on dual-core CPUs, see find.pcworld.com/48772.)

Scores on our WorldBench 5 test suite depend on the whole PC, but they're still a good indicator of CPU performance. In our lab tests, the systems using AMD's dual-core processors shone in comparison with those using Intel CPUs; but the AMD dual-cores were not much faster than some systems using AMD's single-core, 2.6-GHz Athlon 64 FX-55 processor.

POLYWELL'S Poly 916NF4-SLI comes with two EVGA E-GeForce SLI graphics cards.

The two systems using AMD's new dual-core 2.4-GHz Athlon 64 X2 4800+ processor—Alienware's Aurora 7500 gaming system and Xi's MTower X2 AGE-SLI workstation—posted WorldBench 5 scores of 118 and 130, respectively. The MTower X2's score of 130 eclipsed the previous high mark of 125, set by its sibling, the Xi MTower 64 AGE-SLI with a 2.6-GHz Athlon 64 FX-55 CPU, a system that we reviewed this summer (see find.pcworld.com/49322).

The Pentium dual-core entries outperformed many—but not all—of the single-core Pentium systems we've tested. Polywell's Poly 916NF4-SLI with a Pentium Extreme Edition 840 and Sony's VAIO VGC-RA842G with its Pentium D 830 earned scores of 98 and 89, respectively, significantly slower than their AMD counterparts. To get the most out of both AMD and Intel dual-core systems, we'll have to wait for more software that's designed to take advantage of the increased bandwidth.

TWICE THE GRAPHICS

YOUR NEXT PC'S video system will have a new look. System builders are replacing the old AGP and PCI slots used for graphics cards—and in the case of PCI, other expansion cards—with higher-bandwidth PCI Express slots. All the desktops in this review (except Apple's Power Mac G5) came with motherboards offering one or two PCI Express x16 slots for video cards and several general-purpose PCI Express x1 slots for other cards (such as gigabit ethernet adapters).

In this roundup, the motherboards with two PCI Express x16 slots support NVidia's Scalable Link Interface (SLI) technology, which allows two video cards to work together as one, greatly boosting a system's graphics processing power.

A PC that supports SLI generally isn't cheap; in addition to the SLI-enabled motherboard, it requires two *identical*—the same model *and* the same vendor—SLI-ready graphics cards. But you can defray costs by buying one card with a new system and the second later on (after prices drop).

Not surprisingly, the two systems we looked at with dual EVGA E-GeForce 7800 GTX graphics cards, the Omen DCC A:221 and the Poly 916NF4-SLI, posted very high scores on our Unreal Tournament and Return to Castle Wolfenstein graphics tests. However, it's worth noting that at 1024-by-768-pixel resolution, Xi's MTower—with its single, EVGA E-GeForce 6800 Ultra graphics card—generally outperformed both systems.

What happened? Both games' performance is heavily affected by the CPU at lower resolutions. The MTower also came with 2GB of system RAM; the dual-card SLI PCs each had only 1GB. SLI will show its greatest benefits when more software vendors write apps to exploit its particular talents. We did get a glimpse of SLI's potential, though, in the Omen's top frame-rate scores on one portion of the demanding 1600-by-1200-resolution graphics-acceleration tests, which use the games Doom 3 and Far Cry.

Aside from waiting for more software, you may want to hold off on SLI entirely until you've had a chance to look at ATI's com-

petitive offering, Crossfire. Like SLI, Crossfire technology requires the purchase of a new motherboard and graphics card, but Crossfire will work with some current ATI cards.

While SLI is already well established, the first Crossfire graphics cards and motherboards were just coming to market at this writing, and the PC World Test Center had not yet had a chance to examine and benchmark any PCs using the new video technology.

SONY'S VAIO VGC-RA842G, with a dual-core Pentium D 830 CPU, uses side vents for style and cooling.

MORE MEMORY

ANOTHER BIG FACTOR affecting performance is RAM. Vendors still seem to think 1GB of RAM is the sweet spot, as four of our test systems came with 1GB of either DDR (for AMD systems) or DDR2 (for Intel systems) memory. But our Test Center believes that the Xi MTower's 2GB of RAM probably made a substantial contribution to that machine's achieving the best WorldBench 5 score that we've seen.

For anyone moving massive amounts of data—while editing digital video, for example—there is no such thing as too much RAM. All the systems we tested except the Sony VAIO VGC-RA842G can support a whopping 8GB of RAM. But you'll need to be running a 64-bit operating system such as Windows XP Professional 64 Edition if you want to use more than 4GB.

SPEEDIER, SAFER STORAGE

THE BIGGEST NEWS IN STORAGE doesn't concern just speed; it also relates to the safety of your data, or the lack thereof.

RAID, the Redundant Array of Independent Disks, was ▶

FEATURES COMPARISON

TEST Center

HIGH-END PCs SHOW DESKTOPS' FUTURE

SYSTEMS WITH DUAL-CORE CPUs, dual graphics cards, and lots of storage will soon appear in affordable, everyday desktops.

SUPERPOWERED PC	Features and specifications [1]		Performance [2]	Bottom line
Alienware Aurora 7500 **$4041** (★★★★½ Sep 05) find.pcworld.com/48575	• 2.4-GHz Athlon 64 X2 4800+ • 320GB drive space (RAID) • DVD±RW DL drive	• 20-inch BenQ LCD monitor • 256MB ATI Radeon X850 XT • Logitech Z-5300e speakers	• WorldBench 5 score: 118 • Graphics: Very Good • Design: Very Good	Speedy gaming system has a high-performance dual-core Athlon CPU, a roomy LCD, and SLI support.
Apple Power Mac G5 **$5647** (★★★★☆ **NEW**) find.pcworld.com/48964	• Dual 2.7-GHz PowerPC G5 • 250GB drive space • DVD±RW DL drive	• 23-inch Apple LCD monitor • 256MB ATI Radeon 9600 • Built-in speakers	• WorldBench 5 score: n/a • Graphics: n/a • Design: Very Good	Suited for workstation tasks such as video editing, this dual-CPU model is the most powerful Mac available.
Polywell Poly 916NF4-SLI **$3999** (★★★½☆ **NEW**) find.pcworld.com/48968	• 3.2-GHz Pentium EE 840 • 398GB drive space (RAID) • DVD±RW DL, CD-RW drives	• 19-inch Avidav LCD monitor • 256MB EVGA E-GeForce 7800 GTX • Creative Inspire P7800 speakers	• WorldBench 5 score: 98 • Graphics: Outstanding • Design: Good	This well-equipped, dual-graphics-card system provides a relatively affordable entry into SLI graphics.
Sony VAIO VGC-RA842G **$1900** (★★★★☆ **NEW**) find.pcworld.com/48970	• 3-GHz Pentium D 830 • 500GB drive space (RAID) • DVD±RW DL, DVD-ROM drives	• 19-inch Sony LCD monitor • 256MB NVidia GeForce 6600 • Logitech X-530 speakers	• WorldBench 5 score: 89 • Graphics: Fair • Design: Good	Media Center machine combines a reasonable price with strong multimedia components and software.
Voodoo Computers Omen DCC A:221 **$7995** (★★★★☆ **NEW**) find.pcworld.com/48971	• Dual 2.2-GHz Opteron 875 • 148GB drive space (RAID) • DVD-ROM/CD-RW combo drive	• 21-inch NEC CRT monitor • 256MB EVGA E-GeForce 7800 GTX • Four-in-one media card reader	• WorldBench 5 score: 112 • Graphics: Outstanding • Design: Good	The impressive Omen offers a dual-component bonanza—CPUs, graphics, drives—if you have apps that use them.
Xi Computer MTower X2 AGE-SLI **$3897** (★★★★½ **NEW**) find.pcworld.com/48972	• 2.4-GHz Athlon 64 X2 4800+ • 600GB drive space (RAID) • DVD±RW DL drive	• 19-inch ViewSonic LCD monitor • 256MB EVGA E-GeForce 6800 Ultra • Logitech X-530 speakers	• WorldBench 5 score: 130 • Graphics: Very Good • Design: Good	In graphics or overall speed, this MTower is a great choice for anyone who makes performance the priority.

n/a = Not applicable. **FOOTNOTES:** [1] Features listings are not exhaustive; hard-drive capacity may represent multiple drives; DL = double-layer. [2] Graphics scores are based on high-end games tests.
CHART NOTES: Street prices are as of 7/15/05. See find.pcworld.com/10860 for details on *PC World*'s Star Ratings. All tests designed and conducted by the PC World Test Center. All rights reserved.

once an expensive technology exclusive to servers and high-end workstations. It speeds up data transfer and protects stored data by linking together multiple hard drives in a single PC. RAID comes in seven official levels, RAID 0 through RAID 6, plus a couple of extensions (RAID 0+1 and RAID 10) and proprietary implementations (RAID 7 and RAID S), with each level offering different trade-offs between performance and fault tolerance. (*Fault tolerance* is a system's ability to keep running if part of it fails. Also, the numbers used in RAID levels do not indicate that a higher number is better.) Every system here, except the Power Mac G5, supports at least RAID 0 and RAID 1 in hardware.

Five of the systems we examined came with two hard drives configured as a RAID 0 array. RAID 0 spreads, or *stripes*, data across two or more drives so files can move on and off the drives faster—two hands are better than one, so to speak. For anyone who moves lots of data, such as engineers or graphics professionals, RAID 0 can speed up many tasks substantially. But for the average user, RAID 0 has one serious drawback: It provides no fault tolerance in case one of the drives crashes.

SLOWER BUT SAFE

RAID 1, ON THE OTHER HAND, offers little performance gain but complete hard-drive fault tolerance. The RAID controller continuously makes an exact copy, or mirror, of the first drive on the second. If one of the drives should fail, RAID 1 can keep the system running—or at least, enable you to quickly repair or ▶

HIGH-END MAC

POWER MAC G5 IS FAST, YET EASY TO SUPPORT

ANY TOUR OF THE latest high-end computers wouldn't be complete without a look at the newest topflight offering from Apple, the Power Mac G5. Like most Apple products, the G5 looks great: The perforated metallic surfaces of the Power Mac's case project an industrial elegance that gently reminds you this computer is a workstation, not just another consumer offering. (This may be one of the last high-end Macs with a PowerPC processor that we review in the PC World Test Center; starting in 2006 Apple will switch over to Intel processors.)

Open up the system, and the Power Mac continues to impress: A clear plastic screen covers the innards and directs airflow around the chassis. When you open the cover, a reserve fan kicks in, maintaining thermal control.

Inside, you'll find two water-cooled 2.7-GHz PowerPC G5 processors and a hefty 4GB of RAM (expandable to 8GB). Our test unit came with an ATI Radeon 9600 graphics card and a single 250GB Maxtor 7200 hard drive; but the case has room for another drive, which you can link to the first via software-based RAID 0 or RAID 1. Apple also includes the latest Pioneer DVD±RW drive, which reads and writes double-layer DVDs—discs with a capacity of up to 8.5GB.

THE POWER MAC'S elegance tells you it's not just another PC.

How does the Power Mac's video performance rate against that of a first-rate PC? That's a bit like comparing oranges and, well, apples. Differences in software implementations across the two platforms make an exact comparison impossible, but to get a general idea we performed a number of timed tasks using two cross-platform programs, Adobe Photoshop CS2 and video editor Avid Xpress Pro 4.6. We also timed the conversion of AVI files to the QuickTime and TIFF formats using Adobe Premiere Pro 1.5 on the PC and Apple Final Cut Pro 5 on the Power Mac.

THE UPSHOT: Although the Power Mac G5 was quicker on a few tests, it generally ran slower than our comparison PC, Xi Computer's MTower X2 AGE-SLI. In tests applying four Photoshop CS2 filters, the Power Mac G5 was marginally faster on one test and 19 percent to 37 percent slower on three others. Similarly, on tests using Avid Xpress Pro, the Power Mac imported and exported large files 41 percent faster on one test, but 58 percent slower on another.

Of course, a by-the-numbers performance comparison with a PC isn't what draws people to the Mac platform.

"They're fast, but also easy to maintain," says Carlos Del Castillo, IT Manager for Cell Signaling Technology, a biotechnology development company in Beverly, Massachusetts, that switched completely to Apple systems two years ago.

"My graphics people all prefer to use Photoshop on the Mac platform," Del Castillo says. Why? "Because on a Mac everything just works." Plus, there's another advantage: "We need only one support tech for 150 machines."

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replace the failed drive, restore its data from the mirrored drive, and resume operation without losing any data.

A RAID 5 configuration, which four of the systems here support, provides the best of both worlds: striping for fast data access and good fault tolerance for system reliability. The catch, though, is that RAID 5 requires at least three hard drives, and performance suffers in applications that write to disk a lot (in which case RAID 1 or RAID 1+0 would be a better choice).

The Voodoo Omen carries two 10,000-rpm Western Digital Raptor hard drives in a striped RAID 0 array for peak performance. This combination can produce noticeably faster data transfers when you copy large files or load graphics-rich software programs—such as games.

ALIENWARE'S Aurora 7500, with a dual-core Athlon X2 CPU, is a gamer's delight.

WATER WORKS

SOME HIGH-POWERED PCs require high-powered cooling—water cooling. For today's hot-running CPUs, fans sometimes aren't ideal. The Apple Power Mac G5, the Sony VAIO, and the Voodoo Omen all use water cooling instead of fans to keep their CPUs from overheating.

Apple and Sony have each chosen to hide the cooling apparatus in closed compartments inside the case, perhaps because they think the sight of water flowing next to a motherboard would disturb seasoned PC users. Whatever those users' reasons, the folks at Voodoo have no such qualms: One side of the Omen's case is a window that reveals translucent purple cooling tubes snaking through the PC's interior and backlit by fluorescent lights. Is water cooling reliable? We haven't tested long-term performance, but Apple assured us that its sealed cooling system is designed to outlast the useful life of the Power Mac G5. And you never have to top it off or add antifreeze in the winter.

The big advantage of water cooling for you: All three of these systems are noticeably quieter than comparably equipped air-cooled systems. But they're not completely silent; the power supplies still have fans, and hard drives always make noise, too.

Alienware Aurora 7500

SERIOUS GAME PLAYERS looking for instant gratification and long-term satisfaction will find both in the $4041 Aurora 7500. Built for speed, our review system included a 2.4-GHz Athlon 64 X2 4800+ processor, an ATI Radeon X850 XT graphics card, 1GB of dual-channel DDR400 RAM, and two Seagate Barracuda 160GB hard drives striped in a RAID 0 array for a total of 320GB of storage. This powerful configuration pushed the system to the fourth-best WorldBench 5 score that we've seen (118) and helped the machine post strong frame rates on our Unreal Tournament and Return to Castle Wolfenstein graphics tests, as well as on our advanced tests with Doom 3 and Far Cry.

You can add even better graphics performance down the road by swapping out the X850 XT card and adding two NVidia-based SLI graphics cards to the Asus A8N-SLI Deluxe motherboard.

The system is readily expandable. Inside the Alienware signature case, with its stylish rounded face and alien "eyes," are the second PCI Express x16 slot, three open drive bays, two PCI and two PCI Express x1 slots, and two free memory sockets—and they are all easily accessible. The only drawback we noted is that one of the two free PCI Express x1 slots is blocked by the graphics card.

Polywell Poly 916NF4-SLI

FEW WOULD CALL a $3999 computer a budget system, but if you're looking for a machine with a dual-core CPU and two SLI graphics cards—and a lot more—the Poly 916NF4-SLI comes close.

Off the shelf, the 3.2-GHz Intel Pentium Extreme Edition 840 CPU, the two EVGA E-GeForce 7800 GTX graphics cards, and the Asus P5ND2-SLI Deluxe motherboard would cost you nearly $3000. Throw in 1GB of dual-channel DDR2-533 RAM, three hard drives (including two 10,000-rpm 74GB Western Digital Raptors), a 16X rewritable DVD drive, a 32X CD-RW drive, and a wireless keyboard, and this Poly is one high-priced, loaded system that gives you decent bang for your buck.

The machine's WorldBench 5 score of 98 beat that of every other Pentium Extreme Edition 840 system we've tested, though it still lagged behind all of the AMD-based units in this roundup. The Poly's dual SLI graphics cards helped it reach respectable graphics scores, but it really shone on the high-resolution portion of the advanced graphics test.

The system is reasonably expandable, with three open externally accessible drive bays, one open internal bay, and a single PCI Express x1 slot. However, the Poly required more effort than the others to work inside the case: We had to unscrew a metal strip to gain easy access to the cramped interior.

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Sony VAIO VGC-RA842G

THE VAIO VGC-RA842G boasts some cutting-edge technology—such as a dual-core 3-GHz Pentium D 830 CPU, 1GB of DDR2-533 RAM, and quiet liquid cooling—but it's not for the graphics professional or the hard-core gamer. Our tests show it's better suited to the multimedia enthusiast who wants a complete audio, video, and graphics package out of the box. The system comes with two 250GB Western Digital Caviar hard drives that are striped with RAID 0 to provide fast and ample storage, a Pioneer rewritable DVD drive and a DVD-ROM drive, a five-in-one multimedia card reader, and a remote control for audio and video playback. A full complement of audiovisual software includes Windows XP Media Center, Adobe Premiere LE, Adobe Elements, and Sony's audio, video, and graphics utilities suite. ▶

HIGH-END PCs

SHOULD YOUR NEXT SYSTEM BE A WORKSTATION?

NOT LONG AGO, workstations were far different from PCs. These Unix-based systems ran on proprietary hardware platforms and were largely reserved for companies with deep pockets and a need for ultrahigh performance on specific applications. Today's workstations are more an evolutionary offshoot of their PC brethren than a different animal, sharing much of the same hardware and software.

What separates a workstation from a mere PC? According to Vince Dougherty, workstation seller and owner of Wine Country Computers in Healdsburg, California, "We sell workstations to people with very demanding, very specific needs, like architectural and engineering firms that work with complex 3D models and animation. Workstations more than make up for the extra cost with speed and reliability."

A typical entry-level unit, the Xw4300 Workstation from HP uses either a 32-bit Intel Pentium 4 processor or a 64-bit, dual-core Pentium D CPU. Its subdued gray-and-black case lacks the adolescent flash of some expensive gaming systems; inside and out, it's all business. Here's what separates the Xw4300 and other workstations from standard, everyday PCs.

Performance: Squeezing every last ounce of performance out of a PC means having high-powered hardware. In our $4200 review configuration, the Xw4300 came with a Pentium D CPU and 2GB of RAM; HP also offers more advanced (and expensive) workstations that carry Intel's Xeon or AMD's Opteron processors.

The Xw4300 supports up to 8GB of RAM but requires a 64-bit OS, such as Windows XP Professional X64 or Red Hat Enterprise Linux Workstation, to use more than 4GB. Down the road you can expect heavy-duty workstation applications to move to 64-bit sooner than average desktop software because they're most in need of, and benefit most from, more memory.

High-speed bus: You won't find any PCI expansion slots on most of today's workstations, just the newer PCI Express x16 and x1 slots. The Xw4300 also has a PCI Express x8 slot with the bandwidth to run a SCSI host adapter for 15,000-rpm SCSI hard drives.

HP'S Xw4300 can power a 15,000-rpm hard drive.

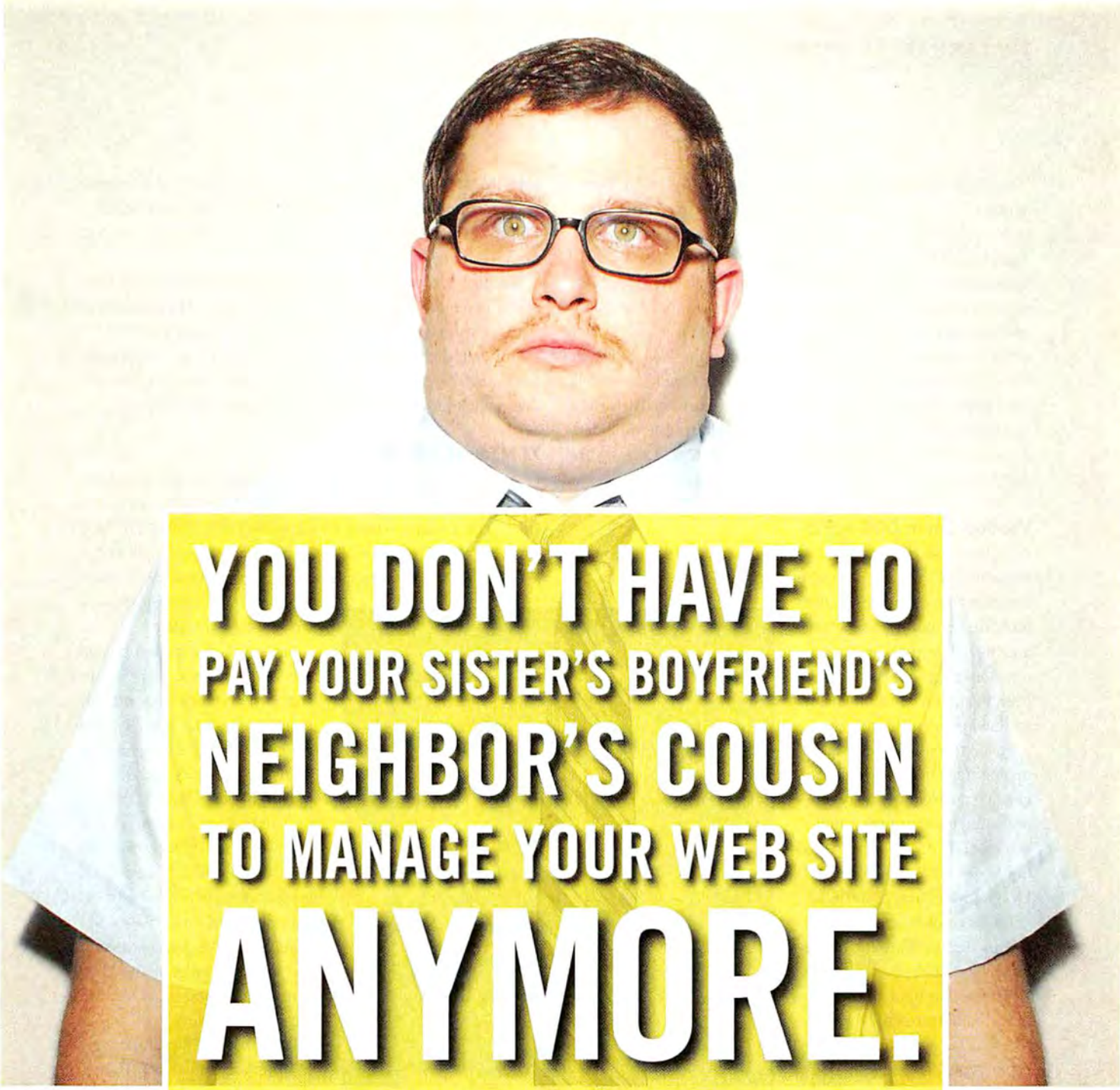
Fast and stable 3D graphics: Graphics board makers tune high-end consumer cards for fast game play, not stability. HP offers the Xw4300 with a number of expensive professional graphics cards, including models from ATI's FireGL and NVidia's Quadro lines. These cards supply proven stability plus hardware acceleration for the OpenGL API that 3D graphics and animation professionals use. In addition, the key software vendors test and certify the cards to work with their applications.

Fast and safe hard drives: Workstations also must be reliable, as busy professionals don't have time to recover from a hard-drive crash. The Xw4300 comes with two hard drives and supports up to four drives with RAID 0, RAID 1, RAID 5, and RAID 10.

High-end ECC RAM: Computers using multiple gigabytes of RAM are more likely to experience random data errors that can result in corrupt data, buggy software performance, and system crashes. That's why many mission-critical workstations use the more expensive Error-Correcting Code RAM, which stores a 7- or 8-bit code with every 32 or 64 bits of data to identify and fix random errors in the data.

ISV certification: Buyers want to know that a workstation will work with their software *before* they buy. Leading workstation vendors submit their systems to independent software vendors (ISVs) for certification and maintain a list of ISV certifications. The Xw4300's ISV certifications include Adobe's Photoshop CS, Premiere Pro, and After Effects, as well as Alias's Studio Tools and Discreet's 3D StudioMax.

Superior warranty: A workstation should come with a good warranty. HP provides a standard three-year warranty on parts, labor, and on-site service for the Xw4300.



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The slowest machine in this roundup, the VAIO had a WorldBench score of just 89, which puts the unit on a par with comparably configured PCs that run on Intel's 3.4-GHz Pentium 4 550. (Intel launched that chip back in June 2004.) The VAIO's video frame-rate scores on our standard graphics tests were similar to scores we've seen from other systems using comparable graphics cards based on the NVidia GeForce 6600 chip set.

Don't expect to add a lot of hardware down the road, however: The PC has no open PCI Express slots or externally accessible drive bays. Although there is room for one more hard drive and two more pieces of memory, the liquid cooling system hinders access to the cramped interior. That said, this VAIO already has the components you need for most multimedia applications.

Voodoo Omen DCC A:221

THIS VOODOO OMEN IS NOT your ordinary PC: It's gorgeous—some might say garish—and packed with processing power. Positioned as a performance tool for animators and other digital-content makers, the system looks as if it could have been designed by its creatively inclined prospective buyers.

Inside the window that takes up one side of the Omen's case, glowing purple tubes carry cooling liquid past our review unit's two 2.2-GHz AMD Opteron 875 dual-core CPUs and two SLI EVGA E-GeForce 7800 GTX graphics cards to a radiator that is attached to the back of the huge, blue case.

Fluorescent light from built-in bulbs bounces off the mirrored surfaces and colorful components, giving the case the look of a tropical aquarium, especially with the room lights dimmed. All that's missing are the fish. And although it's not completely silent, the system runs with eerie quietness.

Given our review unit's impressive complement of hardware, which also includes 1GB of DDR400 RAM and two small (74GB) but fast 10,000-rpm Western Digital Raptor hard drives striped in RAID 0 for speed, we hoped for superlative performance scores. On WorldBench 5, Unreal Tournament, and Return to Castle Wolfenstein, the Omen DCC A:221 did indeed produce excellent marks—though not the best we've seen. On one of our advanced graphics tests using Doom 3 and Far Cry at 1600-by-1200-pixel resolution, however, we received a glimpse of what a high-powered system with SLI graphics cards can do: The A:221 was almost twice as fast as the quickest non-SLI machine in this roundup.

The gigantic, roomy case can accommodate two more hard drives, two more optical drives, and six more RAM modules, but we were surprised to see only one open PCI Express slot.

All in all, the Omen DCC A:221 is an impressive computer. But for $7995, you'll want to make sure you're running software that can take advantage of its doubled-up hardware.

Xi MTower X2 AGE-SLI

IF THE DESIGNERS of this powerful gaming and graphics-oriented PC were looking for speed, they made all the right decisions. The 2.4-GHz Athlon 64 X2 4800+ CPU, 2GB of DDR400 RAM, two RAID 0–striped 300GB hard drives, and single EVGA E-GeForce 6800 Ultra graphics card delivered a WorldBench 5 score of 130, the highest score we've recorded to date.

XI'S MTower X2 AGE-SLI is the fastest PC benchmarked in the PC World Test Center.

Better yet, the system posted the top frame-rate score in our standard graphics tests, outperforming two machines in this review that were equipped with dual SLI graphics cards. (The MTower was helped in part by its 2GB of RAM.) Best of all, this MTower also had top scores on some parts of our advanced graphics test, which better measures the capabilities of dual SLI graphics cards. And because it has an SLI motherboard, you can add a second graphics card when you're ready.

Power users will appreciate the MTower's expandability. There's room for two more hard drives and three more optical drives. Adding RAM to the two open slots or a PCI Express expansion card to any of the three open x1 slots is no problem; the case's interior is well organized and uncluttered.

The system has all the connectivity you'd expect of a top-notch PC: Two of the eight USB ports are placed on the front of the case along with a microphone and line-out connector, and two gigabit ethernet ports and two FireWire ports are on the back. ■

Contributing Editor Kirk Steers writes PC World's Hardware Tips *column and is the author of the new book* PC Upgrading and Troubleshooting QuickSteps *(Osborne Press, 2005). He was once an analyst in the PC World Test Center.*

Acer recommends Windows® XP Professional.

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September/October2005

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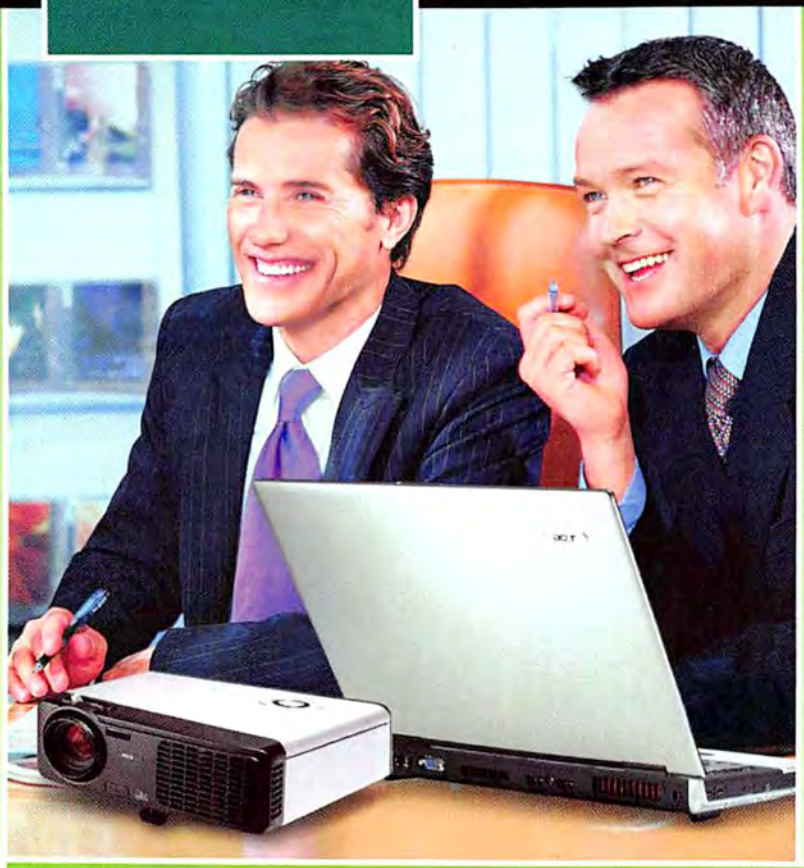

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PD525

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(EY.J1401.W04)

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PD116P

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(EC.J1001.001)

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- One-year limited warranty[3]

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Mobile AMD Sempron™ Processor 2800+
Microsoft® Windows® XP Home Edition
(LX.A5505.263)

AMD Mobile Sempron™

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[1] 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.

[2] 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.

[3] 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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DESKTOP SEARCH UTILITIES

Deep File Divers

We test six powerful desktop search utilities that scour the vast recesses of your PC to uncover long-lost file treasures.

TODAY YOU'RE JUST AS likely to search your massive hard drive for image, sound, and video files as you are to do a text search. In recent months several new free programs have launched that search your drive and claim to find these and other nontext files as quickly and accurately as they retrieve text-based ones. The programs offer more options for previewing, sorting, and filtering. And they scan the files on your system to create an index—à la Web search engines—that they use to find your files in the blink of an eye. ▶

BY SCOTT DUNN

ILLUSTRATIONS BY CHRISTOPH HITZ

The six apps we tested—Blinkx, Copernic Desktop Search, Google Desktop Search, MSN Search Toolbar With Windows Desktop Search, and Yahoo Desktop Search (all free), and Dt Software's $199 DtSearch—vary in how you install and use them, and in how they index your files. They each find different file types, and they diverge in how they present their search results. (The chart on page 91 lists the functions that each tool supports.)

We used the new power-search tools to search a 1MB collection of text, spreadsheet, compressed, image, and audio files on two different PCs (visit find.pcworld.com/49066 for a list of the file types each program supports). We placed specific terms in some of the test files themselves, in the file names of others, and in the "metadata" (comments that are embedded with the file) of still others.

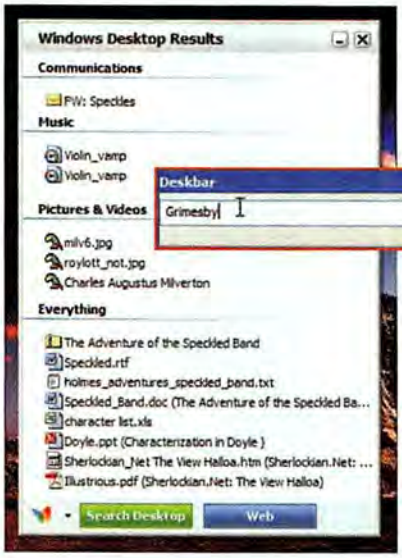

FIGURE 1: RESULTS POP UP AS YOU TYPE with Windows Desktop Search, which can float on your desktop or sit in your taskbar.

Our favorite is Microsoft's MSN Search Toolbar With Windows Desktop Search, even though it failed one of our tests. Copernic Desktop Search is the easiest to use, but it also didn't find some of our test files. For searching only text files—and if you don't mind spending $199—DtSearch is the most likely to find everything you're looking for. A familiar interface wasn't enough to win us over to Google Desktop Search, because it lacks the indexing and sorting options of competing tools.

MSN SEARCH TOOLBAR

★★★★☆; desktop.msn.com

Best BET OUR BEST BET winner can find hundreds of common file types, but you must download and install filters from third-party makers to index the entire contents of PDFs, compressed files, images (GIF, TIFF, JPEG), and other files. Fortunately, many add-ins are free for noncommercial use. (Start searching for them at addins.msn.com.)

The program places the MSN Search Deskbar on your Windows taskbar, folder windows, and Internet Explorer windows, as well as in Microsoft Outlook. It defaults to searching the desktop, the Web, or your e-mail, whichever is appropriate. You can also launch the Deskbar from the Start• All Programs menu.

Pop-up or context menus in most of the Deskbars give you access to the Options dialog box; there you can set which folders to index and where to store the index file. You can also set a keyboard shortcut for the Deskbar, and toggle the Deskbar between Web and local file searches via buttons in the pop-up results window.

You can refine search results by date, author, attachments (or mail with attachments), file properties, and other options.

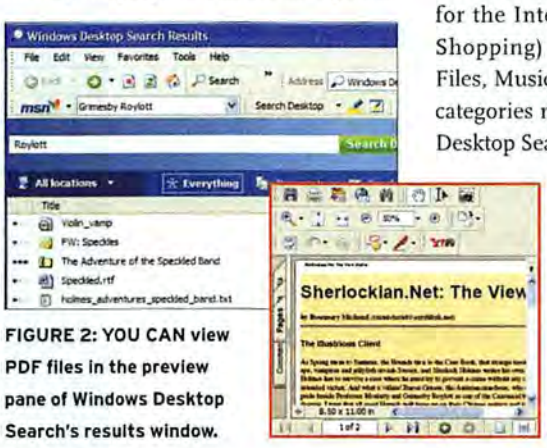

FIGURE 2: YOU CAN view PDF files in the preview pane of Windows Desktop Search's results window.

The program did a good job of finding our test files, including audio and image files that had keywords embedded as comments. The exceptions were mail messages in Eudora and Thunderbird. But since these two programs aren't supported in the toolbar itself, the fault likely lies with the add-in that was supposed to add these files to our index. More troubling was the program's inability to locate an XML file saved by Microsoft Word, although we encountered no difficulty unearthing an XML file saved in another application. Even rebuilding the index didn't fix this problem.

Windows Desktop Search shows your search results (sorted by file type only) in a pop-up window as you type (see **FIGURE 1**). Press **<Enter>** or click *Search Desktop* to get the full results window; click an item in the pop-up results to open that file.

If you've installed the program's PDF add-in and you select a PDF to preview, you'll open a version of the Acrobat Reader right inside the preview pane, complete with toolbars (see **FIGURE 2**). Or if you select an audio file among your results, the preview pane will display the controls for playing the found sound.

COPERNIC DESKTOP SEARCH

★★★½☆; find.pcworld.com/48960

WHEN IT COMES TO ease of use, this program wins hands down. It encourages you to search within its preset categories for the Internet (Web, Images, News, Shopping) or your computer (Emails, Files, Music, Pictures, and more). These categories make working with Copernic Desktop Search incredibly simple.

After the installation you'll see a search box in your taskbar. Type in your keywords and then press **<Enter>** to start looking within whichever category (desktop or Web) you last searched. Or use the box's pop-up Category Window

FIGURE 3: SPECIFY YOUR COPERNIC search file category from the options on the taskbar before or after you search.

to select a different category (see **FIGURE 3**).

Refining your search is a simple matter of clicking various options in the results window. The sort options are specific to the file types shown in the list: You can sort documents by Folder, Date, and File Type; music by Folder, Artist, Album, Genre, and Date; and so on.

Copernic is more than just a pretty interface, though. It indexes Outlook, Eudora, Thunderbird, and other e-mail formats without requiring that you hunt down and install a third-party plug-in.

The program's Preview pane shows a close visual approximation of the files returned. It switches to player controls when you select an audio file in the results window. Text previews have buttons for each keyword you searched for.

On both of our test systems Copernic found one MP3 file based on its metadata but couldn't locate another with the same metadata—even though it had the same keyword in its file name, too. Copernic also can't search compressed files. The program did much better at retrieving images; it was able to search embedded comments to find the JPEG image files stored in our test folder.

YAHOO DESKTOP SEARCH

★★★½☆; desktop.yahoo.com

THIS FREE PROGRAM claims to support more than 200 file types, although it searches just the file names (not the metadata) of music, image, and other media formats. So, as expected, it found image and music files only when their names included the specific term that we searched for. Apart from this limitation, Yahoo Desktop Search performed very well, even peeking inside PDF and compressed files.

Among numerous advanced options, the program's Favorite Searches pane lets you access previously stored searches. You can also start, stop, and schedule its file indexing (see **FIGURE 4**) and specify the folders and file types to be indexed.

You can choose which of 50 file attributes (such as .msg, .doc, .pdf, and .html) you want to display. You can sort your results by each attribute with a single click, or narrow the search by selecting the *Refine* button to enter a keyword in a text box under the heading.

The results preview pane can show PDFs and can play media files automatically. It lists the contents of compressed files and folders, but it can't open them.

If you need to search for mail in a program other than Outlook or OE, ▶

FEATURES COMPARISON

MSN Search Toolbar Tops File Searchers

DESKTOP SEARCH TOOLS vary in the amount of control they give you over how you search, and how you can tweak your results.

	DESKTOP SEARCH TOOL	Interface	Configuration options	Results filtering	Indexing controls	Results preview or viewer	Comments
1	MSN Search Toolbar With Windows Desktop Search Best Bet Free (★★★★☆) desktop.msn.com	Very Good	Excellent	Good	Very Good	Excellent	The program places search boxes everywhere—the taskbar, folder windows, Internet Explorer, and Outlook. You can't save searches, but it keeps a search history. You can filter by file type only.
2	Copernic Desktop Search Free (★★★½☆) find.pcworld.com/48960	Excellent	Very Good	Very Good	Good	Excellent	A search box appears on the taskbar, in folder windows, and in IE. Though you can't save searches, the program keeps a history of your recent searches. You can sort results with a single click.
3	Yahoo Desktop Search Free (★★★½☆) desktop.yahoo.com	Very Good	Excellent	Excellent	Good	Excellent	The tool puts a search box in your taskbar, but not in IE or other apps. It lacks a search history; however, you can save each search with all its settings. The program has the best filtering tools of the bunch.
4	DtSearch $199 (★★★☆☆) find.pcworld.com/48962	Very Good	Excellent	Poor	Very Good	Excellent	This $199 search utility adds a search box to your taskbar or folder windows. While it doesn't let you save searches, it keeps your search history. Searches text files only, not images or audio files.
5	Google Desktop Search Free (★★★☆☆) deskbar.google.com	Good	Fair	Poor	Poor	Poor	You get a taskbar search box, but none in folder windows. Searches can be saved only if your browser supports this function. You can't choose where to store your file index.
6	Blinkx Free (★★☆☆☆) find.pcworld.com/48973	Fair	Poor	Good	Fair	Good	The program doesn't place a search toolbar in your taskbar or folder windows. It neither keeps a history of your searches nor saves past searches, and it filters your results by file type only.

you'll have to spend $75 to $130 (depending on the mail programs) to obtain a version of the application from Yahoo's partner, X1 Technologies (www.x1.com).

DTSEARCH

★★★½; find.pcworld.com/48962

THIS INDUSTRIAL-STRENGTH text-search program is designed for professionals who work with large collections of documents on PCs, on Web servers, and in other archives. At $199, you'd expect it to do more than its free counterparts. Still, you won't see options in the app for searching sound, movie, or image files.

FIGURE 4: YOU DECIDE WHEN TO INDEX your local files via settings in Yahoo Desktop Search's advanced options.

DtSearch is the most network-friendly of the products we tested. You can store your file index on a shared network drive, which allows multiple users to search using the same index. In addition, you can export 'Option Packages' that contain some or all of your custom search settings so that those, too, can be shared on your network.

The product's advanced search options require you only to point and click—you don't have to remember the arcane syntax of a query language. For example, in the Search dialog box you type your search term, and then you refine the criteria via buttons for the operators *and*, *or*, *not*, *w/5* (within 5 words), or *w/25* (within 25 words; see **FIGURE 5**). You can alter the search request by typing additional syntax or other modifiers (say, by adding **not** before 'w/5' so the search words are at least six words apart); or search for synonyms or related words.

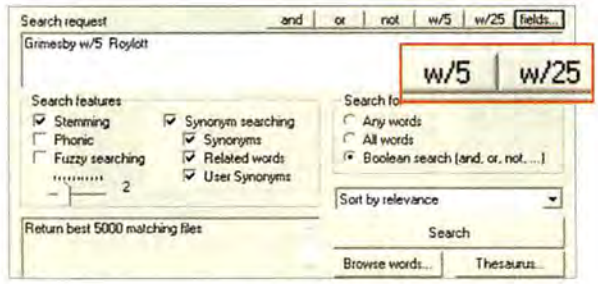

FIGURE 5: ADVANCED SEARCHES BECOME much easier when you use DtSearch's simple point-and-click Search dialog box.

As you might expect, in our tests this powerhouse search tool had no difficulty finding the text-related files, but it completely ignored the sound and image test files. DtSearch's preview pane includes buttons that permit you to navigate to found text within each document in the results list. The preview approximates the formatting of the original; PDFs preview the best since DtSearch contains its own copy of Acrobat Reader (you can open the returned PDFs in an external Adobe Reader window as well). And unlike some of the other search tools covered here, DtSearch can preview documents even when they're compressed.

GOOGLE DESKTOP SEARCH

★★★½; deskbar.google.com

GOOGLE'S WEB SEARCH power comes to your personal data with this program. Because it runs in a browser ▶

MAC SEARCH

Apple's Search Spotlight

UNLIKE THEIR WINDOWS counterparts, Mac users don't need to bolt a search engine onto their OS. The powerful Spotlight desktop search tool, built into Mac X OS 10.4 (aka Tiger), quickly finds files on hard drives, mounted network volumes, and external drives, with some not-so-insignificant limitations. (The upcoming Windows Vista will have built-in file search features; see page 18 for more.)

After Spotlight indexes your drives, you'll see an oval search field in Finder windows and the menu bar. You can designate which folders Spotlight should—or shouldn't—search. It recognizes video codec, image exposure, and other metadata, and it supports search strings, such as "yosemite kind:images" (for finding all pictures of the Yosemite Valley). You can save searches as Smart Folders, which are collections of dynamically updated search results.

Unfortunately, Spotlight does not understand such standard search operators as *near*, and it requires you to add a separate plug-in to search for files in non-Apple mail clients like Microsoft Entourage and Eudora. The tool also can't display nongraphic search results with context: You can't see the first few lines in a Word document, for example (you'll have to identify the file by its name or path). If users were that organized to begin with, they wouldn't need Spotlight, right? —*Narasu Rebbapragada*

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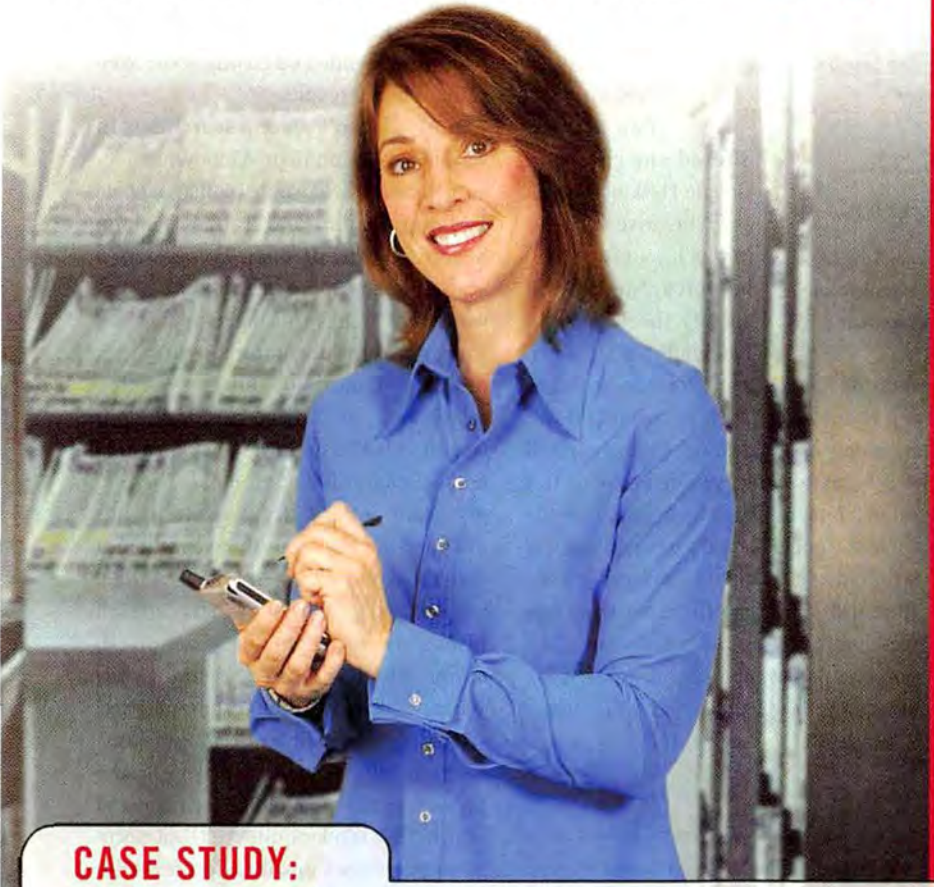

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FIGURE 6: KEEP YOUR LOCAL file searches private by unchecking this option on Google Desktop Search's Preferences page.

(mostly), it feels like the same old Google. You can place the utility's search box in your taskbar or on your desktop, and from there use it to search the Web as well as your local files.

Google Desktop Search works with Microsoft Office, music, image, and other common file types, and it even searches your AOL Instant Message chats. Surprisingly, it omits Rich Text Format, compressed, XML, and other popular file types, although you can download plug-ins to search for these and other files.

In our tests the program found most of the file types it supports, including Thunderbird mail. Oddly, it found one image file based on the file's metadata, but it couldn't find another similar file. The same problem occurred with our MP3 tests: one hit, one miss. Google Desktop Search also failed to find files that had our search term only in their name, a task it should have performed easily.

Don't look for a preview pane with your googled results (although you do get an excerpt of the file with your search term in context). Instead you'll see the familiar Google search page in your browser with links that launch the files in the associated application. One exception is image files; the results page includes a thumbnail of the found image next to its listing.

After you install the tool, you may be surprised to see your local files included in the results of your Google Web searches. Fortunately, the local files are in a separate section at the top of the results page. Google insists that your local information isn't sent to anybody over the Web. Still, for peace of mind you can turn off this feature on the Preferences page (see **FIGURE 6**).

You are not offered any choice in Google Desktop Search as to the drive or folder in which your index will be stored. Nor can you specify the folders to index, although you can indicate the URLs and folders the indexing should avoid. This means that if you have only one folder out of a dozen you'll ever want to search, you may have to do a lot of typing of file paths to designate the folders Google should skip—or just live with Google taking up extra processing time and disk space. There is also no way to schedule when indexing occurs, but you can pause the index process if it's slowing your machine while you work.

BLINKX

★★½☆; find.pcworld.com/48973

THIS PRODUCT analyzes the contents of your files and serves up the files similar to the document you're using, without your having to do any actual searching. It places a toolbar in Windows Explorer and at the top of your Microsoft Word and Outlook windows. The toolbar's buttons lead to documents, newsgroups, and Web pages with information related to the contents of the file you currently have open.

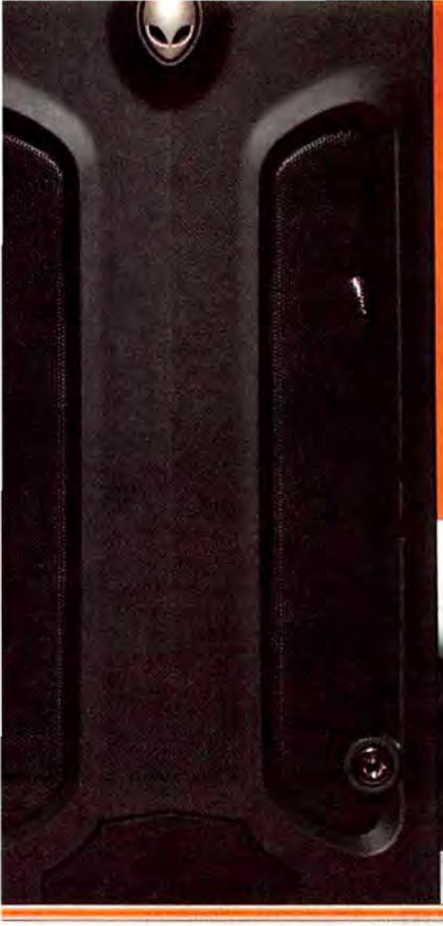
This paradigm shift in searching continues in Blinkx's search results window. The top of the window displays buttons assigned to Web Search, News Search, Video Search, Shopping Channel, Blogs Search, and Search All. These aren't very useful for unearthing local files, however. You can uncheck Web-related options in the Channel Picker section of the Settings dialog box and restart the search—but when we did that, we still ended up having some Web content in our results.

Blinkx doesn't place a search box in your taskbar or on IE or Windows Explorer toolbars (MSN Search Toolbar, Google Desktop Search, and Yahoo Desktop Search all provide one). To perform a search, you open the main Blinkx search window by double-clicking its system tray icon or by launching it from a Start menu or desktop shortcut. Blinkx claims to search audio and image files, but in our tests it failed to find them via keywords embedded in their comments. The program did better when the file names included the keywords, but even then it didn't find one of our test MP3 files when we searched for it by name. You can't tell Blinkx where to put the index itself, either, which can be annoying if your Windows drive is running short of space.

Holding your pointer over a file name in the results window displays it in the preview pane (see **FIGURE 7**). Image and HTML files render quite well, but document previews show the file's text with minimal formatting. Click an item to launch it in its associated application. ■

Contributing Editor Scott Dunn writes the Windows Tips *column. Narasu Rebbapragada is an associate editor for* PC World.

FIGURE 7: HOVER–DON'T CLICK–if you want to see only a preview of a file listed in the Blinkx search results window.



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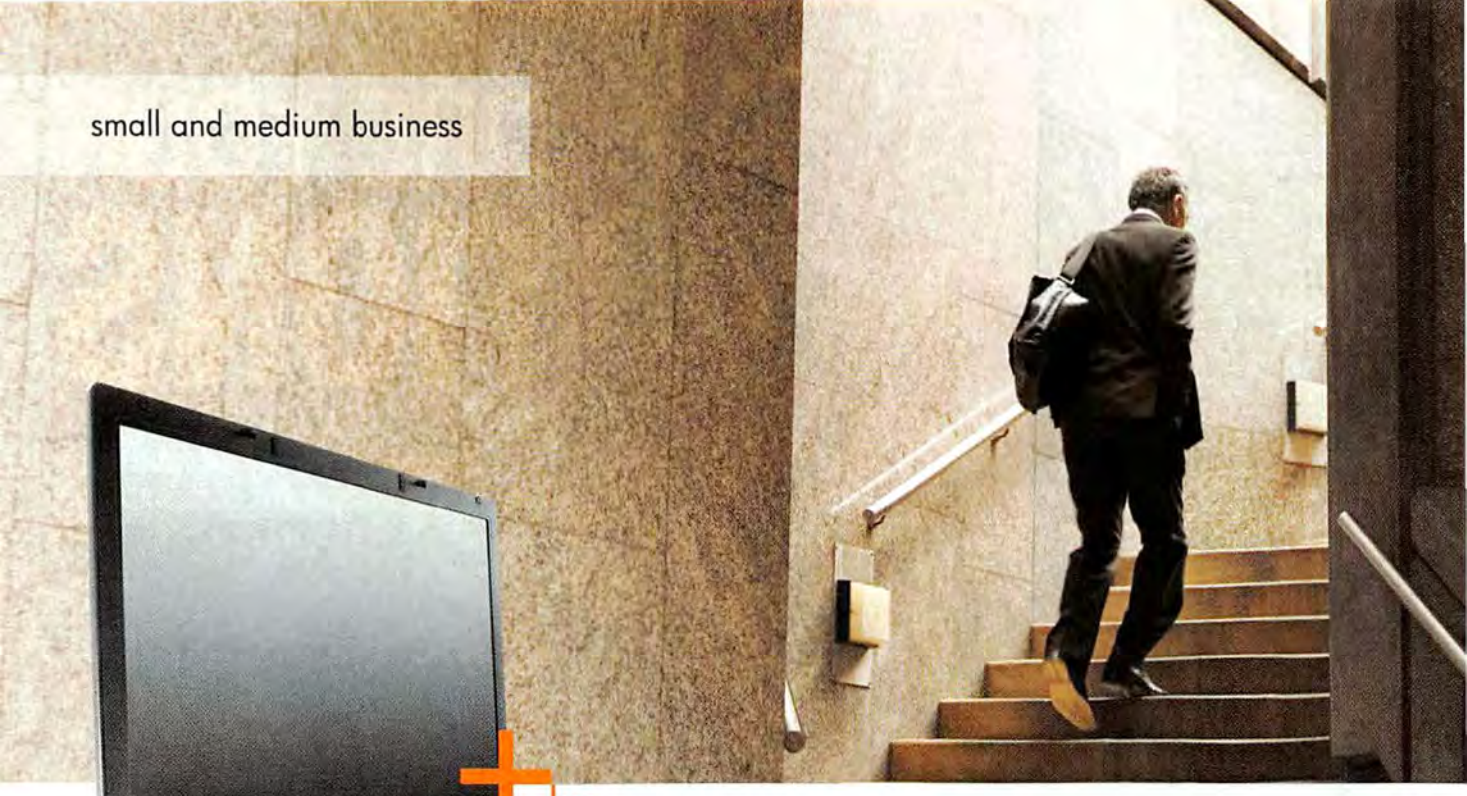

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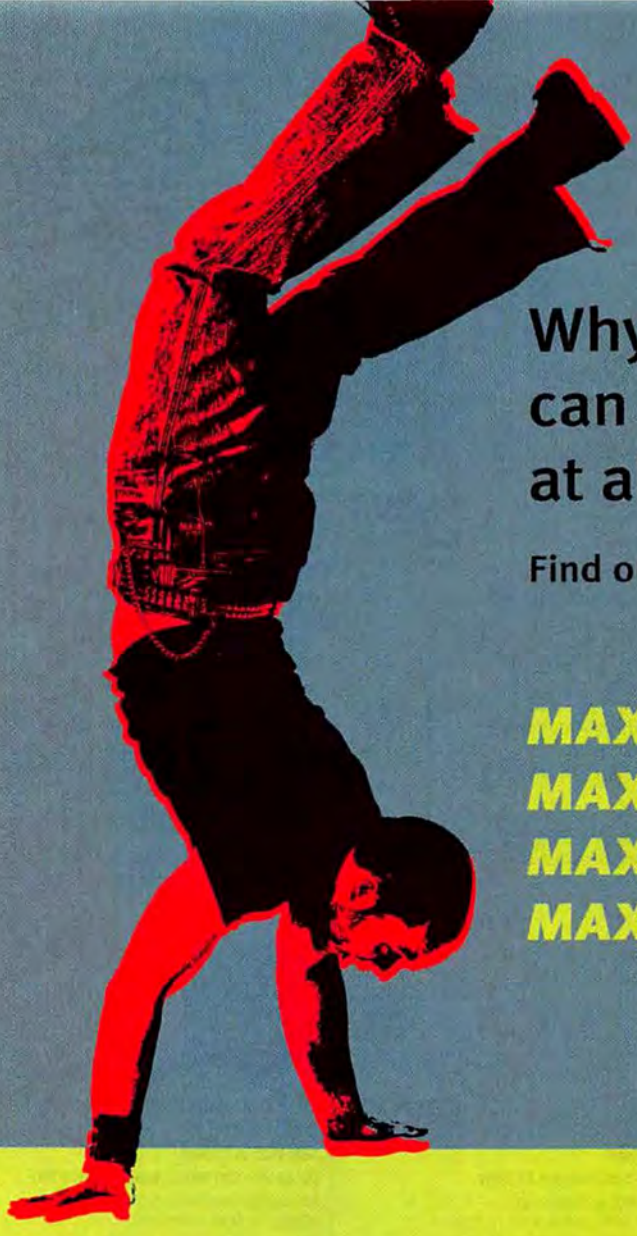

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Firefox

[1] Forecastfox

WEATHER JUNKIES—people who prefer the Weather Channel to HBO—will love this feed from AccuWeather.com. It pops into the Firefox toolbar and delivers current and forecast info for specified locales. find.pcworld.com/49102

[2] CustomizeGoogle

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[3] IE View

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[4] POTO Sidebar Extension

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[5] NoScript

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[7] NetCaptor 7.5.3

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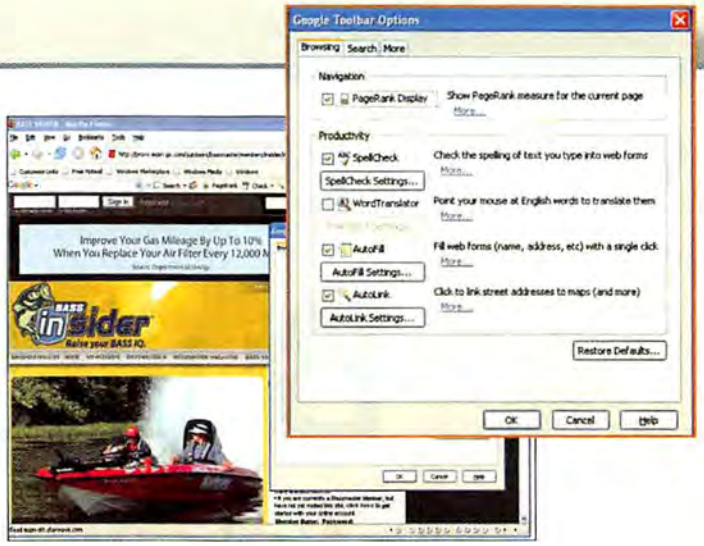
[8] Dictionary Search

WORD TO THE WISE: Look erudite by using this little gem. Simply select a word, right-click, and select *Dictionary Search* to see a definition from any of four online dictionaries that you've picked from a large list. find.pcworld.com/49112



[9] Google Toolbar for Firefox

THE OPEN-SOURCE Googlebar has long and faithfully served Firefox users, but now Google has cooked up its own customizable Google Toolbar for Firefox (see above). Especially noteworthy: its spelling check, online form completion, and translation tools. find.pcworld.com/49114

[10] FoxyTunes

CONTROL YOUR media player (ITunes, Windows Media Player, or any of about 30 other apps) in Firefox with this sound choice (see left). Buttons for playback, volume, and other controls are always handy (see above). find.pcworld.com/49116

[11] View Cookies

WONDERING WHAT UNAPPETIZING cookies lurk in a Web page? This tool gives you all the details (see above) and lets you delete trackers you dislike. find.pcworld.com/49118 *(More Firefox plug-ins on page 102.)*

Explorer

[1] Password Safe

DON'T SETTLE for easy-to-guess passwords just because you have a hard time remembering them all. Password Safe stores your myriad passwords in an encrypted database. Its password is the only one you need to know. find.pcworld.com/49139

[2] Microsoft MSN Search Toolbar

UNWIELDY NAME, handy add-on: This toolbar will try to steer you to MSN-related properties, but don't reject it on that account. It lets you quickly search for files in your Outlook e-mail or My Documents folder (see page 89 for more), and adds a Firefox-like tabbed interface to IE. find.pcworld.com/49140

[3] Avant Browser 10

THIS VETERAN shell program bestows a customizable new look on IE, including tabbed browsing and colorful skins. It also blocks Flash animations and pop-ups, cleans your history and temp files, and offers a full-screen mode for simplified viewing. find.pcworld.com/49141

[4] IeSpell

AVOID EMBARRASSMENT with this spelling checker for blog entries, forum posts, chat room conversations, and other Web work. www.iespell.com

[5] CachePal

LAUNDER YOUR cache (and increase your privacy) with this security tool that clears history, temp files, and cookies. find.pcworld.com/49142

[*6] BookmarkSync

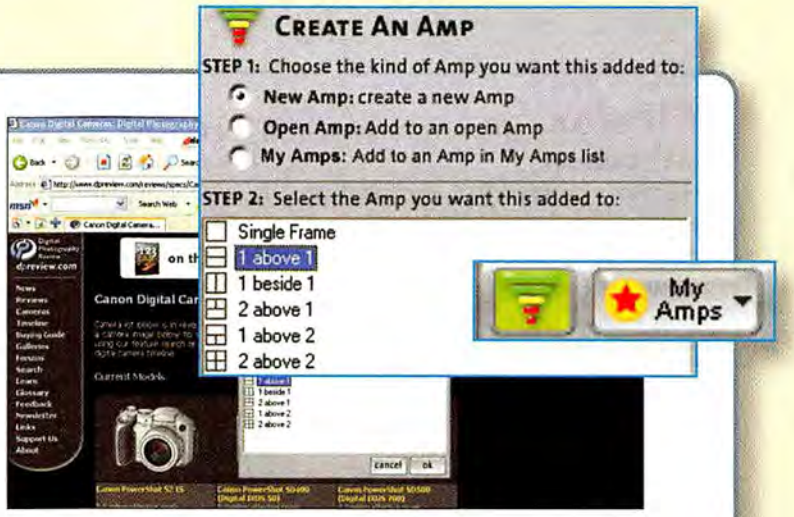
SYNCHRONIZE YOUR bookmarks between browsers, access them when you travel, and share bookmarks with other users. find.pcworld.com/49143

[7] IE Xtreme

IF YOU LIKE SOFTWARE that takes the Swiss-army-knife approach, consider this collection of security and convenience tools from cache-scrubbers to form-completers. find.pcworld.com/49144

[*8] Pluck

JUST CAN'T GET ENOUGH of RSS feeds and blogs? Check out this cool RSS reader, organizer, and search tool studded with sharing features for your feed-savvy friends. It also organizes browser bookmarks. A beta version of this plug-in adapted for Firefox is available as well. www.pluck.com

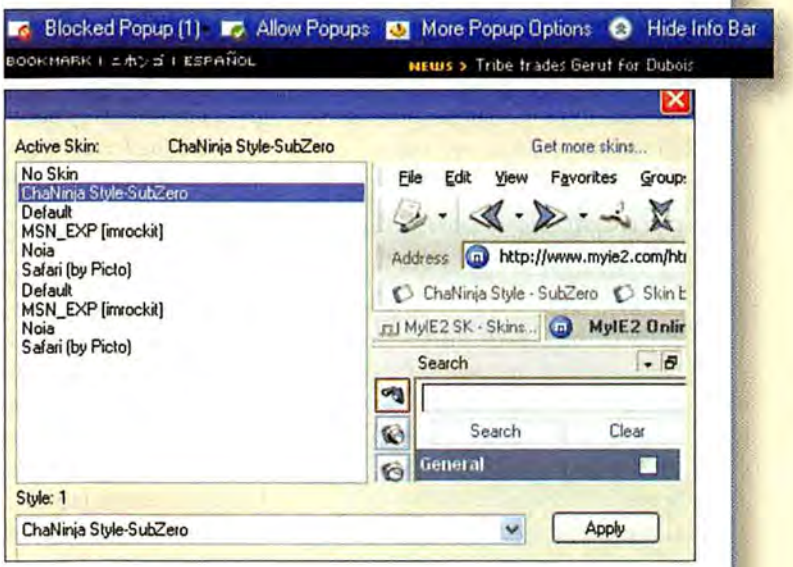


[9] Amplify

IF YOU HABITUALLY USE disorganized Favorites folders, Amplify can help sort out your links for research, shopping, job hunting, and the like (see above). And you can access your info while away from your PC via its Web site, too. find.pcworld.com/49145

[10] Browster

THINK OF THIS as a magnifying glass for IE: Mouse over search or shopping results, and you'll see the full page (see left), not just a cryptic description. www.browster.com



[11] Maxthon

PREVIOUSLY KNOWN AS My IE2, this seasoned IE shell offers many of the same cosmetic and privacy tools that Avant does, including new skins and pop-up blockers (see above); try both of them out to see which one you like better. www.maxthon.com *(More IE plug-ins on page 102.)*

Firefox (Cont. from page 100.)

[12] ConQuery

FIREFOX'S CONTEXTUAL search feature enables you to highlight, right-click, and google a word. ConQuery lets you choose results from any other plug-in search engines you use. find.pcworld.com/49120

[13] Gmail Notifier

PINING FOR YOUR Gmail? Snug in your status bar, this tool alerts you when new messages arrive. find.pcworld.com/49122

[14] Sage 1.3.5

THIS COMPACT RSS and Atom reader packs plenty of punch. Sage offers a wiser way to peruse your many feeds than Firefox's LiveBookmarks because it shows you more of the blog material, rather than just the titles. find.pcworld.com/49124

[15] Copy Plain Text

IF YOU COPY text from Web pages to your PC, you'll love this tool that lets you grab text without the strange, hard-to-delete formatting. find.pcworld.com/49125

[16] Adblock

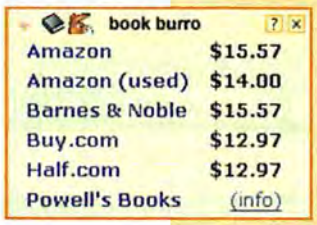
THIS AD BLOCKER lets you call the shots by customizing filters. For example, you can block ads with .gif images or ads from a specific source. find.pcworld.com/49126

[17] FlashBlock

PREVENT ALL Macromedia Flash content, including Shockwave files, from starting up. Placeholders on the Web page allow you to click to download the Flash snippet if you like. find.pcworld.com/49128

[18] Greasemonkey

THE NAME CONJURES images of a pit crew at the Indy 500, but this extension allows you to add scripts—commands or miniprograms—to make Web pages do special things. Firefox fans have already created a large library of no-cost scripts that can perk up hard-to-navigate sites, and more. find.pcworld.com/49130



FOUR SCRIPTS FOR Greasemonkey

SEE WHAT Greasemonkey can do. Butler: Google and Froogle users can remove ads and insert links to other search sites for news, weather, shopping, and more. find.pcworld.com/49132

Gmail Searches: Use this script to preserve your Gmail searches for further use. find.pcworld.com/49134

Platypus: Got an idea? Use this point-and-click system to create your own Greasemonkey script. find.pcworld.com/49136

Book Burro: This handy tool activates when you are shopping for books and adds a toolbar that lets you see competing prices at major online stores (see left). find.pcworld.com/49137

For more Greasemonkey user scripts, see find.pcworld.com/49138.

Explorer (Cont. from page 101.)

[12] Feedreader 2.90

BACK-TO-BASICS types will appreciate the functionality of this simple but capable RSS reader. www.feedreader.com

TWO WORTHY, LOW-COST Add-Ons FOR IE

IF YOU'RE willing to spend a few bucks to spruce up your browser, check out these:

SurfSaver 6: With this clever utility, you can save Web pages for offline reading, preserve Web pages, and organize pages into searchable folders. Free trial; $30 to keep. find.pcworld.com/49149

Secure IE: This useful security add-on blocks unauthorized ActiveX controls, JavaScript, cookies, and file downloads. It cleans out password info, prevents browser hijacking, and more. Free trial; $30 to keep. find.pcworld.com/49150

[13] PureText 2.0

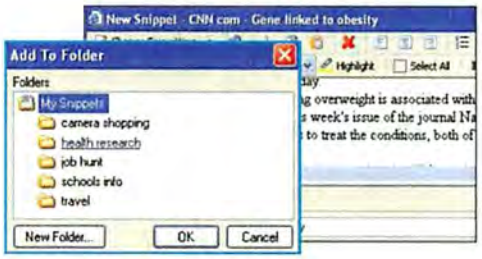
COPY-AND-PASTE mavens: Simplify your life with this tool that grabs text from Web pages without retaining formatting, giving you plain text and no cleanup hassles. find.pcworld.com/49146

[14] Privacy Bird for IE

READING WEB PAGE privacy policies can take forever. Privacy Bird automatically checks any privacy policy written in the standard format of the World Wide Web Consortium's Platform for Privacy Preferences (P3P) against the personal preferences you specify. www.privacybird.com

[15] FraudEliminator

AVOID SCAMS with this plug-in, which lists where a site is hosted and when it was created—be skeptical if Citibank.com seems to have moved to the Caribbean, for example. The app also alerts you to sites in a database of known security and phishing threats. find.pcworld.com/49147



[*16] Net Snippets

THIS RESEARCH UTILITY saves your online info in organized folders with the sources clearly noted. You can add your own comments, too. It's useful for students researching a particular topic or for job-hunters organizing data on a technology or company. www.netsnippets.com

[*17] RoboForm

SAVE YOUR VITALS and automatically fill online forms requiring the data with this utility. find.pcworld.com/49148 ■

Laurianne McLaughlin is a freelance writer based in the Boston area.

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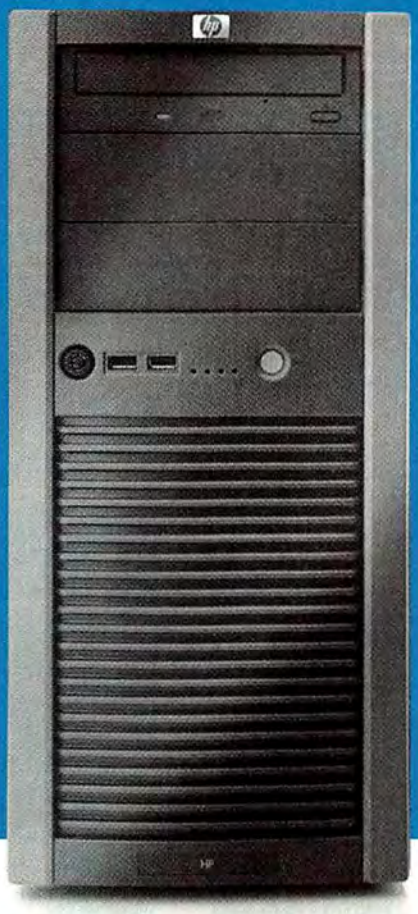

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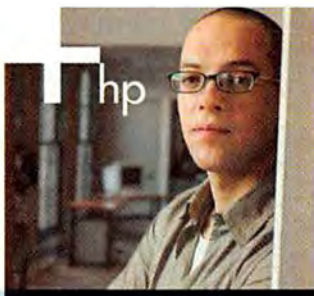

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4000+	CPU $ 1785	CA9103
3800+	CPU $ 1735	CA9104
3500+	CPU $ 1615	CA9105
3200+	CPU $ 1585	CA9106
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3800+	CPU	$ 2149	CSLI04
3500+	CPU	$ 2085	CSLI05
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MASTERING DVDs

HOMEMADE DVDs DON'T HAVE TO LOOK HOMEMADE. HERE'S HOW TO CREATE SLICK DISCS THAT HOLD MORE THAN VIDEO AND THAT WORK IN ANY PLAYER. BY EDWARD B. DRISCOLL, JR.

SO YOU'VE GOT A digital camcorder and you know how to use it. That's the easy part. Even the task of editing your footage down to a tight, entertaining movie isn't terribly difficult, especially if you use novice-oriented software like Adobe Premiere Elements.

But to wow friends and family with your sharp cinematic skills, you'll want to produce a DVD with all the trimmings: professional-looking menus plus photo slide shows and bonus features. For this project, we'll use Adobe Premiere Elements (find.pcworld.com/49328) to produce a "season highlights" DVD to share with members of a soccer team.

If you scout around, you'll find plenty of DVD authoring packages on the market that can help you produce a nice-looking digital video disc. In this how-to, we'll be using Premiere Elements because it's reasonably inexpensive ($100) and its video editing tools are easy to master; a further advantage is that you can use a single application for all the steps from transferring video from your camcorder to your PC through burning ▶

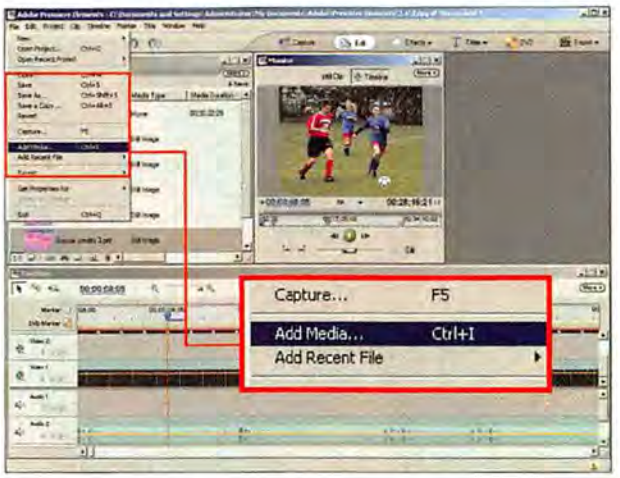
PHOTOGRAPH: CHIP SIMONS

the final product to DVD. The basic steps involved in making a polished disc, however—assembling and organizing its content (including the already-edited video), choosing what goes into the menus, customizing the look of the menus, and burning your disc—are similar for most other DVD-authoring apps as well.

STEP 1: PULL TOGETHER YOUR MATERIALS

TO IMPORT PHOTOS and video into Premiere Elements, click the *Add Media* button at the top left of the taskbar; the program then sends those files to the Media window on the left side of the screen. You will want to import your photos at the same time that you import your video—which is before you start editing.

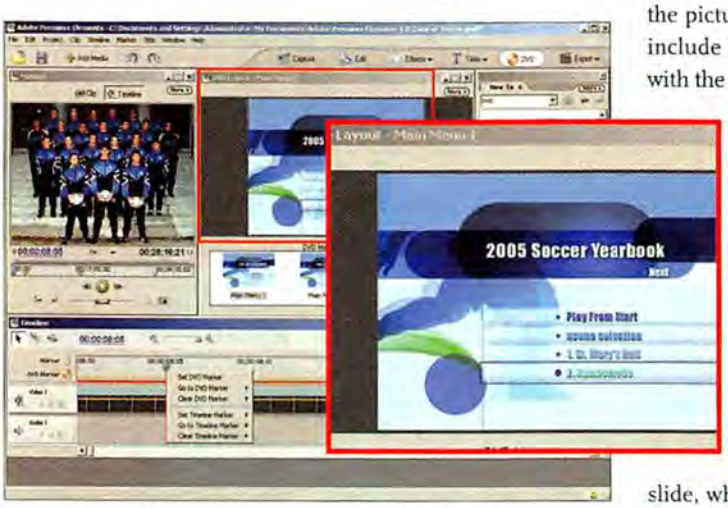
Premiere Elements' multipurpose Timeline window is a typical video-editing environment, though you can drop photos and other media files here, too. You can always access the Timeline via the *Edit* button (with the razor-blade icon) in the center-right portion of the taskbar.



USE THE 'ADD MEDIA' function in Premiere Elements to queue video clips, still images, and audio files for use in your DVD.

For our season highlights DVD, we wanted to include video, still photos, and PDFs of our soccer team's roster and its league certificate. Premiere Elements permits importation of all major video, audio, and graphics file formats; but you might want to save space on the DVD by first converting very large graphics files, such as TIFFs, into a more compact form, such as JPEG files. If you want to include file types that Premiere Elements doesn't support, such as Word documents or PDFs, either you have to convert them to a format that Premiere supports or you have to use a second program to put them onto the disc after you've done most of your authoring. (In a folder on your hard drive, collect all the materials you won't be including in the Premiere Elements project; you'll come back to them later.)

A popular way to share photos is by putting together an animated slide show—an easy trick with Premiere Elements' Timeline. To create a slide show, use the *Add Media* button to queue your still photos in the Media window. Select the pictures that you want to include by clicking each one with the mouse while holding down the **<Shift>** key. The next step is to click *Project• Create Slideshow.* This will open a dialog box where you can specify the length of time each photo should appear on screen (the default value is 150 frames per slide, which keeps each slide on screen for 5 seconds if your video runs at 30 frames per second). You can choose the kinds of transitions you want, too. If you have a copy of Adobe's Photoshop Elements on hand, you can use the Send To command in its Organizer section to export a file or set of files directly to Premiere Elements' Timeline window.



SET DVD MARKERS to create buttons in the title menu or in the scenes menu, or to make the video stop and return to the main menu.

STEP 2: MAKE A MENU FOR YOUR DVD

A COMMERCIAL DVD contains two kinds of menus: a title menu, which displays chapters (or the disc's elements); and scenes menus, which let viewers jump quickly to various places in your movie. Accompanying each menu entry is a button that viewers can click to navigate to the corresponding piece of content on the disc. In Premiere Elements' timeline, you can create menus and buttons that organize your disc in various ways on the basis of three types of markers: main menu, scene, and stop.

After you've assembled your movie in Elements' Timeline, you can get started setting the markers. Right-click the Timeline's time rule and choose *Set DVD Marker* to open a dialog box containing three scene-programming options: Main Menu Marker, Scene Marker, and Stop Marker.

Whenever you create a main menu marker, the program places a button on the disc's title menu. One of the buttons on the title menu should take your viewers to a scenes menu that follows the main menu (if you have a large number of scenes, you'll need to create more than one menu). Setting scene markers creates buttons in the scenes menu.

You can instruct Premiere Elements to insert scene mark-

ers automatically (at each video clip or still image within the compilation, or after a time interval that you choose); for easy customization, you can have Premiere Elements automatically generate the markers, and then move these where you want. You can rename them by double-clicking the buttons in the DVD layout. To add scene markers automatically, first click the Timeline window to activate it, and then choose *Marker•Auto-Generate DVD Markers.*

Stop markers tell the DVD player to stop video playback and return to the main menu. They're useful for adding elements like bonus footage or a slide show. Placing a main menu marker at the start and a stop marker at the end of an element creates a chapter (or stand-alone element) that viewers can watch before being returned to the main menu.

In our soccer DVD, season highlights might be the first choice on the main menu, followed by a slide show, and then perhaps a blooper reel, followed by separate pages containing scenes from the highlights movie. In a simpler structure for the disc, each game might appear as a chapter on the main menu, and we could assign scene markers to make the most dramatic plays appear on the menu's scene pages. Because of space limitations, however, you can't put many buttons on the menus. Premiere Elements generates as many scene menus as necessary to accommodate the markers you've set.

ANY VIDEO-EDITING APP that offers DVD authoring will provide templates you can customize; you can also create a menu-less DVD.

Unfortunately, Premiere Elements won't create menu links to files (such as Word documents or PDFs) that you can't include on its Timeline. But you can get around this deficiency by inserting text in the menus—or in the credits of the movie itself—that alerts the viewer to this material. For example, you might add a line to your main menu that says, "To find additional materials, right-click the DVD icon in My Computer and choose *Explore.*" See step 3 for more information on editing movie credits and disc menus.

If you're producing a simpler disc than the one we're creating in our sample project, you can make your video begin to play as soon as the viewer inserts the DVD into the drive. To do this, choose *DVD•Auto-Play DVD With No* ▶

HARDWARE

The Living-Room Option: Use a DVD Recorder

PCs ARE GREAT TOOLS FOR editing and preparing video for inclusion on a DVD, but component-style DVD burners can be mighty convenient. Some burners can do double duty: archiving TV shows off the cable or satellite set-top box (or TiVo), as well as importing, editing, and archiving camcorder footage.

Many home-theater DVD recorders have front audio and video inputs for quickly attaching an analog camcorder; and some newer models, like Pioneer's DVR-533H-S (find.pcworld.com/49154), also include a FireWire DV input, which—like Premiere Elements on a FireWire-equipped PC—lets you make a digital copy of your footage, thus maintaining its pristine digital quality.

The DVR-533H-S's 80GB hard drive allows you to store and edit down multiple DV tapes for burning onto a single disc.

PIONEER'S DVR-533H-S has an 80GB hard drive to which you can import footage from your DV camcorder.

The $400 recorder includes a few editing functions, too: You can delete scenes and tighten up the timing of shots via the Disc Navigator Screen. But don't expect the level of flexibility you'd have with the PC. You can't customize menus as extensively as with Premiere Elements—or make them as pretty or graphics-rich—and you can't include documents with your video. Also, setting the text of the titles and menus by pressing the Up and Down buttons on the handheld remote is much more laborious than typing the same text on a keyboard.

PHOTOGRAPHS: MARC SIMON

Menus from the main taskbar. Using this approach is quite a bit less complicated than creating a menu-based disc, but it's also less convenient to use: Viewers have to fast-forward through the movie to get to their favorite parts, and you can't use menus to alert them to other content elements.

STEP 3: CUSTOMIZE THE APPEARANCE OF YOUR DVD

ONCE YOU'VE CREATED the navigation points for your disc, you're ready to add some decorative touches.

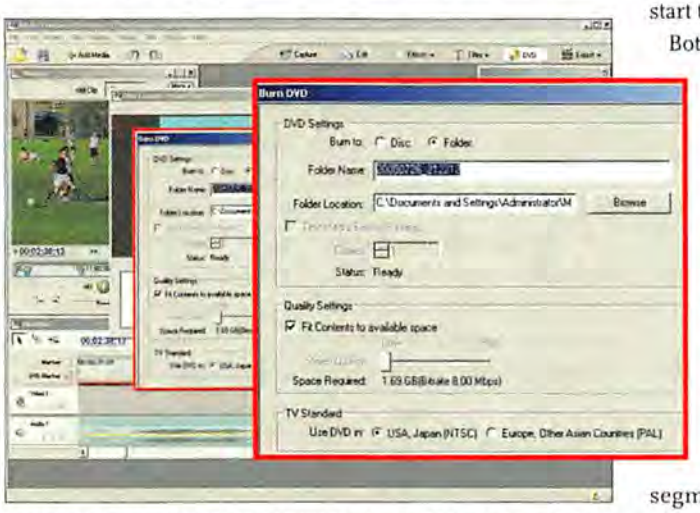
Premiere Elements contains 32 menu templates for you to choose from, all of them reachable via the Change Template function in the DVD Layout dialog box. Available themes include travel, business, holidays, weddings, kids' parties, and sports. Each template consists of a main menu of chapters and a submenu for navigating movie scenes.

The Titles button located on the taskbar permits you to change the fonts and colors of your movie's titles and credits, but this feature doesn't work on the DVD menus.

To customize your menu—for example, to swap out its background image in favor of something you like better—use Adobe's Photoshop Elements or any other program that can modify and save .psd files. Your image editor must be able to display and modify the layers in a Photoshop file. You can purchase Photoshop Elements (find.pcworld.com/49356) bundled with Premiere Elements for $150; separately, the programs cost $100 each.

Premiere Elements stores menu files in its DVD templates directory, at C:\Program Files\Adobe\Premiere Elements 1.0\DVD Templates. Save a copy of the menu you wish to modify in a directory that you can easily find again; then edit the menu file, and save it in the DVD Templates directory under its old name, so that Premiere Elements will be able to recognize it.

Though Premiere Elements lets you add music to movie and slide-show sound tracks, it doesn't permit you to add background music with menu screens. Rumor has it that the next version of the program, scheduled to be released soon, will include features that address this and other program limitations. Other software packages, such as Pinnacle's Studio 9 and Apple's IDVD for Mac OS X, support menu background music already.



CHECKING THE 'Fit Contents to available space' option in Premiere Elements will maximize video quality in the allowable space.

STEP 4: GETTING READY TO BURN

IF YOUR DISC WILL consist entirely of movies and graphics that you can put into the Premiere Elements Timeline, you may burn your DVD directly from the program. But our sample project using Premiere Elements has additional files—the soccer team's roster and league certificate that we set aside earlier in a special folder—so we have to render the project to our hard drive (sometimes called making a disk image) by using the *Burn DVD* command and choosing *Folder* next to the 'Burn to' label. After making an image of our project, we can drag and drop it to a DVD, along with any other files or folders, using a basic burning program; most DVD drives include one.

Make sure that the combination of bonus material and DVD files you want to save to disc doesn't exceed 4.37GB, the storage capacity available on a standard DVD. To determine the total size of the folder in which you've saved your bonus material, right-click the folder and select *Properties*. Before rendering your project, use Premiere Elements' 'Burn DVD' command (in the DVD Layout window) to check the project's size, and choose a quality level that will fit on your disc. You may not be able to render the project at the software's highest quality setting and still fit it and your bonus material on a single disc. Finally, to make sure that your DVD will work in any digital video player, be sure to burn it as a DVD-R disc.

To save yourself some time, whether you are using Premiere Elements or a DVD-burning program to make your final disc, take advantage of Premiere Elements' preview feature. You can access this by clicking the DVD icon on the taskbar. Make sure that you're happy with the way the finished disc looks before you start the rendering process.

Both methods of rendering and burning are surprisingly slow. The PC I used (a 2.6-GHz Pentium 4 system carrying 1GB of RAM) took nearly 2 hours to burn a half-hour video. Premiere Elements' manual suggests burning to disc overnight. A tip: Before you get to the burning stage, you can prerender video segments by pressing the **<Enter>** key—say, when you take a break to raid the refrigerator. It's also a wise idea to save your work, reboot your system, and reload Premiere Elements before beginning the process of burning the DVD, to minimize the likelihood of a crash.

Once you get the hang of Premiere Elements—or any other well-made DVD authoring program—you'll be delighted at how easily you can produce professional-looking, easy-to-play DVDs. ■

Edward B. Driscoll, Jr., has been writing about technology for more than a decade. Visit his Web site at www.eddriscoll.com.

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THE TOUCH-SENSITIVE controls for CD and DVD playback and the internal TV tuner (called out below) contribute to the impression that Toshiba's Qosmio was built for entertainment.

MEDIA CENTER NOTEBOOKS

HEAVY-DUTY ENTERTAINMENT

NEW, BARELY PORTABLE POWERHOUSES ARE LOADED WITH DVD BURNERS, BIG SPEAKERS, AND TV TUNERS. WE TESTED THREE TO FIND THE BEST EXPERIENCE. BY ALAN STAFFORD

WHENEVER I SEE a semi towing someone's double-wide mobile home down the street, I think that calling those things mobile is a stretch. Of course, they do give you lots of room to spread out, and you don't have to sacrifice a single amenity. The same goes for a Windows XP Media Center notebook: You can enjoy all the comforts of a desktop PC—heck, all the comforts of a full-service home entertainment center—but you won't want to take it with you on quick runs to the corner coffee shop.

We tested three luxury liners among Media Center laptops: Dell's Inspiron XPS Gen 2, HP's Pavilion Zd8000, and Toshiba's Qosmio G25-AV513. Each has a 17-inch wide-screen display, is about 2 inches thick, and weighs 11 pounds or more when you factor in traveling accessories such as the power brick (the Qosmio's weighs nearly 1.5 pounds).

But they certainly do pile on the extras. Each one has a fast processor, a high-end graphics card, a DVD burner, Wi-Fi, Bluetooth, a television tuner, and ports all over the place. The Dell came in at $3736; the HP, $2217; and the Toshiba, $2999. All three are impressive entertainment systems, though they're hardly identical. For details on their specs, see find.pcworld.com/49276.

DESIGN DETAILS

DESPITE BEING roughly the same size as the other two, the Qosmio cuts a spiffier figure in its silver and shiny black plastic case; and its big round feet make it resemble a stereo component. The XPS Gen 2, Dell's mobile gaming notebook, looks extremely plain on the inside; but outside, the lid sports a brushed-aluminum treatment, and colored light streams from "XPS" logos on the lid and from the sides and front of the deck. The Zd8000 seems far more businesslike than either, with an attractive but stark case (which has exceptionally clear port labels).

HP crams a full-size keyboard and a number pad onto the Zd8000's deck. Regrettably, a hard piece of plastic just in front of the spacebar on the XPS Gen 2 makes the bar uncomfortable to press. The Qosmio's touchpad is atrocious: It's coated with a tacky material that made my fingers stutter across its surface, and its mouse buttons are recessed in plastic that flexes. ▶

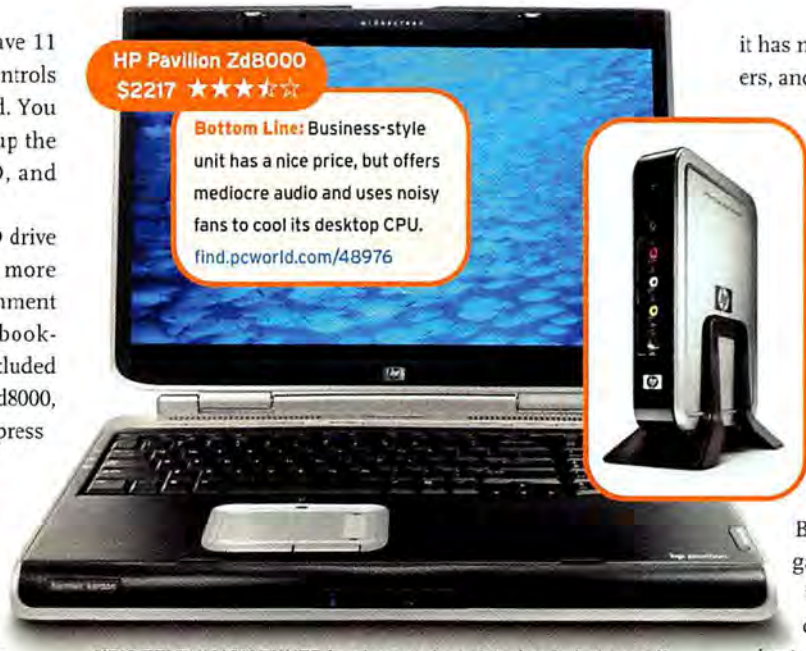
PHOTOGRAPHS: MARC SIMON

The Qosmio does have 11 nifty touch-sensitive controls just above the keyboard. You can use these to start up the TV tuner, play a DVD, and control disc playback.

The slot-loading DVD drive on the Qosmio seems more suitable for an entertainment device than the notebook-style, tray-fed drives included on the XPS Gen 2 and Zd8000, which require that you press discs onto a spindle.

MEDIA CENTER SAVVY

THOUGH ALL three notebooks have the same-size display and a high-gloss (and high-glare) coating, the screen on the XPS Gen 2 possesses the highest resolution, at 1920 by 1200. The resolution of the Zd8000 is 1680 by 1050, while that of the Qosmio is 1440 by 900. TV signals looked grainy on the Qosmio, noticeably sharper on the Zd8000, and sharper still on the XPS Gen 2. The Qosmio's screen is far brighter than the others', so DVDs pop, but shadows look darker.



HP'S TELEVISION TUNER is a large external device, but at least it has its own remote sensor, so you don't have to connect another box.

Conveniently, the Qosmio has a built-in TV tuner, whereas the Zd8000 and the XPS Gen 2 use external, USB-connected boxes. The HP box is large, about the size of a thick hardcover book; but because it has two TV tuners, you can watch one show while recording another. You must use an external sensor with the Dell and Toshiba remotes.

Though the XPS Gen 2 had easily the loudest audio of the three, the Qosmio sounded far clearer, thanks in part to a Virtual Sound control panel that you can use to fine-tune the audio system's clarity and its surround-sound effect. The Zd8000's speakers seemed flat.

DESKTOP POWER

THE INSPIRON XPS Gen 2 we tested, which had a 2.13-GHz Pentium M 770 CPU, outran the competition. Its PC WorldBench 5 score of 93 placed it among the fastest notebooks we have ever examined. The Qosmio, with a 2-GHz Pentium M 760, earned a WorldBench 5 score of 86; and the Zd8000, with a 3.4-GHz Pentium 4 650, finished with an 83. Since the Zd8000 relies on a desktop processor, it has more fans than the others, and it's noticeably louder.

The HP's hungry desktop processor took a bite out of battery life, too. The Zd8000 lasted only a paltry 1 hour, 35 minutes on a single charge. The XPS Gen 2 did best, at 2 hours, 18 minutes on a charge, while the Qosmio ran for 2 hours, 1 minute.

Because Dell touts the gaming capabilities of its XPS Gen 2, we decided to run our graphics testing suite on all three notebooks here. The XPS Gen 2 reached 344 frames per second in Unreal Tournament (at 1024 by 768 and 32-bit color), well above the average frame rate that the desktop systems we've tested recently have attained. The Qosmio is hardly a slouch, at 280 fps; but the Zd8000 trailed far behind at 135 fps. The XPS Gen 2 lets you play at 1600 by 1200; and at that resolution, it achieved a rate of 266 fps—the same figure that the brawny Alienware Aurora 7500 posted in tests we conducted for this month's *Top 15 Desktop PCs* rankings.

MADE FOR MEDIA

WITH ITS GREAT media controls and integrated TV tuner, the Qosmio feels as if Toshiba designed it to be a Media Center machine from the ground up. And though its display can't match the Dell's or the HP's for screen sharpness, it's a pleasure to watch. The Qosmio is a media darling, which is why it's our Best Buy. ■

Alan Stafford is senior writer for PC World.

FRONT-MOUNTED playback buttons? Nice, but not unusual. Cool lights streaming from the front and sides? One of a kind.

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GADGET FREAK

DAN TYNAN

'Must-See TV' Hits the Web? Finding Great Online Video

SURE, THE WEB may one day become the repository of all human knowledge. More important, though, is that it may also turn into the ultimate TiVo. Before long, you might be able to watch any show ever recorded with just a few simple mouse clicks.

AOL, CBS, CNN, Yahoo, and many others are already flooding the Net with video. The trouble? As with regular old TV, the challenge is to find stuff worth viewing.

SEARCH ME

I STARTED my hunt by visiting Google's and Yahoo's new video search engines. Unfortunately, neither one is really ready for prime time.

Google's beta video search (video.google.com) indexes clips based on their closed-captioned text. So a search for episodes of *The Simpsons* turns up any clip that mentions "The Simpsons" (many featuring morally righteous types trashing the program on C-SPAN). When you find an actual *Simpsons* episode, you can't watch it because Google doesn't have the right to rebroadcast it. But you can use Google's downloadable viewer to watch homemade or public-domain material, like footage of the always-thrilling Milpitas City Planning Commission.

Yahoo's video search is a bit friendlier than Google's and produced more bona fide hits. But most clips I tried to play no longer existed—possibly because they'd been pulled off by the copyright police. As with the Google search, I had better luck with home movies and video blogs (vlogs).

> As with TV, the challenge is to find video worth watching.

A slightly better option is Blinkx (www.blinkx.tv), which pulls brief clips from well-known sources such as the BBC and HBO, along with podcasts from various sources and vlogs from Mefeedia.com. You can tell Blinkx to search for videos and stash them in a folder on your desktop or feed them to your RSS reader. But no matter what I searched for, most of my hits came from C-SPAN—likely because there's a ton of C-SPAN content online. Playback via RealPlayer or Windows Media Player was hit-and-miss, depending on the source of the feed.

A FEW GOOD SITES

WHILE VIDEO SEARCH will get better over time, the best way to find stuff worth watching today is by tuning in to various niche Web sites. Here are a few of my favorites.

You say you never got to see Jon Stewart dress down Tucker Carlson on *Crossfire*? You'll find that clip at 1Film.com, along with movie previews, news reports, and parodies. Some material is R-rated, but it's all 100 percent legal—and free. Atomfilms.com is also chock-full of short free films worth seeing (well, most of them). Note that both sites make you watch short ads before showing you the goods.

Feeling reckless and hormonal? Surf over to Totalvid.com, where you can download videos about paintball, motorcycles, snowboarding, anime, and more for $2 to $4 a pop. I downloaded one titled "Questionable Tendencies" ("Find out what happens when you mix drunken idiots with gasoline, explosives, and too much horsepower!"). It's unlikely to win any Emmys, but I have never felt so good about being old. That's worth four bucks.

If you're fascinated by all things digital, you'll probably like NerdTV—a 13-part series hosted by Robert X. Cringely that's available as a free download from PBS (www.pbs.org/nerdtv). Of course, you can also view clips of *PC World's Digital Duo* for free at www.pcworld.com/digitalduo.

Video on the Web will get really interesting as more people offer their own feeds alongside cable and broadcast fare. Who knows? Maybe one day you'll be able to choose between *The Daily Show* and *The Dan Show* (the adventures of a grumpy middle-aged tech columnist). Meanwhile, Web video is mostly 5 million channels of not much on—and way too much C-SPAN. ■

Contributing Editor Dan Tynan falls asleep in front of his TV.

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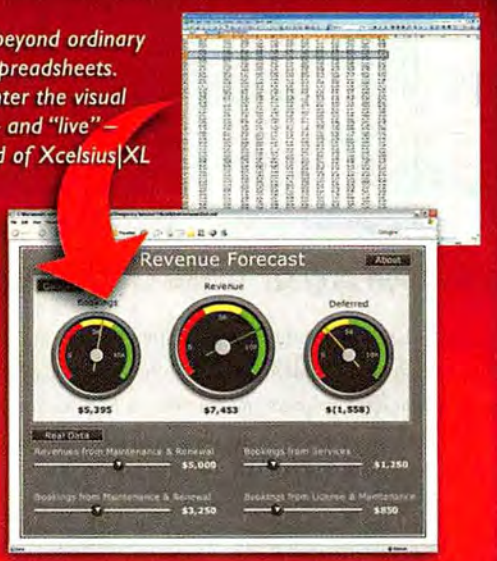

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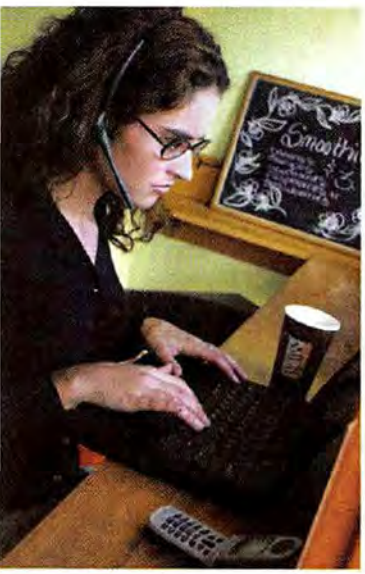

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TOP 100

EDITED BY THE REVIEWS STAFF

SPOTLIGHT: 19-INCH LCD MONITORS

A SCREEN STAR and an aspiring speedster: NEC's MultiSync LCD1970GX (left) and ViewSonic's VX924.

LCD Monitors: Bigger, Better, More

Clever designs, glossy screens, and slick software grace the latest 19-inch LCDs.

IF YOU DON'T HAVE a 19-inch LCD on your desk yet, just you wait. Most 19-inch LCDs have dropped in price so radically that they now cost roughly what a 17-inch model did a year ago. Many of these monitors—even the bargain ones—produce image quality that will please all but the most particular user. And new 19-inch units offer such tantalizing features as sharper and more colorful displays, faster screens, fancier designs, and easier control adjustments. But for many buyers, determining which of these attractions are really helpful and which are merely hype can be a daunting task.

This month we tested seven new 19-inch LCD monitors. Two—the NEC MultiSync LCD1970GX and the ViewSonic VX924—reached our ranked chart (see "Screens Shiny and New Top the Chart," page 124), largely owing to their excellence in displaying sharp, legible text and accurate, detailed graphics. Although some other new models had similar specifications and features, few impressed our judges with their text or graphics image quality as much as those that made our chart did—and none of the also-rans offered the right mix of performance and features. Acer's AL1932d, CTX Technol-

PHOTOGRAPHS: MARC SIMON (MONITORS)

129 NOTEBOOK PCs
A first: A model with the new Turion processor makes our list of all-purpose notebooks. Acer's well-equipped ultra-portable is worth checking out, too.

131 DIGITAL CAMERAS
Offering a roomy 2.5-inch LCD and excellent image quality, Casio's Exilim EX-Z750 point-and-shoot model lands Best Buy honors.

133 HARD DRIVES
Two new Hitachi hard drives, each with a whopping 500GB of capacity, win spots on the chart. Choose your flavor, either PATA or SATA.

135 MORE REVIEWS
Networked hard drives, 17-inch LCD monitors, and PDAs both Palm and Windows Mobile appear in this month's recap of previous *Top 100* charts.

133

ogy's P972, Hyundai's L91D, Planar's PX1910M, and Samsung's SyncMaster 193+ underwent our testing, but they did not score high enough to enter the Top 10.

BEHIND THE SCREENS

EASILY THE MOST noticeable trend we've seen in 19-inch LCDs is the growing number of models that employ a glossy, clear screen coating. Different manufacturers—such as BenQ, NEC, and Sony—sell this screen technology under different names, but all monitors that had the coating performed noticeably well in our image-quality tests, displaying brighter, richer colors and crisper text than did most standard screens. For example, all three monitors in our Top 10 that have glossy screens—the chart-topping NEC MultiSync LCD1970GX, the Sony SDM-HS95P, and the BenQ FP91V+—earned test scores of Outstanding or Very Good for their text quality as well as their graphics display.

However, we discovered that models with glossy screens also reflect more ambient light (especially from bright overhead lighting) than do those with standard antiglare screens. Consequently, you may find that glossy screens are best suited to settings where you have control over the lighting, such as in a home rather than in an office. You must carefully consider the environment in which you'll be using an LCD in order to decide whether a glossy or standard screen is better for your needs.

Like watching movies on your screen? Then it's important that your monitor display moving images accurately. An LCD screen's pixel response time determines how clearly it can show moving images such as scrolling text, video, or action games. In theory a lower response time means less streaking and fewer ghosting effects in moving images. Although a response time of 25 milliseconds was once typical for 19-inch LCDs, several of the latest monitors claim much faster speeds of 12ms, 8ms, and even 4ms.

Unfortunately display manufacturers report response time in different ways. A measurement known as "rise-and-fall"—the time it takes a pixel to change from black to white (rise) and from white back to black (fall)—has been used as the traditional LCD industry standard. But some vendors now employ another method called "gray-to-gray," which can reflect various ranges of shades with response times that are totally different from rise-and-fall measurements—and possibly different from other gray-to-gray measurements. As a result, one vendor's 6ms monitor may be another's 12ms monitor (for more details, see "LCD Specs: Not So Swift" at find.pcworld.com/48858).

SONY'S SDM-HS95P strikes a slinky profile, and its glossy screen looks great head-on.

To help you better compare monitors' specs, we're reporting the manufacturer's rise-and-fall and gray-to-gray response-time specifications in our chart whenever possible. It's worth noting, though, that all of the monitors on this month's chart earned the same basic rating of Average in our motion-display tests. And despite the broad range of reported response-time specs, the variation in the models' motion performance was negligible. On most applications, many users may not even perceive a difference.

DESIGN BASICS AND BEYOND

PHYSICAL ADJUSTMENTS help you manipulate the monitor to fit your viewing needs. All of the 19-inch LCD monitors we've tested let you tilt the screen vertically, and most also allow you to adjust the height for your ergonomic well-being. Less common are the ability to swivel the panel horizontally—handy for showing your work to colleagues—or to pivot it from landscape to portrait orientation, which is useful for displaying pages that have more height than width. When reading long documents or browsing the Web, for example, you'll likely find that a monitor in portrait mode saves you scrolling. Although these ergonomic and usability capabilities can add to a monitor's cost, they are worth the extra dollars when they enable you to work more comfortably and productively.

Three of the monitors on our chart—the Dell UltraSharp 1905FP, the Eizo FlexScan L768, and the Samsung SyncMaster 920t—offer the full range of ▶

tilt, swivel, pivot, and height functions. The SyncMaster 920t also comes bundled with screen-pivoting software, which you may need to purchase for other models unless your graphics card provides its own built-in screen-pivoting function. The LG Flatron L1981Q's screen can pivot and bend backward on its stand, and a built-in sensor can automatically gauge the unit's physical position, allowing included software to switch the orientation of the screen from landscape to portrait mode or rotate it up to 180 degrees.

Several monitors have jazzed-up designs that enhance their look or functionality. The elegant Sony SDM-HS95P features a curved, frame-like, integrated bezel and base that provides rock-solid stability. Other lovely-to-look-at monitors, such as the Acer AL1932d and the ViewSonic VX924, offer flashy blue LEDs, gleaming metallic accents, semitransparent bezels, or other visual flourishes that add pizzazz to your desk space. Just make sure not to sacrifice comfort or flexibility for beauty's sake. None of these three units provides height, swivel, or pivot adjustments; this omission, combined with a dearth of other features, kept the Acer off the chart entirely. Some dazzlers, like the seventh-ranked LG, provide a balance of good looks and ergonomics.

Some LCD monitors come with built-in speakers, which can reduce desktop clutter. But while convenient for Windows prompts and the occasional tune, monitor speakers don't hold a candle to a powerful set of stand-alone speakers with a subwoofer. Built-in USB 2.0 ports are

TOP 100

TEST Center

Screens Shiny and New Top the Chart

BUT SOME OLDIES ARE GOODIES: Tried-and-true standard-screen models hit the right price point and win Best Buy honors.

	19-INCH LCD MONITOR	Features and specifications [1]	Image quality	Other performance	Bottom line
1	NEC MultiSync LCD1970GX $499 (★★★★½ NEW) find.pcworld.com/48863	• Adjustments: tilt, swivel, and height • 8ms rise-and-fall response time	• Text: Outstanding • Graphics: Outstanding	• Usability: Good • Motion display: Average	This model's glossy screen sets the bar for text and nearly equals the Sony SDM-HS95's graphics. Boxy, unassuming cabinet includes four USB 2.0 ports.
2	Sony SDM-HS95P $600 (★★★★☆ Jul 05) find.pcworld.com/47845	• Adjustments: tilt • 12ms gray-to-gray response time	• Text: Outstanding • Graphics: Outstanding	• Usability: Outstanding • Motion display: Average	Easel-like bezel-and-stand combo looks elegant, but lacks physical adjustability. Glossy screen shows rich colors and crisp text.
3	Eizo FlexScan L768 $775 (★★★★☆ Jan 05) find.pcworld.com/45206	• Adjustments: tilt, swivel, pivot, and height • 25ms rise-and-fall response time	• Text: Very Good • Graphics: Good	• Usability: Very Good • Motion display: Average	Advanced screen settings and five fine-contrast modes make this a display for the demanding user—but the high price is pretty demanding, too.
4	Samsung SyncMaster 920t $649 (★★★★½ Apr 05) find.pcworld.com/46538	• Adjustments: tilt, swivel, pivot, and height • 25ms rise-and-fall response time	• Text: Very Good • Graphics: Good	• Usability: Very Good • Motion display: Average	Sleek silver model's speakers are built into its two-footed stand, saving space without sacrificing physical adjustability; has screen-pivot software.
5	HP F1905 Best Buy $379 (★★★★☆ Jul 05) find.pcworld.com/47846	• Adjustments: tilt and height • 16ms rise-and-fall response time	• Text: Outstanding • Graphics: Very Good	• Usability: Good • Motion display: Average	Silver matte unit delivers the second-best overall image quality on the chart. Detached 3-watt speakers can feed output to an optional subwoofer.
6	Dell UltraSharp 1905FP Best Buy $479 (★★★★☆ Jan 05) find.pcworld.com/45204	• Adjustments: tilt, swivel, pivot, and height • 20ms rise-and-fall response time	• Text: Very Good • Graphics: Good	• Usability: Very Good • Motion display: Average	Three USB 2.0 ports and a full range of physical adjustments make this nicely designed thin-bezel monitor a pleasure to use.
7	LG Electronics Flatron L1981Q $499 (★★★★☆ Jul 05) find.pcworld.com/47850	• Adjustments: tilt, pivot, and height • 8ms rise-and-fall response time • 8ms gray-to-gray response time	• Text: Very Good • Graphics: Good	• Usability: Very Good • Motion display: Average	Like the earlier L1980U, this stylish unit employs heat-sensitive buttons and innovative automatic pivoting software; it also has a smooth bezel.
8	BenQ FP91V+ $499 (★★★½☆ Jul 05) find.pcworld.com/47852	• Adjustments: tilt • 12ms rise-and-fall response time • 6ms gray-to-gray response time	• Text: Very Good • Graphics: Very Good	• Usability: Good • Motion display: Average	Graphics look great on this monitor's glossy screen, and the speakers sound good; but a dearth of physical adjustments disappoints.
9	IBM ThinkVision L190 $399 (★★★☆☆ Jul 05) find.pcworld.com/47854	• Adjustments: tilt • 12ms rise-and-fall response time	• Text: Very Good • Graphics: Good	• Usability: Good • Motion display: Average	No-frills, no-fuss model is inexpensive and easy to use. It's a sure hand at text, and is decent (but not spectacular) in its graphics performance.
10	ViewSonic VX924 $429 (★★★½☆ NEW) find.pcworld.com/48866	• Adjustments: tilt • 5ms rise-and-fall response time • 4ms gray-to-gray response time	• Text: Very Good • Graphics: Good	• Usability: Good • Motion display: Average	Very low response-time specs sound tempting, but their effect isn't evident—and overall text and graphics performance is middling. Look elsewhere for extras.

FOOTNOTE: [1] All monitors here, except the IBM ThinkVision L190, are dual interface. Response times given are vendor-reported specifications; type of response time, such as "gray-to-gray" (time to change between shades of gray) and "rise-and-fall" (time to change from black to white to black), are vendor-provided terms. **HOW WE TEST:** Judges rate how well each monitor displays 13 text and graphics images at native resolution of 1280 by 1024. Some screens are from DisplayMate for Windows (www.displaymate.com). See find.pcworld.com/34613 for testing details. Data based on tests designed and conducted by the PC World Test Center. All rights reserved. **CHART NOTES:** Prices given are street prices as of 7/21/05. Star ratings are based on text quality, graphics quality, features, ease of use, and service and support. Price is taken into consideration for Best Buy honors only. See find.pcworld.com/10860 for details on *PC World*'s Star Ratings.

another nice extra that make it easier to plug in other peripherals, such as a digital camera or a USB drive.

Most of the 19-inch LCD monitors we've tested have dual video interfaces—both analog (D-Sub) and digital (DVI) inputs. Our test results show that a digital connection generally produces a better-quality image and requires less adjustment than an analog interface does. Of course, your system must have a DVI port to be able to use the interface—but even if your PC lacks DVI for now, bear in mind that an LCD with a dual interface will provide flexibility for future graphics board and system upgrades. All of the 19-inch LCDs in our chart have dual video interfaces except for the analog-only IBM ThinkVision L190—although it should be noted that this budget model earned a rating of Very Good for its text quality.

If you're interested in a dual-monitor setup (see "Broaden Your View With Dual Displays" at right), consider a pair of LCD models with ultrathin bezels, so as to place them as close together as possible. Some users prefer wide, handsomely finished bezels that resemble photo frames.

MOUSE-DRIVEN MONITORS

FOR YEARS THE ONLY way you could adjust an LCD monitor's brightness, contrast, color, and other image controls was by pressing buttons—typically located on the front panel—to access an on-screen display (OSD) of various menus and adjustment options. But four of the models on our ranked chart—the Eizo FlexScan L768, the LG Flatron L1981Q, the NEC MultiSync LCD1970GX, and the Samsung SyncMaster 920t—supply software either in the box or as a download that allows you to make monitor adjustments via mouse. Some users find this approach quicker and more convenient than pressing traditional front-panel buttons, while others find it less intuitive at first blush.

Most OSD-replacement software offerings provide similar features for adjusting a screen, but some give you more controls or unique functions. For example, the LG Flatron L1981Q's ForteManager software includes both automatic pivot and automatic mirroring (180-degree pivot) functions that you can turn on or off.

We've covered only some of the basics of shopping for an LCD, but the best advice is the most basic of all: Don't be swayed by a monitor's specifications or by capabilities that you will never use. Select a model with features that make the most sense for you, and—if possible—take a long, close look at it in person. ■

—Richard Jantz

SOFTWARE TO REPLACE on-screen display menus, such as LG's ForteManager, offers easy-to-make, button-free screen adjustments—and aesthetics that outshine dowdy-looking OSDs.

PHOTOGRAPH: MARC SIMON

DUAL MONITORS

Broaden Your View With Dual Displays

THE ERGOTRON DS100 stand fits two screens onto a small desk space.

IF YOU WANT TO GET more work done in less time, consider a dual-monitor setup. By extending your desktop across two monitors—such as a pair of 19-inch LCDs—in either portrait or landscape mode, you'll gain more screen area for displaying multiple applications or windows. With two monitors you can easily edit text or images on one while viewing a presentation, database, or Web page on the other. You can also stretch one application, such as a large spreadsheet, across the two screens to see more information at once.

Setting up a dual-monitor arrangement couldn't be easier: Simply connect two monitors to a single graphics card that supports multiple outputs (such as dual analog and digital inputs) or to two separate graphics boards installed in the same system. All versions of Microsoft Windows XP have easy-to-use display options for selecting multiple displays, and many graphics cards include driver software for optimizing dual monitors.

For easier placement and use, you can mount two LCD panels on a single stand made by a third-party vendor. I tested the Ergotron DS100 with two Eizo FlexScan L768 19-inch LCDs and quickly became addicted to using this space-efficient setup. But even without a special hardware mount, the small footprint and ultrathin bezels of many LCDs make them ideal for edge-to-edge use right out of the box.

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IN THE CHARTS

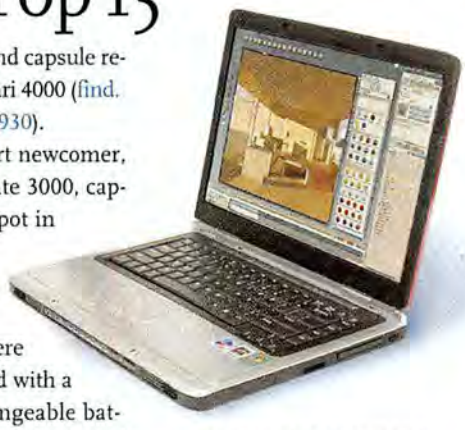
EDITED BY THE REVIEWS STAFF

AMD Turion–Based Notebook Breaks Into the Top 15

THIS MONTH, our feature story on next-generation computers (see page 70) preempts our regular *Top 15 Desktop PCs* chart, so we start the *Top 100* section with our *Top 15 Notebook PCs* chart. Two new Acer portables gain rankings. The bright red Acer Ferrari 4000 is the first *Top 100* notebook we have seen that uses a Turion processor, AMD's answer to Intel's Centrino CPU.

Taking fifth place in the all-purpose notebook category, this race-car–themed portable carries AMD's 1.8-GHz Turion 64 ML-34 processor, the lower-power and lower-voltage variant of the two Turion chips currently available. It performed on a par with a Lenovo ThinkPad T43 model equipped with a 1.86-GHz Pentium M 750 processor. Battery life, however, was mediocre. For more about the Turion chip and the Ferrari 4000, see "Turion-Based Notebooks Target Intel's Centrino" (page 42) and our online test report and capsule review for the Ferrari 4000 (find.pcworld.com/48930).

The other chart newcomer, Acer's TravelMate 3000, captured the fifth spot in our ultraportable section. It is the only thin-and-light here to come standard with a pair of interchangeable batteries—a three-cell that lasted almost 2 hours in our tests and a heavier six-cell that endured twice as long. The TravelMate 3000 suffers from a so-so keyboard, and (like most ultraportables) it lacks an integrated optical drive.

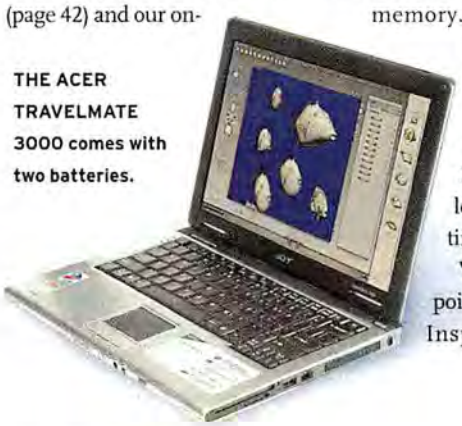


CHEM USA'S CHEMBOOK 2070 outperforms its newer sibling, the ChemBook 2071.

The other four notebooks tested this month fell short. Chem USA's $1069 ChemBook 2071 couldn't unseat its $1769 sibling, the ChemBook 2070, in the all-purpose category. Despite having the same media control buttons, the 2071 is a slower model with a smaller hard drive and less memory. Our test unit had a troublesome optical drive tray, too. Otherwise, the 2071 is a good, low-budget multimedia laptop.

We were disappointed with Dell's Inspiron 9300, an entertainment-oriented 17-inch wide screen that the vendor bills online as a "multimedia powerhouse." Though our expensive test model came with Windows Media Center, the TV tuner (with remote) is a $160 external USB add-on. Also discouraging: The 9300 earned a WorldBench 5 score of 93, below average for similarly configured notebooks that have 1GB of RAM and a 2-GHz Pentium M CPU.

Fujitsu's LifeBook B6110D is an ultraportable with an appealing touch screen and long battery life but no integrated optical drive. Finally, Toshiba's Tecra M4-S515 tablet PC, with its swiveling 14.1-inch screen, serves nicely as either a laptop or a sizable tablet, but our test unit's touchpad did not reliably select text.



THE ACER TRAVELMATE 3000 comes with two batteries.

PHOTOGRAPHS: RICK RIZNER

INSIDE INFO

Point-and-Shoots

CAMERA vendors are packing higher and higher resolutions into point-and-shoots. This month's *Top 10 Digital Cameras* chart features two 7-megapixel models priced at under $500 and one 5.1-megapixel camera at less than $300. In all, three new models make the chart.

More on the Web

PC WORLD uses its industry-standard benchmarking application, WorldBench 5, to evaluate desktop PCs, notebooks, and tablet PCs. We run a number of real-world applications performing real-world computing tasks. For additional information about the WorldBench 5 tool, visit find.pcworld.com/44262. You can browse to find.pcworld.com/10860 for more details regarding *PC World*'s Star Ratings.

The Top 100 Team

FREELANCE writers Richard Jantz and Paul Jasper, *PC World* Contributing Editor Carla Thornton, and *PC World* editors Laura Blackwell, Eric Butterfield, Tracey Capen, Kalpana Ettenson, Tom Mainelli, Melissa J. Perenson, Narasu Rebbapragada, Dan Sommer, and Alan Stafford contributed to the *Top 100* section this month. Ulrike Diehlmann, Elliott Kirschling, Jeff Kuta, Tony K. Leung, Thomas Luong, and William Wang of the PC World Test Center tested the products reviewed in this issue, with logistical support provided by Greg Adler.

SC3000 WXA - 75Wh SuperPolymer® Battery (up to 9 hrs) - 1.5 GHz Intel Centrino M-LV Processor - Light 3.5 lbs - Sleek 0.75"

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TOP 100 TEST Center

TOP 15 NOTEBOOK PCs

★ Products in this chart are ordered by star rating. Visit find.pcworld.com/48930 for reviews of all products tested this month and ranked in this chart.

	DESKTOP REPLACEMENT	Features and specifications [1]		Performance	Bottom line
1	Acer TravelMate 8100 $1999 (★★★★☆ Aug 05) find.pcworld.com/48221	• 2-GHz Pentium M 760 • 15.4-inch wide screen • 7.6 pounds	• Double-layer DVD±RW/-RAM drive • Touchpad pointing device • 802.11g, Bluetooth, gigabit ethernet, smart card slot	• WorldBench 5 score: 94 • Overall design: Very Good • Tested battery life: 4:04	Chic and pricey wide-screen model has a DVI port and a five-in-one media card reader.
2	Lenovo ThinkPad T43 Best Buy $1999 (★★★★☆ July 05) find.pcworld.com/47826	• 1.86-GHz Pentium M 750 • 14.1-inch screen • 6.4 pounds	• DVD±RW/-RAM drive • Touchpad and eraserhead pointing devices • 802.11g, Bluetooth, gigabit ethernet	• WorldBench 5 score: 84 • Overall design: Very Good • Tested battery life: 5:02	This slim unit includes a convenient biometric fingerprint reader as well as an ExpressCard slot.
3	Dell Inspiron 6000 $2271 (★★★★☆ May 05) find.pcworld.com/47230	• 2-GHz Pentium M 760 • 15.4-inch wide screen • 8.4 pounds	• DVD±RW drive • Touchpad pointing device • 802.11a/g, SD Card slot, WordPerfect Office 12	• WorldBench 5 score: 89 • Overall design: Good • Tested battery life: 5:07	Big laptop combines strong performance, a superhigh resolution (1920 by 1200), and great speakers.
4	HP Pavilion Dv4000 $1189 (★★★★☆ July 05) find.pcworld.com/47827	• 1.86-GHz Pentium M 750 • 15.4-inch wide screen • 7.6 pounds	• Double-layer DVD±RW drive • Touchpad pointing device • 802.11g, ExpressCard slot, Microsoft Works 8	• WorldBench 5 score: 77 • Overall design: Good • Tested battery life: 3:23	Elegant wide-screen model features an ExpressCard slot and includes a six-in-one media reader.
5	Alienware Area-51m 7700 $3214 (★★★½☆ Aug 05) find.pcworld.com/48222	• 3.6-GHz Pentium 4 560J • 17-inch wide screen • 14.8 pounds	• DVD±RW drive • Touchpad pointing device • 802.11g, seven-in-one media card reader	• WorldBench 5 score: 90 • Overall design: Very Good • Tested battery life: 1:10	Heavy laptop has a built-in camera, optional dual RAID hard drives, and a built-in cable TV connection.
	ALL-PURPOSE NOTEBOOK				
1	HP Compaq NC8230 $2139 (★★★★½ May 05) find.pcworld.com/47228	• 2-GHz Pentium M 760 • 15.4-inch wide screen • 7.3 pounds	• DVD-ROM and CD-RW combo drive • Touchpad and eraserhead pointing devices • 802.11g, Bluetooth, SD Card slot	• WorldBench 5 score: 85 • Overall design: Good • Tested battery life: 5:11	Classy-looking model has a quick-launch presentation button and high resolution (1680 by 1050).
2	Lenovo ThinkPad R52 Best Buy $1349 (★★★★☆ July 05) find.pcworld.com/47828	• 1.73-GHz Pentium M 740 • 14.1-inch screen • 7.0 pounds	• DVD-ROM and CD-RW combo drive • Touchpad and eraserhead pointing devices • 802.11g, Bluetooth, ExpressCard slot	• WorldBench 5 score: 77 • Overall design: Outstanding • Tested battery life: 3:30	This model has a comfortable keyboard, and its modular bay accepts many optional drives.
3	Micro Express CL5620 $1599 (★★★½☆ May 05) find.pcworld.com/46172	• 2-GHz Pentium M 755 • 15-inch screen • 7.2 pounds	• DVD±RW drive • Touchpad pointing device • 802.11b/g, SD Card slot	• WorldBench 5 score: 97 • Overall design: Fair • Tested battery life: 3:56	Attractive laptop sports a beautiful screen (1400 by 1500 resolution) and a nice, firm keyboard.
4	Chem USA ChemBook 2070 $1769 (★★★½☆ Sept 05) find.pcworld.com/46552	• 2-GHz Pentium M 760 • 15.4-inch wide screen • 7.6 pounds	• Double-layer DVD±RW drive • Touchpad pointing device • 802.11a/g, four-in-one media card reader	• WorldBench 5 score: 89 • Overall design: Good • Tested battery life: 2:53	High-resolution (1680 by 1050) model makes a fine stand-alone CD and DVD player. TV tuner is optional.
5	Acer Ferrari 4000 $1999 (★★★½☆ NEW) find.pcworld.com/48914	• 1.8-GHz Turion 64 ML-34 • 15.4-inch wide screen • 7.9 pounds	• Double-layer DVD±RW drive • Touchpad pointing device • 802.11g, Bluetooth, gigabit ethernet	• WorldBench 5 score: 85 • Overall design: Fair • Tested battery life: 3:00	Ferrari-themed laptop comes with the new Turion processor and offers a five-in-one media card reader.
	ULTRAPORTABLE				
1	Lenovo ThinkPad X41 $2049 (★★★★☆ Sept 05) find.pcworld.com/48670	• 1.5-GHz Pentium M LV 758 • 12.1-inch screen • 5.6 pounds	• DVD-ROM and CD-RW combo drive [2] • Eraserhead pointing device • 802.11g, gigabit ethernet, SD Card slot	• WorldBench 5 score: 64 • Overall design: Good • Tested battery life: 5:19	Updated ultraportable now carries a biometric fingerprint reader and includes a comfortable keyboard.
2	Fujitsu LifeBook P7010 $1899 (★★★½☆ Sept 05) find.pcworld.com/48558	• 1.2-GHz Pentium M LV 753 • 10.6-inch wide screen • 4.2 pounds	• Double-layer DVD±RW/-RAM drive • Touchpad pointing device • 802.11g, four-in-one media card reader	• WorldBench 5 score: 63 • Overall design: Very Good • Tested battery life: 5:18	Full-featured laptop delivers long battery life but has an awkward keyboard layout and a small screen.
3	WinBook X512 Best Buy $1098 (★★★½☆ Sept 05) find.pcworld.com/48672	• 1.5-GHz Pentium M 715 • 12.1-inch wide screen • 5.6 pounds	• DVD-ROM and CD-RW combo drive • Touchpad pointing device • 802.11g	• WorldBench 5 score: 67 • Overall design: Fair • Tested battery life: 3:24	This unit has an elegant Media Center Edition knockoff app and makes a dandy stand-alone DVD player.
4	Dell Latitude X1 $2051 (★★★☆☆ Sept 05) find.pcworld.com/48674	• 1.1-GHz Pentium M ULV 733 • 12.1-inch screen • 4.4 pounds	• DVD-ROM and CD-RW combo drive [3] • Touchpad pointing device • 802.11g, Bluetooth, gigabit ethernet	• WorldBench 5 score: 60 • Overall design: Fair • Tested battery life: 2:40	Lightweight ultraportable offers a sharp 12.1-inch wide screen and has a dedicated CompactFlash slot.
5	Acer TravelMate 3000 $1299 (★★★☆☆ NEW) find.pcworld.com/48906	• 1.73-GHz Pentium M 740 • 12.1-inch screen • 5.1 pounds	• DVD-ROM and CD-RW combo drive [3] • Touchpad pointing device • 802.11g, Bluetooth, gigabit ethernet	• WorldBench 5 score: 78 • Overall design: Good • Tested battery life: 3:58	Quick for an ultraportable, this model has a five-in-one media card reader and a comfortable keyboard.

FOOTNOTES: [1] Features listings are not exhaustive. [2] Optical drive housed in docking station. [3] Optical drive is an external device. **CHART NOTES:** Street prices are as of 7/18/05. Weight includes AC adapter, power cord, and optical drive. Optical drives are removable unless otherwise noted. Price is taken into consideration for Best Buy honors only. All tests designed and conducted by the PC World Test Center. All rights reserved. See find.pcworld.com/10860 for details on *PC World*'s Star Ratings.

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TOP 10 DIGITAL CAMERAS

★ Products in this chart are ordered by star rating. Visit find.pcworld.com/49260 for reviews of all products tested this month and ranked in this chart.

FINE IMAGE QUALITY and a great design earn Casio's new Exilim EX-Z750 the top spot and a Best Buy in this month's point-and-shoot rankings. The EX-Z750 pulls off the hat trick of a slim case, a huge 2.5-inch LCD, and easy-to-operate controls. Among the camera's 30 scene modes designed to help you get better shots are Pastel, Splashing Water, and Twilight, which uses a magenta filter.

A 12X optical zoom lens with image stabilization gives Sony's Cyber-shot DSC-H1 its bulky shape and considerable weight. But the powerful telephoto makes this model the best choice on the chart for sports or nature photography. Our one complaint: Though the H1's zoom is quick, the autofocus is slower than we'd like for action shooting. Image quality was not the Sony's strong suit in our tests: Our still-life shot had a slightly greenish tinge, and the flash portrait was a little overexposed.

CASIO'S svelte Exilim EX-Z750.

HP's new Photosmart R817 resembles our number two Best Buy, the HP Photosmart R717, in size and function. What the R817 loses in megapixels, it adds in a longer optical zoom (5X, versus the R717's 3X). The R817 outdid its sibling in color and exposure accuracy, but fell well behind it in sharpness. Other models tested this month—Fujifilm's FinePix Z1 (see page 45), Casio's Exilim EX-S500, and Nikon's Coolpix S1—failed to make the chart.

	POINT-AND-SHOOT CAMERA	Features and specifications[1]		Performance	Bottom line
1	Casio Exilim EX-Z750 Best BUY $450 (★★★★☆ NEW) find.pcworld.com/49024	• 7.2 megapixels • 38mm to 114mm zoom • 30 scene modes	• 640 by 480 video • Rechargeable battery • 5.8 ounces	Image quality: Very Good Ease of use: Very Good Battery life: Outstanding	Slim model has very quick startup, a fine selection of manual controls, and a huge 2.5-inch LCD, along with an optical viewfinder.
2	HP Photosmart R717 Best BUY $299 (★★★★☆ May 05) find.pcworld.com/47128	• 6.2 megapixels • 39mm to 117mm zoom • 12 scene modes	• 320 by 240 video • Rechargeable battery • 5.8 ounces	Image quality: Very Good Ease of use: Very Good Battery life: Good	The R717 comes with a host of useful features for snapshooters, including image advice, extensive help menus, and in-camera red-eye reduction.
3	Canon PowerShot S70 $500 (★★★★☆ July 05) find.pcworld.com/48090	• 7.1 megapixels • 28mm to 100mm zoom • 6 scene modes	• 640 by 480 video • Rechargeable battery • 10.1 ounces	Image quality: Very Good Ease of use: Very Good Battery life: Good	Image sharpness and color accuracy won high marks; the unit has an extra-wide-angle lens and a broad selection of easy-to-use manual controls.
4	Fujifilm FinePix F10 $360 (★★★★☆ July 05) find.pcworld.com/48085	• 6.3 megapixels • 36mm to 108mm zoom • 5 scene modes	• 640 by 480 video • Rechargeable battery • 7.2 ounces	Image quality: Very Good Ease of use: Good Battery life: Outstanding	The F10 earned the top combined image quality score; easy to pack in a pocket or bag and has a high 1600 ISO setting, but images were noisy.
5	Nikon Coolpix 7900 $400 (★★★★☆ June 05) find.pcworld.com/47704	• 7.1 megapixels • 38mm to 114mm zoom • 16 scene modes	• 640 by 480 video • Rechargeable battery • 6.5 ounces	Image quality: Good Ease of use: Very Good Battery life: Good	Small but easy to hold, the 7900 has an intuitive menu system, plenty of scene modes, and such advanced features as white-balance bracketing.
6	Sony Cyber-shot DSC-H1 $500 (★★★★☆ NEW) find.pcworld.com/49033	• 5.1 megapixels • 36mm to 432mm zoom • 7 scene modes	• 640 by 480 video • Two AA batteries • 21 ounces	Image quality: Fair Ease of use: Very Good Battery life: Good	This bulky model features a 12X optical zoom with optical image stabilization, but the overall image quality of its output was mediocre.
7	Canon PowerShot SD500 Digital Elph $500 (★★★★☆ July 05) find.pcworld.com/48092	• 7.1 megapixels • 37mm to 111mm zoom • 9 scene modes	• 640 by 480 video • Rechargeable battery • 6.7 ounces	Image quality: Good Ease of use: Very Good Battery life: Good	This next-generation Digital Elph has a smoothly rounded metal body and a 2-inch LCD. It fits easily into a pocket and has virtually no shutter lag.
8	Olympus C-5500 Sport Zoom $280 (★★★½☆ June 05) find.pcworld.com/47708	• 5.1 megapixels • 38mm to 190mm zoom • 11 scene modes	• 320 by 240 video • Four AA batteries • 8.6 ounces	Image quality: Very Good Ease of use: Good Battery life: Good	Good colors, accurate exposures, and an impressive zoom range are strengths. The autofocus usually locked on moving subjects quite well.
9	HP Photosmart R817 $349 (★★★½☆ NEW) find.pcworld.com/49030	• 5.1 megapixels • 36mm to 180mm zoom • 15 scene modes	• 640 by 480 video • Rechargeable battery • 6.7 ounces	Image quality: Good Ease of use: Good Battery life: Fair	The R817 offers in-camera red-eye reduction like the similar R717, plus a more powerful zoom, but image quality was less impressive.
10	Kodak EasyShare Z740 $349 (★★★☆☆ July 05) find.pcworld.com/48082	• 5.0 megapixels • 30mm to 380mm zoom • 17 scene modes	• 640 by 480 video • Rechargeable battery • 10.1 ounces	Image quality: Good Ease of use: Good Battery life: Good	Bargain-priced model has a 10X optical zoom; generally easy to use, but the automatic focus wasn't as quick as we'd like for shooting sports.

FOOTNOTE: [1]Resolutions are expressed in effective pixels, zoom range (focal length) is identified as 35mm equivalent, and camera weights include batteries. The designation "Rechargeable battery" refers to a lithium ion battery unless otherwise noted. Video capability includes audio. **HOW WE TEST:** To gauge picture quality, we take a series of shots, with and without flash, at the camera's highest resolution and default automatic settings. We photograph a complex still life and a mannequin to see how well each camera captures details and subtle colorings such as skin tones. A panel of judges reviews the on-screen and printed photos and assigns image-quality scores to them; we then average those scores. Data based on tests designed and conducted by the PC World Test Center. All rights reserved. **CHART NOTES:** Prices given are street prices as of 7/28/05. Star ratings are based on picture quality, ease of use, features, battery life, and support, but not price. Price is taken into consideration for Best Buy honors only. See find.pcworld.com/10860 for details on *PC World*'s Star Ratings.

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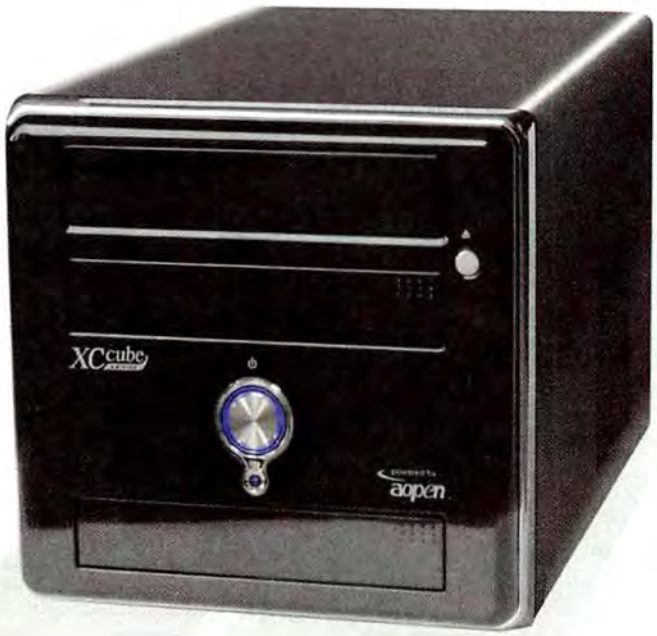

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TOP 10 HARD DRIVES

★ Products in this chart are ordered by star rating. Visit find.pcworld.com/49274 for more details on the products ranked in this chart.

CAPACITY TRUMPS PRICE THIS MONTH, with the top two rankings in both our Serial ATA and Parallel ATA lists going to versions of Seagate's 400GB Barracuda and Hitachi's 500GB Deskstar drives. Other makers will offer 500GB drives, but Hitachi's half-terabyte models are the first ones out the gate. And Hitachi's Serial ATA model is among the few we've tested to support the Serial ATA-300 interface, which permits maximum transfer speeds of 300 megabytes per second. (Current single drives don't sustain transfer rates high enough to take advantage of the new spec, however.)

Some of the drives making a repeat appearance on our chart have, not unexpectedly, dropped in price. The current capacity-to-price sweet spot for Serial ATA drives seems to be around 300GB. For example, Maxtor's 300GB Serial ATA drive costs the same amount per gigabyte ($0.67) as its 250GB sibling (not on our chart). Hitachi's 250GB and 400GB Serial ATA drives are both priced at $0.83 per gigabyte, while its 500GB Serial ATA drive runs $1 per gigabyte.

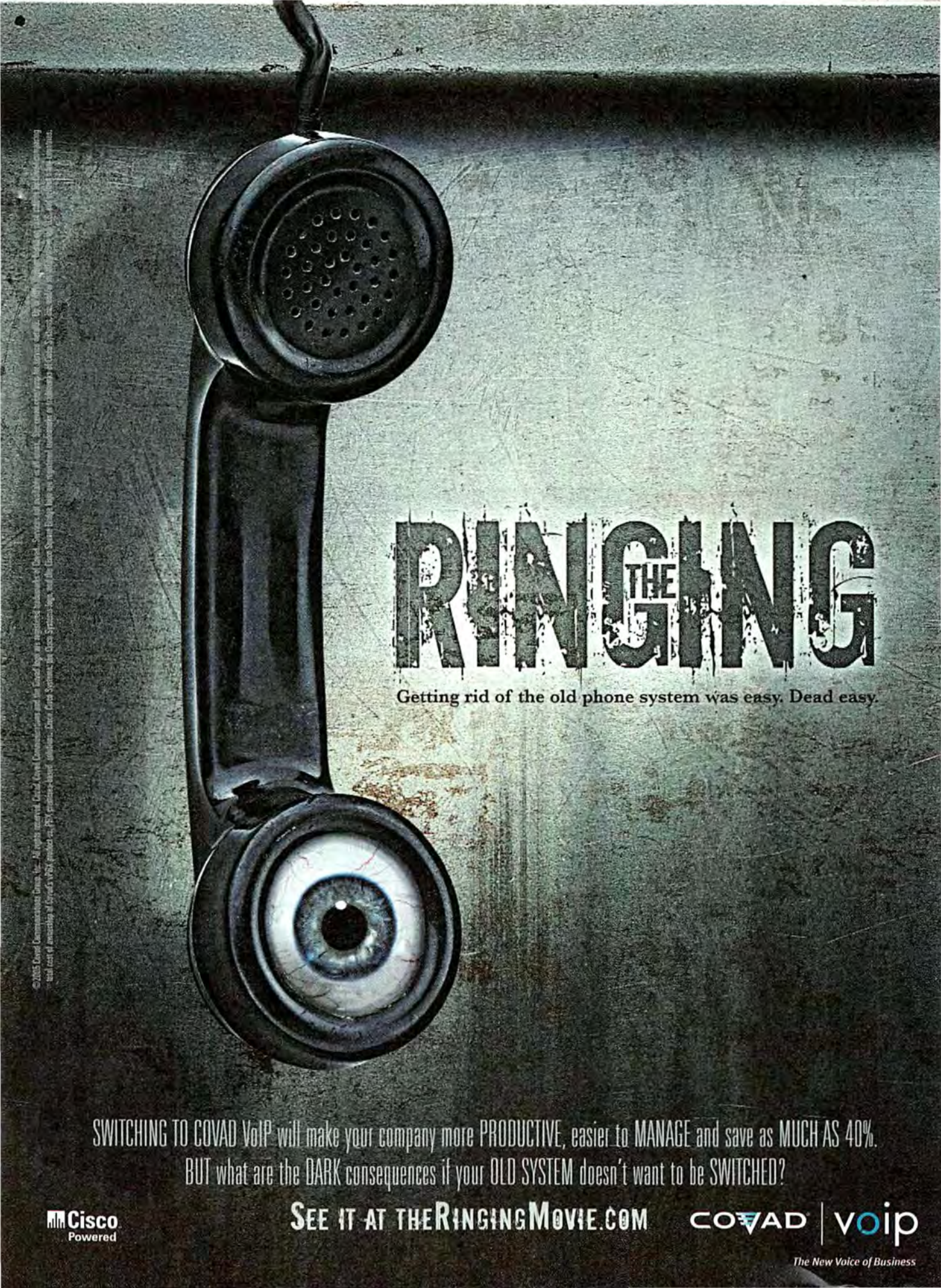
HITACHI'S Deskstar 7K500.

Missing the cut this month was Samsung's new SpinPoint P Series HD160JJ, a $125 model that also supports Serial ATA-300. Although it was a speedy performer on our tests, the drive offers only 160GB of storage; and unlike the other drives tested, it's sold as a bare drive sans manual, data cable, and software.

	SERIAL ATA HARD DRIVE	Features and specifications	Performance	Bottom line
1	Seagate Barracuda 7200.8 ST3400832AS $310 (★★★★½ Mar 05) find.pcworld.com/46340	• 400GB • 8MB buffer • 7200 rpm • Cable, DiscWizard software • Serial ATA-150 • Cost per gigabyte: $0.78	Overall performance: Very Good Copy files (3.1GB): 156 seconds Scan files (12.6GB): 133 seconds	Roomy, affordable drive shone on our copy files test. Includes CMS's BounceBack Express backup software and a five-year warranty.
2	Hitachi Global Storage Technologies Deskstar 7K500 $500 (★★★★☆ NEW) find.pcworld.com/49090	• 500GB • 16MB buffer • 7200 rpm • Cable; downloadable utility software • Serial ATA-300 • Cost per gigabyte: $1.00	Overall performance: Outstanding Copy files (3.1GB): 168 seconds Scan files (12.6GB): 126 seconds	Space-hungry digital pack rats will like this big yet somewhat costly drive. Outpaced the number one Seagate in copying large files.
3	Western Digital Raptor WD740GD $210 (★★★★☆ Mar 05) find.pcworld.com/46348	• 74GB • 8MB buffer • 10,000 rpm • Cable, Data LifeGuard software • Serial ATA-150 • Cost per gigabyte: $2.84	Overall performance: Very Good Copy files (3.1GB): 202 seconds Scan files (12.6GB): 119 seconds	This expensive drive offers raw speed in a RAID configuration; RAID can help boost performance by up to 33 percent.
4	Western Digital Caviar SE WD2500JD $180 (★★★★☆ Mar 05) find.pcworld.com/46350	• 250GB • 8MB buffer • 7200 rpm • Cable, Data LifeGuard software • Serial ATA-150 • Cost per gigabyte: $0.72	Overall performance: Very Good Copy files (3.1GB): 184 seconds Scan files (12.6GB): 134 seconds	Reasonably priced model has solid performance; plus, its SATA connectors are more robust than those found on competing drives.
5	Maxtor DiamondMax 10 6B300S0 Best BUY $200 (★★★★☆ Mar 05) find.pcworld.com/46358	• 300GB • 16MB buffer • 7200 rpm • Cable, MaxBlast software • Serial ATA-150 • Cost per gigabyte: $0.67	Overall performance: Very Good Copy files (3.1GB): 178 seconds Scan files (12.6GB): 143 seconds	This bargain-priced SATA drive provides high performance and plenty of storage capacity at the second-lowest cost per gigabyte here.
6	Hitachi Global Storage Technologies Deskstar 7K400 $330 (★★★½☆ Mar 05) find.pcworld.com/46338	• 400GB • 8MB buffer • 7200 rpm • Cable; downloadable utility software • Serial ATA-150 • Cost per gigabyte: $0.83	Overall performance: Very Good Copy files (3.1GB): 206 seconds Scan files (12.6GB): 133 seconds	This model has the same capacity as the first-place Seagate. Unfortunately, it took 32 percent longer to complete our copy files test.
7	Western Digital Caviar SE WD3200JD $209 (★★★½☆ NEW) find.pcworld.com/49098	• 320GB • 8MB buffer • 7200 rpm • Cable, Data LifeGuard software • Serial ATA-150 • Cost per gigabyte: $0.65	Overall performance: Good Copy files (3.1GB): 208 seconds Scan files (12.6GB): 145 seconds	Inexpensive drive is priced comparably to its 250GB sibling, but it also took 13 percent longer than that model on our copy files test.
	PARALLEL ATA HARD DRIVE			
1	Seagate Barracuda 7200.8 ST3400832A $325 (★★★★☆ Mar 05) find.pcworld.com/46342	• 400GB • 8MB buffer • 7200 rpm • Cable, DiscWizard software • ATA-100 • Cost per gigabyte: $0.81	Overall performance: Good Copy files (3.1GB): 210 seconds Scan files (12.6GB): 132 seconds	Anyone who needs lots of storage will appreciate this drive's balance of capacity and performance. Includes BounceBack Express.
2	Hitachi Global Storage Technologies Deskstar 7K500 $420 (★★★★☆ NEW) find.pcworld.com/49088	• 500GB • 8MB buffer • 7200 rpm • Cable, downloadable utility software • ATA-133 • Cost per gigabyte: $0.84	Overall performance: Very Good Copy files (3.1GB): 200 seconds Scan files (12.6GB): 128 seconds	By a slim margin, this jumbo-capacity drive was the speediest PATA model on both our copy files and scan files tests.
3	Western Digital Caviar SE WD3200JB Best BUY $215 (★★★½☆ NEW) find.pcworld.com/49096	• 320GB • 8MB buffer • 7200 rpm • Cable, Data LifeGuard software • ATA-100 • Cost per gigabyte: $0.67	Overall performance: Good Copy files (3.1GB): 204 seconds Scan files (12.6GB): 141 seconds	A solid performer all around, this model stood out among the PATA drives for its speedy performance on our copy large files test.

HOW WE TEST: To test performance, we copy a 3.1GB folder and a large 3.1GB .zip file to the Windows Desktop, scan a 6.2GB folder with McAfee VirusScan 8, search through 12.2GB of files on the drive for a text string, time how long the drive takes to perform several tasks in ACD Systems' ACDSee PowerPack 5.01, create CD-ROM images with Nero Burning ROM 5.5.7.6, and time how long the drive takes to compress files with WinZip 8.1. **CHART NOTES:** See find.pcworld.com/10860 for more on *PC World*'s Star Ratings.

PHOTOGRAPH: RICK RIZNER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PALM'S TUNGSTEN T5, a Best Buy, offers 160MB of data storage through USB.

DELL'S ULTRASHARP 1704FPV gives you crisp image quality at an affordable price.

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PDAs

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WINDOWS MOBILE PDA

1	Dell Axim X50v	Best Buy (★★★★½ Sept 05) find.pcworld.com/48760
2	Asus MyPal A730W	(★★★★☆ Sept 05) find.pcworld.com/48762
3	HP IPaq Hx4705	(★★★★☆ Dec 04) find.pcworld.com/44636
4	HP IPaq Rx3715	(★★★★☆ Sept 05) find.pcworld.com/48768
5	Garmin IQue M5	(★★★★☆ Sept 05) find.pcworld.com/48758

PALM OS PDA

1	Palm Tungsten T5	Best Buy (★★★★½ Sept 05) find.pcworld.com/48761
2	Palm LifeDrive	(★★★★☆ Sept 05) find.pcworld.com/48756
3	Palm Tungsten E2	(★★★★☆ Sept 05) find.pcworld.com/48766
4	Palm Zire 72	(★★★★☆ July 04) find.pcworld.com/42246
5	Garmin IQue 3200	(★★★½☆ Dec 04) find.pcworld.com/44438

From the September 2005 Issue

17-INCH LCD MONITORS

find.pcworld.com/48606

1	Eizo FlexScan L568	(★★★★☆ Mar 05) find.pcworld.com/46180
2	Dell UltraSharp 1704FPV	Best Buy (★★★★½ Mar 05) find.pcworld.com/46178
3	Samsung SyncMaster 711t	Best Buy (★★★★☆ Mar 05) find.pcworld.com/46298
4	NEC MultiSync LCD1770GX	(★★★★☆ Sept 05) find.pcworld.com/48523
5	IBM ThinkVision L170p	(★★★★☆ Mar 05) find.pcworld.com/37499
6	LG Electronics Flatron L1781Q	(★★★★☆ Sept 05) find.pcworld.com/48522
7	CTX Technology F773P	(★★★½☆ Sept 05) find.pcworld.com/48520
8	Sharp LL-173C	(★★★☆☆ Sept 05) find.pcworld.com/48528
9	ViewSonic VX724	(★★★☆☆ Sept 05) find.pcworld.com/48530
10	Envision EN7410	(★★★☆☆ Mar 05) find.pcworld.com/46186

From the September 2005 Issue

BACKUP DRIVES

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USB/FIREWIRE HARD DRIVE

1	Western Digital Dual-option Media Center	Best Buy (★★★★☆ Sept 05) find.pcworld.com/48638
2	Seagate Pushbutton Backup	(★★★★☆ Sept 05) find.pcworld.com/48640
3	Iomega Desktop Hard Drive	(★★★★☆ Sept 05) find.pcworld.com/48642
4	Hammer Storage Desk Hammer	(★★★★☆ Sept 05) find.pcworld.com/48644
5	Maxtor OneTouch II	(★★★½☆ Sept 05) find.pcworld.com/48645

NETWORK-ATTACHED STORAGE

1	Maxtor Shared Storage Drive	Best Buy (★★★½☆ Sept 05) find.pcworld.com/48637
2	Western Digital NetCenter	(★★★½☆ Sept 05) find.pcworld.com/48636
3	Buffalo TeraStation	(★★★½☆ Sept 05) find.pcworld.com/48634
4	Buffalo LinkStation 300GB	(★★★☆☆ Sept 05) find.pcworld.com/48632
5	Adaptec Snap Server 2200	(★★★☆☆ Sept 05) find.pcworld.com/48628

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1&1 WebStatistics	✓	✓
SITE-BUILDING TOOLS		
1&1 WebsiteBuilder	✓	✓
1&1 Photo Gallery	✓	✓
1&1 Dynamic Content Catalog	✓	✓
PDF2Web Converter	✓	✓
DynamicSiteCreator	✓	✓
Graphic archive	✓	✓
Software suite worth $600	✓	✓
FrontPage extensions	✓	✓
CGI library	✓	✓
Active Server Pages	–	✓
DOMAIN NAMES		
Included Domains	1	1
Subdomains	10	10
Run multiple independent sites	✓	✓
Full DNS management	✓	✓
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HERE'S HOW

EDITED BY AOIFE M. McEVOY AND DENNIS O'REILLY

ANSWER LINE

LINCOLN SPECTOR

Quiet, Please! Cut Your PC's Clatter the Cool Way

TODAY'S SYSTEMS MAKE way too much noise. We spend good money on high-quality speakers so that our CDs and MP3 files will sound terrific, and then we force those speakers to share a room with a PC that roars like a fully loaded B-52.

A quieter PC just generally makes your life nicer. Reducing your computer's roar to something approaching a whisper is surprisingly cheap and easy. You don't have to make it completely silent (which may not be possible, anyway), just quiet enough for the ambient level of your environment. This month I take a break from my initial reader question to help you identify and replace the parts in your PC that are making the most noise.

NOISE VS. HEAT

YOUR SYSTEM'S noisiest parts are its fans, and most PCs use a lot of them. My test machine—a Pentium 4 clone—has four fans: in the power supply, attached to the CPU, on the graphics board, and screwed onto the back of the case. Initially, my PC sounded like a textile mill.

Of course, fans keep your system's delicate circuitry cool—an important job. But with the right equipment, you can prevent PC overheating *and* ditch the earmuffs; you'll have a computer that's silent but cool, like Steve McQueen.

First, you could buy new fans. Slower fans make less noise, but they don't push as much cooling air over the CPU and other internal components. Bigger fans can safely turn more slowly because they move more air per revolution—but a larger fan may not fit in your case. Some more-expensive fans (in the neighborhood of $20 instead of $2) of the same size and speed are designed specifically to be extra quiet. Finally, you can reduce your dependence on fans by installing efficient heat sinks on your CPU and elsewhere in your system.

To gauge your system's heat, use a program that monitors its internal temperature. Your PC or motherboard may have come with such a program, or the manufacturer may offer one as a free download. If your machine doesn't have a built-in way to measure its temperature, try Alex van Kaam's free Motherboard Monitor (find.pcworld.com/48560; see **FIGURE 1**). This program reports your PC's temperature and even sounds an alarm when the internal heat reaches a preset danger level. Another option is Podien's $15 CPUCool utility (you'll find a free trial version at find.pcworld.com/48561).

Before you open your computer and start mucking around with its innards, keep some safety tips in mind:

Unplug the power cord (at both ends) before opening your PC. For anything other than installing drives, lay your PC

ILLUSTRATION: TIMOTHY COOK

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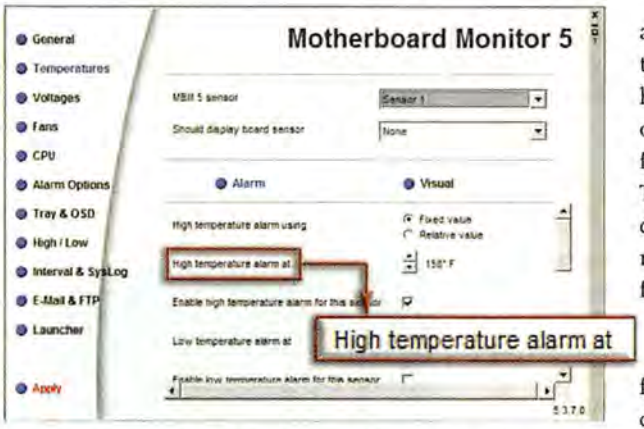

FIGURE 1: TAKE YOUR PC'S TEMPERATURE with the free Motherboard Monitor utility created by Alex van Kaam.

on its side, with the motherboard at the bottom. When you remove a part, loosen all of the screws before you remove any of them. And when installing a device, insert all of the screws halfway before fully tightening any. When you're done, plug in the power cord and turn on your PC. If it works, turn the system off, unplug the power cord, close the case, and then plug in the power cord again.

FIND THE NOISEMAKERS

REPLACING EVERY potentially noisy component in your PC is a waste of time and money, so instead start with the loudest offender. If the machine is still too noisy after you make your first change, replace the next-noisiest component.

To identify the source of noise, use the ever-popular Cardboard Tube Test. Hold one end of a cardboard tube from an empty paper towel roll to your ear, and hold the other end near various drives, fans, and other devices inside your PC's case to determine the loudest ones.

If this leaves you unsure, try the Elimination Test: Turn fans and hard drives off and on to see which are the loudest. (There's no harm in operating an open computer without fans for a few seconds.) To silence a fan or hard drive (the one major noisemaker that isn't a fan), unplug its power (make certain that the PC is unplugged first). Fans are usually connected through tiny, three-hole plugs on the motherboard; hard drives by larger, four-prong connectors from the power supply. Plug the PC's power cord back in, turn it on, and listen without using the cardboard tube.

Of course, this technique won't work with the power supply's fan, which can't be unplugged. With your PC turned off but plugged in, insert a small wooden stick between the fan's blades, and hold it there while you turn the PC on. If the machine remains as quiet as a weeknight in Yuba City, you've found your peace-disturber.

Your power supply may well be the first noise source you'll want to replace, since its fan is often the loudest thing in the case. Look for a replacement power supply that provides at least as much wattage as your current one. Note, though, that while a supply that delivers more watts gives you power to upgrade your PC's equipment, it also costs more and might be noisier than a less-powerful model.

In my test PC, I tried Seasonic's 330-watt S12-330 power supply (find.pcworld.com/48562; see **FIGURE 2**), which costs about $60 online. The S12-330's 120mm fan spins more slowly and quietly than the 80mm fans found in most power supplies. The product even provides an adapter that lets you lower the speed of your system's case and CPU fans.

If the Seasonic isn't quiet enough for you, try Antec's 500-watt Phantom 500 (find.pcworld.com/48564); it is absolutely silent—most of the time. The device is also very big, very heavy, and (at about $175 online) very expensive. The Phantom's body acts as a heat sink to keep the box's interior cool, and the fan kicks in only when the heat rises above a user-defined level. Still, for many people complete quiet most of the time is worse than slightly noisy performance all of the time. It is much easier to ignore a constant noise than one that turns off and on at seemingly random times.

FIGURE 2: A NEW POWER SUPPLY MAY give your PC more oomph while also reducing the machine's noise level.

Installing a new power supply is easy:

PHOTOGRAPH: MARC SIMON

FIGURE 3: KEEP YOUR PC COOL *and* quiet with a slower-turning replacement fan such as the Nexus 92mm Real Silent model.

Unplug the motherboard and drives from the existing power supply, unscrew and remove the device, insert the new power supply, tighten its holding screws, and then plug everything back into it. Seasonic and Antec include installation instructions, but not all power-supply vendors do.

If your PC has a case fan—one screwed onto the case rather than attached to the CPU, power supply, or other device—you may want to replace it with a less-noisy model. My test PC's 92mm case fan was its loudest component. The best solution would be to swap in a bigger fan, but that's tricky. Your case probably doesn't have a hole for a 120mm fan. Still, using a higher-quality (and perhaps slower) fan should reduce your system's noise level.

Nexus makes quiet case fans in various sizes, each of them priced below $20. The fans lack installation instructions, but replacing a fan is simple: Just unplug the old fan's power cord, remove it, and then install and plug in the replacement.

Nexus's 92mm Real Silent case fan (find.pcworld.com/48566; see **FIGURE 3**) worked fine in my test system. I was a little worried because, according to my motherboard-specific monitoring program, it spins at about half the rate of my old fan. But the slower turning speed has not caused the PC's temperature to rise.

Most hard drives don't have fans, but they still make plenty of noise when they spin. However, many new models make less noise, as they use fluid dynamic bearings in place of ball bearings. So if you want a quieter PC environment, now may be a good time to upgrade your hard drive.

A HARD-DRIVE MUFFLER

ALTERNATIVELY, YOU could place your current drive in a soundproof box that fits in a 5.25-inch bay (the kind you'd normally use for a CD or DVD drive). I recommend the Nexus Drive-A-Way (find.pcworld.com/48568), which costs about $60 (I looked at an early production unit before the company had settled on a price). I installed the Drive-A-Way with only minor problems—and *before* I discovered the instructions hidden on the bottom of the box. The device silenced my drive almost completely.

The most cost-effective CPU coolers are a small heat sink and a cheap, loud fan. For a little more money, you can buy something less raucous. But be warned: Replacing a CPU cooler isn't easy.

Part of the problem is sheer size: Quiet CPU coolers can be huge, with towering heat sinks that look like model skyscrapers attached to fans the size of portable disc players. You have to make sure the new cooler will fit your motherboard and CPU socket. You may know what processor you have, but some CPUs support more than one socket type. Check your computer or motherboard documentation—or the manufacturer's Web site—for the information you'll need.

Once you find the right cooler, you have to attach it. Start by removing the old cooler. It's probably clipped onto the socket in ways you can't see and in places where your fingers barely fit. Next, wipe the thermal paste (also called thermal grease) off the top of the CPU. Now apply a thin layer of paste (your cooler probably comes with a tube of the stuff). Finally, insert the new cooler into those clips your fingers can barely reach. Easy, right?

For Socket 478 motherboards, I recommend Arctic Cooling's reasonably compact Freezer 4 (find.pcworld.com/48570; see **FIGURE 4**). Though the device is not as quiet as some of the giant alternatives, it's more likely to fit in your PC, and it costs only about $30 online. (Arctic Cooling sells similar coolers for other sockets.)

FIGURE 4: ARCTIC COOLING'S Freezer 4 replacement motherboard fan cuts down on both your PC's heat and its decibel level.

If changing your PC's CPU cooler sounds too daunting, don't even consider replacing the tiny fan that's probably attached to your graphics card. Such fans aren't particularly loud, and fiddling with the surface of a graphics card is perilous.

I also advise against hassling with case insulation. The foam-rubber material attaches to the inside of your case to muffle sound, but this chore is a lot of work for a very minor difference. ■

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KEEP YOUR BACKUP DRIVE OFF WHEN IT'S NOT IN USE

EXTERNAL HARD DRIVES make great backups: They're much easier to work with than DVDs, and they hold far more data. You may be tempted to leave these drives on continuously; but if you do, anything that damages your original files could also destroy the backup. For better protection—regardless of the backup program you use—keep the backup drive turned off or unplugged when you're not using it, and turn it on or plug it in only when you need to back up. Better yet, hide the drive when you unplug it. That way, burglars won't deprive you of your PC *and* your backup drive.

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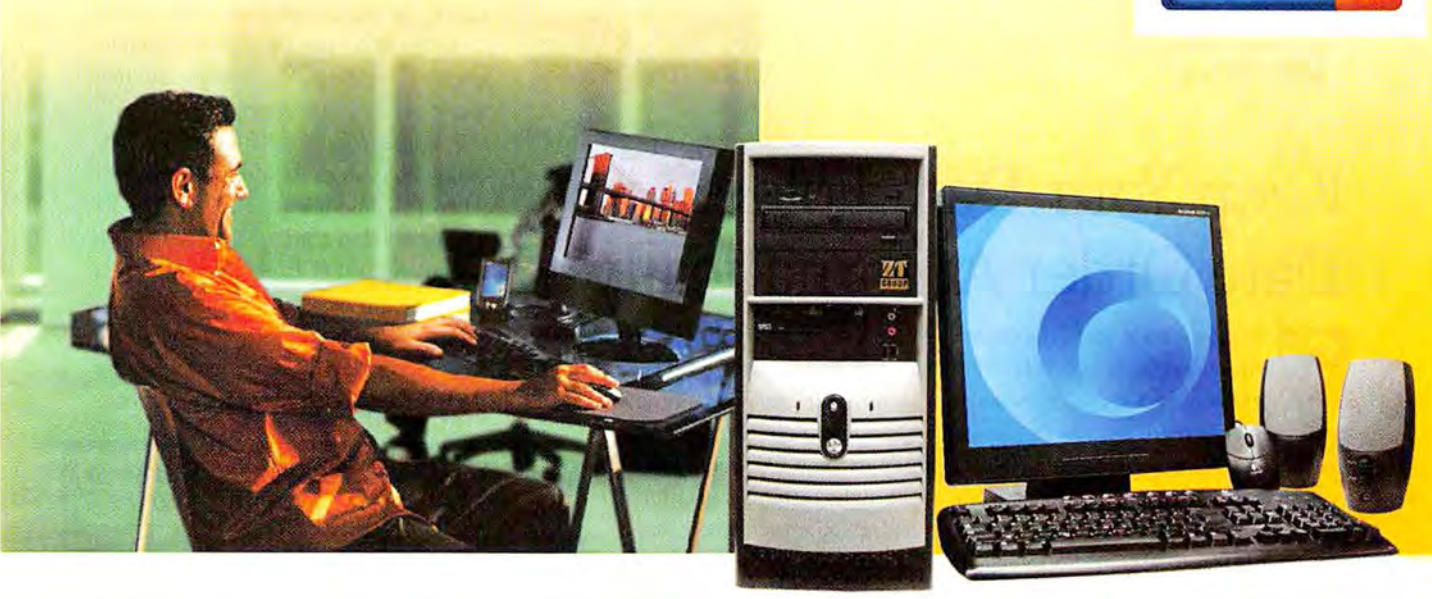

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WINDOWS TIPS

SCOTT DUNN

CHANGE WINDOWS' DATE FORMAT | SHORTCUTS TO CUSTOM DATES | ADD MORE RIGHT-CLICK OPTIONS

Keep Your Data Folders in Date Order Automatically

I read the tip in your June column about creating a new folder from the right-click menu (find.pcworld.com/48504). Is there any way to name a new folder with the current date simply by clicking the right mouse button? I mark my customers' folders with the date on which they bring in files to be printed. So automatically naming folders by their date of creation could shave my workload.

Daryl Piso, Fort Lauderdale, Florida

DATE-BASED FOLDER names are great for storing digital photos, e-mail messages, and many other kinds of files. Fortunately, you can customize menus in Windows 2000 and XP to let you create a folder named with the current date, using just two clicks of your mouse.

Start by making sure that the date format you use is valid for your folder names. For example, a date like 10/31/05 is verboten because Windows doesn't allow slashes in file and folder names. You'll probably want the folders arranged in chronological order even when sorted by name, so list the year first in the name. (If the month comes first, any files you create in October, November, and December will immediately follow the ones you made in January.) A date format such as 2005-10-31 for your folder names will keep things nice and sorted.

To have Windows use this date format all the time, open the Regional Options (or Regional and Language Options) control panel: Choose *Start•Run*, type **control intl.cpl**, and press **<Enter>**. In Windows XP, select the *Regional Options* tab and click *Customize*. In both versions, click the *Date* tab and choose *yyyy-MM-dd* from the 'Short date format' drop-down list (see **FIGURE 1**). Then click *OK* as many times as necessary to close the dialog boxes.

Next, add the command that will create a folder with this date format: Press **<Win>-E** to open Windows Explorer, choose *Tools•Folder Options*, and in the Folder Options dialog box, click *File Types*. In the 'Registered file types' list, scroll to and select *File Folder*. Click *Advanced* to open the Edit File Type dialog box, and then click the *New* button. For 'Action', type the words that you want to appear on your context menu (such as **New Folder With Today's Date**). For 'Application used to perform action', type **cmd.exe /c md "%1\%%DATE%%"**, as shown in **FIGURE 2**. Make sure that you type the command—instead of pasting in a copy—so it will contain straight double quotation marks (") rather than opening or closing double-quotes (" or "). Click *OK* twice and then *Close* to return to Explorer.

(A bug in Windows XP's Edit File Type dialog box can cause aberrant behavior when you double-click a folder. The fix entails making a minor Registry tweak. See my August *Windows Tips* column at find.pcworld.com/48506 for instructions.)

Now when you right-click a folder icon in Explorer, you'll see an option labeled 'New Folder With Today's Date' (or whatever you named your command; see **FIGURE 3**). Click it to create a new folder, named for the current date, inside the folder whose icon you right-clicked. ▶

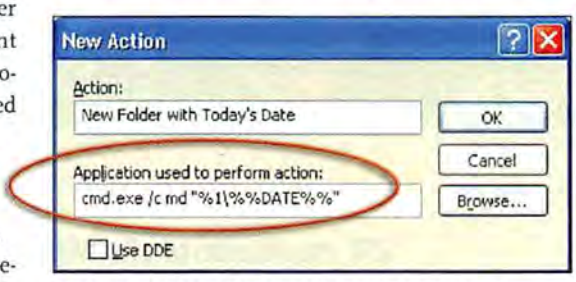

FIGURE 2: THIS COMMAND LINE adds a date-based folder-making feature to your right-click menu.

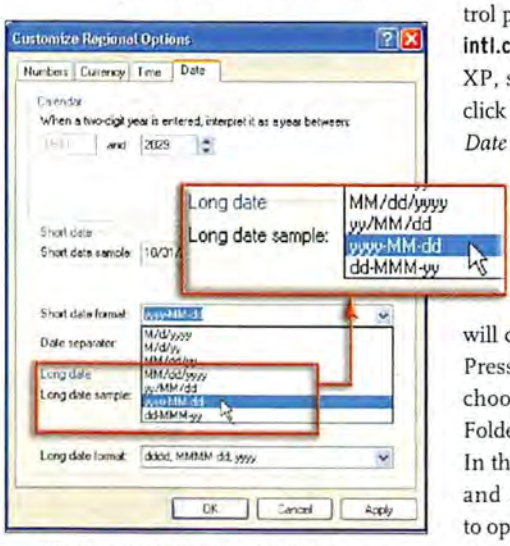

FIGURE 1: CHOOSING THE RIGHT format sorts date folder names chronologically.

FIGURE 3: JUST RIGHT-CLICK a folder to create a subfolder named with today's date.

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You can't create two folders with the same name inside a single parent folder, so use it only once per day per folder.

MORE DATE OPTIONS

UNFORTUNATELY, Windows 2000 insists on putting the day of the week ('Mon', 'Tue', and so on) in the folder name, which prevents the folders from appearing in chronological order when you sort them by name. One workaround is to choose *View•Arrange Icons by•Modified*, but if this is too many extra clicks for you, or if you just don't want to change your regional settings to force all dates to have the more orderly format, you can create a batch file (for either 2000 or XP) that gives you more options for customizing the date format.

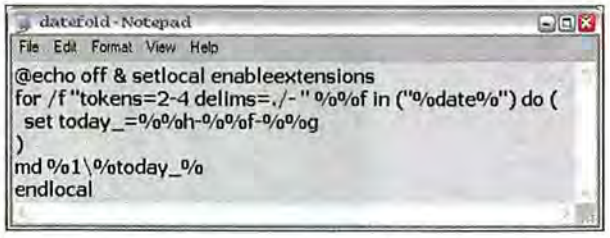

FIGURE 4: CREATE AND CUSTOMIZE this batch file in Notepad to give yourself more format options for your date folders.

To get started, launch Notepad or another text editor and enter the text shown in **FIGURE 4**. This batch file contains techniques from batch master Timo Salmi, a professor at the University of Vaasa, Finland (find.pcworld.com/48508); to see many examples of his batch techniques, download the file tscmd.zip from find.pcworld.com/48509.

The batch file establishes the period, slash, hyphen, and space as delimiters (characters that separate the data you're after). It then looks at the contents of the '%DATE%' variable—that is, the current date—and puts the second, third, and fourth items from the date (as determined by the delimiters) into the variables '%%f', '%%g', and '%%h'. These represent the month, day, and year. The third line of the file stores the date variables in year-day-month order, separated by hyphens, within the variable 'today_'. The fifth line combines that variable with the make directory ('md') command to create a folder that has the desired date name.

If you prefer folder names separated by periods (as in '2005.10.31'), replace the two hyphens in the third line of the batch file with periods. Or delete the hyphens in that line altogether to produce a folder name such as '20051031'. Rearrange the '%%f', '%%g', and '%%h' variables in the third line any way you want to get the desired order of month, day, and year.

You may also have to change the batch file to match the settings you selected in the regional settings. For example, if you chose the yyyy-MM-dd format, you'll have to change the '2-4' in the second line of the batch file to **1-3** in order to get the right parts of the date to appear. In addition, you may need to reorder the variable elements as described in the previous paragraph.

When you're done, save the batch file with a name like **datefolder.bat**. Place it wherever you store such files—say, in a folder named 'c:\batch'. Then return to the Edit File Type dialog box for File Folders and click *New* as explained earlier. But this time type the following command in the 'Application used to perform action' box: **cmd.exe /c c:\batch\datefolder.bat "%1"** (your path and batch file name may differ). Click *OK* twice, and then click *Close* to return to Explorer.

If you made a mistake while entering text in the New Action dialog box, you have to use the Registry Editor to fix it. For safety's sake, create a backup of your Registry (visit find.pcworld.com/48512 for instructions). Choose *Start•Run*, type **regedit**, and press **<Enter>**. In the tree pane on the left, navigate to and double-click *HKEY_CLASSES_ROOT\Directory\shell*. Select the folder with the name of the command you just added (in our example, 'New_Folder_With_Today's_Date'), and double-click the *(Default)* icon in the right pane to open the command line in the Edit String dialog box. Make your correction, or delete your custom command altogether by closing the dialog box, right-clicking the folder in the left pane, and selecting *Delete•Yes*; for more details, see "Resort to Regedit" in last December's column (find.pcworld.com/48514). ■

WINDOWS TOOLBOX

Create Custom Context Menus With CMenuExtender

AS THIS MONTH'S TIPS illustrate, you can pump up Windows just by adding specialized commands to your context (or right-click) menus. But wouldn't it be great to add those commands without editing the Registry or going to a lot of other trouble? You can, with the free CMenuExtender utility, which lets you create menu items for any files and folders. Choose from a list of commands that the tool's developers considered most useful, or use the software to launch applications or commands of your own (although the utility won't work with complicated command lines like the ones in this month's tips). You can even add multiple custom submenus to your context menu. The program's developers no longer support it, but if you feel you're ready to go it alone, browse to find.pcworld.com/48515 for your copy.

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HARDWARE TIPS

KIRK STEERS

Prepare Your Hardware for a Windows Reinstall

SOMETIMES THE ONLY way to rid your PC of rogue software and other maladies is to revamp your Windows installation. Follow these four tips to keep your hardware on good terms with your reinvigorated Windows setup.

Get your discs in a row: Before you begin, gather the CDs containing the device drivers Windows will require to run your computer, printer, and other hardware. Almost every component in or connected to your PC needs to have its own device-driver program installed in Windows. This includes printers, graphics cards, network adapters, and even individual chips on your system's motherboard.

All of the drivers your PC needs may or may not be included on the Windows CD (or on the restoration disc) that came with your system. After recently reinstalling Windows XP on my Dell Dimension, I found that the machine's OS CD failed to install my network drivers and other key hardware drivers, which meant that initially I had no Internet access. Since I had lost the disc holding my network card's driver, I had to use another PC to connect to the Web and download the necessary program from the maker's site. Many drivers—such as those for equipment you bought separately—may have to be installed from their own discs, so keep *all* of your software CDs handy.

If you're reinstalling Windows from a standard Microsoft Windows CD rather than from the disc that shipped with your PC, don't assume that the generic Windows CD will have all of your system's current drivers. Visit the support sections at the Web sites of your PC and peripheral manufacturers, download up-to-date drivers, and save them on removable media (the reinstallation will likely wipe these updates off your hard drive).

Check out an overview: Stan Miastkowski's December 2002 *Step-By-Step* column (find.pcworld.com/48538) provides a start-to-finish look at the Windows-reinstallation process. To transfer all of your current Windows settings to the new configuration, browse to find.pcworld.com/48540 for Lincoln Spector's *Answer Line* column from the September 2003 issue.

Avoid hardware activation: Every time you reinstall Windows XP, you have to phone home to Microsoft to reactivate the OS. Avoid this annoyance by copying the existing hardware signature file that Windows creates from your computer's configuration and pasting it back into the freshly installed version of Windows XP.

Open the C:\Windows\System32 folder in Explorer and copy the files 'wpa.dbl' and 'wpa.bak' to a floppy disk, CD, or other removable medium. At the end of the XP reinstallation, choose not to reactivate Windows. When the reinstallation finishes, reboot your PC in Safe Mode by pressing **<F8>** before Windows launches. Once Windows has opened in Safe Mode, copy the two files over the new versions in the C:\Windows\System32 folder.

Note: This works only on the PC where the 'wpa.dbl' file was originally created; it won't bypass Windows XP activation on other computers. And if you made significant hardware changes to your PC before reinstalling Windows XP, you'll probably have to reactivate the OS anyway.

Do a driver check: Finally, check Device Manager to confirm that all of your drivers were installed. In XP and 2000, right-click *My Computer*, click *Manage*, and select *Device Manager* on the left of the screen. In 98 and Me, right-click *My Computer*, select *Properties*, and click *Device Manager*. Any entry marked with an exclamation point (!) in a yellow circle (or a white question mark in a green circle in Windows Me) has a problem; if you're lucky, a new driver will fix it. ■

Go to find.pcworld.com/31511 for past Hardware Tips *columns. Send tips and questions to kirk_steers@pcworld.com. Contributing Editor Kirk Steers is author of* PC Upgrading and Troubleshooting QuickSteps, *published by Osborne Press.*

USB MUG WARMER

WITH THE COOL FALL temperatures fast approaching, there's nothing like having a hot cup of tea or coffee at your desk to refresh you during your workday. Keep your hot beverage hot—or at least pleasantly warm—with the $19 USB Cup Warmer from USB007.com (find.pcworld.com/48544). The device connects to any USB port and comes in six colors. As shown in the photo, it consists of a small, round hot plate only slightly larger than the bottom of a typical coffee mug. The hot plate more than doubles the drinkable life of the ever-present cup of Yin Hao jasmine green tea on my desk.

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INTERNET TIPS

SCOTT SPANBAUER

Easy Ways to Keep the Internet Safe for All Ages

YOU WOULDN'T ALLOW your young children to watch *Sex in the City*, would you? Then why give them unimpeded access to the Web, where much more salacious content is just a google away?

Until you're ready to let go and allow your children to use their own common sense when it comes to the dark side of the Net, you have to protect them—and doing so is easy, with just a little thought.

You may be tempted to buy a commercial Internet-filtering product such as Solid Oak Software's $40 Cybersitter (find.pcworld.com/48532) or SurfControl's $40 CyberPatrol (find.pcworld.com/48533). These programs employ antivirus-like databases of known sites and content to block objectionable Web sites, newsgroups, and other Internet sources. They also log your child's online activities.

Parental-control software makes sense in some households, but I see domestic surveillance as a last resort. Before you institute blanket home censorship and snooping on the family PC, give these less intrusive browse-control tools and techniques a try.

OUT IN THE OPEN

FIRST, CLEARLY express to your children—in age-appropriate terms—your family's values with regard to sexuality and violence in the media and online. If doing so seems like a tall order, visit find.pcworld.com/48534 to read the Be Web Aware coalition's tips for parents on how to shield kids from Internet pornography. On the left side of the page are links to "Safety Tips by Age," including pointers on topics such as how much your child needs to know and is likely to comprehend. The site also offers information about violent content, hate speech, online predators, and many other Internet dangers.

Next, examine your children's access to the Internet. If they have their own computer with an unfiltered Internet connection that they can use behind their closed bedroom door, you might as well set them free to roam the local video store. I respect my children's privacy, but it's also my job to defend them from online predators and from violent or addictive material, such as some online games. Keeping their computing out in the open on a shared computer makes that job possible. Allowing them to use the PC in complete privacy makes it impossible.

If you're unsure whether your child will be safe using the Internet unsupervised, state explicitly when it's okay for them to surf and when it's not. If you need help enforcing your policy, many firewall products, as well as the parental controls offered by America Online and MSN, allow you to specify the hours when a particular user or PC may go online (see **FIGURE 1**). Naturally, your child may be more knowledgeable about configuring (or bypassing) such controls than you are, so do your homework and become an expert.

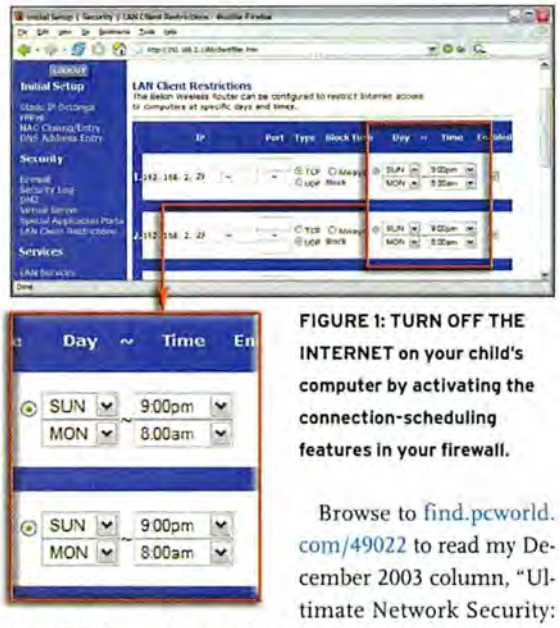

FIGURE 1: TURN OFF THE INTERNET on your child's computer by activating the connection-scheduling features in your firewall.

Browse to find.pcworld.com/49022 to read my December 2003 column, "Ultimate Network Security: How to Install a Firewall," for instructions on locking down your network (the version numbers have changed, but the steps are the same). But don't clamp down the connection without explaining your concerns to your children and coming up with a safety plan; otherwise, you'll just shoo them away to look elsewhere for unfettered Internet access. ■

Send your questions and tips to nettips@spanbauer.com. We pay $50 for published items. Go to find.pcworld.com/31523 for more Internet Tips. *Scott Spanbauer is a contributing editor for* PC World.

BLOCK SPAM AND POP-UPS

SEXUAL PREDATORS sometimes use e-mail and online chat to entice their victims. Much spam is also X-rated. If they aren't absolutely necessary, avoid creating e-mail and chat accounts for your kids. (Cell phones are safer because, so far, they're relatively porn-free.) If your child needs to use e-mail (because of school, for example), be sure to set up a good spam blocker, such as Firetrust's $37 MailWasher Pro; go to find.pcworld.com/48536 for the free 30-day trial version. Blocking browser pop-up windows is another way to reduce your children's likelihood of seeing porn. To block all pop-ups in Internet Explorer 6, click *Tools•Pop-up Blocker•Turn on Pop-up Blocker*. If you use Firefox, choose *Tools•Options*, select *Web Features*, check *Block Popup Windows*, and click *OK*.

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LINUX TIPS

MATTHEW NEWTON

Try Linux for Free: Make Your Own Install CD

NOT SO LONG AGO, the only way to see whether Linux would run on a particular PC was to install the OS on its hard drive. Times change. Nowadays, many so-called live CD versions of Linux boot and run solely from a CD-ROM. Ubuntu Linux, our 2005 World Class winner for Best Linux Distribution, has a live CD version available for download at find.pcworld.com/48470. You may be asking yourself, "How do I download a CD-ROM?"

Answer: Linux live CDs and installation CDs often are available for download as files with a .iso extension. Such files provide a snapshot "image" of a CD-ROM's file system. If you'd like to try Linux on a CD, grab an ISO file, feed it to your CD-burning software, and a few minutes later you'll have a shiny—and functional—disc. (The command for burning an ISO image to disc depends on the burning tool you use. If you have a recent version of Roxio Easy CD Creator, click *File•Record CD from CD Image*. With a recent version of Nero, select *File•Burn Image*.)

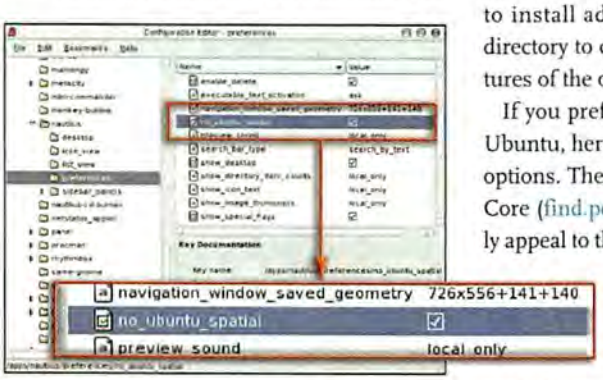

FIGURE 1: USE THIS OPTION in Ubuntu Linux to keep your old folder windows from closing whenever you open any new ones.

For just the cost of a blank disc and the time and bandwidth it takes to download one ISO image, you can determine whether an entirely Free operating system floats your boat. Simply boot your computer using your Ubuntu live CD and have a good look around the OS. Kick the tires all you want: Surf the Web, send e-mail, open a spreadsheet you brought home from the office, hatch your pet plan for world domination, whatever.

If you like what you see, or if you're interested in trying the real deal, consider setting your PC to dual-boot mode. When you turn your system on, you'll have a choice: Windows or Linux. On the Linux side, you'll enjoy the increased performance of a true installation, the ability to install additional software, a home directory to call your own, and other features of the operating system.

If you prefer a distribution other than Ubuntu, here are two fully downloadable options. The Red Hat–sponsored Fedora Core (find.pcworld.com/48472) will likely appeal to the geeks in the audience; but if interaction with Windows machines on your local network is key (or if you already know you favor KDE over the Gnome desktop), you may be better off downloading the Open Circulation edition of Xandros Desktop (find.pcworld.com/48474). Note that this version has only limited CD burning functions, and it cannot burn DVDs at all; Xandros is a commercial product, so its vendor doesn't offer the operating system as a free download in its unrestricted form.

Avoid selecting any installation option that allows Linux to take over your PC's entire hard drive; instruct the installer to leave Windows in place, and it will set up a dual-boot system for you automatically.

Before you install Linux, poke around your Windows system to get a few key pieces of information that the Linux installer might need. If your Internet link is anything other than a simple DHCP connection, write down your IP address and the IP addresses of your gateway and DNS server. To find these settings in Windows 98 and Me, right-click *Network Neighborhood*, choose *Properties*, scroll through the list labeled 'The following network components are installed' (if necessary), double-click your TCP/IP entry, and look on the *IP Address*, *Gateway*, and *DNS Configuration* tabs. In Windows 2000 and XP, right-click *My Network Places*, choose *Properties*, right-click your network connection in the right pane, choose *Properties* again, scroll through the list labeled 'This connection uses the following items', and double-click *Internet Protocol (TCP/IP)*. Also note the make and model of your graphics card and monitor, in case the installer can't detect and identify them automatically.

For more on road-testing Linux, visit find.pcworld.com/48476.

KEEP UBUNTU'S NAUTILUS FROM MISBEHAVING

UBUNTU LINUX 5.04 contains a hack in Nautilus (the Gnome file manager) that causes your folder windows to close automatically as you open other folders. To defeat this annoying behavior (which runs contrary to the Gnome team's designs), select *Applications•Run Application*, type **gconf-editor**, and press **<Enter>**. In the folder tree on the left, select *apps•nautilus•preferences*. In the right pane, check the box beside the option *no_ubuntu_spatial* (see **FIGURE 1**). Now close the Configuration Editor window, and you'll find that all of your folder windows will remain open until you close them. ■

Technical Project Manager Matthew Newton of PC World *is a self-proclaimed writer-editor-tinkerer-artist-geek. He writes the* Free Agent *column (find.pcworld.com/10200) about Free Software.*

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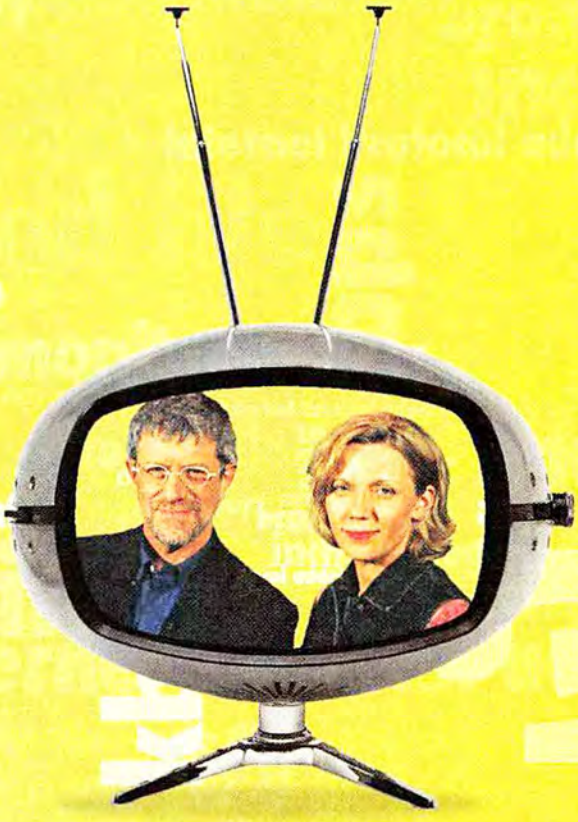

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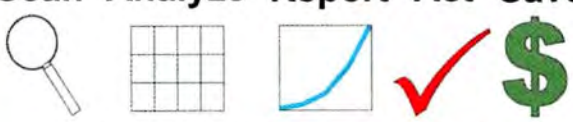

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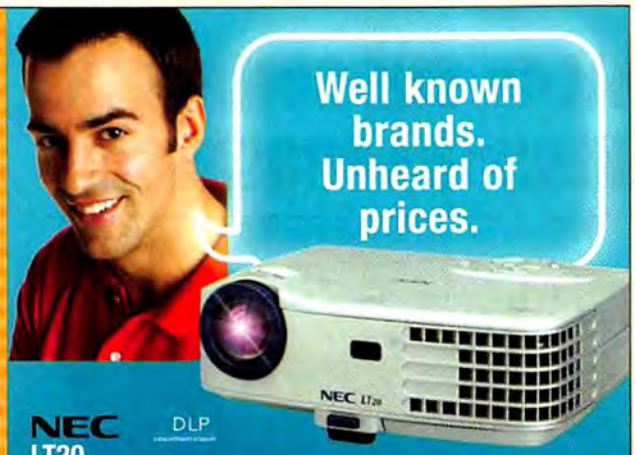

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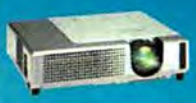

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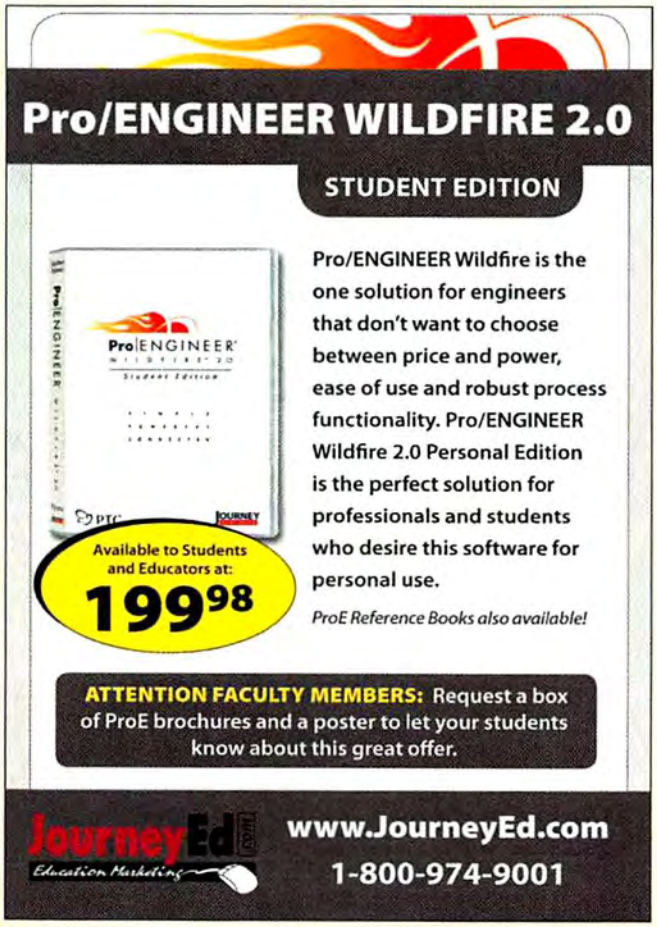

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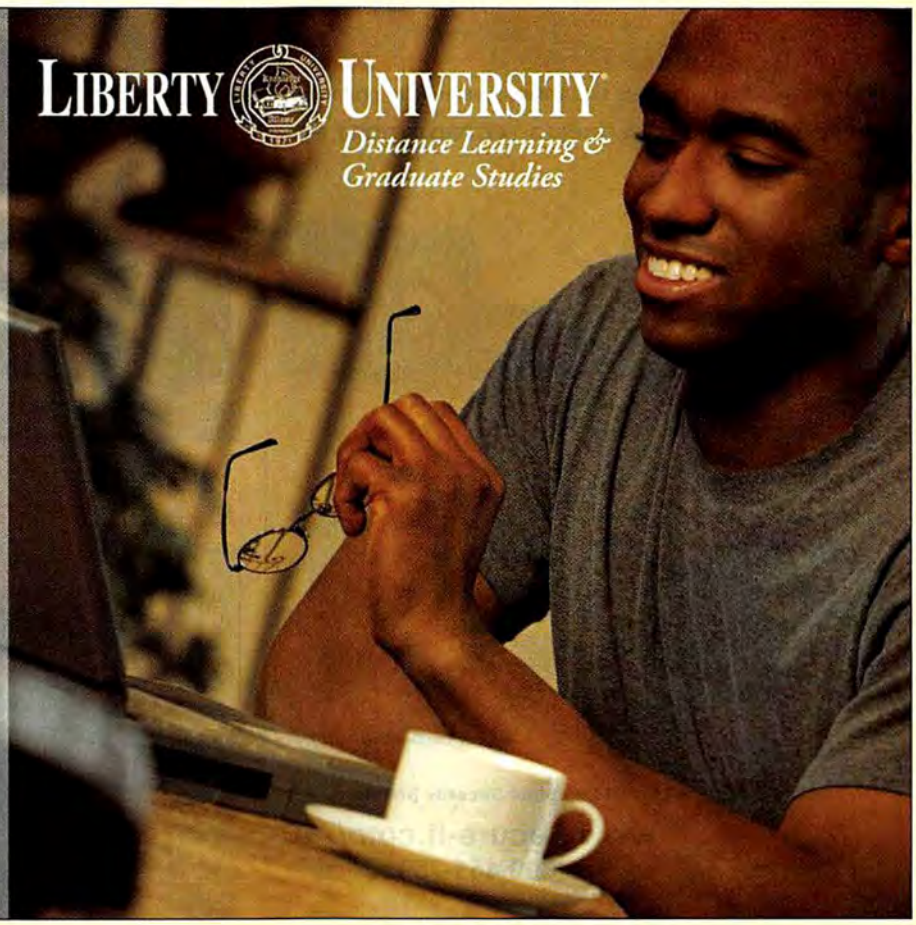

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STEPHEN MANES

Microsoft Innovation: An Oxymoron

SADDLING THE LATEST VERSION of your company's flagship product with a name that reminds old-timers like me of the Dodge Colt Vista or the even more ancient Oldsmobile Vista-Cruiser? At Microsoft, that's what passes for innovation. In his opening speech at a recent Microsoft analysts meeting, CEO Steve Ballmer uttered the "i" word no less than 24 times.

Excuse me? Microsoft's history is largely about developing (or buying) and then aggressively marketing sometimes-improved variants of other people's ideas. As long as there's competition, Microsoft makes products that are just good enough or cheap enough to stifle it. Then it rests on its laurels and moves on to rework other ideas it didn't originate.

What's been revealed of Windows Vista is particularly sad. Defaulting to a mode that requires users to enter an administrative password before they can install programs? A security-enhancing idea, but one that's been around for ages in Apple's Mac OS X. Integrated search? Apple has it now. The Registry? There's no sign of that monstrosity in OS X, but it'll still be around in Windows Vista to drive users nuts. Copying the competition's good ideas and retaining a bad one that you actually did originate: That's innovation!

With Motorola's Q, there may be a Windows Mobile phone with a keyboard to challenge the BlackBerry and the Treo... sometime in 2006. Finally powering a BlackBerry knockoff: That's innovation!

DataViz's Documents To Go has long been able to round-trip Microsoft Office documents between a PC and a portable device without losing their formatting. So can the new version of Windows Mobile (or so I'm told), after years of Pocket PCs and Smartphones that mucked up Office docs badly. Eventually catching up with a third party's better idea: That's innovation!

And then there's the definition of *chutzpah* that will soon replace the kid who kills his parents and asks the court to have mercy because he's an orphan: The company that delivers insanely insecure software plans to charge users a subscription fee for a service designed to guard against the viruses and spyware that it welcomes in the door. That's...a protection racket!

When Microsoft does stumble onto something that might pass for innovation, it can't get it right. Tablet PCs still don't consistently do the one thing you might want them to: recognize your handwriting. Subscription-based music services based on Windows Media perform one task IPods can't—namely, let you pay a low monthly fee for all the tunes you can eat and let you keep them and copy them to mobile players as long as you keep paying. Nice, but device makers and service providers don't support this technology reliably and universally.

Which brings us back to Microsoft's tone-deaf marketing. It delivers concepts such as music that "PlaysForSure" (except maybe not subscription stuff), ads that suggest you're a dinosaur unless you buy "today's Microsoft Office" (even though it has a "2003" in its name and its successor has been announced), and monikers as imaginative as your father's Oldsmobile—oh, sorry: Vista. ■

With Microsoft's new stuff, it's usually déjà vu all over again.

ILLUSTRATION: JOHN CUNEO

Contributing Editor Stephen Manes is cohost of PC World's Digital Duo *(www.pcworld.com/digitalduo) on public TV. Visit find.pcworld.com/31595 for more columns.*

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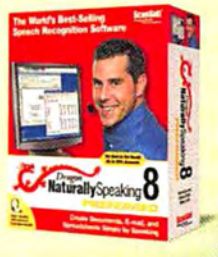

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